TEPE 3rd Annual Conference
Teacher Education Policy in Europe:
Quality in Teacher Education

Monday 18 - Wednesday 20 May 2009
Umeå University, Sweden

PROCEEDINGS

Umeå, Sweden 2009
AGENDA

Monday 18th May
16:00-17:45 Registration
Venue: Main Hall, Humanities Building.
17:00-17:30 Briefing session for Chairs, Rapporteurs and Panel Members (B209)
18:00 Introduction

Welcome speeches
Venue: Lecture Hall F, Humanities Building
- Professor Åsa Bergenheim, Pro-Vice Chancellor with responsibility for education, Umeå University
- Dr. Björn Åstrand, Dean of Umeå School of Education and Chair of TEPE Network Board
- Professor Brian Hudson, Professor in Educational Work, Umeå University and Co-ordinator of TEPE Network

Evening key note: Improvement of Educational Research and Improvement of Teacher Education: two sides of one coin
Speaker: Professor Ingrid Gogolin, School of Education, Psychology and Human Movement, Hamburg University and President of the Council of the European Educational Research Association (EERA).

19:30 Reception
Venue: Entrance Floor, School of Education, Natural Sciences Building.

Tuesday 19th May

08:00 Registration (for late arrivals)
Venue: Main Hall, Humanities Building.
09:00 – 11:30 First plenary session (Lecture Hall F, Humanities Building)
- Chair of the session: Björn Åstrand
- Key note 1: Bologna and the Initial Teacher Education in Portugal
  - Speaker: Professor Bártolo Campos, Faculty of Psychology and Education, University of Porto, Portugal and Chair of the Education Committee of the Council of the European Union, during the Portuguese Presidency
10:00 – 10:30 Coffee Break (Main Hall, Humanities Building)

Key note 2: What is quality in teacher education – how to define and how to achieve it?
- Speaker: Professor Hannele Niemi, Professor of Education and Vice Rector for academic affairs, University of Helsinki and Chair of the CICERO Learning Network for multidisciplinary research on learning.

11:30 – 13:30 Lunch (Main Hall, Humanities Building)
12:15 – 13:15 TEPE Board meeting (Room UB 334)
13:30 – 17:00 Parallel Working Groups
Venue: University Library, 1st Floor.

Group I – Quality, mentoring and induction (Room UB 334)
Chair: Dr. Björn Åstrand
Rapporteur: Dr. Marina Sacilotto-Vasyleenko

First period 13:30 – 15:00
- Zdenka Gadusova and Eva Mala, Is Mentor Training the Must?
- Vlatka Domović and Vlasta Vizek Vidović, Development of quality culture in initial teacher education in Croatia
- Marina Sacilotto-Vasyleenko, Improving policy and practice of teacher induction into the profession
- Anna Kristin Sigurdardottir, Ragnhildur Bjarnadóttir and Jón Torfi Jónasson, Quality in teacher education through school-university partnership
- Joanna Michalak, Supporting Culture for Quality Improvement in Teacher Education: towards a research partnership
- Riitta Liisa Korkeamäki, Which characteristics build a teacher education worth awarding?

Second period 15:30 – 17:00
- Thomas Walström and Tomas Hedström, Student influence as an aspect of quality
- Lena Eskilsson, Award for Excellent Quality in Education 2007 – and what happened after
- Iztok Devetak and Saša Glažar, In-service experienced chemistry teachers views on novice teachers’ competences for teaching chemistry

- Plenary discussion

**Group II – Forms of knowledge and teachers’ theories** (Room UB 335)

**Chair:** Professor Pavel Zgaga

**Rapporteur:** Professor Joan Whitehead

**First period 13:30 – 15:00**

- Dennis Beach and Anna-Carin Jonsson, *Do We Really Need more Maths Trained Teachers in Primary and Elementary Schools? Some Problematic Aspects*
- Peter Degerman, *The Concept of Knowledge in Teacher Education*
- Ognen Spasovski, *Teacher Competence as a Basis for Teacher Education – Tuning Teacher Education Curricula in Five Western Balkan Countries*
- Oleg Popov, *Liberal Science Teacher Education Revisited*
- Alena Seberova, *Teacher as Researcher and How to Develop Research Knowledge among Students – Teachers in The Czech Republic*

**Second period 15:30 – 17:00**

- Anders Magnusson, *Towards a Research-based and Professional Teacher Education Programme*
- Hana Cisovska, *Drama education and development of personal and social teacher’s competence*
- Tom Wikman, *Preparing subject matter teachers for work*
- Plenary discussion

**Group III – Addressing contemporary challenges in teacher education** (Room UB 336)

**Chair:** Professor Per Olof Erixon

**Rapporteur:** Dr. Marco Snoek

**First period 13:30 – 15:00**

- Jens Rasmussen and Hans Dorf, *Challenges to Nordic Teacher Education Programs*
- Eve Eisenschmidt, Anneli Kasesalu, Erika Löhström and Tiina Anspal, *I as a teacher – stories of student teachers in primary school teacher education programme*
- Harald Haugen and Bodil Ask, Qualifying teachers for flexible learning environments

- Tatana Gobelova, The Values Dimension in Teacher Education in the Czech Republic

**Second period 15:30 – 17:00**

- Marco Snoek, Anja Swennen and Marcel van der Klink, *The teacher educator: a neglected factor in the contemporary debate on teacher education*

- Mike Quickfall, Using ICT to enhance learning in teaching in Universities in Macedonia

- Ulf Lundström, The construction of upper-secondary teachers in current Swedish education policy

- Súsanna Margrét Gestsdóttir, *Let Teachers Learn! How to ensure the access of all to in-service training*

- Plenary discussion

**15:00 – 15.30 Coffee Break** (University Library, 1st Floor)

**15:30 – 17:00 Working Groups continued**

**19:30 Conference Dinner**

**Venue:** Teacher Education Building, Ljusgarden Atrium, Building Z on the map which be found by clicking here.

**Wednesday 20th May**

**08:30 – 12:00 Second plenary session** (Lecture Hall F, Humanities Building)

- **Chair of the session:** Brian Hudson

**08:30 – 10:00 Panel Discussion: Quality in Teacher Education**

- **Panel facilitator:** Pavel Zgaga

- Per Olof Erixon, Professor in Educational Work, Department of Creative Studies, Umeå University

- Tomas Hedström, Umeå University Association for Teacher Education Students (UmPe)

- Jón Torfi Jónasson, Professor and Dean of Education, School of Education, University of Iceland

- Joakim Palestro, Assistant Head of Department, Swedish National Agency for Higher Education, Department of Evaluation

- Johanna Jaara Åstrand, Primary School Teacher, Örnsköldsvik and representative for the Swedish Teacher Union Lärarförbundet

- Eugenia Cossa, Professor and Dean of the Faculty of Education, Eduardo Mondlane Univeristy, Mozambique
10:00 – 10:30 Coffee Break (Main Hall, Humanities Building)
10:30 – 12:00 Final session
10:30 - 11:15 Reports from Working Groups, Marina Sacilotto-Vasyleenko, Joan Whitehead and Marco Snoek
11:45 – 12:00 Conclusions, recommendations and close of conference, Brian Hudson
12:00 – 13:00 Lunch (Main Hall, Humanities Building)
Bologna and the Initial Teacher Education in Portugal

Bártolo Campos
University of Porto – Portugal

Abstract

The recent reform of initial teacher education policy in Portugal was developed in the context of the implementation of the Bologna Process and of the broader work programme of European Union “Education and Training 2010”. This key note highlights the links of this reform with the policy guidelines of these European processes; it also compares this reform with the changes that other European Member States are making, following the Bologna Process, in what regards the degree structure of teacher education programmes. The Portuguese teacher education reform is integrated in a career-long professional development perspective and particularly emphasises: a research-based level of qualification; a professional qualification where the learning outcomes are those required by the renewed role of the teacher; a teaching qualification acquired in the teaching context with supervised practice, internship and early career support (induction) periods demanding mutual-benefit partnerships between higher education institutions and schools; quality development and quality assurance measures. However, the transformation of this written reform into innovative practices of policy makers, of teacher education institutions and of teacher educators and mentors, as well as of main stakeholders constitutes a great implementation challenge which gains in being supported by European cooperation.

The recent reform (February 2007) of initial teacher education policy in Portugal was developed in the context of the implementation of the Bologna Process components (namely those related to the degree structure, ECTS, learning outcomes and quality assurance) and of the broader work programme of European Union “Education and Training 2010” (Portugal, 2007b). The improvement of teacher education quality is one of the objectives of this work programme developed in the European Union in the framework of the Lisbon Strategy; this work programme also integrates higher education and the Bologna Process. The most recent documents related to this objective are a Communication from the European Commission of August 2007 (European Commission, 2007) and Conclusions of the Council of the European Union of November 2007 (Council of the European Union, 2007)². These Conclusions were reached following the mentioned Communication and they define the policy priorities on teacher education agreed by the education ministers as guidelines for national policies and for European Union Cooperation in the field.

¹ Key note for the TEPE (Teacher Education Policy in Europe) 2009 Conference (Umea, 18-20 May)
² In September 2008, the European Parliament has also adopted a Resolution on this topic. The European Parliament has also commissioned recently, at the request of its Committee on Culture and Education, a study on the content and quality of primary school teacher education in the European Union Members States (Institute of Education, 2008). The work developed in the late nineties by the Erasmus Thematic Network of Teacher Education in Europe (TNTEE) (Buchberger et al., 2000) can be seen as a background for the preparatory work on this objective carried out by the Commission and Member States representatives between 2002-2007; for further information on this preparatory work between 2002-2004, see Campos (2006). In this context, the OECD study (2005) also deserves mention.
This key note\(^3\) highlights the links between the teacher education reform in Portugal and the policy guidelines of these European processes; it also compares this reform with the changes that other European Member States are making, following the Bologna Process, in what regards the degree structure of teacher education programmes\(^4\). We could say that the Bologna guidelines apply to teacher education programmes in that they are provided at higher education level; the “Education and Training 2010” guidelines also refer to the content of these programmes.

The new initial teacher qualification policy in Portugal was designed in order to meet the education and training challenges that teachers face nowadays and to make a greater contribution to improving the quality of their teaching practices. This reform is integrated in a (i) career-long professional development perspective and particularly emphasises (ii) a research-based level of qualification; (iii) a professional qualification where the learning outcomes are those required by the renewed role of the teacher; (iv) a teaching qualification acquired in the teaching context with supervised practice, internship and early career support (induction) periods demanding mutual-benefit partnerships between higher education institutions and schools and (v) quality development and quality assurance. However, the transformation of this written reform into innovative practices of policy makers, of teacher education institutions and of teacher educators and mentors as well as of main stakeholders constitutes a great (vi) implementation challenge which gains in being supported by European cooperation.

1. Career-long teacher professional development

According to the Conclusions of the Council of the European Union, “Member States should give high priority to sustaining and improving the quality of teacher education within a career-long perspective”. (Council of the European Union, 2007, p. C300/7). The Portuguese teacher education system had already been designed in a career-long perspective by the 1986 Education Act, in the same year Portugal joined the European Union (Campos, 2000). From the early 70s, initial subject-teacher education programmes have been higher education degrees following either the concurrent or the consecutive model; class-teacher education programmes, organised according to the concurrent model, have also been provided by higher education institutions and have awarded a degree since mid 80s. In-service teacher education, including specialized teacher education (curriculum development, teaching supervision, school management and leadership, etc.), became widespread from the early 90s onwards, thanks to the contribution of the European Social Fund. However, the foreseen induction period was never implemented. We only deal here with the initial segment of the system, taking into account that even this should be designed in a lifelong learning perspective, as pinpointed in the Bologna Process.

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\(^3\) A shorter version of this key note was presented at the European Network of Education Councils (EUNEC) Conference The Teaching Profession: Changes, Challenges and Perspectives (Vilnius 13-15 October 2008). To some extent, it follows the text about Teacher Education Policy in Portugal distributed by the Portuguese Ministry of Education during the Portuguese Presidency of the Council of European Union (Portugal, 2007 c); I am the author of the section of this text on initial teacher education.

\(^4\) This comparison is based in a survey made in 19 European Member States by Dimitropoulos (2008) in the framework of ENTEP (European Network for Teacher Education Policies) activities. Regarding the implementation of the Bologna Process in teacher education programmes of twelve south-east Europe countries see Zgaga (2006).
2. Teaching qualification at higher and research-based level

*Master’s-level professional qualification.* The Council of the European Union agreed to “endeavour to ensure that teachers hold a qualification from a higher education institution…” and to “consider the adoption of measures aimed at raising the level of qualifications…for employment as a teacher” (Council of the European Union, 2007, p. C300/8). From 2007/2008 onward, to be allowed to teach in Portugal one has to acquire a Master’s professional qualification from the 2nd cycle of higher education, within the context of the Bologna Process, that is, at level 7 of the EQF (European Qualifications Framework) (European Parliament and Council of the European Union, 2008). The total higher education ECTS demanded vary between 240 and 300 (180+60 to 120), depending on the school education level.

In the *class teacher* case, the 1st cycle is already aimed at teacher education, as well as at qualifying the students for a broader range of professional tasks in the training, socio-cultural and communication sectors; this common first cycle gives access to a specific class teacher qualification at master’s level:

(i) pre-school or first four grades of primary school (60 ECTS);
(ii) pre-school and first four grades of primary school (90 ECTS);
(iii) primary school (six grades) (90 to 120 ECTS).

In the *subject teacher* case, only the 2nd cycle, with 90 to 120 ECTS workload, is specifically aimed at the teaching qualification; access to this cycle presupposes that candidates have already completed a minimum number of ECTS in respective subjects, during the preceding 1st cycle of higher education. One could say that class teacher education follows the *concurrent* model, while the education of subject teachers is to a certain extent organised in a *consecutive* way.

The same qualification level for all teachers. It is worth pointing out that since 1997 the level of professional qualification for teaching (as well as salary) has been the same for all teachers, putting an end to the differences between class teachers and subject teachers; however, until now this qualification used to be obtained in the 1st cycle of higher education (level 6 of the EQF).

Raising qualification level. It should be underlined that the recent change above mentioned does not mean longer courses (they were already 4 to 5 years long), but rather changes in the level of expected learning outcomes. As is well known, the EQF characterises qualification levels by the nature of specific learning outcomes and not in relation to aspects of input or training processes leading to such outcomes; there are also level descriptors within the framework of the Bologna Process. This level raising has clear implications for curriculum organisation: it is not enough to change the names (Master instead of Bachelor)\(^5\).

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\(^5\) In a recent policy paper, the European Trade Union Committee for Education (ETUCE, 2008) “expressed regret at seeing that Ministers failed to bring forward any firm commitment in relation to raising the level of qualification (…) of teacher education. The Ministers (…) failed to express any substantial recommendation as regards the need to raise the actual level of qualification of teachers”(pg.27). On the contrary, the Ministers, as already mentioned above, agreed to “consider the adoption of measures aimed at raising the level of qualifications…for employment as a teacher” (Council of the European Union, 2007, p. C300/8).
**Research-based qualification.** The Council of the European Union agreed to “endeavour to ensure that teachers hold a qualification…which strikes a suitable balance between research-based studies and teaching practice” and “Promote…the acquisition of competences which enable teachers to … develop new knowledge and be innovative through engagement in reflective practice and research” (Council of the European Union, 2007, p. C300/8 and 9). In fact, this higher level of teacher qualification is characterised by a closer relationship to research. The construction of particular solutions for the diversity of teaching situations requires that teachers make links, through reflective practice, between the knowledge acquired in their professional experience and research results and theoretical developments (Niemi, 2008; Edwards, 2001; Erixon & al., 2001). For this reason, greater emphasis is given in the Portuguese reform to methods and results of educational research as a component of initial teacher education in order to develop an investigative attitude in their professional practice in a specific context. This is one of the distinguishing features of this teacher education reform and the one that creates most challenges for higher education institutions.

**Qualification for teaching in school education as well as in vocational and adult education.** This research-based professional qualification is required in order to be authorised to teach in pre-school education and in all programmes awarding compulsory (9 years long) and upper-secondary education certificates; therefore, it covers teaching:

- in public and private sectors;
- not only when students are children and youngsters but also when they are adults;
- in school education and also in vocational training programmes as long as they award certified academic qualifications.

**Degree structure of teacher education programmes in other European Member States.** According to the survey conducted by Dimitropoulos (2008) in nineteen EU Member States, not all of them had already made reforms in teacher education after the Bologna Declaration. What follows refers to the situation at the end of 2007.

Only in two-thirds of the surveyed Member States pre-school teacher education programmes award a higher education degree, bachelor in the great majority and master in a few cases; the others still award a secondary education or a post secondary education diploma. Nearly all the programmes follow the concurrent model and their duration ranges from 3 to 4 years; in some Member States, however, both models, concurrent and consecutive, coexist. Nevertheless, only in few Member States these programmes apply the ECTS.

The situation is somewhat different when it comes to primary school teacher education. Now all teacher education programmes award a higher education degree, mostly

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6 For information on research structures in teacher education in Portugal, see Campos (2001).
7 It is worth noting that teaching qualifications for technical and vocational subjects were not affected by this recent reform. The policy decision about the required qualifications to teach these subjects is currently under review; it is foreseen that professionals with a minimum qualification level from the 1st cycle of higher education (Level 6 of the EQF) and additional pedagogic training, can become teachers. Regarding this topic, the Council agreed to endeavour to ensure that teachers “working in the field of initial vocational education, are highly qualified in their professional area and hold a suitable pedagogical qualification” (Council of the European Union, 2007, p. C300/8)
8 Austria, Czech Republic, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Latvia, Luxembourg, Malta, Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, United Kingdom.
bachelor, and half of them apply the ECTS; their duration ranges from 3 to 5 years and, in general, they follow the concurrent model, though in some Member States both models coexist.

Finally, *subject teacher education* programmes follow a consecutive model: the teaching qualification is acquired after a bachelor degree in a programme awarding a post-graduate diploma or, in some cases, a master. Most of the programmes apply the ECTS and their duration ranges from 4 to 6 and a half years.

Dimitropoulos (2008) concludes the survey by identifying some emergent trends in the reforms of the degree structure of teacher education programmes, whenever they are already adapted to the Bologna Process framework:

- Developing in higher education institutions
- Awarding a higher education degree
- Awarding a master’s degree, namely in the case of subject teacher education programmes
- Applying the ECTS
- Following the concurrent model (in case of class teacher education programmes) or the consecutive one (in case of subject teacher education programmes).

One can say that these are the trends guiding the reform of initial teacher education in Portugal.

3. Learning outcome-based curriculum: outcomes required by the teaching role

*Level and field of learning outcomes*. In terms of the Bologna Process, higher education programmes are characterised and compared not only in terms of the credits or hours that students need to complete them but also in terms of the kind of learning outcomes (level and field) that those hours are dedicated to. The desired learning outcomes, or those that the courses should guarantee, are the organising principle of the teacher education curriculum and the fundamental criterion for its accreditation. After having made reference to the level of learning outcomes, we now turn to the specific characteristics of the field of teaching qualification.

*Learning outcomes required by the teaching role*. The Council noted that “numerous … changes in society … hasten the need for the development of more competence-centred approaches to teaching, together with a greater emphasis on learning outcomes” (Council of the European Union, 2007, p. C300/7). Whatever the chosen term (competences, standards…), in the last years several EU Member States have already defined, the expected learning outcomes of teacher education programmes (Eurydice, 2006). In the recent policy definition in Portugal, these programmes should ensure the acquisition of learning outcomes required by the teaching role and by career-long professional development. The teaching profile and the curriculum to be taught are the main sources for the setting up of these learning outcomes; other factors to be considered for choosing learning outcomes are emergent changes in society and schools and, as a consequence, in the role of the teacher; as well as scientific and technological developments and any relevant research in the area of education. That means that higher
education institutions, whenever they are preparing future teachers, should also take into account and contribute to the permanent renewal of school education curriculum.

**Teaching profile.** The teaching profile, which was already designed in 2001, is organised according to the role of teachers not only in the classroom, but also in the school, in the relationship between the school and the community and in their own professional development. In this profile, teaching is clearly defined as a *professional* activity rather than as a *technical* one. In this context, the Council of the European Union highlighted the preparation for some more demanding “new” tasks of the teacher role (Council of the European Union, 2007, p. C300/9).

**Learning outcome areas.** The specific content of learning outcomes (knowledge, competences and attitudes) needed to fulfil teacher tasks is to be defined by higher education institutions in the framework of their scientific and pedagogical autonomy. Nevertheless, some broad learning outcome areas were defined by the Portuguese policy reform; however, it is assumed that these learning areas should not be worked separately but as components of a whole in the construction of professional knowledge. Thus the main learning outcome areas that characterise the teaching qualifications are identified as follows:

- **Specific subjects of each teaching area:** learning outcomes in the areas of knowledge that learners have to acquire, according to the demands of the school education curriculum; it should be stressed that the 2007 reform pays special attention to the reinforcement of subject-based preparation of class teachers: the workload only dedicated to specific teaching subjects is now greater (120 to 150 ECTS) than before and it is distributed between the first and the second cycle;

- **Education:** learning outcomes relevant to all teachers’ performance in classroom, in school, in the relationship with the community and in the participation in the development of education policy;

- **Specific didactics:** learning outcomes related to the learning process and to the teaching of curriculum areas or subjects that individual teachers are responsible for, taking into account the suitability of this process to the specific nature of

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9 The English version of this profile can be found in Campos (2002).
10 In fact, the Council agreed to “Promote, during initial teacher education, early career support and through continuous professional development the acquisition of competences which will enable teachers to:

- Teach transversal competences such as those outlined in the Recommendation on key competences,
- Create a safe and attractive school environment which is based on mutual respect and cooperation
- Teach effectively in heterogeneous classes of pupils from diverse social and cultural backgrounds and a wide range of abilities and needs, including special education needs,
- Work in close collaboration with colleagues, parents and the wider community,
- Participate in the development of the school or training centre in which they are employed,
- Develop new knowledge and be innovative through engagement in reflective practice and research,
- Make use of ICT in their various tasks, as well as in their continuing professional development,
- Become autonomous learners in their own career-long professional development” (Council of the European Union, 2007, p. C300/9).

For information on the new tasks of teacher role see Campos (2005, 2006).
such areas or subjects, to the learning objectives of the target school level and to the age of the learners; this area has acquired identity, being isolated from that of Education with the same workload (22 to 30 ECTS) in order to value the specificity of the teaching subject;

- *Teaching practice*: learning outcomes related to the capacity to use knowledge in concrete professional teaching situations and to analyse and evaluate these situations in order to make them suitable to a specific context;

- *Cultural, social and ethical*: learning outcomes related to the major problems of the world today, cross-curricular areas and the ethical and civic aspects of teaching;

- *Education research methods*: learning outcomes related to the principles and methods that allow teachers to adopt a research-based attitude in their specific teaching context\(^{11}\).

### 4. Qualification acquired in a teaching context

*Learning within a work context.* The Council agreed to “endeavour to ensure that teachers hold a qualification...which strikes a suitable balance between research-based studies and teaching practice” and to “consider the adoption of measures aimed at raising ... the degree of practical experience required for employment as a teacher”(Council of the European Union, 2007, p. C300/8). Reforms of initial teacher education in several European Member Sates give special attention to the learning in the teaching context as an essential dimension in order to develop the professional competence of future teachers (Ministry of Education of Portugal, 2008, 88-118). In the Portuguese reform, the emphasis placed upon teaching practice, and in particular that supervised by qualified teachers, is the recognition of the importance of this unique and irreplaceable learning environment in acquiring teaching competence. Thus, teaching practice increases gradually from the beginning of the teacher education course, not as an isolated component but as an opportunity to mobilise and integrate a broad range of knowledge, competences and attitudes in order to solve real issues in classroom, in school and in its relationship with the community. This component, which includes observation and collaboration in teaching situations and supervised planning, as well as teaching and assessment inside and outside the classroom in a variety of contexts, involves between 50 to 70 ECTS in the case of class teachers and between 35 and 50 in the case of subject teachers.

*Teaching practice assessment, an essential element in awarding a professional qualification.* The relevance given to this component is so great that its final assessment has to take into account how well prepared the future teacher is to satisfy, in an integrated way, all teaching requirements. Success in the teaching practice component, thus assessed, is a precondition to be awarded a teaching qualification and failure in this component cannot be compensated by success in the more theoretical components.

\(^{11}\) The ECTS of each area in the subject-teacher programmes (master of 90 to 120 ECTS): (i) Specific subjects of each teaching area: (bachelor) + 5%; (ii) Education: 25%; (iii) Specific didactics: 25%; (iv) Teaching practice: 40%; the last two areas (Cultural, social and ethical and Education research methods) are included in the ECTS of areas (ii) and (iii).
Early career support (induction period). The Council of the European Union agreed to “Endeavour to ensure that teachers...have access to effective early career support programmes at the start of their career” (Council of the European Union, 2007, p. C300/8). The induction period of beginning teachers is being developed in several EU Member States (Fransson & Gustafsson (Eds), 2008; Zuljan & Vogrinc, 2007; Eisenschmidt, 2008). In the recent reform of access to work in state schools (Portugal, 2007 a), it was decided that during the probationary year the teacher is given didactic, pedagogic and scientific support by a qualified teacher who has preferably had specialised training in curriculum organisation and development or pedagogic supervision and trainer training. Thus, it can be said that this reform establishes the provision of an early career support period (induction) for the professional development of new teachers12.

Partnerships with schools and community institutions. The Council of the European Union agreed to “encourage closer links and partnerships between schools – which should develop as learning communities – and teacher education institutions” (Council of the European Union, 2007, p. C300/8). In fact, teaching practice and educational research activities in a school context imply that higher education institutions cannot provide teacher education programmes without establishing sustained collaboration protocols with schools. The relevance of partnerships between higher education institutions and schools for career-long teacher professional development is being highlighted by teacher education policies which consider the learning in the teaching context as an important component of such education (Snoek, 2008). Within the context of such partnerships, the Portuguese reform also expects higher education institutions to play an active role in improving teaching quality in these schools, responding to the in-service (including the early career support) and specialised training needs of schools and teachers. The quality criteria of such partnerships were also defined by this reform and compliance with them is required for higher education institutions to be able to obtain the State’s authorisation to provide teacher education programmes.

Mobility in transnational teaching contexts for teacher professional development. The Council of the European Union agreed to “support mobility programmes for teachers, student teachers and teacher educators which are designated to have a significant impact on their professional development, as well as to foster better understanding of cultural differences and an awareness of the European dimension of teaching” (Council of the European Union, 2007, p. C300/9). The teacher education reform in Portugal foresees a programme of incentives for quality, innovation and mobility. Regarding practice in transnational teaching contexts, the incentives aim at promoting the mobility of teachers and student teachers whenever relevant to the development of teaching competences in the area of the European dimension of education and training. These incentives can be seen as a complement to the Erasmus and Comenius EU programmes.

5. Quality development and quality assurance

The Council of the European Union agreed to: “ensure that provision for teachers’ initial education, early career support and further professional development is coordinated, coherent, adequately resourced and quality assured”; “provide appropriate

12 However, as it is linked to the probationary year, the induction period does not involve all new teachers, as in various situations some of them are exempt from the probationary year.
support for teacher education institutions and teacher educators, so as to enable these to develop innovative responses to the new demands on teacher education” and to “… ensure that those institutions (schools and HE institutions) provide coherent, high quality and relevant teacher education programmes which respond effectively to the evolving needs of schools, teachers and society at large” (Council of the European Union, 2007, p. C300/8-9). Beyond being a concern of higher education reforms in the framework of the Bologna Process, quality development and assurance of teacher education institutions and programmes also constitutes a specific dimension of teacher education reforms in several European Member States (Eurydice, 2006). In the recent reform of the Portuguese initial teacher education system, there are a number of mechanisms aimed at promoting and ensuring the quality of teacher qualification.

At education system level. A biennial follow-up report should be prepared with recommendations for promoting the quality of the teacher education system. Furthermore, the government has committed itself to create a specific programme aimed at stimulating and funding projects promoting quality, innovation and mobility in the development of teacher education programmes.

At programme level. In relation to teacher education programmes, such mechanisms consist of the following:

- The teacher education curriculum has to be suitable to professional performance profiles and to school education curriculum, contextualised and up-dated through consultation with all those interested in the quality of teaching qualifications: schools, professional and scientific associations, previous graduates, etc.;

- Student numbers are being limited according to the number and qualifications of teacher educators and mentors available in higher education institutions and partner schools, as well as to the capacity and quality of these institutions;

- Teacher education programmes have to be accredited as a Master’s degree and as teaching qualification by the National Accreditation Agency13, which has to articulate with the Ministry of Education regarding professional accreditation.

Quality assurance of future teacher competence. Some of the most important requirements for quality assurance of future teacher competence are the following:

- Verification, before entering Master’s course, of qualitative suitability of ECTS completed in subject-teaching areas to the requirements of school education curriculum;

- Assessment, before entering Master’s course, of mother tongue oral and written skills;

13 Agency to be set up within the context of the European System of Quality Assurance in Higher Education. A first specific attempt of accrediting initial teacher education programmes was taken in Portugal in the early years of this century; however this policy measure was cancelled following a government change (Campos, 2004)
• Success in the teaching practice component, indispensable for the awarding of a teaching qualification, is dependent on trainees fully demonstrating competence in satisfying the requirements of the teaching profession;

• Passing national written exams (with a mark of at least 14 out of 20) before applying for employment in state schools\(^{14}\), in order to check the future teacher’s competence in the field of teaching subjects;

• Successfully completing a probationary year when starting a state school job in order to prove overall teaching competence.

The verification of the first three of the above requirements is the responsibility of teacher education institutions; the implementation of national examinations and of the probationary year is the responsibility of the ministry of education.

6. The challenges of implementation

We can conclude that the recent reform of initial teacher education in Portugal is tuned with the Bologna and European Union guidelines. It should also be pointed out that the main features of the Portuguese reform of initial teacher education are already tuned with the vision recently adopted by the *European Trade Union Committee for Education* (ETUCE, 2008)\(^{15}\).

**Challenges at policy and institutional level.** However, public administration and teacher education institutions face some major challenges in the appropriate implementation of these policy guidelines of initial teacher education. Successfully moving from an outlined system to innovations in the practices of policy makers, of teacher education institutions and partner schools, as well as of teacher educators and mentors, depends on how far such challenges are met at policy and institutional level.

Among the main challenges faced at policy level the following can be highlighted:

- Creation of a governmental programme for stimulating and funding quality, innovation and mobility;

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\(^{14}\) This quality assurance mechanism of teaching qualifications, as with the following one, only involves teachers who wish to be employed by state schools and are, therefore, not part of the teacher education reform but part of the regulation of access to employment in state schools. In 2006/2007, only 15.6 % of teachers were working in private education.

\(^{15}\) “ETUCE advocates an initial teacher education at Master’s level which:

- Provides in-depth qualification in all relevant subjects, including in pedagogical practice and in transversal competences
- Is research-based, has high academic standards and at the same time is rooted in everyday reality of the schools
- Includes a significant research component and produces reflective practitioners
- Gives teachers the skills needed to exert a high degree of professional autonomy and judgment in order to enable them to adapt their teaching to the needs of the individual group of learners and the individual child or young person
- Offers the right combination between theory and pedagogical practice and benefits from partnerships between teacher education institutes and schools
- Encourages mobility of teachers within the different levels and sectors of the education system, provided the adequate re-qualification is acquired” (pg.8)
- Rigour in defining the student teacher numbers according to the number of qualified teacher educators and mentors;
- Development of an effective professional accreditation system;
- Development of a true early career support period and of a demanding probationary year.

At institutional level the following challenges can be pinpointed:

- Raising teaching qualification from level 6 to research-based level 7 of the European Qualifications Framework;
- Development of a teacher education curriculum
  
  - Social demand-driven more than only supply-driven and with main stakeholders’ participation
  - Focused on the role of the teachers and learning outcomes rather than on a collection of individual academic subjects
  - Research-based and practice oriented at the same time
  - In a lifelong life-wide perspective;
- Development of mutual-benefit partnerships between HE institutions and schools;
- Certification of professional teaching qualification based on teaching competence demonstrated.

The challenge for implementation and the European Union cooperation. The European Union cooperation can be of great support to effectively face all these challenges. In the “Education and Training 2010” work programme, in each member state, the responsibility for achieving the shared goals agreed at European Union level belongs to the national authorities. However, the Council also agreed to promote some forms of cooperation at European level in order to support these authorities in national implementation efforts. Thus, according to the recent (November 2007) agreement among the education ministers of EU Member States, teacher education has to become a transversal policy objective of the “Education and Training 2010” work programme and of its successor. That is, the European Union cooperation in this field may cover school education, vocational education and training and higher education as well as all teaching opportunities in lifelong learning. Furthermore, in order to promote implementation of the policy priorities in teacher education outlined in the November Conclusions, the Council has invited the MS, with the support of the Commission, to “work together … within the framework of the open method of coordination…”, promoting, in an integrated approach, (i) evidence-based knowledge relevant to teacher education policies, (ii) further initiatives on mutual learning, (iii) innovative teacher education projects and (iv) the mobility of teachers, teacher educators and student teachers” (Council of the European Union, 2007, p. C300/9). Finally, the Council has also made reference to the main instruments for fulfilling these European Union cooperation initiatives, namely: (i) those forming part of the open method of
coordination; (ii) the Lifelong Learning Programme; (iii) the 7th Framework Programme for Research Development; and (iv) the European Social Fund. Promoting such European Union cooperation in the field of teacher education demands the development and implementation of an integrated action plan which the European Commission, in collaboration with the member states representatives, is surely doing.\(^\text{16}\)

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\(^{16}\) In this article, the main accent of the links made between the recent initial teacher education reform in Portugal and the Bologna Process as well as the Education and Training 2010 work program guidelines was centred in their concern with the *quality* of teaching qualifications. However these processes are also concerned with the issue of the *comparability* of teaching qualifications in order to facilitate the mobility of teachers as workers in the European employment space. The quality, the level and the degree structure of teaching qualification are relevant components for such comparability. Nevertheless, they are not enough: still remains the comparability of learning outcomes (Campos, 2007; Zgaga, 2008). There is still the need for the implementation in the field of teacher education of the 2005 Directive of the European Union on the recognition of professional qualifications. To our knowledge nothing has been done so far regarding such implementation.


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IS MENTOR TRAINING A MUST?

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1 The work of a teacher

Traditional understanding of the work of a teacher means that a teacher has to create conditions for his learners in order to make them learn something or to help them to acquire certain knowledge and skills. However, teaching is a complex and open process. Its complexity means that a teacher does a lot of various activities at the same time and he performs them with a large number of learners. On the other hand, the openness of this process means that the same results can be achieved by using different teaching methods and forms of work. The situation in which the teacher acts at school can therefore be characterized as rather vague, unexpected, unstable and complex. In this situation the teacher is considered to be an autonomous expert who is able to make relevant decisions independently and effectively.

In the last decades the situation has changed a great deal and has reached new horizons. The organization of the teaching and learning process has changed, teachers have to take into consideration heterogeneity of learners in their classes from the point of view of learners’ social, cultural and ethnical diversity as well as from the point of view of their specific (physical and mental) needs. Teachers are becoming more and more both organizers of the learning environment and counselors who contribute to the effectiveness of the learning process. They use co-operative, experiential (learning by doing) forms and techniques of work, project work and, their principal role has become the role of the one who gives guidance in the learning process, instead of the one who owns and delivers knowledge. The standard methods and approaches to the teaching process are not sufficient any more. It is necessary to view the teaching itself more and more as a less technical and more professional activity. It is the activity which requires a careful analysis of learning situations, choice of goals, development and monitoring of suitable possibilities for learning, the evaluation of teaching impact on learners’ study results, reflection of the whole process in order to create a corpus of professional knowledge. Professional life-long teacher education throughout their whole teaching career is the basis to ensure that the teachers will develop and sustain the ability to continue using innovative approaches and techniques in their teaching.

2 Education of teachers

The teacher training starts by enrolling a student to the faculty of education. The student enters the faculty with a substantial amount of experience and with a clear and real picture of what teaching means and what the teacher’s role in this process is. This experience is often so significant that the student himself creates his own theory about teaching. During his study he becomes familiar with scientific theories which he adds to his own theories. The third factor influencing the development of the future teacher’s competencies is the experience which the teacher gains in real teaching situations. The
practical experience is an important “added value” to the acquired theoretical knowledge. Consequently, every professional decision and its implementation is then the result of integration of all the three aspects mentioned. Knowledge of scientific notions, personal theories and experience gained in the practice from the understanding of model activities and teaching activity itself. Education of teachers thus has to include all three of these dimensions.

3 Mentoring novice teachers

Mentoring novice teachers is in principle understood as an instructional partnership of two or more people, the aim of which is to mutually enrich and make easier the process of transfer and entering a school team for a novice teacher. It is actually one of the stages on the way of his professional development and growth. The effectively organized mentoring of a novice teacher helps him to become part of the society where everybody learns. The society for which the cooperation within the development of professional mastery is typical, and where nobody expects that a novice teacher starts teaching by knowing everything. The opposite is true as it is expected that a novice teacher will learn from and together with other teachers.

The notion of mentoring a novice teacher has a variety of meanings and as a term it does not belong to terminology with the only one meaning. Mentoring is performed through various forms of education which can be formal or informal. It is connected with a number of educational activities and courses, the aim of which is the control, counseling, education, guidance, providing models, evaluation and so on. Similarly, the role of a mentor is defined as: a model, coordinator, leader, guide, adviser, counselor, trainer, facilitator, protector, supporter, evaluator, observer, etc. The very same picture it is possible to find with definitions of a novice teacher. The definitions state that a novice teacher is: beginning teacher, ward, client, apprentice, trainee, pupil, etc. The process of mentoring and induction is also characterized in various ways such as: help, counseling, guidance, facilitating the work, co-operation, sharing ideas, or as a teaching/learning process in which a mentor guides a novice teacher by presenting examples.

4 Principles of mentoring

Ways of mentoring depend on the content (social, cultural and legislative) where it is done. In Europe, we do not have a common model of mentoring, but some principles of mentoring, which can be applied in school environment, still exist and thanks to them it is also possible to increase the impact of teachers´ life-long learning on learning outcomes of their pupils and students.

When thinking about the fundamental principles of mentoring we could say that mentoring is a process which is based on support, that it is a process of helping, a process of learning and teaching, a process of reflection, a process of carrier development which in most cases is formalized and guided by a mentor.
Effective mentoring should therefore include:
- professionally developed mentoring plan matching the identified individual needs of a novice teacher;
- experienced mentor;
- regular (positively tuned) communication with school management;
- common planning of activities and cooperation with other school teachers;
- reduced preparation and relevant load;
- possibility to attend observations, regularly observe and get evaluations;
- possibility to apply theoretical knowledge in practice and attend courses of further professional development;
- participation in professional dialogues based on examples from practical work of novice teacher(s) who should articulate their beliefs and practical procedures to make self-reflection easier;
- creation of mutual trust between the novice teacher and mentor, tactful approach and respect to emotions which are part of professional education.

5 Role of mentor

The notion of a mentor is often connected with synonyms that include wise, experienced, trustworthy counselor. Mentor is on the one hand the one who encourages, who sets tasks, who gets his trainee ready for new challenges and organizes possibilities to learn/gain new experiences. On the other hand, however, he also helps his trainee, makes his work and study easier and protects him from more serious mistakes and other consequences of his inexperience.

Relationship between a mentor and a novice teacher should be based on the model of professional growth. Its aim is to help the novice teacher to become the best possible teacher. The role of mentor in this model of the professional growth is to help novice teacher to create his own style of teaching, not to copy the style of his mentor. The mentor helps the novice teacher understand the complexity of the activities in teaching process, he also helps him understand to what extent he can influence the teaching process and how effective is (this influence. He also helps him understand his own teaching theory which directs his work and to create a wide range of teaching techniques, which he then makes use of when coping with various professional situations.

The role of a mentor in the induction period of a novice teacher varies. Mentor can:
- act as a model which inspires and represents professional thinking and performance;
- show the novice teacher how to enter a social network, help him to accustom to a certain professional culture – help him to “open the door” and introduce him to “the right people”;
- observe novice teacher’s lessons, monitor his work and assess and evaluate his progress;
- create favorable conditions for the novice teacher to help him to air his emotions and calm down;
- write interim and final evaluations and reports about the novice teacher;
- listen and reflect on what he has listened to in order to articulate his thoughts, create appropriate conditions for the novice teacher in order he could learn and achieve professional learning aims.

6 Characteristic traits of a good mentor

A good mentor is first of all such a teacher who brings a positive attitude to his work, who is enthusiastic and is highly self-confident. He usually loves learning things and is naturally curious. He approaches people without any preconditions and he usually is open not only towards people but also towards changes. He takes his role of mentor seriously and he believes that his work/job is meaningful. He understands the meaning of life-long education and understands that each teacher himself is responsible for his further education.

A good mentor is also professionally skilled and knows how to instruct a novice teacher and how to give him advice when planning and performing a lesson. He can do reflection of a lesson taught and introduce a new, fresh view on teacher’s work which can elicit some response. He is an expert not only in the subject he teaches but he has mastered also educational science and teaching adults. His interpersonal communicative skills are well developed, he can listen and give advice and feedback, solve problems.

The result of the induction period of a novice teacher should be becoming a member of the school teaching staff, becoming an independent and valid/respectful teacher. One of the preconditions of this development is emotional support of a novice teacher which a mentor can provide only in the atmosphere of mutual trust. A good mentor can create such an atmosphere which, then, can become the right basis for feeling the safety of the environment, for emotional support, collegial feedback, guidance and mutual learning.

7 New approaches to mentoring novice teachers

Mentoring a novice teacher is a period in which the mentor has to help a novice teacher to develop his professional thinking and doing and to integrate them into a whole. This role ranks a mentor into a new position than a position of a methodologist in training complex skills is. The mentor does not have a role of an expert who knows all the solutions but he acts as somebody who helps a novice teacher to develop and spread complex understanding of practical situations and he creates a maneuvering space for realizing certain activities by his experience.

The mentoring process, however, is necessary to understand in a wider context than as a relationship between a mentor and a novice teacher. In this changing world where teaching undergoes a lot of changes, the role of a mentor changes as well. It is necessary to change the position of a teacher at school who should act not as a single person but as
a member of a team and should cooperate interdisciplinary with other colleagues who teach other subjects of instruction. Therefore the novice teacher should be familiar with the whole school environment. Mentoring the novice teacher thus becomes the task not only for a mentor and a headmaster but for the whole school team and all institutions that are responsible for the professional development of teachers. By this way the role of a mentor is shared with several teachers. It is a process which contributes to the professional development of a novice teacher and his more experienced colleagues as well.

The mentor represents a special phenomenon in this system. He must have clearly defined his role, strategies of his skills development and a model how to carry on induction in the school. Mentors should therefore be educated not only from the point of view of the content, but also from the point of view of processes and they should be given help and support in order to enable them to exchange experiences with other mentors.

8 Project TISSNTE - supporting the mentors in Europe

Finding out about the current situation in the field of novice teacher induction and mentor training and support across the 12 European countries was one of the objectives of the Comenius 2.1 project TISSNTE: Teacher Induction: Supporting the Supporters of Novice Teachers in Europe (more detailed information see on the web page of the project - http://www.tissnte.eu). The countries involved in the project (Austria, Belgium, Bulgaria, England, Greece, Hungary, Ireland, Latvia, Lithuania, Portugal, Slovakia, Turkey) were the countries where the research was carried on with the aim to:

- map current provision for mentor support across the twelve countries;
- identify mentors’ needs in relation to the skills, knowledge and understanding required to fulfil their role effectively;
- inform the development of training materials for the delivery of a five day training course for mentors.

The findings of the research suggested that:

- in-service training and professional support of teachers contributes to the recruitment and retention of teachers in schools as well as to better standards of teaching outcomes;
- many young teachers quit their teaching jobs at schools (e.g. the situation in England shows that fewer than 50% of those who begin teacher training are teaching after 5 years);
- mentors play a key role in both the training and the support of novice teachers;
- needs of mentors, however, are rarely addressed and hardly any support is given to them;
- across Europe, induction support systems are largely fragmented, locally based, with little transference of best practice, despite the European framework for competence and qualifications.
The two methods used for data collection were: semi-structured questionnaires and face-to-face/telephone interviews. Questionnaire structure contained some questions aimed at finding some biometric data about mentors (e.g. age, gender, post, type of institution, years of teaching/mentoring experience, mentor training) as well as finding out their ideas and opinions about:
    existing support and help given to mentors in their countries;
    perceived importance of the various aspects of the mentoring role and mentor’s responsibilities;
    levels of confidence expressed in relation to various mentoring activities;
    identification of mentoring aspects as areas for further development;
    preferred training mode and materials.

The first draft questionnaire was a collective production by the whole TISSNTE team in English which was then translated into the national languages and afterwards the questionnaires were piloted in the respective countries. After the piloting was finished the revision of the draft questionnaire took place taking into account feedback from the pilot. On the basis of this the production of a final version in English followed. And again the final version of the questionnaire was translated into the national languages and the distribution of questionnaire was carried on in the 12 countries by post, email and via professional meetings. The collected data from the questionnaires were then collated, including translation of qualitative comments.

The questionnaire was completed by 282 mentors – teachers in a range of institutions in the pre-school, primary, secondary, post-compulsory and higher education sector, who were involved in supporting new entrants to the profession in 12 European countries (see graph Nº 1).
Graph N° 1: Composition of the TISSNTE sample

Thinking about the type of institution where respondents were employed as practising teachers, majority of teachers were primary (42%) and secondary (43%) school teachers. Teachers from the tertiary sector were not numerous (9%) and even less of them were teachers from higher education institutions (4%). Pre-school institutions teachers were just a few (2%).

It was pleasing to find out that the vast majority of respondents (91%) had more than 5 years teaching experience, though only less than half of them (44%) were formally appointed as mentors. Among the respondents there were less than half of them (43%) who had more than 6 years experience of mentoring novice teachers but just over a third (38%) had attended a mentor training or development programme, with great variations in duration, formality and intensity.

One of the questionnaire aims was to find out about the perceived importance of different roles of mentors in the induction process of novice teachers and mentors confidence to act out these roles. The findings showed that mentors perceived their role of a model (95%), critical friend (95%) and pastoral care (92%) as the most important ones. These are also the roles mentors feel the most confident in - role of a model (94%), pastoral care (91%), little bit less confident they feel in the role of a critical friend (87%). As the other very important tasks of mentors in this process were perceived observation and
monitoring the progress of novices (95%), facilitating learning opportunities (94%) and evaluation and assessment of their competence (83%). Mentors, however, stated that they felt higher confidence when monitoring the progress of novices (92%) than evaluating and assessing their competence (78%).

The other of the questionnaire aims was to determine what mentors consider the priority areas for their further education and development. The collected data showed that mentors are the most interested to learn about how to provide constructive feedback (61%) and how to do classroom observation (52%) and critical analysis (48%) of novice teachers’ lessons. Quite many mentors think they would like to broaden their knowledge about how to evaluate and assess novice teachers’ competencies (44%) and how to monitor their progress (37%). Among the areas mentors feel they would need improvement and development were listed communication (43%), interpersonal (42%) and organisational (38%) skills.

As to the preferred training mode and materials for further education and support, most of the addressed mentors preferred either blended learning (52%) or face-to-face training (46%). Only 43 out of 282 of them would prefer e-learning what is possibly connected with their age. The same preferences were expressed about the most helpful materials and resources for training (see graph N°2).

Graph N° 2: Preferred training mode and materials
Besides the quantitative data the questionnaire showed also some qualitative data which the addressed mentors expressed in their comments, such as:

(1) Sometimes it is difficult for a mentor to find appropriate words not to offend a novice teacher if he wants to be critically friendly with a novice teacher.

(2) Having a full teaching load and some administrative commitments it is difficult for a mentor to sit down with a novice teacher and analyse each lesson in detail.

(3) There is not enough time to apply many of the new, playful forms of teaching in a classroom for which novice teachers are trained at university.

On the basis of these comments it was possible to determine four challenges which mentors have to face:

- novice teachers
  - who fail to act upon advice
  - show no improvement despite support given
  - have limited subject knowledge
  - lack personal organisation
  - lack commitment to teaching
- class management issues
  - maintaining a high level of co-operation between the novice teacher and other staff involved in the induction process
  - insufficient amount of time to provide quality support.

Despite these problems mentors, however, see also many positive issues and benefits of mentoring, among which we could mention:

- informal and often unplanned aspects of professional learning
  - becoming aware of new pedagogical approaches and techniques
  - getting new insights gained through observation and evaluation of practice engagement in critical dialogue with the novice teacher and other colleagues
  - degree of creativity and autonomy that could be accommodated within their mentoring remit.

Mentor comments:

(4) Accompanying them on their journeys, seeing them progress, to walk with them is very stimulating.

(5) Observing lessons of novice teachers we can see application of the newest and very recent methods and forms of work which can enrich and make lessons of the mentor more interesting.

The other very important outcome that this questionnaire showed was the deep belief of teachers and mentors (74%) that not each good teacher is also good mentor. The questionnaire helped the TISSNTE team to specify concrete needs of mentors as to their further education what made it possible to prepare materials for an intensive 5-day training course for mentors which was held in Budapest on 12 – 17 October 2008. All the materials the TISSNTE team developed are published on the project web site www.tissnte.eu in English and in national languages of the project partners.
Some of the learning outcomes from the TISSNTE mentor training course were as follows:

- mentors—participants of the course acquired a generic understanding of the principles of mentoring employed as a support strategy in professional training and development programmes;
- they developed a critical awareness of the potential issues and challenges arising from mentoring novice teachers;
- they enhanced techniques employed in monitoring, evaluation and assessment of novice teachers’ progress and professional competence;
- they developed strategies they can use for critical analysis and self-evaluation of classroom practice, including that of novice teachers and mentors;
- they identified strategies used to provide novice teachers with opportunities for collaborative learning;
- they enhanced organisational, communication and interpersonal competence.

The essence of the TISSNTE project is that it conceptualises the mentoring of novice teachers as a core element of teacher professional development with the aim of creating learning communities through promotion of collaborative, co-operative activities across institutional, cultural and national boundaries and thus fostering the understanding and improvement of professional practice within a European context.

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Development of quality culture in initial teacher education in Croatia

Summary:
The paper explores the quality in initial teacher education from top–down and bottom–up perspective. Top–down perspective is analysed through examination of the legal context and external mechanisms for quality assurance in Croatian higher education. The analysis of the bottom–up approach is based on the concept of “quality culture” which has been introduced in the discourse about quality in higher education in order to “convey a connotation of quality as a shared value and a collective responsibility for all members of an institution, including students and administrative staff” (Quality Culture Project, EUA, 2006).

Within top–down perspective it has been shown that the quality assurance of teacher education is managed within the broad framework of implementation of Bologna process. The specific methodology for quality evaluation in initial teacher education has not yet been developed. From the bottom–up perspective the emergence of quality culture could be observed mainly through the projects carried out by the members of academic staff in teacher education institutions. The aims of these projects were to raise awareness about the importance of the quality culture and to strengthen individual and institutional commitment for delivering high quality education. The examples of such initiatives are presented as the cases of good practice.

Key words: initial teacher education, quality assurance, quality culture

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1
1. General approach to quality assurance in EHEA

Quality assurance in higher education is one of the priorities in the Bologna process across Europe. In the development of „quality assurance movement« in higher education in Europe two distinct phases could be observed. The first one is top–down approach which put emphasis on the establishment of quality assurance agencies with the purpose of monitoring and standardisation of national procedures for quality assurance. In the early 1990-ies the comprehensive EU projects were launched aiming at the quality improvement of higher education based on the first national quality assurance systems developed in the UK, the Netherlands, France and Denmark. The European Network for Quality Assurance in Higher Education was established in 2000 to promote European co-operation in the field of quality assurance, in 2004 this network was transformed into the European Association for Quality Assurance in Higher Education (ENQA) (http://www.enqa.eu/history.lasso). ENQA in accordance with Lisbon and Bologna processes enhancing the quality and effectiveness of higher education and training systems in Europe. One of the most important ENQA initiatives was the establishment of standards and guidelines for quality assurance for higher education adopted at the ministerial conference in Bergen 2005 (http://www.enqa.eu/files/ESG_3edition%20(2).pdf).

The second phase emerged at the beginning of the first decade of 21 century enhanced by the Quality Culture Project (European University Association, 2006) which emphasised the importance of bottom–up approach to quality in higher education. The implementation of the bottom–up approach has been recognized as a key factor in promoting and spreading the idea of quality culture in higher education institutions. At that point the concept of the quality culture as main feature of this bottom-up approach was introduced in order to „...convey a connotation of quality as a shared value and a collective responsibility for all members of an institution, including students and administrative staff“. The main goals of the Quality Culture Project in which about 300 institutions from 40 countries participated were: increasing awareness for the need to develop institutional quality culture and to introduce internal quality management system; ensuring dissemination of existing best practice in the field; helping institutions to approach effectively external procedures of quality assurance (Quality culture in European Universities: a bottom–up approach, 2006, 6 – 7). Within this project the model
of institutional quality culture was developed balancing the top–down and bottom–up approach (Quality culture in European Universities: a bottom–up approach, 2006, 20). According to that model the development of institutional quality culture should be enhanced by the institutional leadership which communicates importance of quality commitment across institution. In that context the overall institutional strategy and coordination of its implementation is perceived as a prerequisite for promoting quality culture as well as development of tools and mechanisms to monitor and evaluate quality. Important element of internal quality culture is development of open communication and self-empowerment of staff.

In this paper the concept of quality culture is also perceived as a starting point for the analysis of the implementation of the quality assurance mechanisms in the initial teacher education.

2. Quality assurance in teacher education in Europe

Teacher education in Europe has been also affected by current reforms in higher education sector, especially in relation to the Bologna process (Domović, 2009). The important contribution to the quality assurance in teacher education has been made by Eurydice in the major report Quality Assurance in the Teacher Education in Europe published in 2006 (http://eacea.ec.europa.eu/ressources/eurydice/pdf/0_integral/062EN.pdf). In this report data on the organisation of evaluation processes for initial and in-service teacher education has been collected for 30 European countries. The main covered topics include organisation and features of external and internal evaluation processes for both, initial and in-service teacher education. The analysis shows that in most countries only general regulations for the quality assurance for all higher education also apply to the teacher education. Out of 30 countries only six have both general and specific regulations regarding the quality assurance in initial teacher education. Nevertheless, the general conclusion of this report is that the majority of countries has begun the general reforms of initial and in-service teacher education systems in relation to the Bologna process. The crucial part of these reforms has been also the redefinition of qualification standards or necessary competencies that teacher should develop or acquire by the end of their initial education. The establishment of such national standards has been recognised as a referent point for planning evaluation procedures and quality indicators. Almost all of the participating countries perceive the
accreditation process as a part of the quality assurance system. Also, in the most countries the quality assurance process is a combination of the external and internal evaluation procedures. The external evaluations focus mainly on the content of teacher education curricula, but also teaching and assessment methods are taken into account of. Special interest is shown for the partnership with practicing schools and student teacher performance and other student related outcomes (student attitudes and opinions). External evaluation is organised periodically, but usually in two or three year periods. It is most often based on the site visits of formally appointed reviewers who prepare themselves on the basis of the results of internal evaluation. Internal evaluation precedes external evaluation and is usually coordinated by the special evaluation committee which prepares institutional report. In almost all countries academic and non-academic staff, management and students participate in the process of the internal evaluation.

The Eurydice report also describes the use made of results (2006, 68). Usually the results from the external evaluations are related with accreditation or re-accreditation of institutions/programmes.

3. Quality assurance in initial teacher education in Croatia

3.1. The Bologna process and the reform of initial teacher education in Croatia

Croatia joined the Bologna process at the Ministerial conference in Prag in 2001. The legal basis for the implementation of Bologna process in higher education was defined by the Act on science activities and higher education in 2003. In that Act key issues of Bologna declaration were elaborated introducing three cycle system, ECTS, emphasis on academic mobility and student centred approach to teaching and learning. The Law also put emphasis on the mechanisms and institution building of quality assurance system. The role of National Council for Higher Education and National Agency for science and Higher Education was defined regarding the accreditation and periodical external evaluation of higher education institutions and programs (Act on science activities and higher education, 2003).

The next step of the implementation of the Bologna process addressed the formulation of new regulations at the institutional level followed by the development of new study programs. The procedures for the evaluation of the quality of higher education institutions and study programs were regulated by the succeeding by-law past in 2004 (By-law on criteria for
The evaluation of quality and effectiveness of HEIs and study programs. The indicators of quality were described at the institutional and program level.

The reform of higher education in Croatia which began in 2003 has been implemented in academic year 2005/6 when the first generation of „Bologna students“ enrolled into the first cycle of undergraduate programs.

The higher education reform had significant consequences on the initial teacher education system in Croatia. The rationale for those profound changes was the recognised need for the improvement of teacher education system. Perhaps, the most important change was related to the status and duration of the study programs of class teachers who in Croatia teach in the first four grades of primary school. Namely, before the reform prospective class teachers were educated at higher professional schools, i.e. they graduated from colleges after completion of four year program with B.A. vocational degree.

Now, they enrol into integrated five year university program leading to the M. A. university degree with 300 ECTS. The introduction of these changes has opened the possibilities for further development of postgraduate and doctoral studies in this area. Although it is still too early to evaluate the effects of these measures some positive trends regarding the quality of enrolled students can be observed. For example, more graduates from secondary schools approach entrance exams, more of them come from prestigious secondary schools than before, they come with better grades from the prior schooling, they show better results at the entrance exam, and also for most of them teacher education faculty is the first choice which was also not the case before. These observed positive effects require further more rigorous institutional research to be done.

An important novelty is also the introduction of postgraduate specializations, master and doctoral studies in the area of primary teacher education. In the recent years the increase of scientific research in the area of teacher education as well as significant interest of young researchers in this field can be noticed. The accumulated research results in the recent future could also give useful input to the quality improvement of initial teacher education.

Subject teachers who, in Croatia, teach in the upper grades of primary schools (from grade 5 to 8) and in the secondary schools are traditionally educated at the university level. Bologna process has brought about the significant changes in their initial education as well. The students who now enrol in study programs leading to M.A. degree for subject teachers study in two cycles (3 + 2) while before they used to enrol in four year programs. Former initial subject teacher education programs were based on simultaneous model. In that model the emphasis was on academic contents and educational studies were neglected. Research data
reveal that in the simultaneous model only seven to twelve percent of the total study programs were devoted to educational sciences, teaching methodologies and school based practice (Vizek Vidović at. all. 2005). Within the reforms related to the Bologna process the consensus among higher education institutions has been reached about the adoption of consecutive model with 60 ECTS comprising courses in educational sciences, teaching methodologies and practice in schools. That means, the first cycle of study is now oriented to the academic content and teaching competencies are developed at the graduate level. The issue of prospective subject teacher education is more controversial in comparison to class teacher education. The discussion has been opened whether the more appropriate model for subject teacher education would be 4 + 1.

3.2. Quality assurance of initial teacher education in Croatia

In Croatia, as in the most European countries (Quality Assurance in the Teacher Education in Europe, 2006) only general regulations for the quality assurance for all higher education institution exist, and apply to the institutions and programs for initial teacher education.

3.2.1. Accreditation and external evaluation

Since 2004, the accreditation and the external evaluation process has been somewhat changed by the most recent Law on quality assurance in science and higher education passed on the 6th April 2009. This new Law regulates the procedures of initial institutional accreditation, institutional re-evaluation, thematic program evaluation and institutional audit (evaluation of quality management system). These procedures are implemented by the National Council of Higher Education and National Agency for Science and Higher Education. In comparison to the former By-law (2004) the major change is related to the initial accreditation and evaluation of university study programs. In accordance with the concept of university autonomy new study programs will be approved by the decision of the university Senate. The decision will be based on the internal accreditation procedure performed by the university quality assurance board. Each study program proposal will be examined regarding the requirements defined in the special new By-law approved by the minister.
The focus of the National Council of Higher Education and National Agency for Science and Higher Education will be on the accreditation and periodical reaccreditations of the higher education institutions as well as on the audit procedures.

3.2.3. Internal evaluation

Since the beginning of the implementation of Bologna process a significant step towards the establishment of the internal quality assurance systems has been made. Universities have established university boards which act as advisory bodies for quality management for the university senates. Such QA board plans, manages and analyses the results the internal evaluations of different aspects of university functions and participates in national network of university quality assurance system. The main task of the university QA board is to advise and support the university constituents, i.e. faculties and academies in implementation and adherence of quality standards. University QA board is in its activities supported by the University Office for Quality Management. Until now, one of the main activities of this Office has been the annual administration and analyses of the survey concerning the student/s evaluation of teaching. The Office also supports different activities concerning quality improvement such as staff training and information dissemination on issues regarding benchmarking, European guidelines, standards, etc.

At the constituent’s level quality assurance is enhanced by the Faculty boards for quality management. The main tasks of these boards are as follows: development of the quality indicators for study programs, monitoring and organization of the self-evaluation procedures, organisation of student evaluation of teaching and development of CPD for academic and non-academic staff.

4. Activities related to the quality improvement in teacher education

Although there are no specific formal regulations about quality assurance in initial teacher education, since 2004 several projects were initiated with the aim of developing the quality culture in teacher education institutions. Those projects were developed usually at the national level and some of them also had international dimension. The main topics were related to the Bologna process issues specially raised within Tuning project and its methodology of curriculum development. As examples of such approach two projects will be
described in more details. These are: *Development of a model for teacher lifelong education* (duration 2003/2005) and *Learning outcomes in initial teacher education* (duration 2008 – 2009).

4.1. The project: *Development of a model for teacher lifelong education*

The project *Development of a model for teacher lifelong education* has started before implementation of the Bologna process in order to enhance the quality of program development in initial teacher education. Conceptualisation of that project preceded EU initiative to integrate all educational projects into lifelong program 2007 – 2013. The main tasks of the project were (Vizek Vidović, 2005):

a) Analysis of the relationship between the initial and subsequent forms of teacher education concerning its duration, scope and content as well as methods and conditions of implementation,

b) Examination of the compatibility of teacher education with the theoretical basis and empirical findings of the educational sciences,

c) Examination perception of different stakeholders in the teacher education concerning adequacy of acquired knowledge and teaching skills,

d) Examination the relationship between the level of professional qualification and the professional identity of the teachers,

e) Comparison teacher education in Croatian with the teacher education model of the European Union countries and some transitional countries.

The study included different levels of analysis: conceptual, comparative and empirical. The qualitative and quantitative research methodology was used. The findings were used as the empirical basis for proposing meaningful changes and developments of the classroom and subject teacher education.

This study is one of the first empirical researches in the area of needs assessment in teacher education. The study was conducted with different key stakeholders of the teacher education system. The participants were: 1334 class teachers, 2134 subject teachers in primary schools, 949 students (prospective teachers) and 62 university teachers at different
teacher education institutions. The participants evaluated the quality and satisfaction with their initial teacher education. Among other things, they were asked to rate the degree of acquisition of twenty relevant teacher competences as well as their satisfaction with their initial education. Some of these results are presented in the Table and Figure below.

Table 1 - Competences with below-average ratings for different sub-samples
(rank 1 indicates the lowest satisfaction level)

<table>
<thead>
<tr>
<th>KNOWLEDGE AND SKILLS</th>
<th>CLASSROOM TEACHERS</th>
<th>STUDENTS (CLASSROOM TEACHERS)</th>
<th>SUBJECT TEACHERS</th>
<th>STUDENTS (SUBJECT TEACHERS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of educational technology</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Working with pupils with emotional and behavioural disorders</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Working with pupils with learning difficulties</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Working with gifted pupils</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>School legislation</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Communication and cooperation with parents</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Education on human rights and civil society</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Application of practical skills</td>
<td>8</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Evaluation of educational process and self-evaluation</td>
<td>9</td>
<td>10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Classroom management</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Development of ecological awareness</td>
<td>-</td>
<td>-</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Development of pupils’ learning skills</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Developing pupils’ critical reasoning and behaviour</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pupils’ evaluation and assessment methods</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Figure 1 - Level of satisfaction with organization of initial education and in-service training

![Figure 1 - Level of satisfaction with organization of initial education and in-service training](image-url)
Ratings are on the scale from 1 – lowest satisfaction to 4 – highest satisfaction. Reported results are average ratings obtained on 8 items-scale for initial education and 7 items-scale for in-service training.

Below are presented the main results of the empirical part of the study in more details because of their implications for implementation of the Bologna process in teacher education regarding the whole system of teacher education, both initial and in-service.

1. Teacher survey results

Results of the class and subject teachers in primary schools and subject teachers in secondary schools indicated the need for improvement of initial, as well as in-service teacher training which should prepare them for their complex and demanding teaching tasks. It was concluded that the main emphasis should be put on the quality of the educational sciences programme and of the school based practice. Those programs should offer more opportunities for prospective teachers to familiarize with realistic classroom situations and possible problems, as well as with the ways for solving those problems. Focus should be also placed on the competences in the use of educational technology and working with pupils with special needs.

Since respondents clearly indicated that their initial teacher education did not provide all the competences needed in their profession, the need for the improvement of the content and approaches to the in-service teacher education programs was also recognized. Apart from already offered various forms in-service teacher training such as of seminars, workshops and lectures, teachers expressed great interest in the postgraduate education in the area of educational sciences. They also emphasised the need for better linking of in-service teacher training to promotion requirements.

2. Teacher student survey results

Results of the final-year students of the teachers’ colleges and faculties indicated that the most conclusions regarding teacher survey results could also be applied to students. Students’ results indicated the need for improvement of the quality of initial TED, with the special emphasis on competences in communication skills and cooperation with pupils and other stakeholders in educational process (especially with the parents). Students also expressed the need for the postgraduate education in educational sciences at the university level. Results also revealed that students were very much aware of what to expect upon
entering the school/classroom. They had clear expectations about the need of improving the school based practice. They thought that they should have more opportunities to familiarize with potential critical situations in the classroom with their teacher-mentors serving as mastery models.

In the final part of the study the comprehensive overview of the systemic approach to the transformation of teacher education system was given. It was concluded that the elements to which special attention should be given were as follows:

- national legislative and standards for teacher education
- competence based curriculum
- student centred approach to teaching and learning
- teaching, learning and assessment
- new area in study programs, such as: use of ICT in education, civic education, students with special needs, classroom management and school violence.

The special emphasis was put on the establishment on quality assurance system in teacher education. The key concepts proposed were development of quality culture in teacher education institutions, development of national standards for teacher competences, definition of quality indicators for teacher education, development of mechanisms for accreditation and evaluation of both initial and in-service teacher education programs and institutions, procedures for induction and licensing of teachers, development of procedures of internal evaluations of institutions and programs, and introduction of continuous professional development of academic staff.

In retrospective it might be said that the major findings of this study have been to greater extent incorporated into the development of new study programs in initial teacher education which were introduced in 2005/6 as the part of the Croatian higher education reform enhanced by the Bologna process.

4.2. The project: Learning outcomes in initial teacher education

The project *Learning outcomes in initial teacher education* was prepared as the tool for improvement of curriculum in the area of teacher education. Next year the process of re-evaluation of all university programs in Croatia will start after the fifth year of the implementation of the Bologna process. Based on the results of the preliminary university

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2 See: http://domus.srce.hr/iuoun/index.php?option=com_content&task=view&id=13&Itemid=115
teacher survey on their experiences with the implementation of curricula introduced in 2005/6 it has been observed that they complain on teacher overload, lack of skills in student centred approach to teaching, and difficulties in defining teaching goals as learning outcomes. In order to address the expressed needs a group of experts in the field of teacher education developed the above mentioned project.

The project goal was the development of the conceptual framework and methodology for defining learning outcomes as competencies in initial teacher education as well as supporting university academic staff in defining, monitoring and assessment of learning outcomes. Project was carried out by the multidisciplinary team of experts from the field of educational sciences from the University of Zagreb, University IT Centre (SRCE) and Institute of social research – Zagreb supported by the foreign educational specialist from Great Britain. The main results of the project were as follows:

a) Framework for the development of the institutional strategy for the planning, design and implementation of competence based curriculum in teacher education,

b) Manual for the university teachers Planning of Competence Based Curriculum in Teacher Education (Vizek Vidović ed., 2009) explaining the methodology for the development of competence based curriculum. The theoretical background of this text has been evolved from the social constructivism and cognitive models of learning. The key theoretical concepts elaborated in the manual were learning outcomes, competences, constructive alignment of teaching, learning and assessment. The chapters of the manual are devoted to the following topics: Bologna process and the changes in initial teacher education, Curriculum – basic concepts, Competences and competence profiles in teaching profession, Learning outcomes and constructive alignment, Student load (ECTS), Quality assurance of study programs, Example of curriculum development based on Bologna principles at Teacher Education Faculty University of Zagreb, Model of the development of the competence based curriculum (http://domus.srce.hr/iuoun/UPravo/Vizek-prijelom.pdf).

c) An example of the development of the learning outcomes matrix for teacher education module has been proposed based on the Tuning methodology.

d) A list of teacher key competences obtained in a smaller – scale empirical research.  

The survey based on study carried out in 2005 as well as based on Tuning survey on

3 Project has been supported by the Croatian National Science Foundation.
teacher competences has been administrated to a sample of school and university teachers.

e) Three workshops were offered for university teachers from teacher education faculties in order to strengthen their capacities for outcome based curriculum development and implementation. The first workshop was dealing with the design of outcome based syllabus. Second workshop was oriented toward the elaboration of the model of competence based curriculum in initial teacher education and the third one was about needs assessment and development of university programs for teacher CPD.

f) Web portal (http://domus.srce.hr/iuoun/UPraVO/) was developed as a resource for quality teaching and learning with on-line counselling service for academic staff. The topics presented on the portal are as follows: learning, students, curriculum, teaching, academic reading and writing, assessment, motivation to learn, communication, teachers, IT in education, Bologna process, useful links and journals, FAQ.

The results of the projects have been widely disseminated across the academic community and serve as orientation not only for the curriculum development in teacher education but also for the other academic disciplines.

5. Conclusions

Although in the area of initial teacher education in Croatia significant changes have occurred, there still remain issues to be resolved. In our opinion, besides general regulations of quality assurance system in higher education, specific quality assurance mechanisms in initial teacher education should be also developed. High quality of teacher education is the basis for overall quality of education system and therefore it is necessary to establish national standards for teacher competences as the basis for the development competence based curricula in teacher education. The emphasis should be put upon of the development of quality culture within teacher education institutions in order to built capacities for high quality teaching, reflective practice and teacher self-evaluation skills. Specific indicators for the external evaluation of teacher education institutions and programs should be also developed. Continuous professional development programs for academic and non-academic staff at all program levels should be offered. And, finally, the model of integrated quality assurance system for the whole system of teacher education, both initial and in-service, should be developed and implemented.
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Improving policy and practice of teacher induction into the profession

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CREF, University Paris Ouest Nanterre

Contemporary teacher preparation is envisaged as the continuum of teacher learning where the phase of induction into the profession is influenced by the quality of pre-service teacher education and in-service training. More, teacher learning is associated not only with formal programmes and courses but also with informal learning opportunities (Schwille, Dembéle, 2007). To understand the induction, its organisation and content, we are carrying out a research (2008-2010) focused on comparison of policies and practice in three countries: France, Canada (Quebec) and Ukraine.

This communication will analyse the case of Quebec. This system does not have any formal national framework of induction. However, since early 1990s some school boards have offered the induction programmes to beginning teachers. Features of these programmes include: collegial counselling and collaboration for developing beginning teachers’ reflection and empowerment (COFPE, 2002).

Key words: beginning teacher, induction, comparison, policy, outcomes.

Introduction

While describing the period of entry into the teaching profession, the authors (experts, politicians, educators) use different terms, which, sometimes, can indicate the peculiarities of initial and in-service teacher training systems and status of teachers in a society. These nominations also show the priorities given to this period of teaching career: accompaniment, collaboration with peers, additional training, beginning of the in-service training, first stage of professional socialisation, adaptation to professional environment, acquisition of professional identity, etc.

The conditions and status of beginning teachers vary from one country to another. In France, teachers have a status of “civil servant” and national teaching concourses guarantee a permanent position and security of employment during all teacher career. On the contrary, beginning teachers in Quebec (Canada) have to accumulate 1200-1500 hours of teaching before getting a post of a permanent teacher. Thus, they cross this painful period accumulating short contracts and rare are those who manage to take down a long-time replacement. In the worst cases, this “precarious” employment can last during 8 years. In Ukraine, newly qualified teachers (NQT) look for the vacancies at schools themselves too.

What is common for these three systems is that beginning teachers find the profession more and more difficult due to the changes in student’s population but also to the poor organisational conditions of their support and guidance in the first years of teaching. In many countries teachers quit the profession at alarming rate and those who persevere find few help from their older colleagues. The experienced teachers from the years of “baby-boom” retire in numbers and those who have some more years to do have the privilege to work in schools with better job conditions. As the result, the transfer of knowledge from experienced teachers to beginners becomes difficult. The newly qualified teachers usually start their careers in unfavourable educational environment with the majority of inexperience staff in the teacher team.
In response to these challenges, national and European policy makers endeavour to improve policy and practice of teacher induction into profession. Thus, the European Commission (2007) suggests that “…all teachers take part in an effective programme of induction during their first three years in post/in the profession; have access to structured guidance and mentoring by experienced teachers or other relevant professionals throughout their career; take part in regular discussions on their training and development needs, in the context of the wider development plan of the institution where they work” (p. 13). There is a question to develop new mechanisms to facilitate teacher integration at work and to evaluate the efficacy of existing programmes.

The induction period was introduced in France in 2005. The French Ministry of education calls for the organisation of beginning teachers’ support activities during the two years of independent practice. These activities include compulsory training sessions: four weeks in the first year and two weeks in the second year. In addition, academies are invited to develop other forms of teacher support like mentoring, individual and group consultancies (including its virtual forms), short seminars, etc. Quebec is the example of decentralised education system and shows how the induction can be provided in such context. Indeed, in this Canadian province there is no any official framework but the Ministry advises school boards (SB)¹ to develop means in order to support teacher integration. Finally, Ukraine inherited a structured system of beginning teachers’ reception at school from the soviet period. Thus, all teachers have reduced teaching hours during the first years and they benefit “pedagogical” help from experienced teachers.

Professionalization of newly qualified teachers and development of structured induction programmes is a recent phenomenon in teacher preparation and we would like to analyse it using comparative perspective. In the following paragraphs the first conclusions of the case study in Quebec will be presented².

What is teacher induction in Quebec?

In Quebec, it is “a professional integration (PI)” (in french: insertion professionelle), which is defined by Martineau and Vallerand (2005) as “a life experience at work which implies a process of adjustment and evolution of a novice teacher and which occurs while entering into the profession.”³ (cited in Ndoreraho J.-P., Martineau S., 2006). The document of the COFPE⁴ of the government of Quebec (2002) specifies that the PI “concerns the beginning in the profession and the entry in a process of continuous learning for all teachers.” (COFPE, 2002, p.18).

According to Mukamurera, Bourque and Gingras (2008), professional integration is a complex phenomenon. These researchers identify four interlinked dimensions of professional integration which present challenges for beginning teachers:

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¹ School board (in French commission scolaire) is a form of regional government, which deals with pre-primary, primary and secondary public education.
² The research in Quebec was supervised by Pr. Liliane Portelance, LADIPE, University of Quebec à Trois Rivières (UQTR)
³ Our translation. In French version: une expérience de vie au travail qui implique un processus d’adaptation et d’évolution chez le nouvel enseignant et qui se produit lors des débuts dans la profession.
⁴ COFPE : Comité d’orientation de la formation du personnel enseignant: Council for orientations in teacher education.
• **Integration as an access to the employment** ("administrative meaning"): characteristics of job, status, duration, social advantages, etc;

• **Integration as an access to the workplace**: nature of work, details of functions; link between professional preparation and realities of teaching; charge of work, conditions;

• **Integration as an entry into organisation**: relations with colleagues, adaptation to the education policies, professional and organisational culture; recognition by the peers as a member of community;

• **Integration as an acquisition of professionality**: learning a professional role, development of professional knowledge, skills and competences, becoming autonomous.

For other Quebec researchers professional integration in teaching is a threefold process: construction of knowledge, skills and competences; socialisation at the workplace; identity transformation (Vallerand, Martineau, Bergevin, 2006). This stage in Quebec can last from one to seven years. The integration ends when a teacher becomes adapted to its professional environment and becomes efficient and independent. Nault (2007) adds that it is over when a teacher reaches a certain level of confidence and competency.

Nault refers to other researchers who think that teachers getting a new post are also in the induction stage: "there are three categories of new teaching personnel: teachers who are beginning, those who are continuing, and those who are returning" (Gibson and Hunt, 1965 cited by Nault, 2007, p.1). According to Martineau and Vallerand (2005) this process can affect teachers who immigrate to another country and have difficulties to adapt themselves to a new school culture. This is why it is important to take into consideration all these profiles of "beginning" teachers while developing professional integration programmes and support activities.

**History and policy of teacher induction in Quebec**

At the end of the sixties, a system of probation was set up in Quebec. During that period, the teachers’ vacancies were rare and beginning teachers entered into the profession through the short-time and part-time contracts, and often with a long period of professional inactivity. The probation system prepared new teachers to practice their job and, at the same time, evaluated their professional skills. Gervais (1999) explains that only the objective of teacher evaluation was taken into account and it was done by the administrative authorities. However, this researcher notices the existence of aid initiatives for beginners on behalf of experienced teachers but "without organisational support and collective will of reception" (Gervais, 1999, p.13).

The reform of 1992 lengthens the teacher education of one year and 700 hours of educational practice (field observation, student teaching, internship, etc.) are spread during four years of pre-service education. Increase of practice at schools allows policy makers to abolish the probation period considered as no more useful. The teacher education and training aim at the acquisition of twelve professional competences and their development during three interrelated stages: pre-service education, professional integration in teaching and in-service training. The students leaving the university obtain a degree in teaching, which recognises their professional qualification. However, professional competences of beginning teachers remain insufficient. The actions of professional integration at schools are introduced to support the entry of teachers into the profession.
In order to accompany that change, the Ministry of Education of Quebec (MEQ) financed the research projects to study the training needs of actors and to propose the support activities for beginning teachers (Gervais, 1999). However, according to COFPE (2002): “Since then (the reform), any official document was published on the subject to ask the school boards to elaborate a policy or an action plan relating to the integration in teaching, on the one hand; any financial support was given for the implementation of training activities or support actions to educational establishments or school organisations which had implemented activities of accompaniment, on the other hand” (COFPE, 2002, p.12).

However, during 1993/94 and 1994/95 the Ministry supported the experiments in some school boards to set up the services of integration. The professional conference entitled “From probation to professional integration” (1995) was financed by the Ministry too. It gave possibility to the actors of PI to exchange on the results of the experiments. Moreover, in the same year, the Ministry presented two working papers on the orientations and the ways of implementation of the PI actions (COFPE, 2002).

Thus, the initiatives and recommendations of the Ministry helped some school boards to develop the projects of professional integration. However, absence of permanent funding in the following years leaded to the PI projects’ abandon. The rare boards continued to support the projects by conviction and comprehension of benefit of the programmes for beginning teachers and for the quality of pedagogical work in the establishments.

Currently, few school boards have and apply programmes of professional integration both in primary and in secondary education. There is even less of boards which do it in partnership with the universities in order to assure the transfer of teacher knowledge from pre-service education into the practice.

**Access to the permanent employment: “a probation by employer”**

Since the teacher education reform of 1990s, the degree in teaching, “baccalauréat”, acquired through the four-year professional preparation at the university, attests a definitive and permanent qualification of teachers. But this “permanent qualification” does not give the direct access to the permanent employment and the status of a “permanent teacher”. The school boards select their new teacher-employees according to a list of “priority employment”. The rules which determine the access of candidates to this list are negotiated locally between educational authorities and teacher trade unions. In general, school boards require that a teacher get a full time contract during two years and only the third year of contract’s renewal gives an access to the list and, thus, a permanent post. Other boards admit to this list teachers who have accumulated more than 80 days of annual work during two years or 1200-1500 hours of teaching.

However, very few newly qualified teachers obtain a full time contract after the graduation from the university. The process of professional integration is much longer and it often occurs according to the following stages (MEQ, 2003):

- Access to the list of temporary replacement (a candidate sends CV to SB which can evaluate his knowledge and skills through tests and interviews)
- Occasional temporary replacements (contract of employment is not signed)
- Part-time contracts or contracts “à la leçon” (a long time replacement)
- Access to the list of “priority employment”
- Full-time contracts and permanent employment.
In general, beginning teachers cross this painful period by accumulating short contracts of replacement changing schools and educational environments. Moreover, in Quebec teachers are asked to teach several subjects, even those they were not prepared for at the university. This requires the consequent time of preparation and raises stress, especially among the beginners (Gervais, 1999). More, school boards use this unstable period of teacher career to evaluate and select the best candidates for permanent positions. Even those who get their university degree in teaching pass extra exams in subject of teaching, didactics or in ICTs. The beginning teachers are also supervised by the school authorities who visit lessons and write the reports to SB analysing their practical skills.

In fact, the realities of access to the permanent employment in Quebec show the ambiguity between two parallel processes: the process of secured and guided induction to refine teaching skills, on the one hand; and the process of evaluation and selection of beginning teachers for permanent posts, on the other hand. Consequently, the organisational and administrative conditions of entry into the profession can have a negative impact on the professional integration and professionalization of beginning teachers. At the same time, this “economical dimension” of integration is not the only obstacle for successful induction. Professional, social, psychological and identity dimensions influence teacher’s feeling of “being professionally integrated” too (Portelance and all, 2008). The beginning teachers consider that mastery of teacher skills, integration into the “school-team”, professional and social recognition, security of employment and well-being at work are the important indicators of professional integration (Mukamurera and all, 2008). Teacher induction programmes may be one way to support and facilitate beginning teachers’ integration.

Rationale for induction programmes
Induction into the teaching profession can be considered as a process of accompaniment, extending the limits of pre-service education and making links with in-service training. Thus, according to Lamontagne, Arsenault and Marzouk (2008), professional integration is a period of learning and socialisation, which helps a novice teacher to become an experienced professional. School organisations are advised to address this issue through the development and provision of induction programmes.

The goals of induction programmes can be different:
• to persuade the beginning teachers to stay in the profession;
• to facilitate a transition from the status of trainee to that of a competent teacher;
• to enable teachers to apply their prior knowledge and skills and to further develop and refine new competences;
• to develop and maintain in post a high qualified personnel;
• to train and answer professional needs of beginning teachers.

The study of different induction programmes by Lamontagne and all (2008) shows their common objectives such as “support, success, satisfaction, teachers efficacy as well as transfer of knowledge about educational policy and school organisation (Lamontagne, Arsenault and Marzouk, 2008, p. 191). Totterdell and all (2004) point out that it is essential for the purposes of induction programmes to be related to those of policy; and the goals of induction programmes to be related to practice. These researchers add that “to achieve clarity around purposes and goals, and to work out the implications takes time and therefore developing effective induction programmes based on sound research, high standards of performance and ethical conduct
requires a lengthy process of piloting, evaluating and refining induction programmes” (Totterdell, 2004, p.3).

The research done in different countries (Arends and Rigazio-DiGilio, 2000; Totterdell and all, 2004) reports that several common components of induction programmes can be identified:

- training sessions and workshops;
- orientation and information about policies, procedures;
- mentoring and peer support groups, including its virtual forms;
- opportunities to visit and observe the lessons of other teachers;
- access to resources and teaching materials;
- guided feedback and self-evaluation.

It exists a consensus among the researchers about what is quality induction and what works in induction. First, the design of induction programmes should be research based, linking the theory acquired in pre-service education with the realities of practice at schools. The best induction programmes go beyond “the survival tips” for novice teachers, i.e. how to keep order in the classroom. They concern the issues like curriculum, assessment, instruction, school culture, self-evaluation, and professional reflection. Another important point shows that the programmes work where beginning teachers have reduced teaching load and less difficult assignment compared to their experienced colleagues. Also, new teachers need opportunities for collaborative planning, goal-setting and feedback with experts. Finally, mentors, or other professionals accompanying beginners, require selection, preparation, release time and incentives (Totterdell and all, 2004).

The research literature illustrates the importance of informal support and enculturation for success of induction programmes (Feiman-Nemser, 2003; Wong 2001, Portelance 2008). Beginning teachers often look for a person they can relay upon in the school and, sometimes, they request simple emotional support and encouragement on behalf of their colleagues. This is why, the school culture and professional relationships clearly impact their initial teaching experience. Strong teacher teams, promoting collaboration, collegiality and problem solving, facilitate the beginning teachers’ professional integration. The authors use the term “integrated professional culture” to describe effective support environment where exchange is possible among the teachers of different experience levels. In such teams beginners can develop a sense of unity, educational values, belonging to community and teamwork. The advice and explanations the beginning teachers receive may impact their attitudes towards students, the teacher’s role and the future professional development orientations.

Taking another factor into account, effective delivery system, the authors (Arends and Rigazio-DiGilio, 2000) point out the considerable variation in implementation of induction programmes on national and regional levels. The human and financial resources vary from one region to another and from one school to another. Thus, where decisions are left to local actors in terms of programme structure and content, there are fewer novice teachers who have access to induction activities and these activities greatly vary in quality. More, policy makers are often confused about what constitutes induction for novice teachers. It leads to often changes in legislation, regulation and funding of the induction. According to Totterdell (2004) “political and financial support is essential at all levels and must translate into realistic resources, if propitious conditions for induction are to be achieved”.

**Induction programmes in Quebec**
Formal induction programmes is a recent phenomenon in Quebec. The absence of the national framework of induction does not prevent school boards, schools and voluntary teachers to work out the actions of support for beginning teachers. The study of COFPE (2002) shows the diversity in design and implementation of professional integration programmes. The size of the school, the environment of the school board, the socio educational characteristics of this environment, the available resources influence the choices of actions. This investigation reports that only 35% of the school boards set up or wished to set up the actions of professional integration in 2001-2002. The most spread components of the programmes were identified:

- individual meetings between beginners and experienced teachers (66%)
- specific assistance (53%)
- *parrainage*, mentoring or tutoring (52%)
- choice of a “resource person” (26%)
- “discussion groups” (26%)
- information or training during pedagogical days (25%);
- workshops (25%)
- network of mutual aid (13%)
- activity about professional ethics (10%)
- group of support on the Internet (7%).

These activities are annually evaluated in order to make the improvements for the following year. The budget remains modest and school boards are obliged to call upon other sources of funding, i.e. from pre-service or in-service trainings. In addition, it is noted that the existence of these actions does not guarantee the equitable access of all teachers: the actions are unsuited for some of them; the places are limited in training workshops; the problems of geographical distance and replacement of beginning teachers participating in training are also mentioned.

However, these first actions of support and training for novice teachers as well as the development of collaborative research on induction\(^5\) in Quebec has further contributed to the growing attention paid to these crucial years of a teacher career. A special province structure “CNIPE”\(^6\) has been mandated by the Ministry to coordinate, monitor and support the development of PI programmes. The intent of the Ministry remains unchanged: to give responsibilities for a meaningful and effective induction to local actors.

**First results of the case study in Quebec (2009)**

The research in Quebec in April and May 2009 confirms the absence of a province framework for teacher induction into the profession. The decentralised approach to induction policies leads to considerable variability in programmes’ nature and content. Thus, our study permits to identify three different cases of induction programmes:

- **Case 1**: PI programme developed and supported by the school board.
- **Case 2**: PI programme developed and supported by the school authorities.
- **Case 3**: PI programme developed and supported by the individual/experienced teachers.

The first case presents a “classic form” of induction programme developed at the regional level. It is a long-run extended programme of multiple support for beginning teachers which is a central element of the professional development policy. As the school board is situated in a favourable environment (presence of universities and research centres), the designers of the

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\(^5\) LADIPE - Laboratoire d’Analyse du Développement et de l’Insertion Professionnels en Enseignement

\(^6\) CNIPE - Carrefour National de l’Insertion Professionnelle en Enseignement
programme could benefit a “scientific advice” from the university. However, the person responsible for induction reports that few university teachers participate in training sessions as their interventions are very expensive. Most of trainers are selected from the SB’s stuff, pedagogical advisers and experienced teachers. The structure and content of the programme are substantial: information and reception at school and SB; training sessions for mentors and beginners; accompaniment/mentoring; anonymous guidance; journal de bord, feedback. Besides, a special attention is given to immigrant teachers who begin their experience in Quebec. They can participate in training sessions, which concern cultural, social and educational peculiarities of this educational system. Although the structured induction programme is evidence in this region, it exists some problems with its implementation in schools. The interviewees mention that school authorities are not always aware of the problem and ignore the needs to develop support activities in teacher teams. Also, the claims are made in regard to the necessity to have a coordinator of induction in schools for dissemination of programme’s ideas and activities.

Two other cases of PI programmes are identified in the school board without any official policy on induction. They show how support activities for beginning teachers could be developed inside schools: by school authorities and by individual teachers. It seems that the goals of these programmes are the common: facilitate novice teacher professional integration in schools. But, for the school authorities (case 2), the PI programme is also a means to guarantee the continuity and stability of employment at school. In addition, PI activities (mentoring, class visits) enable school authorities to “keep an eye” on beginning teachers’ work.

On the contrary, the activities initiated by the experienced teachers in case 3 could be characterised as an informal network of support for beginners. The two persons responsible for PI express the desire to stay independent from any educational authorities and any formal framework of induction. They explain that this strong autonomy helps to secure novice teachers from evaluation and selection presented in the process of access to a permanent employment in Quebec. Also, the “administrative and formal induction” could increase teachers’ work (extra meetings, reports, duties), which is already overcharged. What is clear is that case 3 is an example of “teacher empowerment”: experienced teachers, who have a high level of professional consciousness, take responsibilities for the professional development of their novice colleagues.

Mentoring is the main component of PI programmes in case 2 and 3. The guide of mentoring is elaborated and release time for mentors is offered during a school year. However, it is important to note that these programmes do not include other components referred as essential in the literature: systematic mentors’ training, guided feedback, training sessions for beginning teachers, etc. Also, they do not receive any support from the university trainers and the evolution of the programmes remains modest. Indeed, these initiatives confirm that professional integration of beginning teachers is an important concern of local actor. The gap exists between the PI activities coming from “the ground” and absence of response from the school board. Schools and teachers wait for a comprehensive policy of induction in the region, which could coordinate work of different actors, disseminate best practice, give financial support, etc.

Finally, programmes of professional integration (PPI) in three cases are constructed like a lineal process. As shown in the following figure, the collaboration is limited between possible providers of the programme: school board (SB), university trainers (U), school authorities (SA) and experiences teachers (ET). At the same time, the research on teacher professional development has proved that only “dynamic interaction” between different actors can make a
significant difference in implementation of programmes and improve the quality of beginning teachers support in schools (Ling and Mackenzie, 2001). The partnership model for teacher induction into profession could change the culture of educational organisations (school, university, school commission) and might help experienced and novice teachers to participate actively in this crucial stage of teacher career.

Conclusions

Formal and informal induction programmes were developed quite recently in Quebec. The decentralised approach to policy on beginning teachers’ professional integration leads to considerable variety in programme’s design and implementation. Still, many teachers do not receive any support or training during their first years of professional practice: programmes are not available in their schools or their administrative, “non-permanent”, status does not give the access to training workshops. However, the absence of clear decisions at the province and region levels, on the one hand, and growing difficulties of beginning teachers to fulfil their job, on the other hand, enables experienced teachers to take responsibility for professional development of their younger colleagues. Interest in induction and awareness of situation of beginning teachers has never been greater in the educational community. The Ministry of education calls for the use of induction programmes in each school board as a means for retention and accompaniment of new qualified teaching stuff. Moreover, it supports the development of collaborative research on induction through the funding of the scientific projects carried out in partnership with local actors.

Are the problems of Quebec’s system (non clear policy, poor funding, inequality of beginner teachers’ access to induction, absence of release time and less difficult assignment, confused status of beginners, variability in programmes’ provision, etc.) culturally and context specific? Could they be identified in other countries? We look forward for the next steps of our research in France and in Ukraine. We hope to continue our comparative analysis of policies and practice of teacher induction into profession in order to understand what can improve professionalization of beginning teachers.

References:


Quality in teacher education through school-university partnership

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Abstract

The main purpose of this paper is to present and discuss a school-university partnership project in the University of Iceland - School of Education as a research project at its initial stage. Teacher education in Iceland is currently under reconstruction due to new laws about teacher education, requiring a master’s degree for teachers at all level. As a part of this reconstruction, the School of Education is attempting to develop closer ties with Icelandic schools at different levels and with other stakeholders, both in regard to policy and practice. One action taken in this respect has been to form a relationship with a number of “associate schools”. These schools have two main roles in this context. First, they take an active part in teacher education as the school community fosters a group of student teachers throughout their studies. Second, they will participate in a learning community of school teachers, student teachers and university faculty focussing on different aspects of education. The partnership is underpinned by mutual commitment and responsibility. The main aims are to bridge the gap between theory and practice in student teachers learning and to encourage cooperation that might lead to school development as well as improvements in the teacher education programme. Related to this endeavour are a number of research initiatives. The main themes investigated in the research projects are: student teachers’ learning, guidance and supervision; the university faculty, content in courses and research focus; the associated schools e.g. school development; and the partnership itself. Data will be collected over the next two years but some preliminary data are available from two pilot studies.

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**Introduction**

Teacher education in Iceland is currently under reconstruction based on a new law that requires a master’s degree for teachers at all school levels. Besides, the University of Iceland, just having celebrated its one hundred years anniversary, merged with the University of Iceland as the School of Education and became one of five schools within the university.

As a part of the current reconstruction of teacher education, the School of Education is attempting to develop closer ties with Icelandic schools at various levels and with other stakeholders, both with regard to policy and practice. The School of Education considers itself as an active member of the Icelandic educational community. Different actions have been undertaken with this in mind, partnership at policy level: e.g. consultation with different stakeholders about main priorities, research partnership and joint school development programmes, community services, and finally partnership in student teacher learning.

The practicum in the Teacher Education programme has been restructured over the last two years. A relationship is formed with a number of “associate schools” based on mutual commitment and interests. These schools have two main roles. First, they take an active part in teacher education as the school community fosters a group of teacher-students throughout their studies (the full current three-year programme). Second, they will participate in a learning community of school based teachers and university faculty focusing on different aspects of education. At the same time teaching practice was defined as part of each course instead of being structured in separated blocks. Thus, now the majority of the faculty involved in the teacher training programme are involved in student practice.

This project is presented and discussed in this paper as a research base covering five strands: the teacher student learning; the associated schools; the university faculty and the content of courses; the relationship between involved partners and finally the partnership itself, i.e. how those involved manage to establish a learning partnership among students, university teachers and school teachers involving fruitful discussions.
The education of teachers is understood as being a collaborative task aiming at student teachers’ professional development, where a central prominent feature is close cooperation between the university and the schools, referring to pre-schools, elementary and secondary schools. The roles of these institutions vary in the education process, but they share objectives and interests. Learning processes that take place in the university and in the schools are supposed to interact. The students are expected to apply practical experience in the field for interpreting and constructing their understanding of theoretical knowledge, and to apply theoretical and practical knowledge from the university studies in learning from their practice experience. This is seen as a mutually interactive process between the student, the university, and the schools.

The project is still in its initial phase and is introduced here for discussion in order to aid further development.

The background of the project

National context

The national educational system in Iceland is divided into four levels, plus a fairly extensive adult education arena, parts of which are within the formal system of education. Pre-schools are defined by law as the first level of the educational system, providing education for children until six years of age, at which point compulsory education begins. More than 90% of children from the age of two to six years attend these schools. Compulsory education (age 6-16) is organised within a single structure, i.e. primary and lower secondary education form a part of the same unified school level, and generally operate within the same school building. Upper secondary education (age 16-20) is not compulsory, but anyone who has completed compulsory education has the right to enter a course of studies in an upper secondary school. The length of the courses in vocational education varies, lasting from one semester to ten, but most prevalent are four-year courses. Currently, about 6% of the whole population are students at University level (Statistic Iceland, 2009). Two Universities in Iceland educate teachers for the pre-school and compulsory school levels; The University of Iceland where about 80% - 90% of teachers are educated in and the University of Akureyri, located in the northern part of the country.
Teacher Education in the University of Iceland

Teacher education is at university level in Iceland and has been so since 1971. A bachelor degree in education is required for teacher certification at the pre-school and compulsory level. The teachers in the upper secondary schools are required to add 60 ECTS to their BA or BS in their special subject. In June 2008, new laws were adopted for all schools levels in Iceland. At the same time, a new law about teacher education was adopted requiring master degree (five years at university), which becomes operative from July 2011, for teachers at all levels, pre-schools, compulsory schools and upper secondary schools.

A new structure adopted during the School of Education centenary, 2007, involved revision of all programmes at the university, both at bachelor and masters level in order to organise a cohesive five years, research-based study programme in teacher education. Undergraduate teacher education programmes were revised, resulting in more emphasis on students’ possibilities to specialise within certain areas of subjects or within areas of teaching different age groups.

One of the main objective in the new teacher education program is to encourage the integration of school based practical experience, theoretical understanding and agency threads characterize most courses:

1. Connection to research:
   - All courses must connect to a defined field of study and research. The aim is that students are able to relate research and theoretical knowledge in the relevant field to develop their occupational skills.

2. Connection to the field
   - All courses must connect to the professional arena which is assured among other things, by students’ visits to schools and direct participation in work in the field, discussions on practice or study material or surveys in the field.

3. An emphasis on creativity and communication
   - All courses must emphasise students cultivating the creativity of their minds, and that they are coached in acquiring and sharing knowledge in varied ways. Students will be trained in shaping, stating and sharing knowledge in spoken and written language as well as in visual arts, music, drama and movement.
when appropriate. Furthermore, an effort will be made to ensure that students become confident with using information technology as with classic ways of communication and expression.

Teacher student practice in teacher education programme is at least 24 ECTS out of 180 ECTS (i.e. around 13%). From the autumn of 2007, it is integrated into different courses. Before that, student practice was organised as separated, somewhat independent blocks that a small group of teachers took care of. The practice part at master’s level is now under discussion and it is proposed that students in the teacher programme should use at least 20% of the study period in schools. That is one year out of five.

**The partnership project**

As described before the partnership project described here is a part of larger policy within the university. The main aims of the project were defined as follows:

- To bridge a gap between theory and practice in initial teacher training by encouraging school’s influence in student learning and courses content.
- To provide opportunity for teacher-students for deeper learning about the practice as they always goes to one and the same school for practice.
- More coherent, effective and relevant practice for students.
- To link school teachers and university teachers in a learning community based on mutual interest and trust, which is expected to lead to school development, even school reform that may affect both the schools and the teacher education programme.

Since the school-university project started in the autumn 2007, contracts have been made between the university and about 80 pre-schools and 80 elementary (compulsory) schools, emphasising mutual commitment. These schools are defined as the university associate schools in teacher education and receive formal documents acknowledging the contract. Each of the associated schools nominates one person that coordinates and directs the collaboration with the university on behalf of the school. These schools have two main roles:

- First, they take an active part in teacher education as the school community fosters a group of 3 – 10 student teachers throughout their three year studies. As
such they are the student’s home school. To respect this, the university teachers commit themselves to consult with the student and the home school taking into account the objectives and projects that the student is going to work on during practice period.

- Second, they participate in a learning community of school based teachers and university faculty focusing on different aspects of education. This learning community is supposed to develop as the members increasingly engage in discussions about different aspects of education. This collaboration is directed in such a way that members are lead together and they are encouraged to take initiatives for joint research of development programmes.

The whole programme of collaboration is underpinned by mutual interest and equality, all partners must gain and everyone’s contribution is valued. The overall benefit is for teacher education that is in the interest of all partners. Besides that, special interests of different partners are respected. Those can involve access to children and school work for the university teacher and for the schools it could be support from academic partner for different projects within the school.

Now, most of the faculty members in teacher education programme are involved in organising teacher-student practice, many of whom have very little knowledge or experience of working in schools. Thus it is anticipated that this will gradually be of no less value for the School of Education, as a whole but also for its individual members to participate in the venture.

In short, the roles and responsibility of different agents can be described as follows:

The School of Education is responsible for creating and planning relationships between the teacher student and the relevant associated school which is defined as the student home school. But the university is also committed to find ways to support the associated schools in developing their professional standards. University faculty are expected to support students in developing their theoretical and practical competence as well as their professional identity (practice-theory). The practice periods are integrated parts of courses both general didactics courses and in subject didactics. The codified ideas or theories presented in these courses must be connected to the school practice in one way or another and the teachers are assumed to be familiar with school programs and teaching in their field.
The associated school assumes the responsibility for creating good learning conditions, giving the students the possibility to get acquainted with an excellent school, for giving them the opportunity to try out own ideas and teaching plans under the supervision of a competent teacher, and promote the students’ insight in the many aspects of the school work and school culture. Experienced teachers in the home school act as supervisors for the teacher students. The school is expected to be a partner in the teacher education, be accountable for the education of a group of teacher students through their years of study, or a defined part of this study period. The schools should constantly strive for developing and improving their professional work.

The teacher student is responsible for her own learning, and attempts to combine the academic studies and own experience in the practice period using systematic methods (i.e. portfolios), to become active participant in the school-society, and thereby to construct a holistic practice theory (professional identity) that is built on solid pedagogical foundation and knowledge of the practice field.

Teacher students, supervisors in the students’ home-schools, and respective faculty at the university are expected to have close relationship and be partners in a learning community, where all agents are learning. The role of the student is important in this collaboration, especially as far too often it is overlooked in school-university partnership projects (Korthagen, Loughran & Russell, 2006).

Learning partnership or learning community in the home school project could take many different forms but the main idea includes that three partners comes together, the student teacher, the school based teacher and the university teacher collaboratively reflect on teacher student learning from practical experiences. The collaboration is based on mutual respect and trust beneficial to all partners, which include the institutions they belong to or their field of expertise in general. Learning partnership could also exist without the student teacher when a small group of university teachers and school based teachers, sharing same interests; engage in a learning community about different aspects of the school work, regarding a subject or some aspect of education, such as inclusion (Anna Kristin Sigurðardóttir, 2008).

The main challenges
Generally, there is a broad agreement about this project among the faculty of the School of Education, among the associated schools and among the students. There are more
schools that want to join the project than needed. The main challenges that have appeared so far, mainly concern technical aspects of the project, especially within the university. They involve as an example uncertainty among many university teachers as how to organise their student practice since some of them have little experience or knowledge of the field. Other teachers that have considerable experience and knowledge may have difficulties in sharing responsibility and thus tend to direct too much the student’s activities into the work place. The question of coordinating the tasks set by different faculty in different courses has also come up and also the question of affinity between the tasks in the associated schools and those at the university. It is certainly a challenge to facilitate coherence in the student learning process and to encourage deeper and broader learning about the practice during the studies. One suggestion as how to cope with these issues is to use a personal portfolio directed by the student, covering the studies, i.e. opened in the first semester and closed at the last semester. All teachers in the courses attended by this student must support the student in the development of this portfolio.

Some of the school based teachers are rather insecure in directing the cooperation with their student teachers and some of them look at it as a lack of preparation from the university when students arrive without a detailed programme for the practice period as usual. The overall structure also seems complicated for them since students are coming in different times with different background and requirements from the university.

Theoretical views and justifications

The pillars underpinning this general stance are manifold, see e.g. Jónasson (2009). They extend from general notions of the problem of relating declarative and procedural knowledge, through the understanding of the importance of the development of situated knowledge, through discussion of expansive knowledge, the importance of work place learning to various initiatives attempting to re-establish a close connection between teacher training and schools. It also derives inspiration from ideas about the development of professional competence. Teacher education institutions throughout the world are indeed developing partnership between university and schools in order to improve the quality of their teacher education programme.

In Icelandic teacher education considerable attention has been paid to the work of Korthagen and his colleagues, and this connection is one of the six basic principles that
Korthagen, Loughran and Russell (2006) emphasised on the basis of their study into the development of quality in teacher education. It is also emphasised as one of four recommendations from the International Alliance of Leading Education Institutes for improving the quality in teacher education (Gopinathan et al. 2008). Darling-Hammond and associates (2005) strongly recommend that learning to practice should take place in practice and that student teachers should gain clinical experience from the very beginning of their educational programme, a view also defended by Jonasson (1998) for any vocational or professional programme. The consensus is that such an arrangement could enable teacher student to reinforce, apply and synthesise both declarative and procedural knowledge they are mastering in other coursework. There is also evidence which suggests that this works in both directions and that practical experience affects the student teacher’s acquisition of theoretical knowledge in the more traditional university based courses (Korthagen and Kessels, 1999).

Partnerships, between universities and schools, seem to have become a central term in the discourse about teacher education, especially in various proposals for reform, and thus, if only implicitly suggesting that the lack of impact of various earlier reforms can be accounted for by the lack of this component of cooperation between theory and practice.

Evaluations indicate that there are many positive effects of programs characterised by such interaction. However, the various results are debated, and the successes from the formal programs in England and in USA have been questioned (Darling-Hammond, 2006). Furthermore, many university reforms suffer from a lack of evidences (Korthagen, Lougran & Russell, 2006). There is a need for more exploration, evidence and discussion.

Anne Edwards and her colleges have been studying the partnership models in English teacher education from two perspectives; on the one hand they have investigated the role of theory in the models, and on the other hand how mentors are positioned in such partnerships (Edwards & Protheroe, 2004). The role of mentors in the partnership programs is of particular interest and turns out to be very complicated. The evidence from their studies indicates that mentors themselves understand mentoring as mediation of knowledge of primary teaching, and induction into the community of practice of primary teaching in each partnership school. In reality, the focus in mentoring seems mostly to be on pupil performances and learning as moving through the curriculum. To
some extent, the mentors’ role and understanding of learning processes seem to be in harmony with the theories of situated learning; learning to teach is seen as a process of learning to be, see and respond in increasingly informed ways while working in classrooms (Edwards & Protheroe, 2004; Lave & Wenger, 1991). Edwards argues that this picture is too limited; for understanding the position and role of mentors new questions must be asked about their positions in the activity systems of their own schools and the training partnerships.

The justification for the new program in Iceland is derived from several theoretical sources. For the first, the emphasis on individual development, and the development of “practice theory” draws on the writings of Korthagen and Kessels (1999) about theory with a big T and small t, and Schön’s (1983) ideas about the role of reflection in teacher education. Secondly, the ideas about practice as a source for theoretical learning are similar to those of “situated learning” and of communities of practice as the foundation for learning (Lave & Wenger, 1991). Thirdly the theoretical underpinnings of the emphasis on the partnership between the university and the home-schools are sought in socio-cultural theories, notably activity theory and the contributions from Anne Edwards (Edwards, Gilroy, & Hartley, 2002; Engeström, 2001; Þuríður Jóhannsdóttir, 2005). The subjects of learning are both individuals and the community they are part of; in this case the partners in the collaboration task between university and school and the system of practice teaching.

The importance of the transfer of knowledge between activity systems is highlighted, as well as ideas about learning from practice by using theoretical tools and creating learning communities (Anna Kristín Sigurðardóttir, 2006). The ideas about professional learning communities are currently a crucial focus in many studies of school improvement as a way of building up a school’s capacity for development and increased effectiveness. The whole idea of a professional learning community is about the constant building up of new knowledge within the organisation and putting it into practice by constantly using collaborative enquiry and reflection (Stoll & Louis, 2007). An effective professional learning community has the capacity to promote and sustain the learning of all professionals involved in that community with the collective purpose of enhancing pupil learning (Bolam et al, 2005); it involves shared norms and values, the de-privatisation of practice, critical reflective dialogue (Mulford et al, 2004) and system thinking (Senge, 1990).
It is expected that the development in teacher practice in the teacher education programme in the School of Education will be as Rosie Le Cornu and Robyn Ewing (2008) describe the development in Australia, where noteworthy efforts have been made to develop the school university partnership in the sphere of teacher education. The development of these ideas has been through three different stages. They have moved from the traditional approach, claiming that student teachers put their newly acquired knowledge from study in university into practice during their time in school, towards emphasis on reflective approach where the students go beyond the technical skills of teaching to consider the moral and ethical issues of teaching and learning in a particular context. As such the student-teacher constructs her own knowledge by reflecting on her experience at a workplace and in university courses. The latest stage, according to Le Cornu and Ewing, is to go beyond reflection and towards learning communities where the group together inquires into the practice and engages in the learning partnership. They move from the individual focus to group focus, the aim is not just to develop one’s own reflection skills but also to facilitate the development of others.

The overarching perspective is the ambitious development of the competent professional. In the project, teachers’ professional competence is assumed to be more than knowledge, skills and qualities; it means being able to use the knowledge, skills, and qualities to act in a purposeful and accepted way in the job – in doing and thinking – regarding actual situations, social context and professional standards (Ragnhildur Bjarnadóttir, 2008).

Many scholars have studied and defined the concept “professional competence” and competence development. In the last decades, the importance of mastering competence in pedagogical thinking has been highlighted, as well as being able to apply one’s own knowledge and skills at work (Dale, 2003; Handal & Lauvås, 1983; Kansanen, 2006). The Dreyfus brothers have developed a theory on learning from work experiences, and a model describing the progression from novice to expert. Competence is defined as the third level of five; with competency, planning and decision making becomes more conscious and the various elements of the situation become organized into gestalts – which leads to changed possibilities for acting in a professional way (Dreyfus & Dreyfus, 1999). According to Eraut (1994), professional competence refers to what
people know and can do, and arises from social interaction, knowledge sharing, and collective methods.

**The school-university partnership project as a research project**

The aim of the research is based on the aims of the partnership project. It has the character of action research in the sense that using the school-university partnership programme as a research base, evidence is collected that helps to improve the teacher education programme and hopefully also school development in our associated schools. The research project is in particular supposed to help us to gain some understanding of i) the development of professional competence in general, ii) the interplay between theory and practice, iii) the effect of participation of a student on the context of practice, iv) the differential effects of initial and later school experience, but in particular how the students develop professional competence related to a number of specific arenas.

**Design and structure**

The research project is split into several smaller studies, conducted by different colleagues at the University. Some of them are conducted relatively independently from other parts of the project while others are interrelated and highly dependent on one another. At the very end of the project, the results from all parts are summarised and interpreted together in order to provide information about the overall aims and for further improvements of the partnership project. The research is divided into four main categories:

- Student teachers’ learning, guidance and supervision; i.e. studies on a) how the student teachers develop own professional competence throughout the study time, and, b) how student teachers’ practice experiences and supervision in “the system of relations”, connected to practice, contributes to their professional development.

- The associated schools; includes possible effects on school development programmes within the schools and the attitude of the key contact people towards teacher education.

- The University teacher, the content of university courses and research focus are they affected by closer and more frequent contact with schools.
The partnership itself, including i.e. how the members manage to establish a learning partnership among students, university teachers and school teachers.

**Time plan**
The partnership project started in the autumn 2007, which mean that the first students graduate from it in the spring 2010. The main data collection will take place from autumn 2009 until spring 2011, even though some pilot data has already been collected about student’s satisfaction after their stay in the associated schools each term and about the main challenges the schools face. Already some modifications of the initial implementation have taken place. The first steps have been taken in exploring how student teachers' practice experiences and supervision in the “systems of relations” – connected to practice – contributes to their professional competence. Some preliminary data has also been collected from associated schools and the student teachers.

**Methods**
Different methods are used for data collection between different category and also within them as suits the research question each time.

1. The student teacher:
   - Questionnaire survey for student graduated in the spring 2009 (group that studied according to the older structure of TE programme) and again by the end of their first year at work 2010. The same procedure is used for students that graduate in the spring 2010 and again after their first year at work 2011. The main purpose is to make comparison on student’s attitudes on their study and towards the profession.
   - Interviews with a group of students throughout their study time to capture the development of their understanding and professional competence. The same student is interviewed three times.
   - Questionnaire survey to student after each term about their experience from the practice period.

2. The associated schools:
   - University teachers that visit the schools on regular basis collect field notes by using common checklist.
Questionnaire survey to key contact in each school, conducted in the spring term 2010.

3. The University teacher:

- Questionnaire survey to all university teachers that were affected by the project, conducted in the spring 2010.
- Follow up interview with 2-4 university teachers with different background.

4. Relations between involved partners aiming at learning, guidance and supervision /mentoring.

- Case studies, interviews and questionnaires. Participants are student teachers, university teachers, practice teachers and key contacts in schools.

5. The partnership:

- Developmental programme with three different groups of University teachers, school teachers and student aiming at developing learning partnerships. Data are collecting along the way in participating observations.

Some preliminary results
The university teachers did pilot observation in associated schools by the end of the fall term 2008 and spoke informally to teachers and student teachers. They noticed that the teachers in the schools appreciated the opportunity to direct student tasks during practice period and welcomed the student teachers into their schools. But at the same time they complained about lack of clear instruction from the university about expectations and requirements. The student teachers expressed their satisfaction with the programme the school offered but agreed with the teachers that the information to the school were not clear enough. Some of them worried about not being able to visit more than one school during their study time.

As a first steps in exploring the possibilities for supervision and competence development, embedded in the “system of relations” connected to practicum, a case study was designed (Ragnhildur Bjarnadóttir, 2009). The intention was to study the advantages of using individual and collective reflections in student groups for working with problems of teaching – experienced by the students in practice teaching. In analyzing the data the focus was on the relations between the student teachers as a
background for learning. How do the students describe the relations to the other student teachers in the “learning community”. What facilitates learning – and what are the main barriers for learning? Expanded understanding was an important component in the professional competence aimed at – rather than the competence for solving the problems.

According to the analysis, “intersubjectivity” seems to be a central theme in their experiences. The implications for teacher students are: it is important to listen, and have others listening to you; to try to learn from disagreement, try to understand different opinions of others, and to gain approval from others. If you feel you are a part of a group, you can make use of the collaboration and work with uncertainty connected to the teacher role.

The preliminary findings give some indications about what enables – or prevents – student teachers’ learning in a learning community focused on practice teaching. The next steps aim at further elaboration and exploration of the system of relations connected to practice in Iceland, the roles of those involved, and of support and guidance to student teachers as learners in practice.

**The next steps**

The next steps are threefold:

a)  We will reorganise some features of the practice programme in line with the issues noted as the main challenges noted earlier.

b)  We will of course collect the data already outlined, in accordance with the research plan

c)  We will adapt our research plan somewhat in light of the issues that have emerged and call for more emphasis on investigating the attitudes and competencies of each of the agents involved, but also related to the main organisational principles guiding the operation.
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Supporting Culture for Quality Improvement in Teacher Education: Towards a Research Partnership

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1 Introduction

In his article on mobility and the European dimension in teacher education Pavel Zgaga (2008) noted that teacher education studies ‘are more complex than most other studies in higher education’ (p. 34) and he pointed out the following elements of this complexity: interdisciplinary character of teacher education as a university area; initial vs. continuous teacher education; parallel vs. consecutive mode; and quality.

Quality is one of the key concept which is broadly discussed within the Bologna Process and the Lisbon Process. Within the Lisbon process, enhancing the quality of teacher education is an important goal for European education systems, if quicker progress is to be made towards meeting the common objectives that have been established under the Education and Training 2010 programme. In response to the Council's identification of teacher education and its quality as a key issue in the quality of teaching, in 2002 the Commission established an expert group to reflect upon on improving the education of teachers and trainers, which brought together the representatives of the 31 countries that participate in the Education and Training 2010 work programme. In the spring of 2004, a sub-group of this expert group, in cooperation with the Standing Group on Indicators and Benchmarks (also established by the European Commission under the same framework), addressed the question of developing suitable indicators for measuring improvement in the education of teachers and, in particular, their continuing professional development. The group has identified the development of systems for the evaluation and accreditation of the initial and in-service education of teachers as one of the priorities involved in improving teacher education.

In their interim report on the implementation of the detailed work programme on the follow-up of the objectives of education and training systems in Europe, the Council and the Commission underlined the urgency of reforms and the central importance of the motivation and quality of education and training staff. Accordingly, in 2005 the Commission worked with experts nominated by the member states to produce "Common European Principles for Teacher Competences and Qualifications". A set of common principles for teacher competences and qualifications was drawn up in cooperation with experts and tested in 2005 at a European Conference of senior policy makers, experts in the field of teacher education and major stakeholders.

The Commission of the European Communities has recently prepared an important policy paper dealing with the quality of teacher education at the European level called "Improving the Quality of Teacher Education" (2007). The Commission paper outlines the changing demands on the teaching profession. According to the paper, teachers are increasingly called upon to help young people become fully autonomous learners mainly by acquiring key skills, not by memorising information; teachers are expected to develop more
collaborative and constructive approaches to learning and they are supposed to be facilitators and classroom manager; they are required to use the opportunities offered by new technologies and to respond to the demand for individualised learning; and they may also have to take on additional decision-making or managerial tasks consequent upon increased school autonomy. Teachers are perceived as a part of the school community, working with other teachers, with the pupils’ parents, with different organisations and at least the local community.

These changes require not only to obtain new knowledge and skills and to develop them continuously, but first of all they require teachers’ responsibility to extend the boundaries of professional knowledge through a commitment to reflective practice, through research, and through a systematic engagement in continuous professional development from the beginning to the end of their careers. Teacher education needs to provide the necessary opportunities for this. However, many of the European countries struggle with providing teachers with the different opportunities to meet the demands of teacher profession (OECD, 2005). Almost all countries, which took part in OECD research on teachers, indicated that have difficulties in updating teachers’ competence in pedagogy, including support to individualised learning, pupils preparations for autonomous learning, dealing with heterogeneous classrooms, preparing learners to make the most of the ICT.

The European Commission in "Improving the Quality of Teacher Education" (2007) paper indicates that challenges facing the teaching profession are, in essence, common across the European Union and on the basis of the experience of teachers and teacher educators across Europe presents some common European principles for teacher competences and qualifications. According to the paper, teaching profession is envisioned as:

– a well-qualified profession: all teachers are graduates from higher education institutions; every teacher has extensive subject knowledge, a good knowledge of pedagogy, the skills and competences required to guide and support learners, and an understanding of the social and cultural dimension of education;

– a profession of lifelong learners: teachers are supported to continue their professional development throughout their careers; they recognise the importance of acquiring new knowledge, and are able to innovate and use evidence to inform their work;

– a mobile profession: mobility is a central component of initial and continuing teacher education programmes; teachers are encouraged to work or study in other European countries for professional development purposes;

– a profession based on partnership: teacher education institutions organise their work collaboratively in partnership with schools, local work environments, workbased training providers and other stakeholders.

Based on these common principles, the Commission stresses that a set of the policy steps have to be undertaken in order to improve the quality of teacher education in the European Union. These steps include creating the support systems necessary to perceiving the education and professional development of every teacher needs as a lifelong task, the development of the full range of subject knowledge, attitudes and pedagogic skills; development of qualifications, development of teacher education as a higher education degree and emphasis on the teachers’ role in the society and teachers’ role in knowledge creation.

This paper addresses the critical role of teachers in knowledge creation and focus mainly on issues of practitioner research in developing and supporting the quality improvement
culture in teacher education. I assume that practitioner research can promote creative partnerships between the institutions in which teachers and academics work in order to support knowledge creation and quality of teaching (the quality of teaching would be substantially improved if teaching were a research-based profession and if teachers were to play a central role in carrying out research). As far as supporting quality improvement culture in teacher education is concerned, in this paper I pose the question about the participation of academics and practitioners in the social process of creating educational knowledge, and to put it more precisely about the conditions of mutual participation of academics and practitioners in this process. In connection with this question, the actions aiming at finding the common ground for an agreement between the researchers of educational processes and the teachers should be undertaken. The considerations about the conditions of creating educational knowledge, thus about the formation of knowledge and the changes and re-evaluations occurring in the reflections over these conditions, are conducted in agreement with my belief that acquiring professional knowledge is not only a cognitive process, but an interactive process manifesting itself in social creation of new norms and possibilities of action.

I argue that the debate concerning educational practice, as well as about creating educational knowledge, should be focussed not so much on the barriers which weaken the co-participation of academics and practitioners in creating knowledge, especially on the barrier concerning the existence of a "gap"/"distance" between academics and practitioners, but rather on the possibilities of cooperation between them. These possibilities become particularly visible especially when we concentrate on the "sphere"/"space" that exists between academics and practitioners, the space in which academics and school teachers, i.e. practitioners, stay together, which is mainly observable in practitioner research. Many scholars indicate that it is necessary to move away from locking themselves by researchers and practitioners into two separated "castles": the castle of the school and the castle of the academy (Somekh, 1994; Johnson & Johnson, 2002; Lunenberg, Ponte, Van de Ven, 2007).

2 Practitioner research: main premises and the nature

Practitioner research is closely related to, and draws on, the methodologies of the "family of action research", including participatory research, critical action research, classroom action research; action learning. Practitioner research does draw on methods from a wider field than action research. Among the ways of collecting data one can find case studies, ethnographic studies, biographical and narrative research. Different forms of practitioner research today are the culmination of long processes of evolution and contestation, which included efforts both inside and outside education (Noffke, 1997a, 1997b). As Anderson, Herr, and Nihlen (1994) said, a number of calls emerged during the early part of the 20th century for teachers to actively participate in research carried out in their classrooms in cooperation with academic researchers. This cooperation in educational research was something that would lead to the greater professionalization of teaching and to raising its status in the society.

Nowadays, one can say that practitioner research is often used as an umbrella term for a large number of research-based activities undertaken in the fields of practice in education. It implies that practitioners will learn from their research into practice which is not always the case in other forms of research. It also aims at improving rather than proving as an
approach to research. Groundwater-Smith and Mockler (2006, p. 107) argue that in the field of practice based research, those involved in practitioner inquiry are bound to engage with both "theoretical" and --"practical" knowledge "moving seamlessly between the two". Thus, the term "practitioner" research encompasses various types of research, which are a particular way of exploring the world in order to improve it, and it is connected with a particular way of collecting research materials. Different types of practitioner research refer to a variety of personal, professional, and political motivations for conducting research. What connects all the approaches called "practitioner research" is the fact that they root from one problematic situation - a practical one - they result from the emerging need of the researcher to be active, to introduce change. At the same time it allows him to reflect deeply on his own action and its results. In these types of research we experience not so much the situation in which theory is created to be applied in practice, but rather the situation in which there is a transition from practical actions to theoretical generalizations.

Asking questions about the nature of practitioner research is like asking questions about the topics, the procedures for data collection and analysis, and the forms of communicating the research. Because of the limited length of this paper, I will not address the procedures for data collection and analysis, the forms of communicating the research, which is typical of all traditions of practitioner research, and I will not discuss the general issue of the criteria that should be used to assess the trustworthiness of claims made in practitioner research. A literature has emerged in the past decade that does a good job of this (Zeichner & Noffke, 2001). I will especially focus on the relationship teaching and research and the concept of practice as knowledge production.

Practitioner research is carried out by practitioners, most often in cooperation with academics, or by academics themselves and practitioner research incorporates a wide spectrum of approaches; the diversity of these approaches has led to debates about what practitioner research ought to be, what can be seen as the core of practitioner research. Taking into account the characteristics of different research approaches, which are usually bundled all together under the term practitioner research, except where we are referring directly to specific authors, in which case we use the term used by the author in question – we can try to find what connects these research approaches, and therefore what can be seen as the core of practitioner research.

Beginning with the early work of Corey (1953) in the United States, practitioner research is not simply to be seen as "applied research". It starts by assuming there is a different relationship between research and teaching. Rather than being dichotomous activities, this alternative approach sees research and teaching as closely related activities. The conventional premises on which the relationship between research and teaching can be found were: 'research and teaching are dichotomous activities’(see more: Cole & Knowles, 2004). The so-called Research, Development and Diffusion (RDD) model is based on epistemological view that postulates that science generates objective knowledge of general application and that practitioners subsequently master and apply this knowledge. The most important basic assumptions of RDD model are as follows: (i) a reality characterised by casual laws and mechanisms exists (it can be objectively observed, studied and known); (ii) science has to strive for knowledge of things as they are, as they happen (this knowledge must be universal and amenable to empirical generalisation); (iii) knowledge of reality has to be neutral and can be established objectively; and (iv) sciences refrains from normative pronouncements. The problem with this model is that it is often declared to apply in its entirety to all academia disciplines including social sciences. This way of
thinking works through into the way knowledge construction and dissemination of knowledge are organized. Zichner and Noffke (2001) expressed their view on the RDD model in the following way: "Rather than regard practice itself as a form of systematic knowing, the practitioner’s role … is merely to consume research produced by others." (p. 298)

Practitioner research is not the research that can concern the transfer of pedagogical/educational knowledge into practice, i.e. a one-sided transmission of ideas into teachers' practice, but it concerns the application of this knowledge in practice. This is not the research that is conducted exclusively by academics in order to use the obtained findings in practical conditions. Teachers and other educational practitioners become producers, as well as mediators and consumers, of knowledge. For many advocates of practitioner research the concept of practice as knowledge production is essential in that it can both embrace the value of individual development and move beyond the local and private context to contribute more broadly to educational and societal improvement.

Teacher research has received much attention in the last decade. The popularity of the view that research and teaching are closely related activities has reasonable justifications and benefits. Teacher research has a range of impacts on staff, including changes to the curriculum and pedagogy as well as improved confidence, job satisfaction and professional development. When teachers inquire into their own practices, individually or collectively, teachers' professional growth and pedagogical activity benefit from that process (Borg, 2006). Teacher research can be a boost providing teachers with momentum to engage in research. Undertaking research can help teachers develop the critical, analytical skills which will enable them to read and evaluate research reports in an informed and knowledgeable way. It encourages hard work and fills in the gaps of previous research and create avenues for future investigations. Through research teachers can appreciate the benefits of research, begin to understand in deeper and richer ways what they know from experience, be seen as learners rather than functionaries who follow top-down orders without questions, be seen as knowledge creators who reflect on their professional needs and current understandings, and explore the learning processes occurring in their classrooms and then attempt to interpret them. This is called research-informed or evidence-based practice which has been promoted to enhance teaching and learning.

According to Zichner and Noffke (2001), we can state that the nature of practitioner research varies not only across but also within different traditions of practitioner research. The process-product research orientation typical of some works in some North American contrasts directly with the more personal and narrative style found for instance in the United Kingdom. The works presented in the Collaborative Action Research Network publications represent a broad range of practices from different fields and countries and show a mixture of narrative, commentary, and methodological discussions.

What is evident here is that practitioner research is about a peculiar unity of theory and practice through understanding them as the co-building elements that are both in dynamic development and integrated wholeness. Practitioner research is strongly oriented towards the local character of social issues. This local focus means that there can be no such thing as a single best model for practitioner research. What all approaches to practitioner research have in common is that they are founded on the assumption that educational knowledge can be treated as a social construction. This knowledge is developed neither by applying theoretical knowledge, nor through routine actions in everyday practice; it is
developed in and through praxis. Praxis is a concept that originates from Aristotle, and nowadays is defined mainly as an action and it refers to, in general sense, to all intentional activities, by which people can reach a particular goal through their own efforts.

Raising the issue about practitioner research and knowledge construction, I aimed to make it clear that the question is not so much how practitioner research can contribute to the integration of theory of practice, which is usually interpreted as improving the transferability and application of knowledge that is amenable to empirical generalization. A far more relevant question is how practitioner research can contribute to the interaction between different layers of theory on the one hand; and of practice on the other. Grundy defined this type of knowledge as: ‘Knowledge that is intrinsically connected with practice. This is not knowledge that informs practice, or that has practical intent, but knowledge which is embedded in "praxis": reflective knowledge in and through action’ (1987, p. 40). Practitioner research can therefore be seen as knowledge construction in and through praxis, in which teachers (with external researchers) explore and improve practical situations, and interpret their findings and improvements in the light of their educational goals. Although the potential of practitioner research to contribute to educational knowledge creation is not discounted (see: Whitehead, 1993), there is more emphasis on its impact on building collaborative professional communities (e.g., Kemmis & McTaggart, 2005) and on informing educational policy (e.g. Atkin, 1994).

3 Practitioner research: developing a research partnership

Building relationships between school and university is a really important aspect of any collaborative research partnership. However, from a school perspective and university perspective, there are significant barriers that need to be overcome before effective working relationships between school- and university-based researchers can be forged (Lunenberg, Ponte, Van de Ven, 2007). Some of these barriers have their origins in peoples’ past experiences, while others are based on shared myths and common misconceptions of universities and academics.

Different expectations of research between universities and schools lead to the situation in which knowledge creation of itself is not the starting point for many teachers doing research and indeed some of the new knowledge arising from practitioner research may not be recognised if not immediately relevant to the desired outcome improvement in practice. Practitioners usually value findings that have a direct application in classrooms while academic researchers are rewarded by publication in academic journals that many practitioners usually do not read. Many academic researchers see knowledge creation as the main function of doing research, but they arguably have a limited view of the relationship between knowledge, practice and research. Some practitioners believe that education research is largely quantitative and abstract and that it is not relevant to their specific context.

I would argue that we need to cross boundaries to close the gap between theory and practice in education and to achieve praxis. Praxis is action and it refers to, in general sense, all intentional activities by which people can reach a particular goal through their own efforts. So it is not just universities crossing the boundary to collaborate in research and work in schools but schools crossing the boundary to work and perfect their research skills at universities. Frederick Erickson, in the third edition of the "Handbook of Research
on Teaching" (1986), discussed research collaborations involving academics and teachers and he said: ‘A few steps beyond collaborative research involving teachers and academic researchers is for the classroom teacher to become the researcher in his or her own right’ (1986, p. 157). Erickson went on to argue that more teachers need to take on the responsibility of conducting educational research: ‘If classroom teaching in elementary and secondary schools is to come of age as a profession—if the role of teacher is not to continue to be infantilized—then teachers need to take the adult responsibility of investigating their own practice systematically and critically, by methods that are appropriate to their practice. . . . Time needs to be made available in the school day for teachers to do this. Anything less than that basic kind of institutional change is to perpetuate the passivity that has characterized the teaching profession in its relations with administrative supervisors and the public at large.’ (p. 157)

Many teachers are concerned about time and abilities, and still see teaching as a consuming, complex activity, which is made even less manageable when research is an additional requirement, even though it is exactly that experience of teaching complexity that makes teachers’ input vital to research and reflection on teaching. Teachers are already overburdened with curriculum requirements, accountability requirements, and all the day-to-day pressures of keeping a classroom running wonder why they should take on one more thing. This concern is justifiable and understandable, however, it is a misconception that sees research as a separate activity from teaching. For many teachers, research is an optional extra (Thornley et al, 2004). Teachers must realize that research is doable because it stems from their own teaching practice. They should become aware of their own practices and the beliefs that underpin them, construct their knowledge and become active participants in research. They must acquire research skills and confidence necessary for disseminating small-scale but high quality research findings, thus making public their knowledge, beliefs and practice. As researchers of their own practice, teachers can discover for themselves how deeply theoretical their work is and has always been. This discovery can position them in a new relation to university theory. Theory is no longer what "they" do at the university, but becomes what "we" do in our classrooms every day (Kalnin, 2000).

The partnership of institutions of higher education/universities and schools based on cooperation consists in increasing the significance of differences and reinforcing the sense of identity, and at the same time in expanding the mutual knowledge about each other and raising the degree of mutual understanding; so that the movement between the two "castles" can take place in a way bringing pleasure and posing a challenge, and can be mutually strengthening (Somekh, 1994, p. 373). Possibility of crossing the barriers, of removing them so that the cooperation between academics and practitioners can start, is based on the metaphor of mutuality (Johnson & Johnson, 2002). The partnership of institutions of higher education/universities and schools emerges from the necessity to understand that in the cooperation both contribution and learning combine into one process.

Andrew H. Van de Ven (2007), shows that businesspeople and academics usually find it hard to discover common areas, to agree on many matters, but that probably they would agree on one thing: that they possess completely different ways of perceiving the world, of evaluating it. In reality differences that exist between the practitioners and academics create not so much barriers making their cooperation impossible, but chances for better search for solutions to problems involving both sides. It is hard to give full and appropriate
answers to questions posed by researchers, if the search for this answer is characterized by only one way of thinking. "Engaged scholarship" is such a form of research practice in which one looks at the posed problem from various perspectives: academic's one, practitioner's one, client's one and others'. When such a situation occurs, it may contribute to the increase of our abilities to expand knowledge and improve practice.

There is no doubt that searching for possibilities of cooperation between academics and practitioners with the assumption that they are different does not mean that they oppose each other or that they are supposed to substitute each other. Researchers and practitioners who, while having different points of view in understanding the problem, can increase the significance of research for practice and personally contribute to the advancement of scientific knowledge in the pedagogical field. During the process of research, teachers have the opportunity to travel outside their environment to seek information and collect relevant data. It can develop relevant research skills: formulating realistic research questions, adopt appropriate procedures for collecting and analyzing data, and present the fruits of their research in a form accessible to others. It provides greater opportunities for collaboration and networking between academics and teachers. When teachers are involved in research, their motivation may be boosted and maintained. Through collaborative knowledge building, studies can spotlight transitional trend analysis through human and instrumentation collaboration. To enhance co-operation between academics and teachers the emergence of positive motivation that makes teachers utilize the academic knowledge (recurrence, objectivity, generality, explaining, for example, why people behave in a certain way), establishing pedagogically/educationally effective contacts of researchers with teachers, establishing the dialogue between researchers and teachers may be necessary.

Practitioner research requires courage to face the emerging social problems. Short-sighted educational policy becomes something of an obstacle in increasing the quality of functioning of schools. Thanks to practitioner research, teachers, as the researchers of their own practice in cooperation with academics, undertaking critical reflection and making efforts to understand their own practice and its context, can change their own practices and support work of their schools, as well as contribute to the development of educational knowledge. Practitioner research can assist in concentrating not on the "gap/distance" between academics and practitioners, but on the space/sphere between, the one that links academics and practitioners - this sphere is education. By forming the sphere/space that links them, academics and practitioners can act in order to co-create educational knowledge and change educational practice.

4 Practitioner research and quality improvement in Teacher Education

Practitioner research is particularly important for Higher Education Institutions and schools willing to "evolve" their culture to a quality improvement culture. It is essential, therefore, to try to understand how practitioner research can affect the quality of teacher education.

It needs to be stressed that the effectiveness of teaching in schools would be significantly improved if teaching were a research-based profession and if teachers were to play a central role in carrying out educational research (Hargreaves, 2007; Niemi, 2008; Vogrinc,
Krek, 2008). The idea of teachers conducting research on educational practice came from the work to the work of John Dewey and Kurt Lewin (see: Wann, 1953; Adelman, 1993). John Dewey (1929) argued that the motives of actions and the problems that pupils experience should constitute the starting point for all situations connected with teacher's work. This makes teaching unpredictable to some extent, and makes it necessary for the teachers themselves to constantly reflect through research. In the 1940’s Kurt Lewin, whose interest was in inter-group conflict, and in conflict between individual and group wishes, demonstrated that groups, organizations, and communities which aspire to perfecting their own practice by for instance introducing some changes into them will have to conduct research on their own actions, investigating their own norms and values.

Beginning in the late 1940’s, Stephen Corey launched the "teacher-as-researcher" movement at Columbia University Teachers College to foster teacher professionalism and to build classroom research cultures. He saw action research mainly as an instrument to encourage teachers and principals to use research findings and to change the way their schools were organized. Corey started a new approach to the type of research called "action research", combining it with increasing the involvement in the workplace and local community. Corey perceived "action research" as a common ground for agreement between practitioners: teachers and principals, who collaborated with external researchers.

A decline of the cooperative action research movement in the United States was signaled by move in: the funding of educational research to the federal level, the disassociation of the American Educational Research Association from the National Education Association (in 1967), an increased reliance on a research, development, and dissemination model of educational research, and in the establishment of research and development centers at universities across the country (Noffke, 1997b). Following this decline of action research in the United States, the idea of action research in the field of education emerged in the United Kingdom in the context of school-based curriculum development in the 1960’s. In the intervening years, action research has increased in education. Teachers in some innovative secondary modern schools attempted to restructure and reconceptualize the humanities curriculum that the ideas of "teacher-as-researcher", teaching as a reflexive practice and teaching as a form of inquiry emerged. This teacher-led movement was perceived as a vehicle for participatory change, professional development, school restructuring and curriculum reform. Through these times action research has continued to hold an attraction for educators as a democratic alternative to administratively imposed change, promising to bridge the so-called "theory-practice gap". The "bottom up" curriculum reform work initiated by British teachers and later conceptualized and recorded by academics like John Elliott, Lawrence Stenhouse, Jean Rudduck, and Clem Adelman involved many different initiatives designed to make the curriculum more relevant to the lives of students. Stephen Kemmis, who had spent some time at the University of East Anglia, introduced action research to Australia, and, together with Wilfred Carr, developed an epistemological basis for action research in the critical theory of Jurgen Habermas (Carr & Kemmis, 1986).

Nowadays, the discourse of the practitioner research emphasises the particular skills needed to reflect constructively upon ongoing experience as a way of improving the quality and effectiveness of teachers’ work. The discourse implies a sound understanding on the teachers’ part of relevant educational theory and research (Moore, 2007). Therefore, it is essential for teachers to become aware already during the teachers’ study that ‘research of educational practice is one of the instruments for establishing and ensuring the quality of this practice, that they recognize research as and important factor of the professional
Practitioner research contributes to genuine indigenous and sustainable development, and have a beneficial effect on both teaching and learning. Secondly, practitioner research is necessary from both theoretical and pragmatic perspectives. Teachers are consumers of research as well as producers of research. As consumers of research, they need the products of research to reform their teaching practice (Gore & Gitlin, 2004). As research producers, they explore specific puzzles in their day-to-day teaching practice and come up with their own theories. Their research can help enrich theories and bring to the fore important issues arising from their context. Those issues will be insightful to teachers in other educational, social and cultural contexts. Besides, from a practical perspective practitioner research can be a significant engine room for innovation and change in schools since teachers are mediators of educational change at the nexus of actual practice (Firkins & Wong, 2005). Teachers can change or introduce a new pedagogical practice through doing research, which means understanding and, if necessary, reforming the "institutional habitus" (Burns & Knox, 2005, p. 256) within which the practice occurs and recruiting teachers as active agents in the process of change, through building networks of collaboration.

The formation of more research partnership goes against the grain of individual accomplishment that still dominates the culture of higher education in some countries, at least in Polish case. For the idea of research partnerships to be realized to a degree that will have a noticeable impact on research, and especially research in teacher education, cultural changes will need to occur in the academy. These changes can support engagement in collaborative research partnerships that involve teams of practitioners and researchers working on coherent and highly focused programs of research. Research partnerships can give a lot of attention to teacher education. The idea of practitioner research can be one way to build greater capacity for research in teacher education and its connection to outcomes including student learning.

5 Conclusions

This paper aims to highlight the importance of supporting quality improvement culture in teacher education through promoting a research interactive partnership between universities and schools, which can be a basis for knowledge creation. In the contemporary society, the practical application of academic pedagogical/educational knowledge is not the only challenge. Nowadays, nobody expects any more that teachers will strictly/rigorously apply the procedures based on the formal knowledge. Professional teacher knowledge is not only "formal", i.e. the one which is created by researchers for teachers. But the margin of tolerance of/acceptance for routine actions based on knowledge obtained only from practice is also quite small. More and more often, the emphasis is put on the creation of this knowledge, on the fact that the formation of educational knowledge cannot happen without the participation of school teachers, since the theory of education is not only the academics' domain. In a widespread shift, the concept of teachers as merely consumers of educational research is changing to one of teachers as producers and mediators of educational knowledge (Richardson, 1994). The idea that teachers should also be researchers has become commonplace (Ellis, 1998, p. 14).
In this paper I have posed the question about the conditions of mutual participation of academics and practitioners in the social process of creating educational knowledge. The considerations about the formation of knowledge have been conducted in agreement with my belief that acquiring professional knowledge is not only a cognitive process, but an interactive process manifesting itself in social creation of new norms and possibilities of action. I have first provided a framework for understanding the nature of practitioner research. I have pointed out the different reasons for engaging in practitioner research, ranging from an interest in better understanding one’s own students and improving one’s teaching, through generating knowledge about teaching and schooling that can be shared with others, to improving the various social and institutional contexts in which their educational practice is embedded; and I have focused mainly on the relation between research and teaching and the concept of practice as knowledge production. A second emphasis of this paper has been to discuss the conditions for building research relationships between school and university. I have looked especially on the conditions of mutual participation of academics and practitioners in the social process of educational knowledge creation; and on the issue why we would want to cross the boundaries in collaborative research between universities and schools.

While I hope the analysis presented here has captured some of the important issues on the conditions of educational knowledge creation in accordance to practitioner research, much work in relation to this issue is clearly needed. I have supported the idea of creating educational knowledge by creating research partnership between university and school and I have tried to show how much significant is to focus not so much on the barriers which weaken the co-participation of academics and practitioners in creating knowledge, especially on the barrier concerning the existence of a "gap"/"distance" between academics and practitioners, but rather on the possibilities of cooperation between them. I have made a number of general assertions about the issue of conditions of knowledge creation on the basis of my analysis of both academic and practitioner research literature. I emphasized that the idea of "practitioner research" is connected with the philosophy of cooperation which is based on a well-thought over concept of educational community, on taking personal responsibility for the whole shape of school teaching and pastoral care by all vitally interested in it. I am aware that discussion on educational knowledge creation and its conditions presented in this paper barely begins to scratch the surface of what needs to be done to collaboratively develop ways in which the knowledge creation can be determined in different contexts. I hope, though, that I have outlined some of the major issues that will need to be resolved in this work.

Analysing the conditions for promoting knowledge creation, Hannele Niemi (2008) rightly states that teachers should have "opportunities to link teaching and learning together with the latest research dealing with the contents and methods of teaching. However, this requires a new kid of co-operation with the academic community and the representatives of practitioners. It also requires the organisational support of higher education institutions to arrange platforms and models to join knowledge creation in pre- and in-service teacher education. [...] Advancing co-operation and continuous learning among practitioners requires a high quality research community that contributes with internationally recognized research as well as communication and collaboration with practitioners and decision-makers. Co-operation must not lower ambitious scientific aims but should enrich research design and methodologies." (p. 201-202)
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Which characteristics build a teacher education worth awarding?

Riitta Liisa Korkeamäki

This presentation investigates factors which supported the Department of Educational Sciences and Teacher Education in becoming a Center of Excellence in University Education selected by The Finnish Higher Educational Evaluation Council.

The department has special programs in teacher education (Master of Education, International Program, Arts and Crafts Oriented Program, Technology oriented program). The programs were established based on the department’s mission and to meet the challenges and needs in schools. In creating curriculum our department has taken the approach described as a type of an action research approach. Action research is also valuable in connecting theory and practice throughout the studies in educating self-reflective future teachers, teacher researchers. The university’s Teacher Training School which offers an excellent place for guided teaching practices is also a context for observations of various research activities and especially for gathering data for masters’ or doctoral theses. Most importantly, our teaching must be based on latest research.

It is important to note the cooperation of our students and staff in continual development of our education. The students are very critical about the instruction and are active in many ways in developing the curriculum. Each program has a group of 4-5 students which together with the student organization organize systematic self-assessment. The feedback is analyzed in joint assessment workshops. Based on the assessment data and discussions in assessment afternoon sessions problems for further development are identified.

Our goal is to have education which enhances students’ conceptual understanding so that they learn in a deeper and more effective way. Prospective teachers not only need versatile skills and knowledge but they also need to learn to work collaboratively. Therefore, also assessment has taken the role of promoting socio-cultural learning, inquiry-based learning, and transformative learning. We use methods we expect our students to use in practice after they graduate.

Self-reflection, action research, collaborative curriculum development
Abstract

UmePedagogerna is an organization for all teacher and study and career guidance counselor students within Umeå Studentkår, one of three students’ unions at Umeå University. Umepedagogerna is close to 20 years old and has during that time worked to increase student influence and quality assurance procedures for its members. Swedish teacher education has for a long time been the subject of much political debate and has, as a result of this, been restructured and remodeled often and during these changes student influence has been and will hopefully remain an important aspect. We as students at Umeå University are in a sense both receivers and participants of a product which gives us a unique perspective that, when applied to course and other educational related development, we hold to be a very important aspect of quality.

The faith shown in us by the university and more particularly the body for teacher education have strengthened us in our work and given us good possibilities to exercise student influence. We are not seen as adversaries, although we may not always agree, but as players in the same arena sharing the same goal; education with the highest level of quality.

Important issues for us students have varied through the years, but school placed education and its organization has always been a central issue. At present, considering the new organization of teacher education through Umeå School of Education at the university and the possibility of a new teacher education, UmePedagogerna sees course evaluations, teacher supervised time, forms of examinations, learning outcomes relevant for the teacher profession, equivalence in education, school placed education, progression in education and teacher competence as our most important questions. In the future, with potentially weaker student organizations and unions in terms of economy due to the abolishment of the compulsory students' union membership, we see maintaining our current level of student influence and developing it further as perhaps our most important question. This as an absolute prerequisite for future students to be able to affect their education.
Introduction

What is high quality education or rather, what factors help create education of the highest possible quality? How about world class research? Scientists and researchers at the very top of their fields, pushing the frontiers further and further. How about the world’s best teachers and educationalists? People with fantastic abilities to interest their students, constantly finding new ways of explaining complex issues and developing new methods of teaching. How about high tech equipment, computers, machines etc. capable of performing whatever one wants them to? A library with access to every doctoral thesis, article, book, newspaper and magazine you could ever think of? What of fantastic areas and premises adaptable to different styles of teaching and learning? The answer to all of these questions is a strong and definite yes.

This yes, however strong and definite, quite naturally gives rise to a lot of new questions; Are the students aware of what the researchers are doing? Do they find it applicable to their studies? Do they understand the purpose of the teaching methods? Are they learning? Do they like how they are treated by their teachers? Do they use the high tech equipment? Does it function properly? Is the library like a maze? Can they find what they are looking for? These and many other questions are crucial to determine whether or not we can claim to have education of the highest quality. What are the answers? Why not ask the students?

In this paper we will show why student influence is an important aspect of quality, why both informal and formal student influence is important, why students’ unions are important for student influence and we will also show some of the things student influence has contributed to at Umeå University.

Background

UmePedagogerna, as one of the subsidiary organizations within Umeå Studentkår, one of three student’s unions at Umeå University, has been active for about 20 years. The organization has during these 20 years had different forms and varied levels of active students, but has since its beginning worked for student influence, making sure that students exercise their right and increasing their possibilities to do so.

At Umeå University in particular, we feel that the separate body for Teacher Education sees us as a resource. Like the faculties on campus they give us funding for working with student influence. This funding, which is substantially higher than most others, allows us to employ 2
students to work as students’ union representatives (one for campus students and the other for distance students). They are chosen at one year intervals by and for the students, to strengthen student influence, to help students in conflicts with teachers (much like union representatives) and making sure in dialogue with university personnel that the policies and regulations that we from the students’ unions have put forward together with the university are followed as well as relevant national laws. They work preventatively in that they also are an important part of the formal student influence as they have positions as student representatives in boards, committees and other organs.

When students experience problems with their education or nearby related area concerning things such as treatment, grades, rule violations etc. they have the possibility to contact these students’ union representatives to receive help and guidance. Every time this happens we refer to it as a “student case”. This is then noted and at the end of each financial year put together and used as a basis for a formal letter sent to the university board concerning problems and risks and possible solutions to such that all students’ union representatives have seen during that year. It is not to be seen as a “hall of shame”-list, but as something that all faculties and institutions should work with.

These two students’ union representative posts have been a great help for us to systematize student influence, professionalize how we handle student cases, solve problem areas and establish progression in our own and the university’s quality assurance procedures. The posts have also been integral in helping to build a solid and stable organization together with our student volunteers in our own board and our student representatives.

When looking back at the history of the organization one can see that much of the issues have been related to a few core questions; School placed education (concerning student placement and organization) has always been the subject of much discussion. Student related information from the university and its faculties and how it is spread is another. Our organization has also proposed new courses and parts of courses that we have felt to be missing.

**Why are students’ unions important for student influence?**

Today much, if not to say all, formal student influence in terms of student representatives are coordinated by students’ unions. The students’ union representatives are an important
part in this, but the singlehandedly most important aspect is the students’ unions role in filling student representative places.

Student influence is not only important for direct educational development and quality. It’s important for students when it comes to their life situation in general. Students’ unions are working to make sure that students are in a financial situation that means that they don’t have to work to afford going to university, working for keeping the 40 hour work week (both if it’s too little or too much) that full time studies are supposed to mean. They’re making sure that ethnic groups, students with children, men and women are treated equally.

They are important for making sure that people who partake in distance learning are treated as well as campus students. Students’ unions welcome students to campuses and cities through various activities and make them feel at home.

They try to make sure that students are happy and like their university. Students, who are happy and well perform better and help make a better education. Both current students and alumni are the best ambassadors a university has. The more they talk of their great education, campus, social life etc. the more likely their friends are to choose that particular university.

**Why is student influence an important aspect of quality?**

If one looks at the Swedish legal documents that relate to education and students’ rights one quickly finds a clear view on the role of students in Swedish higher education. The Higher Education Act states that quality assurance procedures are a common concern for both university personnel and students. This is a point of view that we share with the university which can be seen when looking through some the different university policies.

The university’s student influence policy states that the quality of an education is created in the day-to-day work. Since quality assurance procedures are an important matter for all institutions it is important that students are present in the discussion forums and possible preparatory groups that work with quality assurance.

In Umeå university’s quality assurance procedures strategy it is written that all activity that influences the student’s education and situation at the university will be based on cooperation
between personnel and students and be characterized by an ambition for mutual trust and sense of responsibility.

Another very important document for us students is the Higher Education Ordinance. Amongst other things it states the students’ right to be represented in every decision-making and preparatory body. Throughout our Swedish legislature and policies and guidelines we are stated as co-creators of our own education.

The role that students have at a university can vary, depending upon how you look at it. In one aspect we are consumers of a product, even though we do not pay for our studies. We choose a certain education and want to enter our working life with the necessary tools. Therefore we are bound to have opinions on our own education. Through our choice of study programme or course we, in sense, become the economic foundation of much of the university’s work in that our presence is a prerequisite for the government’s financial support. Should we choose to quit it would have an economic impact on the university.

The educational culture of the university is to a large extent based on student participatory teaching methods. This means that much of the educational quality is based on students’ preparation, commitment, experiences and knowledge. In that sense we are also co-creators of our own education.

The student perspective is an essential one to have in all aspects of university issues. As it is present in boards and other organs it broadens the perspective of the group, helps to not forget the individual and. Students might not be experts at one particular area, but they often see the big picture. This especially applies to teacher students as we move from faculty to faculty and institution to institution. We met many different teachers and see many different ways of treating students. Our belief is that the voice of many gives a better and more solid foundation for decisions than the voice of a few.

**Why is both informal and formal student influence important?**

It is also important to distinguish between formal and informal student influence as they are organized in different ways. The very foundation of formal student influence is the students’ possibilities to affect their education through course and study programme evaluations. Another very important part of the formal influence is the student representatives at course, institution, study programme, faculty and board level. Concerning questions that are not
directly related to a single course or study programme formal influence in terms of student representatives is a necessity

The informal student influence, while it is perhaps not always as visible as the formal, is also a central part of student influence. By informal student influence we mean such influence that is not regulated by law e.g. teachers listening to constructive criticism during discussions and coffee breaks, student representatives talking to university representatives etc.

Our student representatives are representatives for all students within Umeå School of Education. It is important to remember that such representation in itself has no real value. If our right to student influence is not exercised then all we do as representatives is to give legitimacy to decisions. It is therefore important that students themselves choose their representatives. There should be no possibility for university representatives to themselves choose the students they want for an evaluation, student representative post etc. While we in essence do not see ourselves as adversaries to the university it is important that we can be a critical voice when necessary. Our coordination of student representatives is also an important part.

Another important aspect of this is the fact that university studies in Sweden, and teacher education in particular, comes down to an almost equal amount of self growth and maturity as developing knowledge and skills. If society wants active and participatory citizens and teachers we feel that student influence is one building block for this. Both the students who are student representatives and those who through course evaluations and informal student influence affect their education receive an education within their education. Teachers are, regardless of teaching age, role models in that students and pupils look to them for inspiration and guidance. When teacher educators open up to discussions and try to increase student influence it will make students positive to participatory teaching styles and pupil influence, which is highly valued in Swedish curriculums. We see student influence as intimately connected with the university’s pedagogical development.

What has student influence has contributed to at Umeå University?
During the 50 years that the student’s union has existed and UmePedagogerna’s 20 a lot has been done and we’ve been involved in a lot of questions. Amongst other things we have managed to introduce anonymous exams (where the student’s identity is hidden
from the examiner to prevent unjust grading), started a gym that has now grown into Sweden’s biggest sports centre, arrange CPR courses for students (by students), create housing for students, introduce a document with guidelines for examination during school placed education, annual welcoming activities (that does not encourage the use of alcohol or involve any sort of peer pressure) for freshmen strengthened rules during examinations etc.

The students’ union’s greatest work does not lie within this however. The hundreds of active student representatives, volunteers, etc. everyday contribute to a broadened perspective in boards, groups, councils and other decision-making and preparatory organs.

**What are we working with right now?**

Last fall, before the reorganization of the faculty to Umeå School of Education, we put together a formal letter to the board of the new organization stating what we saw as the eight most important questions to deal with.

One of the most important is course evaluations. We stated earlier that they are at the very bedrock of our formal influence and as such it is critical for them to function properly. Not only must they always be done, but the compilation for and feedback to the students is integral for raising student participation and awareness of the possibility to influence and improve not only their own, but their fellow students’ education.

Teacher supervised time is another important issue for us. We have seen that teacher presence has a positive effect on student commitment, students’ preparation for seminars etc. Teachers are there to help us learn and to help us improve our skills. Self studies are one part of our university education, but we need teachers and educationalists to push and help us become the best teachers we can be.

When students are tested through various forms of examinations it is essential that they feel that their own performance makes a difference, that it can be individually graded. It is not reasonable to assume that 30 students can be individually graded by a single teacher during a 45 minute seminar. When students feel that it makes a difference when they are well prepared for e.g. a seminar it will raise the quality of discussion and therefore also the quality of education.
It must not be forgotten that this is a study programme for learning a profession. We agree that it is important that research in these areas need to be strengthened, but at the same time the learning outcomes must continue to be relevant for the teacher profession.

One of the biggest issues with the so-called general education studies that are a part of our teacher education is that it varies much in quality and educational direction from group to group even during the same course date. The scale at which these courses are run is too big and makes it difficult for teachers to have equivalent course content.

School placed education is, and always has been, a central question for us. As a university Umeå has a larger area than most to which it can send students for school placed education. This means that there are large differences in how much students can teach and how much tutor time they can get. One important goal for us is to make sure that students have, to as large an extent as possible, an equivalent amount of tutor and teaching time. There is no doubt that students gather more experience the more they teach.

The lack of progression between first and second cycle courses has sometimes been seen as a problem. This is mostly related to our general education studies and the overall perspectives such as gender and diversity that are supposed to exist in all courses.

In the discourse surrounding Umeå School of Education there has been much focus on research and teachers’ research competence. As we have said earlier, we agree with the importance of research, but it must be remembered that we are talking about a profession education. Teachers’ school, pedagogical and didactical experience should also be an aspect of quality.

It is also important for us to make all students realize that student influence is important and for it to work we need committed students at different levels. Some recent changes to how the university’s institutions are structured have also increased the need for more student representatives.

The work we do has for a long time been isolated to our own university. This year we are broadening the horizon by working together with other similar organizations in Sweden and exchanging experiences and solutions to various problems in a way that we haven’t done before.
What will be important in the future?

The report on the abolishment of the compulsory students’ union membership and its future is closely related to well formal student influence can be organized. At present time all student representatives are appointed through the students’ unions. Much of it is organized through the employees at the students’ unions. If the unions financial possibilities to hire people full time is changed to the worse then much of the formal influence will be threatened, at least during a transitory moment before we can find other solutions. This is a real possibility as many students are not aware of the work students’ unions do for them. Making sure that students know the benefits of being a member in a students’ union is something which the unions have not been very successful at. This must improve and should have been done long before the abolishment.

In order to preserve the level of student influence the students’ union must walk a fine line between focusing on quality assurance procedures and more “PR-friendly” activities. Student influence and quality assurance might not be something that a majority of the students would pay for and that would directly affect our possibilities to continue our work for a better education in all aspects.

While there is room for improvement in terms of making students aware of the work we do, the university is very much aware of it. In the student influence policy it is clearly stated that the students’ unions must remain as distinct partners regardless of the abolishment of the compulsory membership. A statement we are happy to hear.

It must be remembered that the university and its students ultimately share the same goal; the best education possible. We will surely disagree about certain issues from time to time, but there is too much to lose in not working together.

UmePedagogerna
Tomas Hedström
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In-service experienced chemistry teachers’ views on novice teachers’ competences for teaching chemistry

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Abstract: The teachers’ profession is becoming more and more demanding, because we not only try to educate young people to become responsible citizens, but we should also give them a lasting and meaningful knowledge of different areas as well as the ability to solve problems in everyday situations. The education of teachers plays a significant role in developing a good teacher, but a large part of this process is also dependent on experienced teachers’ mentoring novice ones when they enter the education system for the first time. In this paper we will present the mentors’ opinions on newly qualified teachers’ specific competences for teaching chemistry in primary and secondary school. Altogether, 48 experienced teachers (mentors) from primary and secondary schools participated in the study. The questionnaire was used to assess mentors’ opinions about mentoring practices according to the novice teachers’ competences for effective teaching. The results show that in general mentors encourage in novice teachers the development of those competences that they consider to be important for good chemistry teaching. According to the mentors, novice teachers have quite a well developed general knowledge for teaching chemistry. The results also provide evidence that mentors usually offer only medium help to novice teachers during their preparation for teaching chemistry in the classroom, despite feeling that novice teachers are not adequately competent for teaching elementary or secondary school chemistry. The results of this study seem to provide evidence that mentors should be sufficiently well educated in the mentoring process for novice teachers, and not only in supporting the novices in acquiring the specific competences.

Keywords: experienced teachers’ mentoring, novice teacher, competences, chemistry teaching.

INTRODUCTION

Approaches to learning and the outcomes of learning are interconnected and related to differences in how learning is conceptualized (Marton et al., 1993). Teachers’ conception of teaching is also developed through their direct experiences in
the classroom (Larsson, 1986). Effective teaching is at the centre of effective learning, and unique mentoring is required for effective teaching (Hudson et al., 2005).

Lave and Wenger (1991) discuss that learning as it normally occurs is a function of the activity, context and culture in which takes place, and is therefore situated. Situated learning is related to Vygotsky’s notion of learning through social development. Lave and Wenger (1991) also argue that social interaction is a critical component of situated learning; this means that learners become involved in a "community of practice" which embodies certain beliefs and behaviours to be acquired. As the beginners or newcomers move from the periphery of this community to its centre, they become more active and engaged within the culture and hence assume the role of expert or old-timer. Furthermore, situated learning is usually unintentional rather than deliberate. These ideas are called the process of "legitimate peripheral participation." Other researchers have further developed Situated Learning Theory. Brown, Collins and Duguid (1989) emphasize the idea of cognitive apprenticeship: “Cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge.” The situated learning theory represents a theoretical framework for interpreting and enhancing the classroom and providing broader school experiences for novice teachers (Cobern, 1996).

Many of the positive effects achieved during the time of study and preparation for the pedagogical profession are nullified with the commencement of professional work. All this confirms the need for forming a systematic model for a 'culture of initiation' of teacher trainees into the profession (Valenčič-Zuljan & Vogrinc, 2007).

According to the Green Book on educating teachers in Europe, there is a blind spot with regard to the systematic and harmonic initiating of teacher trainees into the professional culture of schools in the present system of teacher education (Buchberger et al., 2000).

The mentor plays a key role in supporting the professional development of a novice teacher, but it is necessary to differentiate between quality teaching and quality mentoring (Lindgren, 2005). An expert teacher is not self-evidently a good mentor to a junior colleague. For quality mentoring, it is necessary, among other things, to be
familiar with the goals of mentoring and the tasks of a mentor. In order to be able appropriately to plan an individual’s professional development, a mentor has to recognise the characteristics of teacher trainees and their professional development.

The professional development of a teacher trainee depends on various factors. Their classroom actions are significantly determined by their own experience as learners, their beliefs, conceptions of instruction, knowledge and the role of a teacher (Calderhead & Robson, 1991). For this reason, it is important to ask what these competences are in pre-service and teacher trainees, and how we can affect them. Valenčič Zuljan (2007) finds that pre-service teachers largely hold conceptions typical of the transmission model of education. Many sources contribute to beginning teachers’ understanding of teaching, but none surpasses actual classroom experience (Feiman-Nemser, 2001). When involved in classroom experiences, novice science teachers have the opportunity to observe others teach, interact with students, teach lessons themselves, and reflect on teaching experiences and students’ learning (Van Driel et al., 2002; Koballa et al., 2007). According to Volkmann and Anderson (1998), the mentor must provide opportunities for novice teachers to experience classroom conflict and the dilemmas of teaching. Conceptions of the role of mentor include: coach, model, instructional supporter, evaluator, confidant, information source, feedback-giver, and explicator of personal teaching knowledge and beliefs (Cameron-Jones & O’Hara, 1995); and also the following responsibilities; introducing novice teachers to school life, school customs, and school culture, stimulating them to reflect on their own teaching; and bridging the gap between theory and practice (Zanting et al., 2001).

The beginning teachers’ conceptions during their participation in classroom experiences, pre-service or in-service, serve as referents and have an influence on their decisions and actions for their future classroom practice (Koballa et al., 2007). During this process of first novice teachers’ autonomy in the classroom, the experienced veteran teachers’ mentoring plays an important part in the professional development of the beginning teacher. Mentoring provides opportunities for novice science teachers to obtain the support and guidance not readily available to them through other means (Luft et al., 2003). Mentoring is often linked to the retention and
continued success of all beginning science teachers through the development of competencies in teaching, assessment, and classroom management (Wang, 2001).

Mentoring also benefits the veteran teachers, who serve as mentors by enhancing their commitment to teaching and providing them with insight into their own professional growth (Hunter & Kiernan, 2005). According to Hudson, Skamp and Brooks (2005) and Hudson (2005), novice and mentor teachers should have an active and productive role in the process for the mentoring to be successful. There are five key factors describing effective mentoring in science teaching: (1) personal attributes: complex personal interactions between novice teacher and mentor, novice teacher and students, mentor and students, and between students themselves, take place in the classroom environment; (2) system requirements: provide the direction and the framework for regulating the quality of science teaching practices; (3) pedagogical knowledge: novice teachers have to develop the knowledge for teaching science with the guidance of an experienced teacher; (4) modelling: the mentor is expected effectively to model the teaching practice with high levels of teaching competency (i.e. a rapport with the students, lesson planning, syllabus language, hands-on lessons and classroom management) so that the beginning teacher can learn from it; (5) feedback: this is a vital part of the mentoring, novice teachers have to reflect their own teaching according to the mentor’s oral or written feedback to improve teaching practice.

**Purpose of the research**

In the Republic of Slovenia the novice chemistry teachers can begin their teaching in two ways after they graduate at the Faculty of Education (for primary school chemistry teacher; pupils age 14 and 15) or at the Faculty of Chemistry and Chemical Technology (for secondary school chemistry; students age 15 to 18). A teacher trainee is defined by the Law on Organising and Financing Education (Official Gazette, Republic of Slovenia, 12/96) as a skilled worker who is commencing his/her career in a school or kindergarten in a direction and at a level commensurate with his/her professional education and with the aim of enabling independent work. As recently as ten years ago the majority of Slovene teachers entered the profession without any planned guidance, according to the principle of "sink or swim." With the coming into force of the revised Regulations on in-service teacher training and the
professional exam for experts in the field of education (Official Gazette, 30/1996), the state has begun to devote more attention than before to the initiation of teacher trainees (Valenčič-Zuljan et al., 2006).

The main purpose of the research is to identify and describe the differences between more and less successful mentors, according to their opinion, in evaluating the importance of general competences for teaching chemistry in primary and secondary school, novice teachers’ qualifications in these competences and how much help the novice teacher would need in adequate development of these competences. Learning more about the conceptions of mentoring held by mentors may lead to a better understanding of how to foster pre-service chemistry teacher education, and also how to educate mentors to become more supportive in novice teachers’ initiation into the teaching profession.

**Research questions**

The questions asked in this study are:

1. Is there a significant difference between teachers who perceive their mentoring as successful work and those that do not, in their opinion, about what general competences for teaching chemistry teachers should possess to be an effective teacher?
2. Is there a significant difference between teachers who perceive their mentoring as successful work and those that do not, in their opinion, about beginning teachers’ competences for teaching chemistry?
3. Is there a significant difference between teachers who perceive their mentoring as successful work and those that do not, in their opinion, about how much help mentors should give to the beginning teacher for him/her to become an effective chemistry teacher?
4. Is there a significant difference between beginning teachers’ general competences for teaching chemistry and the importance of the competence for an effective chemistry teacher, according to the mentors’ opinion?
METHOD

Sample

A total of 48 primary and secondary school teachers - mentors (91.7% females; 8.3% males) participated in this study: 77.1% of teachers teach in primary school (students’ age 13 and 14), and 22.9% in secondary school (students’ age 15 to 17). Altogether, 60.4% of teachers participating in this study finished the two-year teacher education programme before year 1987, when the university program started, and 39.6% of them finished the university program after 1987. Most of these teachers graduated from the four-year program at the Faculty of Education and became teachers of chemistry and another subject (biology, physics, home economics) (83.3%), while others finished the Faculty of Chemistry and Chemical Technology (16.7%). Three teachers completed the master’s degree in chemistry or chemical education, but no one has a PhD. The teachers participating in this study had 23.1 years (SD=7.96 years) of teaching experience on average, but all of them had taught for more than 6 years, 70.8% of them had taught chemistry for more than 20 years.

According to Slovenian school legislation, a teacher can become a mentor to the beginning teacher after receiving the title of mentor, adviser or counsellor. In this study, 16.7% of teachers were mentors, 72.9% were advisers and 8.3% were counsellors. In this paper all teachers will be referred to as mentor, regardless of their actual title. Teachers acting as mentors had on average 2.7 (SD=1.71) beginning teachers under their supervision till the time when the data were collected; most of the mentors (33.3%) had one beginning teacher, 25% had two and 14.6% had three or more. Altogether, 39.6% of beginning teachers did their beginning teaching according to Article 2 (the novice teacher does not teach independently, but he/she is familiarized with the teaching process with the mentors’ help, and the Ministry of Education approves their Traineeship), and 60.5% according to Article 46 of the Regulations on Traineeship (the novice teachers independently teach with the help of the mentor).
**Instrument**

The 107-item questionnaire assesses mentors’ opinions about mentoring practices to beginning chemistry teachers according to the competences for effective teaching. This questionnaire is a modified form of a questionnaire used in previous research (Valenčič-Zuljian & Vogrinc, 2007). The modified questionnaire had two parts. In the first part, mentors had to provide some personal data (e.g. gender, place and years of teaching, professional title, etc.). In the second part they had to provide their views about: (1) their competences to be a mentor; 24 items (e.g. Knowing the characteristics of learning and of adult teaching; Help and guidance in lesson preparations for the beginning teacher, etc.); (2) beginning teachers’ general competences for teaching; 33 items (e.g. Ability for preparing different teaching materials; Structuring the lesson according to specific teaching methods, etc.); and (3) competences for chemistry teaching; 36 items (e.g. Developing the ability of scientific reasoning; Knowing, understanding and applying the concepts of science, etc.).

The response to each item (competences) is on a five-point Likert-type scale anchored at: 1 = not important, 2= less important, 3 = medium important, 4 = rather important, and 5 = very important. For the purposes of this paper, only the beginning teachers’ general competences for teaching (24 items) of the second part of the questionnaire were used. The internal consistency (Cronbach α) of the part of the questionnaire used in this paper (specific competences for chemistry teaching) was 0.73.

**Research design**

The design of the research was a quantitative, non-experimental, cross-sectional and descriptive study. The designed questionnaire was distributed to 250 primary and secondary schools via ordinary mail as a printed version in February 2005. After the questionnaire was completed the teachers who had been mentoring the beginning teacher sent the questionnaire back to the university. Only 19.2 % of the questionnaires were returned, due to the very low proportion of teachers who mentored a beginning teacher.

The data from the questionnaires were analysed using methods of descriptive and inferential statistics. Descriptive statistics (M, SD) were obtained for illustrating the
competence characteristics. For determining differences in competences and in mentors’ views about chemistry teachers’ competences, the paired-sample t-test was used. The ranges were also used for illustrating the importance of specific competences according to the mentors’ opinion. Statistical significance (p ≤ 0.05) was determined for all differences between the means that were calculated.

RESULTS

Mentors self-evaluated their efficiency in the mentoring process. Altogether, 28 mentors (58.3%) think that they are very successful in mentoring the beginning teachers (Group 1) and 20 mentors (39.6%) have the opinion that they achieve medium success in mentoring the novice teacher, and only 1 teacher (2.1%) has the opinion that she/he is not successful as a mentor to the novice chemistry teachers (Group 2). This teacher was also assigned to the group of less successful mentors, according to their self-evaluation of mentoring achievements. The results are presented in four parts. The first part presents the differences between mentors who perceive their mentoring as more or less successful in their opinion about which general competences for teaching chemistry are more or less important for a successful teacher.

Table 1. The differences in opinions between mentors who perceive their mentoring as more (MS) or less successful (LS), about the importance of general competences for teaching chemistry.

<table>
<thead>
<tr>
<th>Competence</th>
<th>Mentors’ self evaluation</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G1:</strong> Qualification for teaching chemistry.</td>
<td>MS</td>
<td>4.86</td>
<td>0.45</td>
<td>0.06</td>
<td>46</td>
<td>0.954</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.85</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G2:</strong> Qualification for generating different educational materials.</td>
<td>MS</td>
<td>4.79</td>
<td>0.42</td>
<td>0.67</td>
<td>46</td>
<td>0.509</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.70</td>
<td>0.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G3:</strong> Qualification for formulation clear long-term and operational learning goals.</td>
<td>MS</td>
<td>4.71</td>
<td>0.60</td>
<td>0.69</td>
<td>46</td>
<td>0.491</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.60</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G4:</strong> Appropriate lessons structuring according to different stages of the educational process.</td>
<td>MS</td>
<td>4.82</td>
<td>0.39</td>
<td>2.29</td>
<td>26.3</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.40</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G5:</strong> Adequate selection of teaching methods and organization of learning activities according to learning goals.</td>
<td>MS</td>
<td>4.79</td>
<td>0.50</td>
<td>0.86</td>
<td>46</td>
<td>0.392</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.65</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G6:</strong> Maintaining classroom discipline, solving students’ educational and behavioural problems.</td>
<td>MS</td>
<td>4.79</td>
<td>0.50</td>
<td>1.58</td>
<td>32.7</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.50</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8
(Table 1 continued)

<table>
<thead>
<tr>
<th>Competence</th>
<th>MS</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G7: Adaptation of teaching to students with specific disabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(gifted students, learning and behavioural difficulties, physical</td>
<td>4.57</td>
<td>0.69</td>
<td>0.78</td>
<td>46</td>
<td>0.437</td>
</tr>
<tr>
<td>disabilities)</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>G8: Implementation of problem oriented teaching, project and field work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG</td>
<td>4.64</td>
<td>0.62</td>
<td>2.32</td>
<td>46</td>
<td>0.025</td>
</tr>
<tr>
<td>LS</td>
<td>4.20</td>
<td>0.70</td>
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<td></td>
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</tr>
<tr>
<td>G9: Conducting students’ evaluation according to clear criteria and</td>
<td></td>
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<tr>
<td>knowledge standards and ability to justify evaluation to students.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG</td>
<td>4.68</td>
<td>0.61</td>
<td>-1.65</td>
<td>42</td>
<td>0.107</td>
</tr>
<tr>
<td>LS</td>
<td>4.90</td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G10: Self-analysis and self-evaluation of the teaching process.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG</td>
<td>4.82</td>
<td>0.39</td>
<td>1.87</td>
<td>25</td>
<td>0.073</td>
</tr>
<tr>
<td>LS</td>
<td>4.45</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G11: Fulfilment of administrative duties.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>MSG</td>
<td>4.21</td>
<td>0.96</td>
<td>-1.01</td>
<td>46</td>
<td>0.320</td>
</tr>
<tr>
<td>LS</td>
<td>3.90</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average importance (sum of all general competences on a five-point scale) of the general competences for teaching chemistry is given according to the mentors who perceive their mentoring as successful (Group 1) 4.70 (SD=0.56) and according to the mentors who perceive their mentoring as less successful (Group 2) 4.50 (SD=0.66), the difference is not significantly different (t=1.91; df= 46; p =0.062).

More detailed analyses of differences between the two groups of experienced teachers’ show that mentors differ in only two competences. More successful mentors think that competence G4 (Table 1) is very important, but those mentors who do not perceive their mentoring as very successful do not share the same feeling. The difference in opinion between the two groups of mentors is statistically significant (p = 0.030). The same statistically significant difference (p = 0.025) can be also seen when comparing the opinion of more and less successful mentors in implementing the problem oriented teaching, project work and field work in the chemistry teaching.

The second part of the results refers to mentors’ views about the level to which the general competences for teaching chemistry are developed in novice teachers.

Table 2. The differences in opinions between mentors who perceive their mentoring as more (MS) or less successful (LS), about novice teachers’ competences for teaching chemistry.

<table>
<thead>
<tr>
<th>Competence</th>
<th>Mentors’ self evaluation</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1: Qualification for teaching chemistry.</td>
<td>MS</td>
<td>4.04</td>
<td>0.74</td>
<td>-0.46</td>
<td>46</td>
<td>0.650</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>4.15</td>
<td>0.98</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G2: Qualification for generating different</td>
<td>MS</td>
<td>3.89</td>
<td>0.69</td>
<td>0.17</td>
<td>46</td>
<td>0.864</td>
</tr>
<tr>
<td>educational materials.</td>
<td>LS</td>
<td>3.85</td>
<td>1.04</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(Table 2 continued)

<table>
<thead>
<tr>
<th>G3: Qualification for formulation clear long-term and operational learning goals.</th>
<th>MS</th>
<th>3.18</th>
<th>0.91</th>
<th>-1.13</th>
<th>46</th>
<th>0.263</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS</td>
<td>3.50</td>
<td>1.05</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G4: Appropriate lessons structuring according to different stages of the educational process.</td>
<td>MS</td>
<td>3.79</td>
<td>0.96</td>
<td>0.75</td>
<td>46</td>
<td>0.460</td>
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<tr>
<td>LS</td>
<td>3.55</td>
<td>1.23</td>
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</tr>
<tr>
<td>G5: Adequate selection of teaching methods and organization of learning activities according to learning goals.</td>
<td>MS</td>
<td>3.89</td>
<td>0.74</td>
<td>-1.25</td>
<td>46</td>
<td>0.218</td>
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</tr>
<tr>
<td>LS</td>
<td>3.60</td>
<td>0.88</td>
<td></td>
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</tr>
<tr>
<td>G6: Maintaining classroom discipline, solving students’ educational and behavioural problems.</td>
<td>MS</td>
<td>2.61</td>
<td>0.88</td>
<td>-1.91</td>
<td>46</td>
<td>0.062</td>
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<tr>
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</tr>
<tr>
<td>LS</td>
<td>3.15</td>
<td>1.09</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>G7: Adaptation of teaching to students with specific disabilities (gifted students, learning and behavioural difficulties, physical disabilities).</td>
<td>MS</td>
<td>2.75</td>
<td>0.97</td>
<td>0.72</td>
<td>46</td>
<td>0.473</td>
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<tr>
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</tr>
<tr>
<td>LS</td>
<td>3.05</td>
<td>1.19</td>
<td></td>
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</tr>
<tr>
<td>G8: Implementation of problem oriented teaching, project and field work.</td>
<td>MS</td>
<td>3.57</td>
<td>0.96</td>
<td>1.18</td>
<td>46</td>
<td>0.245</td>
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</tr>
<tr>
<td>LS</td>
<td>3.55</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G9: Conducting students’ evaluation according to clear criteria and knowledge standards and ability to justify evaluation to students.</td>
<td>MS</td>
<td>3.21</td>
<td>0.92</td>
<td>-0.46</td>
<td>46</td>
<td>0.650</td>
</tr>
<tr>
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<td>----</td>
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</tr>
<tr>
<td>LS</td>
<td>3.35</td>
<td>1.14</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>G10: Self-analysis and self-evaluation of the teaching process.</td>
<td>MS</td>
<td>3.29</td>
<td>0.81</td>
<td>0.14</td>
<td>46</td>
<td>0.887</td>
</tr>
<tr>
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</tr>
<tr>
<td>LS</td>
<td>3.25</td>
<td>0.91</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>G11: Fulfilment of administrative duties.</td>
<td>MS</td>
<td>3.64</td>
<td>0.95</td>
<td>-0.19</td>
<td>46</td>
<td>0.850</td>
</tr>
<tr>
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<td>----</td>
<td>------</td>
</tr>
<tr>
<td>LS</td>
<td>3.70</td>
<td>1.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average importance of all general competences of novice teachers (sum of all general competences on a five-point scale) for teaching chemistry is presented according to the mentors who perceive their mentoring as successful (Group 1) 3.4 (SD = 0.84) and according to the mentors who perceive their mentoring as less successful (Group 2; medium or not successful) 3.51 (SD= 1.05), the difference is not significantly different (t = -0.364; df = 28.3; p = 0.718). More detailed analyses (Table 2) of differences on separate competences also show that both groups of mentors do not differ in opinion about novice teachers’ general competences for teaching chemistry.

The third part shows the results of the paired-sample t-test analysis between more and less successful mentors’ views about the amount of help in each general competence that beginners would require to become a more successful chemistry teacher.
Table 3. The differences in opinions between mentors who perceive their mentoring as more (MS) or less successful (LS), about the help that mentors should give to the beginning teachers in developing the general competences for teaching chemistry.

<table>
<thead>
<tr>
<th>Competence</th>
<th>Mentors’ self evaluation</th>
<th>M</th>
<th>SD</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1: Qualification for teaching chemistry.</td>
<td>MS</td>
<td>3.39</td>
<td>1.26</td>
<td>0.26</td>
<td>46</td>
<td>0.799</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.30</td>
<td>1.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G2: Qualification for generating different educational materials.</td>
<td>MS</td>
<td>3.43</td>
<td>0.92</td>
<td>1.22</td>
<td>46</td>
<td>0.229</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.05</td>
<td>1.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3: Qualification for formulation clear long-term and operational learning goals.</td>
<td>MS</td>
<td>3.93</td>
<td>0.81</td>
<td>2.57</td>
<td>46</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.20</td>
<td>1.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G4: Appropriate lessons structuring according to different stages of the educational process.</td>
<td>MS</td>
<td>3.71</td>
<td>1.18</td>
<td>2.11</td>
<td>46</td>
<td>0.041</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.00</td>
<td>1.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G5: Adequate selection of teaching methods and organization of learning activities according to learning goals.</td>
<td>MS</td>
<td>3.68</td>
<td>1.02</td>
<td>1.65</td>
<td>46</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.20</td>
<td>0.95</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G6: Maintaining classroom discipline, solving students’ educational and behavioural problems.</td>
<td>MS</td>
<td>4.11</td>
<td>1.26</td>
<td>1.86</td>
<td>46</td>
<td>0.069</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.40</td>
<td>1.35</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G7: Adaptation of teaching to students with specific disabilities (gifted students, learning and behavioural difficulties, physical disabilities).</td>
<td>MS</td>
<td>3.93</td>
<td>1.36</td>
<td>-0.96</td>
<td>46</td>
<td>0.341</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.45</td>
<td>1.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G8: Implementation of problem oriented teaching, project and field work.</td>
<td>MS</td>
<td>3.68</td>
<td>1.28</td>
<td>0.35</td>
<td>46</td>
<td>0.725</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.55</td>
<td>1.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G9: Conducting students’ evaluation according to clear criteria and knowledge standards and ability to justify evaluation to students.</td>
<td>MS</td>
<td>4.21</td>
<td>0.88</td>
<td>2.65</td>
<td>46</td>
<td>0.011</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.35</td>
<td>1.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G10: Self-analysis and self-evaluation of the teaching process.</td>
<td>MS</td>
<td>3.71</td>
<td>1.12</td>
<td>0.19</td>
<td>46</td>
<td>0.849</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.65</td>
<td>1.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G11: Fulfilment of administrative duties.</td>
<td>MS</td>
<td>3.25</td>
<td>1.32</td>
<td>0.00</td>
<td>46</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>LS</td>
<td>3.25</td>
<td>1.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average importance (sum of all general competences on a five-point scale) of the general competences for teaching chemistry is given according to the mentors who perceive their mentoring as successful (Group 1) 3.63 (SD = 1.13) and according to the mentors who perceive their mentoring as less successful (Group 2; medium or not successful) 3.30 (SD = 1.23), the difference is not significantly different (t=1.80; df= 46; p =0.079); however more detailed analysis shows (Table 3) that there are some general competences that more successful teachers perceive as more important than those mentors who do not consider themselves to be successful mentors. Comparing the average value of all eleven general competences can be seen that, in all competences except G11 (the values are the same for both groups of students), the more successful mentors think that they should help novice teachers more than those mentors who are not as successful. A significant difference between two groups of mentors’ opinion about the help that they give to the novice teacher is shown with three competences.
(G3, G4 and G9). This means that more successful mentors think that novice teachers need more help with generating long-term and operational learning goals, structuring learning units according to different stages of the educational process and conducting students’ evaluation according to knowledge standards and effective introduction of grades to the students, than do those mentors who do not perceive their mentoring as being successful.

The last part of the results shows the overall mentors’ view about the differences between novice teachers’ qualification in a general competence and its importance for managing a successful educational process.

**Table 4:** Differences between mentors’ views of novice teachers’ competences for teaching chemistry (qualification) and competence relevancy for the novice teacher to be an effective chemistry teacher (importance).

<table>
<thead>
<tr>
<th>Competence</th>
<th>qualification</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1: Qualification for teaching chemistry.</td>
<td>4.08</td>
<td>0.85</td>
<td>5.76</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G2: Qualification for generating different educational materials.</td>
<td>3.88</td>
<td>0.84</td>
<td>7.00</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G3: Qualification for formulation clear long-term and operational learning goals.</td>
<td>3.31</td>
<td>0.97</td>
<td>9.59</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G4: Appropriate lessons structuring according to different stages of the educational process.</td>
<td>3.69</td>
<td>1.07</td>
<td>5.88</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G5: Adequate selection of teaching methods and organization of learning activities according to learning goals.</td>
<td>3.77</td>
<td>0.81</td>
<td>6.87</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G6: Maintaining classroom discipline, solving students’ educational and behavioural problems.</td>
<td>2.83</td>
<td>0.70</td>
<td>10.4</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G7: Adaptation of teaching to students with specific disabilities (gifted students, learning and behavioural difficulties, physical disabilities).</td>
<td>2.88</td>
<td>1.06</td>
<td>10.2</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G8: Implementation of problem oriented teaching, project and field work.</td>
<td>3.56</td>
<td>0.92</td>
<td>5.22</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G9: Conducting students’ evaluation according to clear criteria and knowledge standards and ability to justify evaluation to students.</td>
<td>3.27</td>
<td>1.00</td>
<td>10.3</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G10: Self-analysis and self-evaluation of the teaching process.</td>
<td>3.27</td>
<td>0.84</td>
<td>9.62</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>G11: Fulfilment of administrative duties.</td>
<td>3.67</td>
<td>1.02</td>
<td>1.86</td>
<td>47</td>
<td>0.07</td>
</tr>
</tbody>
</table>
The paired-sample t-test, used to compare the differences in novice teachers’ qualification for general competences, and the importance of a competence for the effective chemistry teacher according to the mentors’ view (data were not analysed separately for more and less successful mentors), showed (Table 4) that the differences are in most cases statistically significant ($p \leq 0.001$). The difference was not significant only for the G11 competence, which means - that according to the mentors’ view – the novice teachers’ qualification fulfilling of administrative obligations in a classroom or school in general is not statistically significantly different from the importance of this competence in the school environment. This means that in almost all competences the beginning teachers are not sufficiently educated to meet the standards for an effective chemistry teacher according to the mentors’ views.

**DISCUSSION**

The results can be summarised by answering the research questions. The first research question is connected with a significant difference between teachers who perceive their mentoring as a successful work and those that do not, in their opinion about what general competences for teaching chemistry teachers should possess to be an effective teacher. On average both groups of mentors (more and less successful in the mentoring process) perceive teachers’ general competences for teaching chemistry in primary and secondary school as quite important (average level on the five-point Likert scale is 4.7 for more and 4.5 for less successful mentors). The overall difference between the groups of mentors is not statistically significant, but comparing the average value of a specific general competence it can be concluded that more successful mentors attribute higher grades to all competences, except to competence G9 (Conducting students’ evaluation according to knowledge standards and effective introduction of grades to the students.) to which less successful mentors attribute a higher grade. Mentors in two groups have a significantly different opinion regarding the importance of only two general competences: structuring learning units according to different stages of educational process and problem oriented teaching, project work and field work in the chemistry teaching. It can be summarised that more successful mentors more clearly see the novice teachers’ lack of planning the educational
process, even at the basic level and also at the more demanding level regarding the organisation of the teaching outside the traditional ex-cathedra teaching. These results shows that more targeted professional development is needed for less successful or less self-confident veteran teachers in their role of mentoring, especially on competences that they think are not so important for successful chemistry teaching.

The second research question is about the significant difference between teachers who perceive their mentoring as successful work and those that do not, in their opinion about beginning teachers’ competences for teaching chemistry. More successful mentors think that novice teachers have less developed general competences for teaching chemistry do the than more successful ones. Both groups of mentors assigned only an average level of novices’ qualifications on all general competences for chemistry teaching. These results suggest that pre-service teacher training should be organised in such a way that the novice teacher will enter the classroom after graduation better prepared for leading the educational process at all levels. University teacher education programmes should be organised in such a way that general competences for teaching would be developed during special didactics courses and also during practical education in a school environment. Teachers in primary and secondary school who lead practical education should therefore, be systematically educated to introduce pre-service teachers properly into the classroom activities, where all the general competences would be introduced.

The third research question refers to a significant difference between teachers who perceive their mentoring as successful work and those that do not, in their opinion about how much help mentors should give to the beginning teacher for him/her to become an effective chemistry teacher. Both groups of mentors argued that they offer medium help to novice teachers for developing general competences for teaching chemistry. It can be also summarised that more successful mentors, according to their opinion, in general give more help than do the less successful, but the difference is not statistically significant. In only three out of eleven competences is there a statistically significant difference between the two groups of mentors. More successful mentors believe that beginning chemistry teachers need more help with generating long-term and operational learning goals, structuring learning units according to different stages of educational process, and conducting students’
evaluation according to knowledge standards and effective introduction of grades to the students, than those mentors who do not perceive their mentoring as being successful.

The last research question relates to the significant difference between beginning teachers’ general competences for teaching chemistry and the importance of the competence for an effective chemistry teacher, according to the mentors’ opinion. It can be concluded from the statistical analysis that all mentors think that novice chemistry teachers’ qualifications do not meet the need for teaching competences. This is why they believe that additional help should be provided to novices in order to develop adequate teaching techniques.

Overall, the results of this study seem to provide evidence that mentors should be properly educated in the mentoring process for novice teachers, not only in supporting the novices in acquiring the specific competences (Devetak & Glažar, 2007), but also for developing more general skills for teaching chemistry. The findings suggest that mentors should develop ways for detecting the novice teachers’ problems during their classroom activities. It is also important that mentors should be able to adequately intertwine with the beginning teachers’ teaching process and lead them to attain more effective teaching strategies. In this process the mentor must be able to coach, model, support, evaluate, give information and feedback to the novice teacher (Devetak & Glažar, 2007). The findings of this study also imply that the conceptions of mentoring held by veteran chemistry teachers should be considered when organizing the in-service professional development programs for mentors. The findings of this study indicate that the more contextualised education for mentors must be put forward, with illustration of the real problems that mentors and beginning teachers come across during their classroom practice. Teacher trainers should lay great stress on development of harmonious and productive relationships between mentor and novice teacher, and mentors should be aware that the role of the moderator in this relationship lies on their side.
REFERENCES


Do We Really Need more Maths Trained Teachers in Primary and Elementary Schools? Some Problematic Aspects

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Abstract

It is commonly taken for granted that mathematics learning in many nations schools would benefit from having more mathematically trained teachers. However, when making this assertion questions about what effects teacher and other education programmes in mathematics have, have often been missed out and in fact, on closer analysis, much previous research concerning this question is quite contradictory. Based on a mix of source, ethnographic and statistical methods the present paper analyses and discusses the question of whether more maths in teacher education is necessarily a good thing for student-teachers, practicing teachers, and particularly their pupils. Research on implicit theories of intelligence, the possible and actual effects of these theories and how they might be influenced has been central. The paper finishes up by questioning the wisdom of recently suggested increases in mathematics for teacher education students in Sweden.
Award for Excellent Quality in Education 2007 - and what happened after
Lena Eskilsson

When the department for Historical studies received the award for Excellence in Education 2007, it had recently been merged into a much bigger Department of Historical, Philosophical and Religious studies. This presentation is from work done both at the old and the new department.

Teachers possess a high level of scholarly competence, coupled with a great interest in and knowledge of pedagogical matters, and they combine teaching with active research.

The department is working systematically to ensure high quality at all levels. We are also involved in a number of national and international cooperation projects, both in teaching and research. People who have received undergraduate or doctoral training at the department have proved to be competitive both in higher education and in other sectors of society.

Our quality assurance work is based on discussions at seminars, symposia and planning meetings among teachers/researchers and between teachers and students. Subject and pedagogical meetings alternate with the staff meetings. The subject meetings are a forum for discussions about course and research-related matters. Pedagogical meetings are more geared to professional competence development, the exchange of experiences and general discussions about university pedagogy.

Module and course evaluations from students are important components in our quality assurance process. By weighing together module evaluations, course evaluations and comments from teachers, the department secures a good basis for assessments of how successful our courses have been.

The Student Union is an important link between the department and the students and provides us with additional information.

Pedagogical co-operation and development projects are also important components of our quality assurance process. Projects either result from course evaluations submitted by teachers and students on an ongoing basis, or from a desire to further improve quality in a specific area. Some examples on projects that have been launched in the past couple of years: Gender integration, Co-operation between schools and the university, Broadening enrolment, Maintaining quality in times of reduced resources, Student involvement, Career days.

The award 2007 gave us extra funding from the Umeå University Board to further develop the undergraduate education in the whole new department. We are now working with new projects on internationalisation, academic teaching, mentoring, internet courses, social activities for students etc.
Do We Really Need more Maths Trained Teachers in Primary and Elementary Schools? Some Problematic Aspects

Introduction
When arguing for increasing subject content for prospective and in-service teachers, the effect of this kind of education on other dimensions of teaching than subject knowledge are often ignored. Instead it is simply anticipated that more subject knowledge is simply better (SOU 2008:109). In this paper, based on some suggestions from earlier ethnographic research on the politics and ideology of maths teaching (e.g. Beach, 1999a, b, 2001, 2003a, b; Beach and Dovemark, 2007), international research (e.g. Calderhead, 1996; Myers, Nichols and White, 2003 and Murray, Nuttall & Mitchell, 2008) and ongoing research on implicit theories and naïve stereotypes of learning and intelligence and their effects on motivation and learning (Jonsson et al submitted A, B, C), we will try to trouble this belief by considering what this research can suggest about what effects more subject knowledge might have. Our overriding interest is for implicit beliefs about ability and intelligence and how these beliefs might affect curriculum planning, evaluation and, eventually also pupil performance and self conception. However, we are also interested in if and how implicit beliefs might be influenced positively in and by teacher education. Comparisons are made between the mathematics subject knowledge domain and that of social sciences.

Previous research
Previous research has been considered in relation to a number of categories. These are previous research on teacher education effects, previous research on implicit theories of intelligence, previous research on the effects of implicit theories on teachers and teaching, research on relationships between implicit and scientific theories of intelligence, our previous ethnographic research and research on teacher feedback and its effects on learners.

Previous research on teacher education effects
Research concerning the effects of teacher education on student teachers, their professional understanding and subsequently work is in large part contradictory. Some researchers such as for instance Pajares (1992) and Zeichner and Tabachnick (1981) claim that education has little or no effect. Others, such as Garmon (2005), Grossman, Valencia, Evens, Thompson, Martin and Place (2000) and Massengill, Dvorak and Bates (2007) claim that it does, but that pre-service teachers’ tacit beliefs from previous experiences and culture are deeply ingrained and therefore hard to change whilst other things, such as formal scientific knowledge, are easier to influence (see also Calderhead & Robinson, 1991; Murray, Nuttall & Mitchell, 2008). Research on teachers’ implicit theories of intelligence and how they change is part of this research on teachers’ changing ideas, values and practices.

Implicit theories of intelligence behave similarly to tacit beliefs and are usually of one of two forms according to previous research. They are either entity theories where intelligence is explained as a fixed unchangeable essence that is not under an individual’s control or incremental theories where it is seen as the opposite, as malleable, contextual and continually changing (Dweck, 1999; Blackwell, Dweck & Trzesniewski, 2007; Dweck, Chiu, & Hong, 1995; Leondari & Gialamas, 2002). Moreover, it seems to be of some significance which of these beliefs future teachers conform to according to previous research, in that an entity theory of intelligence promotes learning less effectively than an incremental theory does (ibid). Our research interest has recently been directed toward teachers and pre-service teachers’ implicit theories of intelligence mainly for this reason. We are interested in the kinds of theories teachers (and student-teachers) hold, what their effects are and how they can be
influenced (Jonsson, Beach, & Korp, submitted B; Jonsson, Korp, Erlandsson, & Beach, submitted A).

Previous research by for instance Pajares (1992), Grossman et al (2000), Gill et al (2004), Garmon (2005), Shulman (2006) and others has influenced our work quite heavily. Shulman (2006) has suggested that naïve theories, which are lay theories that are very similar to implicit theories, lead to beliefs that outward appearances and behaviour are determined by a kind of hidden intellectual power, or some kind of cognitive essence. As suggested in Pajares (1992), such beliefs, which could easily be associated with an entity theory of intelligence, are formed in early childhood or adolescence and are very good at resisting change (Dweck, 1986, 1999; Dweck & Legget, 1988). Pajares (1992) also concludes that when they apply to pre-service teachers they therefore form a very difficult problem for teacher education.

Not everyone agrees with this statement about the difficulties of change in peoples’ beliefs. Grossman et al (2000) for instance point out the importance of research not drawing strong conclusions about belief change too easily. Like Garmon (2005), they state that with appropriate support and guidance belief change can be established and in line with recent research, they suggest that at least some beliefs can be more easily changed than others, such as for example preconceptions (see also Gill, Ashton & Algina, 2004).

Research on implicit theories of intelligence
Implicit theories of intelligence are created when people read meaning into everyday behaviour and develop personal beliefs about the causes of this behaviour as being artefacts of intelligence. This process starts already in kindergarten according to for instance Dweck (1999), with concomitant effects on subsequent learning, motivation, achievement, and goal orientation amongst the individuals concerned (Bråten & Stromso, 2006; Dupeyrat & Mariné, 2005; Dweck, 1986; Dweck & Legget, 1988; Gonida, Kiosseoglou, & Leonardi, 2006; Levy & Dweck, 1998; Plaks, Grant, & Dweck, 2005; Spinath, Spinath, Riemann, & Angleitner, 2003). However, these implicit theories are nevertheless created from within a socio-cultural context in that when people try to explain concepts and actions in their surroundings they do so from within a collective social/cultural setting with an already existing body of social/cultural knowledge and taken-for-granted typifications and significations that are both derived from and maintained by social interactions (Berger & Luckman, 1971).

These things contribute to form a social stock of knowledge, which is the primary knowledge about the institutional order and the sum total of ‘what everybody knows... about a social world’, according to Berger and Luckman (p 65). And through them implicit (cultural) theories of intelligence become then not only individual(‘s) constructs. They are rather also socially constructed and shaped in an interactive socio-cultural context in a dialectic manner with roots in implicit, cultural belief systems (Buehl & Alexander, 2005; 2006; Mather, 2008; Jonsson et al., submitted B). And this is an important point. Because on the implicit (naïve cultural) level our present culture (based on an assemblage of maxims, morals, values, beliefs, myths and so on passed on through media communication and expressed in hierarchies of production and their purported relationship to and roots in an educational meritocracy) currently distinctly promotes an entity explanation of intelligence (Ahmavaare & Houston, 2007) which becomes thereafter a culturally predominant structure of reason and tool for meaning making that helps support specific realisation rules in education curricula in schools (Berstein, 1990; Beach, 2003; Deach & Dovemark, 2007) and higher education (Beach, 1997, 2000). This occurs because whilst entity theories as part of the social stock of knowledge as structures of meaning making can be challenged and changed, they still can and do influence the way people interpret things and act towards them. They form distinct educational discourses and realisation rules in the curriculum (Bernstein, 1990). Even recent policy
discourses seem to be influenced in this way. For instance, from his press releases and webpage announcements the current Minister of Schools clearly has an entity belief and this belief was also reflected in the directives given to the recent Teacher Education Commission led by Sigbrit Franke, where they were left unopposed and resulted in a colouring of the recommendations given (SOU 2008:109). These points have been made in commentaries to the Commission Recommendations from teacher education institutions.

Research on the effects implicit theories have
In answer to the question of what effects implicit theories can have, above all the belief in one or other implicit theory by teachers has been said to correlate with key features of their behaviour that then affect pupil learning in school. What feedback or praise (either person, process or product) a teacher or pre-service teacher prefers is one example, how credible they believe different scientific theories of intelligence to be is another and whether they see competition between pupils and the development of strong performative cultures in education and schooling as beneficial for learning or not is a third (Kamin & Dweck, 1999; Mueller & Dweck, 1998; Beach, 2003c; Jeffrey, 2002; Troman et al., 2007). These things have also been said to affect learning and learners (also Leroy, Bressoux, Sarrazin, & Trouilloud, 2007). For instance teachers who were shown to hold an entity theory tended to create a competitive classroom climate according to Trouilloud, Sarrazin, Bressoux and Bois (2006) and Beach (1999a, 2003a, b) and preferred to diagnose pupil ability from initial achievement (Butler, 2000) with recoil effects on pupil conceptualisations of learning, the learning self and learning practices (Beach, 2003a, b). An entity theory is in tune with current government ideology and policy-making but its symptoms do not apply to teachers who have an incremental theory. They prefer to use process feedback and tend to see intelligence as malleable or as a socio-cultural or cultural and historical construct.

This suggestion about differences between teachers fits well with research by Van Driel, Bulte and Verloop (2007). They summarised previous research on teacher beliefs and concluded that different subgroups of teachers cluster in different ideological orientations toward concepts like intelligence, learning and pupil development and that their beliefs are usually related in a consistent manner to their teaching practice (Van Drij et al., 2007: 158). Our own findings are in agreement with this. They suggest that for some reason – probably to do with the political, cultural, ideological history and context of the subject of mathematics in school and the role of the school in society (for social reproduction: Beach, 2001) - teachers of maths and sciences tend to adopt an entity theory of intelligence and tend to see intelligence as less malleable and dynamic compared to other teachers (also Jonsson et al., submitted A).

Our previous ethnographic and other findings
In Beach (1999a, b; 2001, 2003a, b) and parts of Beach and Dovemark (2007) we explored various aspects of the politics and ideology of practice of mathematics as a school subject using ethnographic research. This research suggested that school mathematics had pupil differentiation rather than pupil learning as its main role, in that it had historically been and was still taught and learned in our culture as a competitive discipline by means of which pupils were separated on the basis of their performances on repetitive algorithmic exercises. These exercises were said by teachers to be based on and reflect mathematical competences and knowledge and reflect a natural ability and a genuine intelligence in the pupil (Beach, 2001). However, it was not only mathematics teachers who viewed maths performances as reflecting an inborn ability in these ways. Even the pupils came to do so1.

1 For instance, pupils who were less successful in maths than others tended to say that their performances were ‘weaker than those of (these) others’ because of their personal ‘skills and intelligence’ (e.g. Britta) on the one
Jonsson et al. followed up on this research (submitted B). They showed that both serving teachers and pre-service teachers entering teacher education rated intelligence to a higher extent as an entity within the context of math compared to social science and that intelligence was seen as more dynamic within the individual in relation to social science than maths. These suggestions accord with research by Calderhead (1996), who indicated that different academic disciplines include different ways of regarding what knowing and intelligent behaviour mean in a subject and Myers et al. (2003), who claim that different disciplines could have different cultures and that the maths and natural science domains tend to encourage entity thinking in relation to intelligence. The idea here is thus that a teacher acting within the discipline of mathematics could, because of culture and experiences in the field, differ from a teacher in social science and see intelligence as less easy to influence, less culturally specific, and less malleable.

Murray, Nuttall and Mitchell (2008) on the basis of a literature review have discussed the effects of mathematics learning in relation to teacher education and teacher behaviour in Australia. They focussed in particular on the problems caused when pre-service teachers enter teacher education with bad experiences of mathematics and a negative view about the subject. They came to an outstanding conclusion that because it encourages an entity type of thinking about intelligence having a long education in mathematics may actually be a disadvantage for primary school teachers who wish to engage with, motivate and promote the learning of all pupils. Moreover, they also noted that teachers with a strong background and quite extensive knowledge in mathematics often lacked the empathy and skills needed in order to communicate with struggling students (also Korp, 2006).

This idea has borne up quite well to critical scrutiny in our recent research. When examined by statistical methods intelligence was demonstrated to be seen as an entity to a higher degree within the mathematical discipline compared to social science (Jonsson et al, submitted B) and when we revisited our ethnographic data we saw that not only did mathematics teachers tend to equate school performances with intelligence, particularly in relation to maths, they also seem to discriminate pupils on the basis of their demonstrated skills and performances as well (Beach, 1999a, b). Here are some examples from our ethnographic studies in the form of extracts from field-interviews and a fieldwork diary text:

Pupils are very different in terms of their abilities... In fact they are so very different in terms of their intelligence and motivation that they actually put almost totally different demands on us... It’s not about teaching maths at all in some cases... They don’t have necessary knowledge and intelligence... With others... the problem is that while they are potentially brilliant some of them have less ability than others never the less and they have struggled to keep up... For various reasons they have become skillful at hiding this though... So even amongst the good ones there are those who are not real mathematicians... They are still quite bright... but maybe not so interested in numbers and lack a real spark of mathematical brilliance... Getting behind their façade is important so we can help them avoid difficulties by trying to go too far in the subject... (Ken, teacher)

hand or ‘motivation and commitments in other areas’ (e.g. Jon) on the other. These kinds of comments differed in one respect from those that came from the pupils’ successful counterparts. They expressed that their performances ‘were a just outcome of their efforts and intelligence’ (e.g. Klara) on the one hand or ‘diligence and commitment’ (e.g. Jenny) on the other; or were simply ‘a statement... of their abilities’ (Magnus). A common type of comment from unsuccessful students was, ‘I just haven’t got a head for mathematics’(Jenny). Another was, ‘I’m not that interested in maths anymore... I used to be but now I prefer other things, like (for instance) history for example’ (Jon). From teachers we heard things like ‘she’s not so good at maths but she’s a good reader and interested in (for instance) English and French’ (Gunnar).
The weaker students... have difficulty concentrating... They drift and talk about anything but maths... The (good) classes concentrate on their work and what they talk there is, is almost always relevant to the subject they are working on... They have the ability and the interest to get on... (Liz, maths and science teacher)

The differences in the ways pupils from different programmes (academic or vocational) are treated is in fact so large that although we are talking officially about a one school for all principle, in practice what we have obtained ‘is something else...’ (Brian, maths teacher). These differences can be seen in terms of what teachers do in classrooms, how often they interact with various students - both in relation to what kinds of activities and in respect of the classification and framing of the interactions themselves. However, they can also be seen in the course text-books (that) ‘have been chosen to fit the students’ needs’ (Carole, maths teacher). The books have different standards... And, according to the teachers, so do the pupils (and this) is why they use different books...’ (Brian)...

The examples below illustrate some of the differences in first year book content:

<table>
<thead>
<tr>
<th>Science class book</th>
<th>Practical/vocational book</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The formula [2] ( \sqrt{x} / 9.8 ) indicates the period of oscillation for a regular pendulum of length ( x ) metres. How is the period affected if ( x ) is initially 1 metre and (a) increases by 12% or (b) decreases by 25%</td>
<td>1. A building plot is 2050 ( \text{m}^2 ). A building takes up 275 ( \text{m}^2 ). Calculate in percent: (a) how much of the plot is taken up by the building (b) how much of the plot is not built up.</td>
</tr>
<tr>
<td>2. The term pH is defined by the function: ( \text{pH} = -\log [\text{H}^+] ) where ([\text{H}^+]) is the concentration of hydrogen ions in mol per liter. Re-write the function in base ten.</td>
<td>2. What would be the diameter of a tree trunk with area of cross-section 450 ( \text{m}^2 )?</td>
</tr>
<tr>
<td>3. Solve the following equations to four significant figures. (a) ( 450 \cdot 3^{2x} = 1800 ) (b) ( 600 \cdot 2^{-3x} = 60 )</td>
<td>3. If the area of a tennis ball is 113 ( \text{cm}^2 ), what is its volume?</td>
</tr>
</tbody>
</table>

(Fieldwork diary extract)

There is no doubt about the existence of the differences described in examples like the above. The material and subjective evidence is far too compelling. And neither is there any doubt about how maths is done and described. Repetitive, assessed activities characterize the syllabus and students have emphatically expressed their subjective experience of the teacher and text-book steered, tedious and boring character of this work (Boaler, 1996; Dahland, 1998; Beach, 1999a, b, 2001, 2003.a, b). Nevertheless, at the end of the day what is said to lie behind performance differentials in mathematics contexts by teachers and pupils is not different tolerances of boredom, discipline and control but different levels of ability, intelligence and motivation. This seems to affect several aspects of teaching and learning practice. One of these is feedback preferences and choices and classroom praise.

Research on effects of and on teacher feedback and classroom practices

Giving learners feedback on their performance has generally been seen as a positive issue in relation to teaching and learning in that it provides information for the learner and is regarded as a positive reinforcement for and about their learning (Henderlong & Lepper, 2007). However, some research, such as that by Murray et al. (2008), shows that some kinds of praise can be ineffective in some circumstances (also Beaman & Wheldall, 2000) and can
even have negative effects (Kamin & Dweck, 1999; Mueller & Dweck, 1998). This is also discussed by Malmberg and Little (2007) in their literature review of how teachers use individual feedback as a provider of cues for the pupil to estimate their own ability, and how pupils latch onto this and very often form views that accord with those expressed by their teachers (Beach, 1999a, 2001). This ‘Pygmalion Effect’ (Rosenthal & Jacobsson, 1968) is particularly problematic when person focussed feedback is used and also distinctly destructive with respect to students in lower performance brackets as they can come to associate their performances and praise with personal weaknesses².

In our ethnographic research in mathematics classes we noticed a similar reciprocity of beliefs and parallel mutually compatible expressions when we compared what teachers and pupils said about pupil performances (Beach, 2003a, b). Illustrations from field-notes are given in the table below.

<table>
<thead>
<tr>
<th>Teacher comments</th>
<th>Student comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is to do with attitudes and abilities. Some have problems concentrating and tire easily… Science classes are good at maths generally. These kids are clever… They buckle down and show a positive attitude and more than a little ability… The weaker ones don’t do homework… The good pupils, the intelligent ones, are punctual… do their work and are capable, intelligent pupils… They are clever, hard working kids who want to get on… They’ll take a challenge and do it well…</td>
<td>Its ten pages a week or you fall so far behind… You needa pass with excellence… if you’re to have a chance of getting into the best courses at uni. You need a head for numbers and it helps if you are interested in maths… I have both but some don’t. There is a problem with time though… There never seems to be enough time… If you get into difficulties so much time is taken that you just have to leave it (and this) can be difficult later…</td>
</tr>
<tr>
<td>Some have real difficulties in concentrating and gaps in their previous knowledge… caused by reading difficulties and things to do with their intelligence and ability. We try but they just have too many learning problems…</td>
<td>I didn’t always understand. Maybe I just don’t have a head for numbers… I think I’m clever… not the cleverest but fairly clever… But I did find maths hard… The really clever ones who really swotted always did well though…</td>
</tr>
<tr>
<td>They haven’t all understood this but some really don’t have what it takes (and won’t) be with us this time next year. Some don’t have the right attitude and don’t make the effort. They lack the ability and won’t buckle down to the work… They have been able to get away with this before but not anymore. Maths is really the key subject. Only the really devoted and intelligent students can measure up to it. It is …where the wheat is separated out from the chaff…</td>
<td>What you attain (reflects) both… effort… and your intelligence… They should not slow down the learning of the faster ones just to keep the group together… This is what happens in the comprehensive school… It doesn’t help those who have problems to get any better. It just slows down those who could get on… In the comprehensive they get by but here no. Often I have had to rush on and in the end it gets to you and you fall behind…</td>
</tr>
<tr>
<td>Mathematics separates the good from the bad through… ability and application. I try to help all if I can, but some can’t manage it because they don’t have the intelligence for numbers from the start… and there’s nothing you can do about that.</td>
<td>Its good fun to compete with others in maths and I’ve done it as long as I can remember…. I’ve always had a head for numbers and an interest in technical things… But that’s not a problem… (…) …Most of all I just like to come first. Some</td>
</tr>
</tbody>
</table>

² What Rosenthal and Jacobson (1968) noted in their classical experimental study entitled Pygmalion in the Classroom was that, when given the information that certain pupils were brighter than others, elementary school teachers unconsciously behaved in ways that facilitated and encouraged success amongst these ‘good’ pupils whilst others were allowed to fall behind. This effect was called the Pygmalion Effect. It was about how the teachers’, sometimes quite wrong views and statements about learners, were taken over by the learners themselves and became self-fulfilling prophecies.
Take Laura... She’s good at languages but doesn’t have a head for numbers....

There will always be a performance hierarchy based on natural differences. That’s just the way things are... It’s all around us, a part of nature; human and biological...

Those who don’t cope with the pressure may find themselves having to leave the ...programme.... This works for the good of the students and the quality of mathematics... as well... by weeding out the weak... from the strong.

say I’m too competitive but that I think is their excuse rather than my problem...

If you have the ability and apply yourself you will do well. There are so many examples of this in today’s society. But not everyone is interested in maths and science. Interests are important too.

You need to be clever... But more important is showing that you are clever or making people think that you are, even thinking it yourself. Applying yourself to the task and just getting on is what is most important though...

In research by Blackwell et al (2007) and Henderlong and Lepper (2007) person praise from the teacher was seen to encourage entity theories of intelligence amongst pupils whilst process praise was seen to encourage incremental ones and the matching comments above seem well-able to support this previous research on the effects of feedback on the fostering of a specific implicit theory. There is clear evidence of a self-understanding amongst pupils concomitant with teacher appraisals of their ability and performances (see also Rosenthal & Jacobsson, 1968; Troulloud, Sarrazin, Bressoux, & Bois, 2006 and Shute, 2008).

Research on relationships between implicit and scientific theories of intelligence

Some previous research has suggested that exposing people to specific scientific theories of intelligence might be able to change their implicit theories (Dweck, 1999). However, at the same time as there are different implicit theories of intelligence there are also different scientific definitions. In the Handbook of Educational Psychology edited by Alexander and Winne (2006) there are at least three theoretical models; the Cattell-Horn-Carrol (CHC) theory, Gardner’s Theory of Multiple Intelligences and Sternberg’s Triarchic Theory of Intelligence (Ackerman & Lohman, 2006); and there are also numerous other approaches toward the concept. One of these is represented by the socio-cultural paradigm (Grigorenko, 2004), which is we should add also the theory we most closely adhere to in the present research. They are very different and relate differently to different implicit theories: some reinforce entity theories and others implicit ones.

In contrast to implicit theories of intelligence, scientific theories are explicitly stated and are made subject to open criticism and reflection (Gill, et al., 2004; Tamir, John, Srivastava & Gross, 2007), which means that they can be consciously and deliberately taught, learned and evaluated in a different way to culturally tacit (implicit) theories. However, given the reciprocity of belief (i.e. a kind of ‘pygmalion effect’) signalled in respect of implicit theories and feedback, as part of our investigations we have tried to examine if there may be links between student preferences for implicit and scientific theories and, if there are, whether it may be possible to devise a way of influencing implicit theories by teaching about scientific ones in well-thought-through ways. We are particularly interested in how socio-cultural theories might be used to promote the adoption of incremental rather than entity beliefs.

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3 Troulloud, Sarrazin, Bressoux, and Bois (2006) showed that teachers with an entity theory also praised pupils as gifted and created a competitive classroom climate, whilst Shute (2008) stated that feedback can impede learning when providing grades or overall scores and that the student’s standing relative to peers can draw attention to the self instead of the learning process. Process praise seems to be adopted to a higher extent by those who favour an incremental theory of intelligence and this exerts a positive influence on learning in that the pupil focuses on the learning process and the task at hand (Kamin & Dweck, 1999; Mueller & Dweck, 1998).
Some working hypotheses: From earlier into new research

In the new quantitative part of our research we have operated with three working hypotheses. These have been developed from our earlier ethnographic studies and our source analysis. Our first hypothesis was that pre-service teachers will have stronger preferences for entity theories of intelligence within the context of maths and for incremental theories within the context of social science. This predication is also related to our second hypothesis, which is about the possible impact of teacher education. Here we hypothesize that explicitly stated scientific theories, type of feedback or praise and belief in competition will be transformed through teacher education but that because tacit beliefs are very hard to change through formal education (Calderhead & Robinson, 1991; Massengill et al., 2005; Murray et al., 2008) implicitly held theories of intelligence will not. Scientifically it doesn’t matter of course that we have formed a negative hypothesis. If implicitly held (tacit, cultural) beliefs are influenced this will be registered in the data and analysis.

Our third hypothesis is slightly different to the first two. It is that CHC-theory will be a good predictor of implicit theories of intelligence. More specifically, we mean that pre-service teachers who believe in the credibility of CHC-theory will show a higher preference for entity theories of intelligence and a lower preference for incremental ones and that those who tend to reject CHC-theory will show higher preference for incremental theories of intelligence and a lower preference for entity ones (Jonsson et al, submitted A, B and C).

The main investigation method

Sweden’s elementary teacher education is between 7 and 10 semesters long. But it always contains 90 credits on the higher education credit system for all teacher students on what is called the common education area (allmänt utbildningsområde: AUO). This ‘common core content area’ is studied in three courses of 30 credits each in three separate terms at the beginning, in the middle and toward the end of the programme. In our investigation students we met were enrolled on the common area. There were 151 teacher students (69 on the first course in term 1 and 82 on the last course in term 7). They were between 18 and 57 years old (mean 29) and there were 140 woman and 10 men. They were enrolled on preschool (38 students), primary (82 students) and secondary (29 students) programmes. We had missing data from 2 students.

A Swedish version of Dweck’s (1999) Theories of Intelligence Scale was used to assess the student-teachers’ entity and incremental theories of intelligence by. This was done in relation to two knowledge domains; social science and math. A number of statements about intelligence were presented in relation to each domain and a 10-point clear numerical scale was used as an indicator ranging from 1 = strongly disagree to 10 = strongly agree with the statement. The participants made a numerical expression, directly under the statement, to what extent they agreed with it. A higher value was used for a stronger agreement and a lower value for a lower agreement.

Four items measuring an entity theory of intelligence (sample item ‘In math/In social science your intelligence is something about you that you can’t change very much’) and four items measuring an incremental theory of intelligence (sample item ‘In math/In social science you can always substantially change how intelligent you are’) were employed. Every participant received 8 items (4 entity and 4 incremental) related to math and 8 items (4 entity and 4 incremental) related to social science. Cronbach alpha in the domain of social science was .671 for an entity theory of intelligence and .829 for an incremental theory. For maths Cronbach alpha for the entity theory of intelligence scale was .777.

Preferences for feedback and praise were also measured by using similar quantitative four item measures. The measures used were for (a) to what extent the teacher student liked to use person praise (sample item ‘You’re really good at this’), (b) product
praise (sample item ‘Nice job that one’) or (c) process praise (sample item ‘You must be concentrating hard’). A 10-point clear numerical scale was again used ranging from 1 = I would absolutely not use this praise to 10 = I would absolutely use this praise. The participants made a numerical expression directly under the statement. This item was developed from a similar one used previously in research by Henderlong and Lepper (2007). 

Principal axis factor analysis was conducted on the twelve items for feedback/praise. This generated four factors each with corresponding eigenvalues (Eigenvalues are a special set of scalars that are sometimes also known as characteristic roots, proper values, or latent roots that are used in common stability analyses). Four factors with eigenvalues over 1.00, accounting for 56.95% of the variance, were extracted. The first factor accounted for 19.00% of the variance. The four items concerning person praise feedback loaded onto this factor with Cronbach alpha at .818. The second factor accounted for 13.37% of the variance. Four items concerning process praise feedback loaded onto this factor (Cronbach alpha.732). Two product items loaded on the third factor and explained 12.39% of the variance and two product items loaded on the fourth factor with 12.20% of the variance explained. Cronbach alpha for product praise (.612) was not improved by separating the four items into two groups so they were kept together.

The four scientific theories of intelligence were examined by presenting student teachers with four summaries, one for each of the theories. These had been discussed and agreed upon by the research team (see appendices). Each was between 71-104 words and occupied 7-8 rows of text. All four summaries were presented on the same sheet in order to make it as easy as possible for the participants to compare the theories before making their estimates. A 10-point clear numerical scale was used ranging from 1 = strongly disagree to 10 = strongly agree with the scientific explanations of intelligence presented by the summary.

Trained researchers collected all the data. The student-teachers did not receive any information about the aim of the study before their responses and were asked not to speak to each other and not to go back to a sheet once they had finished it. Order-effects were controlled for. Half the students rated implicit theories of intelligence toward math first and the other half rated social science first. Half of those who received the math items first received the feedback items directly after and half the competition items. The same applied for those who rated social science first. After every participant had finished they were thanked for their participation and received a lecture in the subject area and the aim of the study.

Findings and main interpreted suggestions
A significant main effect was found for entity theories of intelligence. Participants explained intelligence to a higher degree as an entity within the discipline of math. A significant main effect for incremental theories of intelligence was also found. All participants, regardless of their subject enrichment, preferred an incremental explanation of intelligence within the context of social science compared to math. Our previous research has already shown that teachers of social sciences prefer incremental explanations of intelligence to a greater degree than teachers of mathematics do.

A mixed ANOVA between semester of study (first, last) and feedback preference (person, process or product) was computed. A main effect was found for the dependent factor feedback praise within the individual between preference for Person ($M = 5.20$), Process ($M = 7.68$) and Product ($M = 7.72$) praise. With adjustment for multiple comparisons (Bonferroni) the preference for Person Feedback praise was significant. Student-teachers would generally like to give less person praise to pupils compared to Process and Product praise. However, an interaction effect was found between Feedback praise and semester. The preference for person praise dropped from ($M = 6.10$) to ($M = 4.44$) and for product praise from ($M = 8.31$) to ($M = 8.10$).
for the first compared to last semester. Differences were significant. No significant difference was found between first and last term in respect of preferences for process praise.

A mixed ANOVA between semester (first, last) and scientific theory (CHC-theory, Multiple intelligence, Triarchic theory and Sociocultural theory) was also computed. A main effect was found for the dependent factor scientific theory within the individual between an individuals preference for CHC-theory ($M = 3.99$), Sternberg theory ($M = 6.22$), Gardner theory ($M = 6.49$) and socio-cultural theory ($M = 7.71$). Multiple comparisons were preformed with adjustments for Bonferroni.

An interaction effect was found between scientific theory and semester. Preference for CHC-theory and Gardner theory dropped (from $M = 4.52$ to $M = 3.58$ and $M = 6.91$ to $M = 6.19$ respectively), whilst preferences for socio-cultural theory and Sternberg theory increased (from $M = 7.17$ to $M = 8.12$ and $M = 5.98$ to $M = 6.39$ respectively). When an independent sample t-test was preformed in order to analyse the differences between multiple means, the CHC-theory and socio-cultural theories showed significant differences between first and last semester initially. Adjustments for multiple comparison (Bonferroni) raised the significance level however and resulted in no significant differences being found.

Four stepwise multiple regression analyses were preformed in order to discover the best predictor variables in our data. Predictor variables were the four scientific theories of intelligence, feedback/praise (person, process and product) and competition. For the dependent variable entity theories in social science the stepwise multiple regression first entered and explained 14% of the variance with the predictor variable CHC-theory. Competition was entered second and explained a further 4%. A greater preference for an entity theory in social science was associated with greater credibility beliefs in CHC-theory and to Competition as a positive factor. For the dependent variable entity theories of intelligence in math the stepwise multiple regression entered first was person feedback. It explained 9% of the variance. Second the CHC-theory was entered and explained a further 4%. Here a greater preference for an entity theory in math was associated with greater intentions to give person centred feedback and with greater credibility beliefs in CHC-theory. The other predictor variables were excluded.

For the dependent variable incremental theories of intelligence in social science the stepwise multiple regression entered first was CHC-theory as a negative predictor. It explained 10% of the variance. Second Competition was entered as a negative predictor and explained a further 2% of the variance. Here a weaker belief in the credibility of the CHC-theory and Competition was associated with a greater belief in incremental theory of intelligence in social science. The other predictor variables were excluded.

For the dependent variable incremental theories of intelligence in math the stepwise multiple regression entered first was CHC-theory as a negative predictor. It explained 14% of the variance. As a second negative predictor Gardner’s theory explained a further 2%. A weaker belief in CHC-theory and Competition was associated with a greater belief in incremental theory of intelligence this time in math. The other predictor variables were excluded. Tables of results are included in an appendix at the end of the paper after the reference section.

**Discussion**

When entity theories of intelligence were rated in the context of math they received higher preferences than when rated in the context of social science, whilst incremental theories of intelligence showed higher ratings in social science compared to math. These results fit well

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4 The Bonferroni correction involves testing each individual hypothesis at a statistical significance level of $1/n$ times (for $n$ dependent or independent hypotheses). This raises the significance level compared to if only one hypothesis were tested ($\alpha/n$).
with our ethnographic research but they also support findings by Jonsson et al (submitted B), where intelligence on the implicit (naive or lay) level of theory is seen as an entity within the discipline of mathematics to a higher extent than in social science, whilst incremental theories of intelligence are adopted more within the context of social science. However, this finding is quite alarming when viewed in connection with other research. Because what is suggested is that pre-service teachers in maths with more experience of maths as learners and more training in the subject are more likely to explain intelligence as an inborn, static and unchangeable ability; something that has previously been shown to correlate with lack empathy and poor communication skills for working with struggling pupils (Murray et al, 2008). Moreover, not only does the suggestion support a view of math as a competitive discipline that can be used in order to separate pupils on the basis of performances that are assumed to indicate measures of natural ability (Beach, 1999a, b, 2003a, b; Beach & Dovemark, 2007), as mathematically-statistically speaking performances in math still seem to reflect class background more than anything else (see e.g. Svensson, 2006), the suggestions are particularly problematic from the perspective of social class, class equality and social reproduction.

These are problems that have not been given attention in recent recommendations for increasing the amount of mathematics in teacher education for all teachers, but particularly for prospective ‘subject teachers’ for the secondary and the upper-secondary school who are to receive increased amounts of subject content in their programmes but no increases in pedagogical theories (SOU, 2008: 109). Bernstein (1990) has referred to this as a weakening of the teacher education trivium in relation to technical knowledge (the teacher education quadrivium) and a return to a neo-middle-age educational relationship in the subject area. The effects are potentially very damaging generally (general standards will fall) according to for instance research by Blackwell et al (2007) and seem also able to lead to greater polarisation effects and increased social class differences (along the lines of social reproduction theory). These are exactly the opposite outcomes to those expressed as desirable in the commissioner’s recommendations (SOU 2008:109) and current education policy at both national and European levels.

Our second hypothesis was also confirmed in that belief in the explicitly stated scientific theories but not the implicit (naive or lay) theories had changed significantly from the first to last term, as had beliefs in competition and concrete feedback or praise. This is in line with previous research, which states that tacit beliefs that are derived from previous experiences and culture are those that are hardest to change within teacher education (Calderhead & Robinson, 1991; Massengill et al, 2007; Murrey et al., 2008). At the same time we should be cautious. Other studies show significant changes in implicit theories when they are exposed to scientific influence (Blackwell et al., 2007; Dweck, 1999).

The third hypothesis concerned whether preferences for CHC-theory could predict preferences for an implicit theory of intelligence. This was shown to be true for all four multiple regressions. Belief in CHC-theory was a positive predictor of an entity theory of intelligence in both math and social science and a negative predictor of an incremental theory. Positive predictors for an entity theory of intelligence for mathematics were also person praise feedback and for social science beliefs in competition as benefiting for learning. This is also a significant negative predictor for an incremental theory in social science. Gardner’s Theory of Multiple Intelligences was also a negative predictor for incremental theories of intelligence. This is not surprising according to Ackerman and Lohman (2006), who point out that Gardner actually says the same thing as CHC-theory, but with little empirical evidence and in a more simplistic and popular way.
Summing up
The results show two things quite conclusively. The first is that a naïve theory of intelligence as an entity is more prevalent amongst student teachers in relation to the domain of mathematics than social science and that exposure to maths teaching/learning in schools and higher education (and clearly in teacher education) generally raises beliefs in an entity theory of intelligence. This is also, according to previous research, likely to be possibly quite negative for learning outcomes for the majority of pupils and perhaps particularly those from the lower-socio economic classes.

The second conclusive finding is that pre-service teachers who believe that CHC-theory is highly credible also have stronger beliefs in an entity theory of intelligence, which actually means that teaching about this theory can be problematic. Raising the pre-service teachers beliefs in the credibility of CHC-theory also seems to raise the possibility of them adopting of an entity theory of intelligence. We mean therefore that CHC-theory must be taught very critically as lowering beliefs in CHC-theory may help decrease tendencies toward entity theories and increase the chances of an incremental theory with outcomes that are positive for learning for the majority of pupils according to previous research, but particularly for students from lower social classes⁵.

The present investigation could be criticised for having several important limitations. One of these is that it is not longitudinal and does not follow the same individuals. However, we are not specifically interested in individuals’ development through teacher education, but in what can be said about the possible effects of teacher education on student learning in general from a socio-cultural standpoint. Our intention is that these suggestions can then be researched further. The other is the small sample size. Although we have tried to compensate for this through mathematical manipulations the results should be interpreted with caution and as suggesting possible relationships rather than presenting definitive statements about universal facts.

Conclusions
There are positive effects from teacher education according to our research. One of these is that the preference to give person oriented praise as feedback for pupils about their learning is generally lowered from the first semester to the last as is the belief that competition is benefiting for learning. These positive outcomes can all be related back to recent research, which has shown process praise to benefit learning and competition and person praise not to.

Process praise and the tendency to view competition as non-beneficial to the quality of learning are issues that are, according to us, clearly associated with teaching, learning and teacher education in the social sciences. This is not the case in mathematics and for and by mathematics teachers, for whom there seems to be a strong commitment to seeing competition and person praise as of value. Although more research is needed about the influence of scientific theories on implicit theories in order to grasp a deeper understanding of the possible impact of teacher education, what we feel we can conclusively say is that the suggestion that we really do need more maths trained teachers in our schools is a suggestion that must be approached far more critically than is the case at present. The lack of critical attention to this problem has been particularly apparent in the most recent teacher education inquiry (SOU 2008: 109) and has led the commissioned inquirer to render recommendations for reform that may lead to exactly the opposite outcomes to those she has predicted.

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⁵ CHC-theory was generally more believed in by maths teachers than social science ones in previous studies and was seen as more applicable in maths than social sciences by all students in the present investigation. There was also a possible increase to consider in the tendency to believe in CHC-theory amongst maths student teachers in the final semester of their teacher training as compared to the first semester. However, the number of students enrolled on maths enrichments and specialisations was too small for us to say anything conclusive about this.
References (incomplete and unchecked)

Ackerman, P.L., & Lohman, D.F. (2006). Individual differences in cognitive functions (pp. 139-161). In P.A. Alexander & P.H. Winne (Eds.), Handbook of educational psychology. London: LEA.


Appendices
1: Four theories of intelligence

1) Successful *intelligence* is the ability to achieve what one seeks in life, within one’s sociocultural context, through a combination of adapting to, shaping, and selecting environments, by a mix of analytical, creative, and practical abilities. Successful intelligence is relevant across cultures because in any cultural environment one has to figure out how to adapt, shape (or select out), and figure out how to achieve one’s goals within the sociocultural context. Successful intelligence is typically defined within a culture. Cultural intelligence, in turn, applies more across cultures. Someone could be successfully intelligent within a culture but not across cultures. Someone could be relatively successful across cultures but not highly successfully intelligence within any one of those cultures.

2) There are eight different *intelligences*. The 1) logic-mathematical intelligence, 2) verbal/linguistic intelligence, 3) the spatial intelligence, 4) the musical intelligence, 5) the bodily-kinesthetic intelligence, 6) the intrapersonal intelligence, 7) the interpersonal intelligence and 8) the naturalistic intelligence (to know and appreciate nature). Individuals differ in their profiles of these eight intelligences. When measuring intelligence you should not only use paper-and-pencil tests but also use more humanistic methods such as self-assessments and portfolio. Intelligence should no be interfered with personality, will, motivation, creativity or other important human abilities.

3) *Intelligence* is the stable innate ability to think abstract. Learning and achievement in school is dependent on this ability and you can explain differences and predict individuals’ achievement in school from this primary ability. Intelligence is general over culture and can be objectively measured. How intelligent a person is depends on among many things how fast the individual mind can perceive and process information, how large capacity working memory has and how much different parts of the brain weight and last, what genes the individual has inherited.

4) Intelligence develops within the individual in social interaction with the environment. The individual integrate in successive manner mind-tools that have been developed through history as part of culture. The most basic tool is language. When the child’s experience is confirmed with words, the child develops concepts as tools for thinking. The individual develops abilities and understanding of the world by support of different cultural tools as for example computers. Because of this, the individuals’ intellectual ability is dependent on where he/she is raised and the social and cultural context where they belong.

2: Theories of intelligence scale

*Theories of Intelligence Scale – Other Form For Adults (Dweck, 1999)*

The scale (without the word math or social science) is designed by Carol Dweck in order to investigate ideas about intelligence. In this study we have brought in the disciplines of math and social science into the items. The participants first rated the 8 items below from the perspective of the math (social science) discipline and after this rated the 8 items from the perspective of social science (math) discipline.

1a) In math/In social science people have a certain amount of intelligence, and they can’t really do much to change it.
2a) In math/In social science someone’s intelligence is something about them that they can’t change very much.
3b) In math/In social science no matter who someone is, they can significantly change their intelligence.
4a) To be honest, in math/in social science, people can’t really change how intelligent they are.
5b) In math/in social science people can always substantially change how intelligent they are.
6a) In math/In social science people can learn new things, but they can’t really change their basic intelligence.
7b) No matter how much intelligence a person have in math/in social science, they can always change it.
8b) In math/In social science people can change their basic intelligence level considerably.

a = Entity theories of intelligence
b = Incremental theories of intelligence
### Table 1. Means (and SDs within parentheses) for the measures entity theories of intelligence and incremental theories of intelligence (First term n = 68, Last term n = 81).

*** = \( p < .001 \) compared with total math

<table>
<thead>
<tr>
<th>Implicit theories</th>
<th>Social Science</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First term</td>
<td>Last term</td>
</tr>
<tr>
<td>Entity</td>
<td>2.47 (1.13)</td>
<td>2.32 (1.54)</td>
</tr>
<tr>
<td>Incremental</td>
<td>7.47 (1.52)</td>
<td>7.76 (2.07)</td>
</tr>
</tbody>
</table>
Table 2. Means (and SDs within parentheses) for the measures feedback praise: person, process, product and beliefs in competition as promoting learning in classroom (First term N = 69 and Last term N = 82).

\[ a = p < 0.01 \text{ compared with last period} \]

<table>
<thead>
<tr>
<th>Feedback praise</th>
<th>First period</th>
<th>Last period</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person</td>
<td>6.10 (2.04)^a</td>
<td>4.44 (2.05)</td>
<td>5.20 (2.20)^c</td>
</tr>
<tr>
<td>Process</td>
<td>7.68 (1.51)</td>
<td>7.32 (2.03)</td>
<td>7.48 (1.81)</td>
</tr>
<tr>
<td>Product</td>
<td>8.31 (1.27)^a</td>
<td>7.23 (1.80)</td>
<td>7.72 (1.67)</td>
</tr>
<tr>
<td>Competition</td>
<td>4.04 (1.51)^b</td>
<td>3.12 (1.64)</td>
<td>3.54 (1.64)</td>
</tr>
</tbody>
</table>

\[ b = p < 0.001 \text{ compared with last period} \]

\[ c = p < 0.001 \text{ compared with total process and product} \]

Adjustment for multiple comparisons: Bonferroni
Table 3. Means (and SDs within parentheses) for the four scientific theories (n = 148).

<table>
<thead>
<tr>
<th>Scientific theory of intelligence</th>
<th>First</th>
<th>Last</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC-theory</td>
<td>4.52 (2.68)</td>
<td>3.58 (2.31)</td>
<td>3.99 (2.51)***</td>
</tr>
<tr>
<td>Thriarchic Theory</td>
<td>5.98 (2.50)</td>
<td>6.39 (2.60)</td>
<td>6.22 (2.56)</td>
</tr>
<tr>
<td>Multiple Theory</td>
<td>6.91 (2.61)</td>
<td>6.19 (2.92)</td>
<td>6.49 (2.81)</td>
</tr>
<tr>
<td>Sociocultural Theory</td>
<td>7.17 (2.34)</td>
<td>8.12 (2.21)</td>
<td>7.71 (2.31)***</td>
</tr>
</tbody>
</table>

*** = p < 0.001 in multiple comparison with the three alternative scientific theories with adjustments for Bonferroni
Table 4. *Stepwise multiple regression of predictors of an entity theory of intelligence in social science (n = 136).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>B</th>
<th>Standard error b</th>
<th>Beta</th>
<th>t</th>
<th>Significance of t</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC-theory</td>
<td>0.38</td>
<td>0.20</td>
<td>0.04</td>
<td>0.36</td>
<td>4.72</td>
<td>0.001</td>
</tr>
<tr>
<td>Competition</td>
<td>0.44</td>
<td>0.18</td>
<td>0.06</td>
<td>0.22</td>
<td>2.80</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 5. *Stepwise multiple regression of predictors of an entity theory of intelligence in math (n = 136).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>B</th>
<th>Standard error b</th>
<th>Beta</th>
<th>t</th>
<th>Significance of t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback praise person</td>
<td>0.31</td>
<td>0.20</td>
<td>0.06</td>
<td>0.26</td>
<td>3.20</td>
<td>0.01</td>
</tr>
<tr>
<td>CHC-theory</td>
<td>0.38</td>
<td>0.14</td>
<td>0.05</td>
<td>0.21</td>
<td>2.60</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Table 6. *Stepwise multiple regression of predictors of an incremental theory of intelligence in social science (n = 136).*

<table>
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<th>Multiple R</th>
<th>B</th>
<th>Standard error b</th>
<th>Beta</th>
<th>t</th>
<th>Significance of t</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC-theory</td>
<td>0.32</td>
<td>-0.23</td>
<td>0.06</td>
<td>-0.31</td>
<td>-3.85</td>
<td>0.001</td>
</tr>
<tr>
<td>Competition</td>
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<td>-0.19</td>
<td>0.09</td>
<td>-0.17</td>
<td>-2.14</td>
<td>0.05</td>
</tr>
</tbody>
</table>
Table 7. *Stepwise multiple regression of predictors of an incremental theory of intelligence in math (n = 136).*

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<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>B</th>
<th>Standard error b</th>
<th>Beta</th>
<th>t</th>
<th>Significance of t</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHC-theory</td>
<td>0.39</td>
<td>-0.29</td>
<td>0.06</td>
<td>-0.37</td>
<td>-4.59</td>
<td>0.001</td>
</tr>
<tr>
<td>Gardner theory</td>
<td>0.42</td>
<td>-0.12</td>
<td>0.06</td>
<td>-0.16</td>
<td>-2.06</td>
<td>0.05</td>
</tr>
</tbody>
</table>
1. Introduction

In recent years there has been a shift in the teacher education programs of many European countries towards a more instrumental and goal-oriented knowledge process – as seen both in the idea of the learning outcomes as a matrix producing subject contents and in the concept of the triple helix (Papadakis 2008, Rasmussen 2008). At the same time it is also being stressed that the scientific research within the different academic disciplines should form an important part of the otherwise vocational education of teachers. The teacher education program should thus be seen as a demanding academic career, contrary to the situation up until now, where the teaching profession has had a low status in most European countries and the teacher education is seldom a choice for the talented student. In this respect it is being emphasized that the education of teachers should be interdisciplinary and that the latest academic findings and research about the subject matter should be made available to the students. However, depending on its ontological and epistemological base, knowledge cannot always be produced in an uncomplicated relation between subject contents and learning outcomes. All academic disciplines, even the research-based knowledge of the hard sciences, rest somewhat on normative epistemology, and the normative aspects, for example evident in the different concepts of truth, therefore sometimes contradict the instrumental, goal-oriented outcome of education. These contradictions may also be seen as tensions, both within a specific discipline, and outside of it, in the more overall context of education as well as in respect to the demands of society at large.

Using Foucault’s terminology these tensions or ruptures have a tendency to surface as discursive formations that are really no more than the repressive presence of what it does not say (Foucault, 1969/1972). From within a specific discipline the contradictions apparent in the subject content produced by the learning outcome may be seen either as a postulation of scientific findings or as a simplifying of the interpersonal, contextual aspects of knowledge production, depending on the ontological starting point. On the other hand, from the outside of the specific academic subject, i.e. from the more overall point of view, such as the governmental implementation of curricula or the educational sciences studying this process, there is a risk of reducing the contradictions to mere problems of distribution and administration of knowledge. On the whole, the educational sciences, or the discipline of pedagogy, tend to discuss the relation between subject content and the mediating of this content only on the premises of the latter, as if different subject contents, different epistemologies do not in turn affect the way of mediating, or the distribution of knowledge. For example, there is awareness of the tensions between the so called ‘research-based knowledge’ and the ‘evidence-based knowledge’ in the educational sciences, but there seem to be no discussion of the implications of this in relation to different subject contents or different epistemologies. It is therefore important to discuss the production of knowledge in teacher education from both an overall and a more specific point of view, both from outside and from within a specific educational content. To discuss this point I will take as an example...
literary studies, where the theory of literature from the early 20th century and onward, i.e. from formalism to poststructuralism, has pointed out the poetic language as predominantly non-communicative, but where its place in teacher education often tends to reduce it to an instrument of communication. The poetic language is intended to be another language, foreign to all of us, making us foreign even to ourselves, a process eventually leading us to see the sheer ‘otherness’ of things (Sklovskij 1916, Brooks 1947, Foucault 1969, de Man 1984). The question here is how this kind of knowledge, this kind of academic subject content, that defies its own use in an instrumental sense, and which disputes the possibility of knowledge being produced in a simple relation between learning outcome and critical science, is being handled in teacher education. The question is also if this example of contradiction may point out other areas where critical knowledge cannot be produced as an unproblematic and explicit outcome in teacher education.

2. Savoir and connaissance

If one intends to study the role of literary studies, or more specifically that of the poetic language, in the context of Swedish teacher education one soon will find that the subject content is situated at the intersection of at least three different academic disciplines, which does not necessarily mean that it is interdisciplinary, but rather that there are several stakeholders claiming it, sometimes with contradicting agendas and often from different ontological starting points. The academic discipline of Comparative Literature, or Literature, most obviously defines the study of literature in relation to the scientific knowledge of poetics described in the introduction, while the discipline Scandinavian Languages (Swedish), which plays much the same part as Comparative Literature when it comes to teacher education, tends to focus more on the didactic and instrumental side of poetics and of critical literary discourse. Thirdly the discipline of Pedagogy is not primarily interested in the specific poetics of literary studies, but equally involved in the subject content of literary studies when it comes to teacher education and educational science, often claiming literature or the literary language to be a mode of communication in an instrumental sense, or a tool of semiotic mediation in a Vygotskian sense of the term (Roth, Lee, 2007, Engeström 1999). Furthermore, not only do literary studies in the context of teacher education find themselves on the border territory of different academic disciplines, different ontological and epistemological traditions, but they also are, like every other traditional academic discipline taking part in teacher education, pulled between two different political, governmental intentions concerning higher education. On the one hand the focus is laid on the scientific findings and results within the traditional academic education, on the other the vocational demands of teacher education steer it more towards the direct needs of society and market. The subject content in teacher education is thus torn between the instrumental and goal-oriented knowledge process of utility politics and the ambitions to give it the same status as the other traditional, academic and scientific educations, incitements both emanating from the same source, from the governmental, political level.

In the example of literary studies such a tension between the goals of critical academic discourse and the pragmatics of vocational teacher education, as presented in the learning outcomes, is also a tension between different epistemologies, or rather between the clearly defined epistemology of the literary poetics and the unclear or eclectic epistemology of the teacher education program (Gustavsson, 2007). The questions concerning the poetic language in the context of teacher education must therefore be put forward on several levels at the same time, since the concern different discursive strata (Foucault 1969/1972, Derrida 1967). The
formation of the specific subject content within teacher education is thus both a product of discursive practices within the different disciplines, as well as a result of the pre-conceptual, overall ‘episteme’.

As it has been pointed out by many, also by researchers within the educational sciences (Scheurich, Bell McKenzie, 2005, pp 841-865), Foucault’s use of the terms savoir and connaissance as two different levels of knowledge could eventually be of value as parameters when discussing these formations of knowledge on different levels simultaneously, from within the humanities and the social sciences, as well as from outside of them, for example in overall evaluations. The term connaissance refers to the formal, academic knowledge, while savoir refers to the broad discursive conditions underlying formation of connaissance. In our example both the question of the particularity of the poetic language and the pedagogical question about the use and distribution of literary competence are to be considered as connaissance. Even such a fundamental educational question as the one posed by Plato in the dialogue Protagoras, the question about what kind of knowledge is of most worth, is an example of a discourse formation on the level of connaissance. The implicit formations of discourse concerning power relations in teacher education, of the relation between policy makers, practitioners and researchers are however to be seen as savoir. This implies that problems, contradictions and changes that we for example find within the disciplines of Literary studies or Pedagogy are to be understood as the results of problems, contradictions and changes on an overall institutional, political and historical level.

3. The change of episteme

To discuss the concept of knowledge in teacher education we thus have to look simultaneously at the general level and at the specific example. Let us star by examining the statement often heard of late, that the concept of knowledge has changed radically over the last twenty to thirty years, and that it is now seen, at least in part, as relative, socially constructed and highly contextualized (Niemi, 2008). This idea has been put forward from both outside and inside of the academia, both within specific disciplines and in the overall discourse of science, and this change or rupture in the recent history of science, sometimes called ‘the linguistic turn’, sometimes ‘the cultural turn’ (Andersson, 1999, Persson, 2007), questions any simple relation between subject and object and disputes the positivist concept of truth. Foucault (1969/1972) has, as mentioned, called this kind of abrupt shift in the history of knowledge a change of ‘episteme’, the pre-conceptual discourse underlying what can be formed into different sciences, schools or disciplines, a shift that for example occurred with the breakthrough of the modern positivist sciences in the late 18th century, at the same time as the whole basic concept of the western society radically turned secular.

The change of episteme is often misunderstood as being synonymous with a paradigm shift (Kuhn, 1970), but the former speaks of a change on a more fundamental, overall level, while the latter concerns changes within the academy and the science community only. It has been said that the recent shift of episteme occurred in the late 1960s to early 1970s, and some critiques even have suggested an exact date for the event. Persson (2007) wants to set the date of what he calls ‘the cultural turn’ to 1973, with the release of Hayden White’s Metahistory and Clifford Geertz’s The Interpretations of Cultures, but one might as well choose the date October 18 to 21 1966, when the conference “The Language of Criticism and the Sciences of Man”, took place at the John Hopkins University. On this occasion French philosophical
theory was presented for the first time on a broad level in the United States, something that later would influence and change its higher education fundamentally. Among the hundred or so presentations during the conference ten were held by French guests of honour: Roland Barthes, Jacques Derrida, Jacques Lacan, René Girard, Jean Hyppolite, Lucien Goldman, Charles Morazé, Georges Poulet, Tzvetan Todorov, and Jean-Pierre Vernant. Roman Jakobson, Gérard Genette and Gilles Deleuze had been invited but were unable to make it to the conference; they nonetheless submitted papers which the organizers communicated to the large audiences present. The most important of the papers were Derrida’s essay “Structure, Sign and Play in the Discourse of Human Sciences”, a highly influential formulation of poststructuralist theory, quickly to become institutionalized in the English-speaking world. Cusset (2008) has shown how the ideas spreading from the John Hopkins conference first made their way into the disciplines of Literary Studies and Film Studies in the American universities, and from there, under the banner of Cultural Studies, to the humanities as a whole. The educational sciences – during the 50s and 60s firmly in the grip of a positivist pedagogy, based on behaviouristic psychology – eventually also became influenced by the idea of a conceptual, relative knowledge production. The naïve realism of the scientific object of truth is thus questioned by the notion of the scientific discourse constructing the object of which it speaks (Foucault, 1980).

During the 70s the ideas of poststructuralism in the educational sciences were filtered through American pragmatism (Dewey) and the theories of Vygostky and Bachtin, of which the latter developed his ideas of dialogism in a formalist literary context, using Dostoyevsky as major example. Together these ideas, actually based on an 18th century German, speculative and idealistic philosophy, formed a complex of ideas under the name of socio-cultural theories, often referred to when papers on educational sciences indicate the recent change of knowledge production in teacher education (Niemi, 2008). In these theories the individual subject is underlined more than the structure evident in poststructural theories, shifting the focus to the individual, subjective production of knowledge and therefore running the risk of forming a totally relative object of discourse. This risk, or misunderstanding of contextual knowledge production, can on the level of connaissance in Literary Studies lead to the notion that no qualities in poetic language is possible to define outside of the subjective experience, that, so to speak, anything goes. On an overall level of savoir this misunderstanding is the basic reason for the positivist critique that is made against the contextually produced knowledge as in fact being no knowledge at all.

4. The problem of contradicting epistemologies in teacher education

It is against this background of poststructuralist ideas filtered through American academic traditions we have to see the current shifts and conflicts in both Literary Studies and in teacher education. The cultural turn in the academic disciplines and in society as a whole presupposes the breakthrough of French theory in America. The broadened concept of culture, the idea of every phenomenon being a ‘text’ which could be ‘read’ (Culler 1975, Fish, 1980), the very concept of the term literacy, frequently used in the context of educational sciences meaning an ability to ‘read’ different modes of ‘text’, have all emanated from the same tradition of formalistic, structuralistic and poststructuralistic thinking to which I referred in the introduction of this paper.

When it comes to Swedish school curricula, the influence could be seen in the most recent curricula (2000, 2002), where conceptions such as ‘broadened literature’, ‘multiculturalism’
and ‘identity construction’ point in the direction of the above mentioned theories. However, even though the concepts used seem to have the same function in the context of teacher training as they do have in the specific field of Literary Studies, the ontology and epistemology often differ fundamentally. For example Gustavsson (2008) has argued that the study of literature within the teacher education becomes diffuse and unscientific because of the different and sometimes contradicting epistemologies being at play at the same time. Although the notion of knowledge production in teacher education, as pointed out above, can be linked to socio-cultural theories of interaction and contextualization it seems that much of the research in the field of educational science is based on a positivist ontology of an uncomplicated relation between the subject and the object – postulating, without further discussion, the objective truth, or the essence, in the scientific findings, in the object of study. In this respect it does not really matter if the scientific studies being carried out within the field of teacher education are labelled ‘research-based’ or ‘evidence-based’ as both the – often implicit – ontology and epistemology contradict the social-cultural theories being used. In other words, when the object of is from a socio-cultural, contextual production of knowledge in teacher practice and teacher education and the scientific methods for studying this object is largely from a positivist empiric tradition – large samples of data, observations, surveys; statistics – there is a problematic contradiction both in ontology and epistemology between the theories and the methods used in the studies. There seems to be a discontent with this kind of research even in the educational sciences hosting it. As stated by Niemi (2008), for example, current educational research is oftentimes does not match up to the expected standards. She mentions problems with eclectic methods, problems with paradigm wars and problems with large datasets, but surprisingly enough it seems that the fundamental problem of unclear or contradicting ontologies and epistemologies producing these problems is rarely discussed or even fully recognized.

The shift towards a more goal-oriented, instrumental teacher education, as seen in the learning outcomes of the Bologna process, and the belief, apparent in political steering and in market demands, that it is possible to measure knowledge with exact instruments of evaluation, are all assumptions based on a positivist ontology and epistemology. At the same time there are a great deal of studies in the educational sciences which are based on totally different concepts of truth and scientific knowledge. This is for instance the case with the socio-cultural or poststructural theories mentioned earlier. It should then be obvious that socio-cultural and contextual theories are incompatible with an instrumental, goal-oriented teacher education policy. Unfortunately some of the research within the educational sciences seems to be unaware of the ontological framework of the theories used.

5. Conclusion

It is of course possible to dispute that the change of fundamental ontology, the shift in episteme, as described above, has ever occurred, regardless of it being called postmodern, poststructuralist, socio-cultural or linguistic. The recent shift towards a more instrumental and goal-oriented education seems to indicate this to be the case. Within the scientific communities of the humanities and the social sciences it has also been mentioned that this could be the result of a so called ‘positivist backlash’ (Scheurich, Bell McKenzie, 2005, pp 1-32), a renewed belief in the possibilities of establishing scientific truth and to evaluate the quality of education, its goals, with statistics or other supposedly exact measurements. As these changes towards goal-orientation within the teacher education seem to be the result of political pragmatics, of the demands of the European societies and working markets it should
be considered to be a concept of knowledge forming on a broad level, as savoir. The point, however, is not to establish whether or not the positivist or the contextual, constructivist concepts of knowledge are more or less ‘scientific’, more or less right or wrong, the point is rather to clarify the differences and acknowledging the problems that can be caused in the relation between subject content and learning outcomes.

Looking again more closely at the example of Literary Studies it is possible that the exegetical literacy of the critical knowledge within poetics, the connaissance of poetics, could be used to ‘read’ the underlying savoir of the learning outcomes, and therefore shed some light on other areas in teacher education where critical knowledge cannot be produced as an unproblematic and explicit outcome. These areas could be all subject contents resting on a contextual and constructivist concept of knowledge, for example the interactive learning of different actors in a classroom situation, or the teacher knowledge based on personal experience. These knowledge areas are not distinct, separate entities, nor are they easily categorized, and therefore problems of contradiction and lack of clarity immediately occur when the positivist concept of objective scientific truth is applied to the findings, which is exactly the case in most goal-oriented and instrumental evaluations.

As shown before the teacher education programme has particular problems with the eclecticism of different disciplinary traditions, different epistemologies and different scientific methods. If the image and status of teacher education and the teaching profession are to be improved it is important to clarify and discuss these differences on the ontological and epistemological levels. In our example of Literary Studies these differences are causing problems on the basic level of subject didactics in teacher education, producing unscientific studies – for example when the poetic language is studied in a classroom observation, and one ignores the problem caused by the use of empirical research methods, of a positivist epistemology, on a subject based on critical speculation. The same can probably be said of studies within the discipline of Pedagogy, where for example Bachtin’s theories of dialogism, derived out of critical readings of Dostoyevsky’s novels are being used in an empirical study of interactive classroom learning. To avoid these kinds of unsatisfying and unscientific eclectics the teacher education has to clearly define the different starting points of the several stakeholders involved in improving and developing its content. To meet the demands of a high profile scientific education the different epistemologies should be recognized and both methods and evaluations should be in accordance to each different ontology and epistemology. To meet the demands of the industry and the government – the other two dimensions of the so called ‘Triple helix’ – the disciplines involved in teacher education should have a clear view of the traditions, ideas and implicit ontology that constitute these demands. For example, the demands of liberal economics and politics connected to a positivistic ontology obviously will steer the teacher education in the direction of utility, while the critical, contextual knowledge will run the risk of being rendered invalid in the course of such a direction. Seen for what it is, made explicit in the process of policy development, this kind of problems could eventually strengthen the teacher education programme, making it an option for the talented student interested in the politics of both the academic disciplines and the society as a whole, both in the formation of connaissance and in the savoir necessary for its development.
References


Model of Professional Teachers Competences Formation: European Dimension

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Abstract
The article deals with the problem of application of competence approach in the Ukrainian system of teacher education in context of integration into European educational environment. On the basis of main international and national documents analysis on teacher training, the authors classify the professional competences of modern secondary school teachers, characterise the most important of them for the efficient activity of a teacher in a new century and substantiate the necessity to use the new competence scheme in the Ukrainian system of teachers education.

Key words
Competence approach, educational environment, system of teacher education, professional competences, general paradigm

Introduction
Modern development of the pedagogical component of an educational environment leads to the necessity of the pedagogical education general paradigm modernization. Graduates from pedagogical educational institutions of today must be able to achieve the best results and comfort in their professional activity in a very short period of time. So it is necessary to expand such important for teaching profession concepts of “knowledge”, “abilities” and “skills” with the additional categories. The notion of “competence” is such category which can enrich the abovementioned concepts with the practical side of their implementation.
We must press the point that today educational systems of all the European countries are on the way of transition to the competence model of development. In order to understand the overall competence educational scheme and to build an effective model of the Ukrainian pedagogical education it is very important to examine and analyze European experience in this sphere.

The Ukrainian scientists are working over the problem of competence approach in the educational system. General classifications of competences are represented in the works of Hutorskoy A.V., Zinkovskiy U.F., Mirskih G.O. Such scientists as Nichkalo N.G., Zyazyun I.A., Mitina L.M., Ovcharuk O.V. discuss the problem of formation of the professional teachers competences.

Scientific works of J.Ravin, R.White, B.Oscarsson, R.W.While, W.Hutmacher and others are devoted to the characteristics of some particular groups of competences in European educational environment.

But in spite of the existence of great number of scientific works, articles, documents belonging to the problem of the competence approach in the teachers education systems of European countries, we must press the point that today there is no single theoretical substantiation and unified classification of professional competences, essential for secondary school teachers to fulfil their professional functions successfully in a developed knowledge-based society changing very quickly in the nearest future of the XXI century.

**Competence component of pedagogical education**

When we are speaking about competence approach we mean creation of a single system of aims, content and technologies in the process of teachers education from the point of view of formation of the basic professional competences (EFA, 2004). So competence approach in pedagogical education makes it possible to outline the circle of important knowledge, abilities and skills for teaching profession and to give the guidance for the teacher education programme content on their mastering, developing and using in practical activities.

We are sure that competence model of pedagogical education of Ukraine can lead out Ukrainian specialists to the qualitatively new level, bringing their qualifications and degrees in correspondence with the European standards.

In European pedagogical research the term “competence” is an evaluative one and it denotes the ability of a teacher to use his or hers knowledge and skills in practical professional activities (Laursen, 2006).
Our research shows that there is no unified typology of teachers competence characteristics in Ukraine. This is the reason of existence of large number of different teachers training programmes in the Ukrainian system of pedagogical education (each pedagogical institute or university has a right to make its own curriculum, which must fulfil general strategic goals described by Ukrainian Laws on Education). In most cases enumeration of the appropriate competences in such study programmes include references to European documents.

**What is the meaning of the notion “European teacher”?**

Defining of the European teachers professional competences the most actual in new conditions of regional integration and development of European knowledge-based community is the subject of an active discussion among educational specialists. It was considered that any European teacher first of all must have deep subject knowledge in the sphere of specialization and professional skills to teach pupils efficiently. These skills have the following components: development of cognitive pupils’ abilities; direction of pupils’ activities to achieve the educational results; work with groups of pupils with heterogeneous learning abilities; formation of pupils’ responsibilities for the results of their work and education; command work; elaboration of study and school development programmes and curricula; communication with parents and local social environment; dealing with professional and moral problems; organization of self professional development. Teachers in European countries are bringing up their children as future citizens of national societies and Europe as a whole. Teachers work in social context demanding on one hand the national identity and on the other transnational consciousness within the European community. So “European dimension” became the important component of life-long education content. It should bring the balance between national and transnational values in the regional countries educational policy. Judging from these facts we came to the conclusion that European teachers professional competences components should include:

1. European identity. European teacher is conscious with his own national roots and general union of European peoples. Teacher’s values make it possible for him to teach not only in frameworks of the national programmes but far out their limits. The key aspect of European identity is teacher’s readiness to accept the differences and to treat to the whole world with respect.
2. European knowledge which comprises teacher’s outlook of educational systems peculiarities in different countries. Teachers respect his national educational
system and correlate its quality with others. They know features of current world policy, history or regional countries and its influence on modern European development.

3. European multiculturalism. European teacher treats with respect to his national culture and is ready to accept other cultures. He behaves confidently without domination over other cultures. He works in heterogeneous groups, respects differences and gives his pupils equal opportunities.

4. European language competence. European teacher knows more than one European language. Language skills he acquires in the system if life-long pedagogical education. It would be very important for him to spent some period in foreign environment to communicate with authentic language speakers.

5. European professionalism. European teacher has got his education due to which he can teach in every European country. He has “European” approach to the process of teaching of his specialised subject which helps him to treat educational material from the point of view of European perspective. He cooperates with European colleagues and takes the best pedagogical traditions. Modern practice of common teacher training programmes and confirmation of unified scientific Degrees in European universities helps to develop European level of professionalism.

6. European citizenship. European teacher must work and live as the citizen of Europe accepting such values as people rights respect, democracy, freedom. His critical style of teaching should form autonomous, active citizens of Europe.

7. European quality measuring. European teacher training foresees the existing of instruments for comparison of regional countries educational systems formal features. Means of comparability and transparency development, worked out in Bologna and Copenhagen, influenced the process of obstacles elimination in acception of pedagogical qualifications and in increase of teachers mobility.

8. European teachers mobility comprises possibilities of studying abroad, learning of foreign languages, getting acquainted with different national cultures, taking part in exchange programmes of students within the EU, individual job placement abroad. European teacher develops his pupils’ mobility too. Pupils exchange programmes within EU give additional opportunities for education and new understanding of European citizenship (Schartz, 2005; Sbrueva, 2007).
Model of a Professionally Competent European Teacher

Analysis of European documents made it possible to formulate the model of a professionally competent European teacher ("Education & Training 2010" Work programme, 2004). This model is represented on the scheme 1. We must stress that this model combines European standards as for teachers competences with Ukrainian peculiar features.

Judging from the scheme professional competences or European teacher may be divided into the following groups: key competences; basic competences; specialised or subject competences.

**Key competences** are necessary for performance of any professional activity. Thanks to them an individual feels comfort in social and professional environment, solving professional tasks due to the correct use of information, communication, social and legislative norms existing in the society.

**Key competences** of teachers should include: 1) information-communicative competence: the ability of a teacher to look for, analyze and select the necessary information; the knowledge of information technologies, computer programming including communication through INTERNET; 2) social-labour competence: the ability to take the responsibility; the ability to combine personal interests with the social needs; willingness for independent professional decisions; 3) language competence: the ability for oral and written communication in different languages; teacher’s talent to inform his pupils clearly and obviously from the point of view of both the depth of subject context and the way of teaching; moreover modern teachers must carry out the information in such a way as to make the pupils to continue their work independently; 4) values of an individual: realization of teachers role and destination in the modern society, in European and world environment; necessity and ability to self-perception; active life viewpoint; promoting of values of a democratic society and their use in everyday life and professional activities; 5) cultural competence: profound knowledge of national, European and world culture; tolerant attitude to different ethnic cultures (Hutmacher, 1996).

**Basic competences** show the specific character of teaching profession. Basic competences for pedagogical activities are based on the abilities, knowledge and skills of the European teacher of the XXI century. They include: *Organizational competence* – the ability of a teacher to organize pupils effectively, to manage and control their educational activities and to plan and correct teacher’s own activity.
Teacher Professional Competences

Key Competences
- Information-communicative
- Social-labour
- Cultural
- Language
- Personal Values

Basic Competences
- Management
- Didactical
- Pedagogical Thinking
- Cognitive-creative
- Psychological
- Evaluative
- Consultative
- Personal Development

Special Competences
- Subject
- Research
Didactical competence – the ability of a teacher to transmit knowledge to the pupils in the way that makes them interested in the learning subject so that they are ready to continue their cognitive activity independently by themselves. European didactically competent teacher can easily adapt or reconstruct teaching material taking into account mental, social, cultural and ethnic differences of his pupils using various methods and forms of personally-oriented teaching.

Pedagogical thinking – the specific reflexive capability of a teacher to realize his own personality in pedagogical reality, to foresee the results of his activity and to plan the pupil’s future educational trajectory. This ability in Ukrainian context is connected with positive and optimistic attitude to life and belief in people.

Cognitive-creative competence – the ability of a teacher to learn through understanding of what is necessary for a pupil. This competence is important when teachers formulate the aims of teaching process, plan and analyze cognitive activities of both his students and his own using creative skills.

Psychological competence – determination of a child individual as the dominant of education. Modern teacher must be psychologically ready to accept the inner life of a child, to understand his unique personality, to feel pupil’s psychological difficulties and when it is necessary to give psychological help for a child.

Evaluative competence – the ability of a teacher to examine objectively the results of pupils achievements, the effectiveness of his own work and the professional work of his colleagues, positive and negative features in the system of education as a whole.

Consultative competence – the ability of a teacher to provide consultations and different forms of psychological-pedagogical assistance in the process of construction of pupil’s educational path.

Competence of lifelong development – the teacher’s talent to evolve his professional skills, knowledge and competences during all his life (Weber, 2001; European Commission, 2005).

Special competences demonstrate the level of subject component in teaching profession. They are considered by European scientists as abilities of a teacher to realize his basic and key competences in the process of teaching major subjects at school. Special competences include two components: 1) subject competence; 2) research competence.

In the process of formation of special competences the academic capabilities (subject competence) of teachers play a very important role. Another word a teacher must have the ability to master and renew his knowledge of subject he teaches at
school. As for Ukraine an effective teacher has to know his subject much deeper than the programme volume. Ukrainian teachers are given possibilities to form their own versions of curricula, analyze world prominent concepts and technologies in education, substantiate new approaches in teaching and upbringing and take part in reconstruction of all the spheres of pedagogical activities based on scientific research (Ogienko, 2008).

In such a way the subject competence of a teacher is closely connected with the evidence-based research competence. We must press the point that today all programmes of teacher education in European countries are aimed at developing of teachers research competences (Green Paper on Teacher Education in Europe, 2000).

Europe needs teachers-researchers who conduct their scientific work, organize and create their own styles of professional activities reasoning from the results of their research work.

**Professional Competences of a Ukrainian Teacher in Context of Integration into European Educational Environment**

Modern Ukrainian pedagogical education only begins to use the concept of competence in the sense that is used by European countries. Taking into account character and peculiarities of pedagogical activities, Ukrainian scientists include the following components into the system of professional teachers competences:

- social block of competences combined with the environment, society, social activities of a teacher;
- motivational block of competences which involves internal motivation, interests and individual choice of a teacher;
- cognitive block of competences including total knowledge, abilities, skills of a teacher and his capacity to develop them continuously;
- functional block of competences is connected with the capacities of a teacher to use scientific knowledge and factual material effectively;
- research block of competences deals with realization of scientific research in the professional activity of a teacher.

From the point of view of the Ukrainian pedagogical science all these competences form the basis of efficient professional activity of a teacher in a new century. All the components of professional competences were discussed by educational specialists, working in the system of basic and in-service education during seminars, round tables, meetings, etc. As the result more than 92% of
respondents consider that it is high time to introduce the system of professional competences into the pedagogical education content of Ukraine.

So it is important that today Ukrainian pedagogical elite realizes the necessity to change the traditional educational system to the competence model. Introduction of the competence model in the teachers training system would bring to the decision of very difficult questions in Ukrainian education which have become the results of serious contradictions between the necessity to provide high level of education on one hand and impossibility to solve this problem traditionally only by expanding of educational information on the other (Rolyak, 2008).

Under such circumstances the accent in the process of teachers training must be put not on mastering the programme level of information but on organization of an individual intellectual activity in which future teacher should be able to actualize and understand the adequacy level of his knowledge got in the system of pedagogical education. Moreover teachers knowledge cannot be fragmentary, isolated from the environment, they should be renewed continuously due to the subject’s desire to develop his professionalism during all his life.

To realize this type of educational scheme a future teacher must be involved to the complex model of the country’s life-long pedagogical education. As for educational environment of Ukraine this means essential changes not only in the pedagogical education content but also in methods of teaching and learning, methods of term and final control, methodology of evaluation of the pedagogical practice results, etc.

**Concluding Remarks**

So, the major task of European and national levels of pedagogical education in conditions of regional integration and development of knowledge-based societies is to define the professional competences of European teachers.

Ukrainian pedagogical education is on the way of integration to the European educational environment. In this context the important stage is to implement the competence approach which will be able to prepare future teachers for qualitative and efficient professional activities in a knowledge-based society.

Realization of Ukrainian teacher professional competence model is taking into account both recommendations of European educational community and Ukrainian experience in teachers training.

Our research brings new approach to the problem of formation of the national Ukrainian competence model in the system of teacher education from the point of view of integration into European educational environment.
The importance of this problem determines the necessity of its continuous study. We think that special interest deserves the problem of methods of teachers professional competences forming in the European system of the initial pedagogical education.

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Common European Principles for Teacher Competencies and Qualifications. – Brussel: European Commission


Model of Professional Teachers Competences Formation: European Dimension

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Abstract
The article deals with the problem of application of competence approach in the Ukrainian system of teacher education in context of integration into European educational environment. On the basis of main international and national documents analysis on teacher training, the authors classify the professional competences of modern secondary school teachers, characterise the most important of them for the efficient activity of a teacher in a new century and substantiate the necessity to use the new competence scheme in the Ukrainian system of teachers education.

Key words
Competence approach, educational environment, system of teacher education,
professional competences, general paradigm

Introduction
Modern development of the pedagogical component of an educational environment leads to the necessity of the pedagogical education general paradigm modernization. Graduates from pedagogical educational institutions of today must be able to achieve the best results and comfort in their professional activity in a very short period of time. So it is necessary to expand such important for teaching profession concepts of “knowledge”, “abilities” and “skills” with the additional categories. The notion of “competence” is such category which can enrich the abovementioned concepts with the practical side of their implementation.
We must press the point that today educational systems of all the European countries are on the way of transition to the competence model of development. In order to understand the overall competence educational scheme and to build an effective model of the Ukrainian pedagogical education it is very important to examine and analyze European experience in this sphere.

The Ukrainian scientists are working over the problem of competence approach in the educational system. General classifications of competences are represented in the works of Hutorskoy A.V., Zinkovskiy U.F., Mirskih G.O. Such scientists as Nichkalo N.G., Zyazyun I.A., Mitina L.M., Ovcharuk O.V. discuss the problem of formation of the professional teachers competences.

Scientific works of J.Ravin, R.White, B.Oscarsson, R.W.While, W.Hutmacher and others are devoted to the characteristics of some particular groups of competences in European educational environment.

But in spite of the existence of great number of scientific works, articles, documents belonging to the problem of the competence approach in the teachers education systems of European countries, we must press the point that today there is no single theoretical substantiation and unified classification of professional competences, essential for secondary school teachers to fulfil their professional functions successfully in a developed knowledge-based society changing very quickly in the nearest future of the XXI century.

**Competence component of pedagogical education**

When we are speaking about competence approach we mean creation of a single system of aims, content and technologies in the process of teachers education from the point of view of formation of the basic professional competences (EFA, 2004). So competence approach in pedagogical education makes it possible to outline the circle of important knowledge, abilities and skills for teaching profession and to give the guidance for the teacher education programme content on their mastering, developing and using in practical activities.

We are sure that competence model of pedagogical education of Ukraine can lead out Ukrainian specialists to the qualitatively new level, bringing their qualifications and degrees in correspondence with the European standards.

In European pedagogical research the term “competence” is an evaluative one and it denotes the ability of a teacher to use his or hers knowledge and skills in practical professional activities (Laursen, 2006).
Our research shows that there is no unified typology of teachers competence characteristics in Ukraine. This is the reason of existence of large number of different teachers training programmes in the Ukrainian system of pedagogical education (each pedagogical institute or university has a right to make its own curriculum, which must fulfil general strategic goals described by Ukrainian Laws on Education). In most cases enumeration of the appropriate competences in such study programmes include references to European documents.

**What is the meaning of the notion “European teacher”?**

Defining of the European teachers professional competences the most actual in new conditions of regional integration and development of European knowledge-based community is the subject of an active discussion among educational specialists. It was considered that any European teacher first of all must have deep subject knowledge in the sphere of specialization and professional skills to teach pupils efficiently. These skills have the following components: development of cognitive pupils’ abilities; direction of pupils’ activities to achieve the educational results; work with groups of pupils with heterogeneous learning abilities; formation of pupils’ responsibilities for the results of their work and education; command work; elaboration of study and school development programmes and curricula; communication with parents and local social environment; dealing with professional and moral problems; organization of self professional development. Teachers in European countries are bringing up their children as future citizens of national societies and Europe as a whole. Teachers work in social context demanding on one hand the national identity and on the other transnational consciousness within the European community. So “European dimension” became the important component of life-long education content. It should bring the balance between national and transnational values in the regional countries educational policy. Judging from these facts we came to the conclusion that European teachers professional competences components should include:

1. European identity. European teacher is conscious with his own national roots and general union of European peoples. Teacher’s values make it possible for him to teach not only in frameworks of the national programmes but far out their limits. The key aspect of European identity is teacher’s readiness to accept the differences and to treat to the whole world with respect.

2. European knowledge which comprises teacher’s outlook of educational systems peculiarities in different countries. Teachers respect his national educational
system and correlate its quality with others. They know features of current world policy, history or regional countries and its influence on modern European development.

3. European multiculturalism. European teacher treats with respect to his national culture and is ready to accept other cultures. He behaves confidently without domination over other cultures. He works in heterogeneous groups, respects differences and gives his pupils equal opportunities.

4. European language competence. European teacher knows more than one European language. Language skills he acquires in the system if life-long pedagogical education. It would be very important for him to spent some period in foreign environment to communicate with authentic language speakers.

5. European professionalism. European teacher has got his education due to which he can teach in every European country. He has “European” approach to the process of teaching of his specialised subject which helps him to treat educational material from the point of view of European perspective. He cooperates with European colleagues and takes the best pedagogical traditions. Modern practice of common teacher training programmes and confirmation of unified scientific Degrees in European universities helps to develop European level of professionalism.

6. European citizenship. European teacher must work and live as the citizen of Europe accepting such values as people rights respect, democracy, freedom. His critical style of teaching should form autonomous, active citizens of Europe.

7. European quality measuring. European teacher training foresees the existing of instruments for comparison of regional countries educational systems formal features. Means of comparability and transparency development, worked out in Bologna and Copenhagen, influenced the process of obstacles elimination in acquisition of pedagogical qualifications and in increase of teachers mobility.

8. European teachers mobility comprises possibilities of studying abroad, learning of foreign languages, getting acquainted with different national cultures, taking part in exchange programmes of students within the EU, individual job placement abroad. European teacher develops his pupils’ mobility too. Pupils exchange programmes within EU give additional opportunities for education and new understanding of European citizenship (Schartz, 2005; Sbrueva, 2007).
Model of a Professionally Competent European Teacher

Analysis of European documents made it possible to formulate the model of a professionally competent European teacher ("Education & Training 2010" Work programme, 2004). This model is represented on the scheme 1. We must stress that this model combines European standards as for teachers competences with Ukrainian peculiar features.

Judging from the scheme professional competences or European teacher may be divided into the following groups: key competences; basic competences; specialised or subject competences.

**Key competences** are necessary for performance of any professional activity. Thanks to them an individual feels comfort in social and professional environment, solving professional tasks due to the correct use of information, communication, social and legislative norms existing in the society.

**Key competences** of teachers should include: 1) information-communicative competence: the ability of a teacher to look for, analyze and select the necessary information; the knowledge of information technologies, computer programming including communication through INTERNET; 2) social-labour competence: the ability to take the responsibility; the ability to combine personal interests with the social needs; willingness for independent professional decisions; 3) language competence: the ability for oral and written communication in different languages; teacher’s talent to inform his pupils clearly and obviously from the point of view of both the depth of subject context and the way of teaching; moreover modern teachers must carry out the information in such a way as to make the pupils to continue their work independently; 4) values of an individual: realization of teachers role and destination in the modern society, in European and world environment; necessity and ability to self-perception; active life viewpoint; promoting of values of a democratic society and their use in everyday life and professional activities; 5) cultural competence: profound knowledge of national, European and world culture; tolerant attitude to different ethnic cultures (Hutmacher, 1996).

**Basic competences** show the specific character of teaching profession. Basic competences for pedagogical activities are based on the abilities, knowledge and skills of the European teacher of the XXI century. They include: **Organizational competence** – the ability of a teacher to organize pupils effectively, to manage and control their educational activities and to plan and correct teacher’s own activity.
**Didactical competence** – the ability of a teacher to transmit knowledge to the pupils in the way that makes them interested in the learning subject so that they are ready to continue their cognitive activity independently by themselves. European didactically competent teacher can easily adapt or reconstruct teaching material taking into account mental, social, cultural and ethnic differences of his pupils using various methods and forms of personally-oriented teaching.

**Pedagogical thinking** – the specific reflexive capability of a teacher to realize his own personality in pedagogical reality, to foresee the results of his activity and to plan the pupil’s future educational trajectory. This ability in Ukrainian context is connected with positive and optimistic attitude to life and belief in people.

**Cognitive-creative competence** – the ability of a teacher to learn through understanding of what is necessary for a pupil. This competence is important when teachers formulate the aims of teaching process, plan and analyze cognitive activities of both his students and his own using creative skills.

**Psychological competence** – determination of a child individual as the dominant of education. Modern teacher must be psychologically ready to accept the inner life of a child, to understand his unique personality, to feel pupil’s psychological difficulties and when it is necessary to give psychological help for a child.

**Evaluative competence** – the ability of a teacher to examine objectively the results of pupils achievements, the effectiveness of his own work and the professional work of his colleagues, positive and negative features in the system of education as a whole.

**Consultative competence** – the ability of a teacher to provide consultations and different forms of psychological-pedagogical assistance in the process of construction of pupil’s educational path.

**Competence of lifelong development** – the teacher’s talent to evolve his professional skills, knowledge and competences during all his life (Weber, 2001; European Commission, 2005).

**Special competences** demonstrate the level of subject component in teaching profession. They are considered by European scientists as abilities of a teacher to realize his basic and key competences in the process of teaching major subjects at school. Special competences include two components: 1) subject competence; 2) research competence.

In the process of formation of special competences the academic capabilities (*subject competence*) of teachers play a very important role. Another word a teacher must have the ability to master and renew his knowledge of subject he teaches at
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Under such circumstances the accent in the process of teachers training must be put not on mastering the programme level of information but on organization of an individual intellectual activity in which future teacher should be able to actualize and understand the adequacy level of his knowledge got in the system of pedagogical education. Moreover teachers knowledge cannot be fragmentary, isolated from the environment, they should be renewed continuously due to the subject’s desire to develop his professionalism during all his life.

To realize this type of educational scheme a future teacher must be involved to the complex model of the country’s life-long pedagogical education. As for educational environment of Ukraine this means essential changes not only in the pedagogical education content but also in methods of teaching and learning, methods of term and final control, methodology of evaluation of the pedagogical practice results, etc.

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LIBERAL SCIENCE TEACHER EDUCATION REVISITED

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Introduction

During a recent public defence of a PhD thesis related to laboratory work in secondary school at our University both the opponent and respondent agreed that Swedish science teachers need to be more explicit in their teaching about the processes of scientific inquiry and the nature of science. These aspects were also the focus of the public debate following the defence, indicating the concern of Swedish teacher educators’ about the issue. However, the question of what the purpose of inculcating scientific inquiry and the nature of science remains absent in the above mentioned defence and often unclear in current research literature. In this paper I argue that focusing on scientific inquiry and the nature of science is a way to educate independent critical thinkers. This purpose has always been pursued by liberal educators and is stated in the steering documents of both Swedish higher education and teacher education.

According to the Swedish Higher Education Act (SFS 1992:1434), the general objectives of higher education are to develop the students’
- ability to make independent and critical assessments,
- ability to independently perceive, formulate and solve problems, and
- preparedness to deal with change in working life.

In addition to knowledge and skills pertaining to a field, students were also to develop the ability to
- seek and evaluate knowledge at a scholarly level,
- follow the development of knowledge, and
- exchange knowledge with other people, including people without specialist knowledge of the field.

In this paper, I will first discuss historical and theoretical roots of the principles of teaching inquiry from the perspective of liberal education and then outline the challenges related to issues of emotional, intellectual and pedagogical values in science teacher education.

In general, inquiry refers to the work that scientists do when studying the natural world, i.e. posing questions, gathering evidence and making explanations of natural phenomena. According to Tanner & Tanner (1990, 280), “scientific inquiry is the method of gaining knowledge and transforming it into working power.” Inquiry-based instructional strategies lead to learners’ developing autonomous problem-solving capacities in turn leading to “freedom from depending of the teacher” (Tanner, Tanner, 1990, 275). Though the notion of inquiry was introduced into education by John Dewey, it was Joseph Schwab who first operationalised the approach for science education.

A complementarity approach first suggested by Nils Bohr in 1927 is used in this paper as a methodological principle for discussing value based choices in science education. According to Bohr, one has to accept that a micro-world object can reveal different properties in different circumstances that can be explained by rather incompatible theories.¹ Bohr suggested the

¹ For example, an electron can behave in some experimental situations as a particle and in others as a wave. So, wave theory (describing diffraction of electrons) is valid in one case and kinematic descriptions (of electron trajectories) in the other. These theoretical descriptions (which are quite contradictory) complement our understanding of the micro-world.
possibility of using this principle in fields of science other than physics as well (Ben-Dov, 1995).

I depart from the assumption that the modern science teacher education should provide training for prospective teachers for critical thinking, teaching them about and through scientific inquiry and leading students to understanding of nature of science in the spirit of liberal education. Using the complementarity principle, this paper argued for the importance of imparting in students intellectual and emotional values, and teaching them not only inductive ‘practical’ way of collecting evidence in science classes but also deductive ‘theoretical’ way of scientific inquiry an approach that is often overlooked in the implemented curriculum in teacher education. Such an attempt reflects the theoretical elaborations of liberal science education by Joseph Schwab, whom I will extensively refer in this paper. I draw also on educational work done sixty years ago at the College of Chicago University. The papers of Schwab originally written during 1950s and the efforts at Chicago University in the 1940s show that the ideas of liberal science education developed and probed more than half a century ago continue to be as powerful today as when they were then.

On liberal science education

The Webster Dictionary defines liberal education as education that enlarges and disciplines the mind and making it the master of its own powers, irrespective of the particular business or profession one may follow (http://www.webster-dictionary.net). The Association of American Colleges and Universities (AAC&U) that actively promotes liberal education defines this approach as learning that empowers individuals and prepares them to deal with complexity, diversity, and change. (http://www.aacu.org/leap/What_is_liberal_education.cfm).

Schwab (1978) suggests that liberal education should provide

“the best statement of our present knowledge of the human make, of the various means – some special in their application to specific subject matters, some general – by which the understanding frees us from submission to impressions, beliefs, and impulses, to give us critical and organizing power and deliberative command over choice and action. A liberal curriculum is one concerned that its students develop such powers” (p 125).

Traditionally, science studies constitute a part of liberal education. Etymologically the word ‘science’ means the search for knowledge that reflects spirit of liberal education. Schwab saw science as a certain kind of habit of inquiry aimed at understanding the natural world. Science education aims at an understanding of science, its subjects and processes. Being a curricular specialist, Schwab attempted to clarify the essential characteristics of science education. According to Schwab comprehension and evaluation of scientific investigations were to be at heart of science education. Thus, emphasis of liberal science training was based on organising and conceptual principles of investigation. In his words these guiding principles

“must be dealt with in the liberal curriculum in the contexts of proof and discovery in which they have their origin and function. They are not amenable to being abstracted, codified, and presented merely as linguistic principles. … They are virtually inventions, new conceptions arising from a specialist’s experience with phenomena which are not yet encountered or not yet perceived in the course of ordinary existence; they contain the very essence of the speciality of the specialised sciences. … They take their origin from the needs posed by the study of phenomena in the special sciences, and their meaning can be found only in reference to these phenomena. … They need to be examined at work, in connection with the phenomena which first demanded their invention and in connection with some of the theories and conclusions which they make possible” (Schwab, 1978, p 142).

At the college level, Schwab suggested the necessity for science educators to prepare students to comprehend and evaluate original records of scientific inquiry, because

“through informed discussion of the records of such inquiries, by an inductively aimed analysis of scientific works, the students comes to knowledge both of nature and of scientific inquiry; he
learns to appreciate both the subject matters of science and science as a subject matter. The study of ‘method’ and study of ‘content’ rather than being divorced, to the impoverishment of each, are thoroughly wedded, to the enrichment of both. Scientific knowledge thus gained is least likely to be parrot-knowledge, for the student knows each conclusion in terms of the evidence which established it. ... knowledge about science thus gained ... will be operational – gained, practiced, and perfected by operations of analysis, comparison, contrast, and criticism practiced upon varied examples of scientific inquiry” (Schwab, 1978, p 97).

Reading original scientific papers and guided discussions in the classrooms were essential features of liberal science education in Schwab’s understanding. In this way, students would be teaching themselves to not only read and understand but also liberate oneself from the need for a living teacher. Schwab’s emphasis also reflects the general aim of liberal education which is to impart in students intellectual arts, skills, habits, and attitudes important for further individual search for reliable knowledge.

In tandem Schwab also warned about pedagogical oversimplification when teaching science “by giving a simple picture of science we give the students a conception of the nature and magnitude of an intellectual problem shockingly different from a sound conception. What can we expect from this falsification, repeated ad nauseam throughout their training, except men who will find only frustration when they meet problems in all their magnitude and complication, or who will blindly simplify and vulgarize them until they fit the measures that we have taught?” (Schwab, 1978, 99)

Schwab’s warning could ring true about much of science curriculum implemented in European schools today. Analysing the current status of European science education, Osborn and Dillon (2008) confirms, that science teaching often portrays science as a set of objective and absolute truths to be approached and apprehended as abstract, disembodied and decontextualised knowledge. With reference to contemporary research they also suggest that deep, as opposed to superficial understanding, comes through knowing not only why the right answer is right but also through knowing why the wrong answer is wrong. Such learning requires space for students to discuss, to think critically and to consider others’ views. Osborn and Dillon regret that current practices of school science education offer little opportunity for such an approach.

On emotional values

The value of affective factors and emotions in science education is difficult to overestimate. Boring science as described by Osborn and Dillon (2008) is not particularly attractive for the students, leading to many actively avoiding its study. This problem surfaces as the inability of science teacher training institutions in recruiting students and our department is no exception. Attention to emotive issues are reflected in the curriculum recommendations of the OECD (2006) forum which argues for increasing interest, motivation and competence in science studies amongst students and suggests the importance of:

- Transmitting the excitement of science from the teacher to the student.
- Exposing students to the joy of discovery.

These recommendations emphasise the value of learning science combining intellectual engagement with feeling and action. Some students might experience the excitement of discovering scientific explanations of the structure of the Universe, learning about quarks or global phenomena in the Earth etc, and this could be enough for them to be highly motivated to study science. However, showing the students the possibility of loving science for its beauty, logic, explanatory potential and intellectual challenges no longer seems to be commonplace among teachers. The OECD (2006) attributes this problem to the fact that many teachers themselves do not have a sufficient level of comfort, confidence and excitement about science and maths. As Millar and Dillon point out there is considerable evidence that
recruiting teachers of science of the highest quality in many countries is either problematic, or is likely to become problematic in the coming decade.

Interestingly Schwab made the above problem explicit more than fifty years ago

“Training of the intellect must take place (‘must’ in the sense of ‘unavoidably’) in a milieu of feelings and must express itself in actions, either symbolic or actual. We may employ the emotional and active factors existent in student and teacher as means for intensifying and facilitating the process of intellectual education – or ignore them and suffer at the least a loss of them as affective aids, and possibly an alienation which places them in active opposition to our purposes. One sees precisely the latter consequence in many institutions. Because the emotional and active are considered as apart from the intellectual and of no concern to the teacher. … The curriculum becomes a bore, an unpleasant duty, a necessary evil, and, consequently, the recipient of energies left over from more compelling activities of campus life. Thereupon, we the teachers develop the legend of wayward youth wherein only the exceptional or the sick young person has intellectual interest. By this myth we protect ourselves from a view of our failure as teachers.” (Schwab, 1978, 108, paper originally published 1954).

It is argued that teachers without enthusiasm and excitement about intellectual challenges of science can not bring about these qualities to their students. Liberal education aims that students engage in learning for the sake of enjoying the process of learning and knowing. But we must accept that at any time only a fraction of students at any level of education actually enjoy the learning process and intellectual challenges that accompany the same.

**On intellectual values**

Most small children are curious about physical phenomena and their explanations. They get personal satisfaction from knowing how things happen. Many of them like to think hard and can work hard in the learning process. However, this potential for intellectual work and patience in learning tend to disappear if is not stimulated and practiced. As physical activities shape the body, intellectual activities shape the mind. Learning science demands disciplined activity and by that can provide intellectual gratification in the form of understanding.

In general, teachers in a ‘busy classroom’ have limited possibilities (and abilities) to provide appropriate intellectual challenges for every student in the class in terms of Vygotsky’s zone of proximal development. But a teacher can trigger the student’s interest. For a long time, Sweden has been successful in producing famous sportsmen and musicians. A basis for succeeding in these fields is laid down by many dedicated teachers in compulsory schools and developed further in specialised (state and municipality supported) sport or music institutions (formal and informal). In a similar vein in some schools, enthusiastic teachers do engage students in science studies. For example, in the Swedish national physics competitions teams from the same schools consistently take leading positions for many years consecutively, e. g. Östrabogymnasiet i Uddevalla (Roos, 2007).

It is also possible to draw attention to the role of parents in discovering and triggering children’s interest in different activities. It seems probable that adults have less opportunity and possibility to realize and develop a child’s interest in academic studies and solve puzzles in science in the home environment than they have to inspire music or sport activities. Thus, the vital role that the science teacher can play in awakening and stimulating the child’s interest in science cannot be thus overemphasised.

Many extra curricular activities in existing science museums and centres in Sweden are organised under the banner “science is fun”. Curriculum innovations also lead teachers to work in the direction of making learning science fun and doing science activities as an exciting leisure activity. However, Swedish curriculum LPO94 also states that “Education should be adapted to each pupil’s circumstances and needs. Based on the pupils’ background, earlier experiences, language, and knowledge, it should promote the pupils’ further learning
and acquisition of knowledge” (Skolverket, 2006). Unfortunately, in striving to support weak students, schools often neglect the needs of children who are genuinely interested in science, seek intellectual achievement as a goal in itself and are motivated (self-challenge) to study science. It appears also that many prospective science teachers do not have skills to teach students who are interested in science, but rather to those who are not interested in it. Similarly if a student is indifferent to technical, social and other everyday applications of science, but wants to satisfy his/her own curiosity in scientific understanding of the world many teachers appear not to have enough professional competence to help such students to face real-life scientific challenges. Most teachers have not themselves tried to attempt problems from ‘Science Olympics’ and other competitions.

According to Schwab (1978, 109), “The outcome of a successful liberal curriculum is actively intelligent people. … They find pleasure in planning their active lives and carrying out planned actions. They hanker to make, to create, whether the object is knowledge mastered, art appreciated, or actions patterned and directed”. The role of an engaged teacher and of stimulating pedagogical context in achieving this outcome is obvious.

**On pedagogical values**

Schwab proclaims a value of reflection as most important for the teacher and saw the main goal of teacher training as one of educating reflective practitioners. He wrote

“If teachers are effectively to guide their students through and to the exercise of intelligence, they cannot, themselves, be unreflective. … Teacher training ought to exhibit the material which their students will teach as matter for reflection rather than as matter for docile mastery. It ought to exhibit proposed ends and methods of instruction in some of their difficult, tangled, and doubtful connection with the imperfect and incomplete researches on society, the learning process, human personality, and similar topics from which they stem.” (Schwab, 1978, 173-174)

Reiterating his argument Schwab goes on to say

“… in fact the teacher must be a learner. It is not enough for the teacher to master certain ways of acting as a teacher. This is only a capable apprentice. It is not enough to be master of flexible ways of acting. This is only to be a competent ‘hand’ who can function well when told what to do but who cannot himself administer. It is not even enough to possess organised knowledge of ways and means. This is to interpret a policy and tend to its efficient execution but not to be able to improve a policy or change it as problem change. Only as the teacher uses the classroom as the occasion and the means to reflect upon education as a whole (ends as well as means), as the laboratory in which to translate reflections into actions and thus to test reflections, actions, and outcomes against many criteria, is he a good ‘progressive’ teacher.” (Schwab, 1978, 182-183)

The above quotations by Schwab, which he himself tried to live by, is what modern practitioner research envisages as necessary to innovative pedagogical practice.

Reading and reflecting upon ones own practice demands well developed skills of understanding the accounts of other people’s practices and activities. To make a critical assessment of research reports and curricular documents is a very challenging task for the students. This demands advanced level of understanding of the subject matter and habits of inquiry from the students. Reflection on pedagogical practice also demands its theoretical conceptualisation. Schwab cited Dewey words: “It is the business of an intelligent theory to ascertain the causes for the conflicts that exist and then, instead of taking one side or other, to indicate a plan of operations proceeding from a level deeper and more inclusive than is represented by the practices and ideas of the contending parties” (Schwab, 1978, 180). In my experience the use of theories for understanding science education practices is not a strong side of modern teacher training. Theoretical reflection normally results in each student having one own theory about what is the case, demonstrating a lack of real theoretical training.
Joseph Schwab has also conducted extensive discussion on this topic. He was a proponent of inductive teaching about and through scientific inquiry. However he underlined the importance of understanding the practical role of theory as both the starting and final point of inquiry. In his words theoretical principles provide a frame of reference for any investigation and help in understanding the results of investigations.

“Conceptions – principles – must be invented or adapted by the investigator in order to determine his subject matter and his data. Before a scientific investigation can properly begin, there must be a restriction of subject matter, a choice of some part of the complex of things and events. A part is to be torn from context and studied as if it were, for the purpose of study, a complete and self-supporting whole. … The principles which determine such matters restrict and name the particular similarities, differences, elements, interactions, or other relations, among many available, to be noted and measured as the raw material from which to mould our finished knowledge. They determine what we will take as our data. The constructive character of scientific knowledge suggests expansion of the liberal curriculum beyond the rhetoric of conclusions which is its usual content. If a theory is to be known as a showing-forth of some aspect of the world, we much also teach what the theory is a theory of and what about that subject is and is not incorporated in the theory.” (Schwab, 1978, 133-134)

Discussing and analysing together with his students why a particular field of science chooses to emphasise one conception of verification over another, describing and explaining the nature of the choices made by a particular field, Schwab was careful to consider how guiding theoretical principles work in the early and middle parts of inquiry, and not only present the theory as the terminal part of an inquiry.

Teacher education today seems to have lost its tradition of providing prospective teachers with skills of developing students’ abstract conceptual thinking (or theoretical thinking, in Vygotskky’s terms). The focus is rather on varieties of practical acquisitions and uses of knowledge (like topics related to practical mathematics, everyday science, science and society). In the similar way as Vygotsky distinguished between everyday knowledge and theoretical knowledge, Schwab made clear distinction between common knowledge and what he called special knowledge (scientific knowledge). He expressed concern that common knowledge and common sense is taking bigger place in formal education. “An unrealistic valuation of common sense and common knowledge, which is already a prevailing attitude in our society, is reinforced and confirmed. … and ‘common sense’ is given that peculiarly normative meaning in which it is set over against special knowledge as ‘good’ sense opposed to the vagaries on some bizarre point of view.” (Schwab, 1978, 131)

The Swedish science teacher education today faces a situation where both explicitly and implicitly stated curriculum values and priorities are on the one hand, more on pedagogy than on subject knowledge and on the other hand more on inductive ways of knowledge acquisition than on deductive ways. Teacher education curriculum is focusing on providing the students with tools to be reflective in educational sciences rather than in natural sciences and this prioritises teaching of inductive ‘constructivist’ pedagogical approaches and neglects deductive, ‘theoretical’ ones, a situation that can partly be explained by the approach of natural sciences that mainly uses an inductive method of inquiry.

Common sense and the everyday practice of inductive inquiry can however lead to an overflow of information and details. As Schwab (1978, p 92-93) argues “The more parts we know more about, the more onerous and difficult is the problem of understanding their interconnections and thus constituting from our knowledge of the parts the knowledge of the whole which is our aim”. It is here that the explanatory power of theories comes into play and provides abstract concepts and principles that help understand the problem of interconnections and interrelations of the parts and the whole, leading to the pedagogical dilemma of balancing in teaching between the abstract and concrete. According to Hegel (1770-1831) abstract
constructs are the simplest. Hegel’s philosophical law of general development which applied for educational work suggests that learning should start from the simplest (meaning abstract) principles towards more complex and concrete applications (including complexity of real objects). This gives theoretical justification for implementing a deductive pedagogical approach. However a balance between inductive/practical and deductive/ theoretical approaches in teacher education seems not to be found.

Theoretical reflections, meaning using real theories and abstract thinking, are under-utilised in training prospective teachers. Prospective teachers’ interests in developing methods of advancing students skills of abstract-theoretical thinking in science education almost do not exist either (as it is reflected, for example, by the content of their examination projects). This can partly reflect the absence of teacher educators’ interest in this matter (as it is appears in the applications to the Educational Committee of the Swedish Research council - UVK). Summarising, science teacher education appear to provide prospective teachers with limited skills to develop students’ theoretical thinking.

Conclusions and implications

When we talk about the teaching of science as inquiry several of Schwab’s points and ideas can be of immense assistance. Schwab (1978) extensively discussed and exemplified similarities and differences of inquiry applied in different fields of science as well as in field of science education. He pointed out that there is something common to all scientific inquiries and there is something unique to each and every one. For him, understanding of the nature of choices made by particular science, or scientist at one particular time to emphasize a particular conception of verification over another was an important methodological principle that unifies the study of any field of human inquiry. There are thus many different forms of scientific inquiries in various fields of scientific research and it is important that teacher students be aware about this variety. There is no unique and encompassing scientific inquiry.

Scientific knowledge is fluid. The knowledge produced in one inquiry is changed in the light of the results of subsequent inquiries. Changes and revision occur normally not because the previous knowledge was false but because it was limited and restricted to the certain frames of references. Refinement of both theories framing inquiries and tools and competencies in particular inquiry naturally leads to a cumulative refinement of knowledge. Such a historical perspective in science education gives students a better chance for understanding the development in scientific inquiry itself. However a historical perspective in subject didactics is not commonly found in courses in science teacher education today. The same is true about research paper on pure science topics which Schwab persistently recommended for study in teacher education in order to experience teaching as inquiry, providing genuine opportunities for the development of inquiry skills.

It is possible for prospective teachers in Sweden to choose a varied subject combination, such as physics and history or biology and mathematics, but such a choice is not accompanied by them having a unifying theoretical base that can be a common platform for pedagogical work in diversified fields of knowledge. According to Schwab working knowledge of the principles of scientific inquiry and nature of science practiced in science education can be considered as “the modern functional equivalent of the logic of the generalised liberal arts.” (p. 141) A course in the philosophy of knowledge also have not entered Swedish teacher education yet. The challenge of finding a place for liberal values in science education is not an easy one to meet. Teacher education often has limited opportunities to provide a deep knowledge of science to students without extra economic support from the government. Teaching small groups of students (because of low enrolment to science teacher education) is not economically feasible if the number of contact hours is not reduced. The OECD (2006) points
out that governments and relevant institutions should provide adequate resources for teacher training and classroom activities. They advice that flexible, more attractive curriculum structures with updated science and technology content should also be devised.

The approach of complementarity rejects clear-cut answers to existing problems. For example, science education for everyday life (Aikenhead, 2006) cannot be the only solution modern science studies. In different circumstances and for different people practical relevance, abstract knowledge combined with a cognitive challenge can instil enthusiasm for science. Swedish high-school physics teachers with ‘life long teaching experience’ recognise that students’ capacity for abstract thinking has been diminishing. They do not acquire much of it in secondary school (Roos, 2007). This observation is also visible in science teacher education courses. The competence to educate is connected with the educability of students. Skills of abstract thinking cannot be developed at more advanced level when basic skills are lacking. An analogy can be drawn with advanced music skills. Focus on the development of abstract conceptual thinking should thus penetrate the entire educational system.

The purpose of this paper was to revisit the first well documented theoretical and practical attempts to introduce liberal science education to college level curriculum. I consider this relevant for understanding some of the weaknesses and possible remedies of curriculum development in modern science teacher education. Any attempt to work with scientific enquiry requires that we follow its basic principles and learn from original accounts of research which initially introduced such an approach into our field of education. I end this paper using the words of Osborne and Dillon (2008): “The major determinant of any education system is the quality of its teachers. Teachers who are knowledgeable and effective communicators are able to engage their students in substantive conversations, ask searching questions and have a deep understanding of their own subject.” These words articulate the ideals of liberal science teacher education that Joseph Schwab has been developing.

Bibliography


Alena Seberová

Introduction

A decentralization trend of contemporary school policy accompanies systematic curricular reform on all levels of education in the Czech Republic. As such, the growth in the pedagogical autonomy of schools is bringing increased demands on the professionalism of teachers, who are now becoming not only the creators of the school curriculum, but also, simultaneously, its self-evaluators. The past five years have witnessed an increase in the intensity of professional discussions among teachers and pedagogy experts over the issue of “new” professional competencies and especially the role of teacher as creators of the school curriculum and teachers as evaluators and researchers. The current discussion also addresses the issue of action research as a type of teacher research having an immediate relationship to processes of self-evaluation; in addition to the teaching profession, a great deal of attention is also being paid to the preparatory education of teachers on all levels of schools, which is incorporated in the Czech Republic in university and master’s degree studies. In the Czech Republic faculties of pedagogy at universities provide the undergraduate training of teachers. Studies last for five years, and the preparation of primary school teachers is unstructured (without division into bachelor’s degree studies for three years and a connected master’s degree programme for another 2 years). This study programme is criticized especially for an excessive focus on theoretical preparation and a low share of direct pedagogical practice. Upon graduating from the master’s degree programme teachers become fully certified for the given level of education, without any mandatory subsequent post-graduate theoretical or practical education – a problem with the teaching profession that has been discussed and left unresolved for years in the Czech Republic.

We asked ourselves the following questions at the beginning of our deliberations on the importance of research competencies and on the place they occupy in the teaching profession:

Does the prestige of the teaching professions and the desirable growth in teacher expertise as creators of quality school education and as the bearers of change demand that the research dimension be part of the model of professional competencies?

Can research competencies in the teaching profession be defined? How can valued professional activities and specific professional knowledge be assigned to these

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1 The new Education Act that came into effect in 2004 treats the system of curricular documents by introducing a bipolar, participative national curriculum that now features three levels: The National Education Programme (the so-called “White Book”) – a system project formulating the ideal starting point, general aims and the essential joint core of education. The Framework Education Programme (for pre-primary, primary, the lower and higher secondary levels of education) – specifies general binding state requirements (a binding educational framework with aims, content and anticipated results) for individual levels and disciplines of education. The School Education Programme – created by teachers, a binding curricular document for the school. The programme specifies key categories in a way that respects the framework education programme while simultaneously taking into consideration the specific conditions of the school and the needs and interests of student, parents and teachers.

2 The Education Act likewise establishes the requirement for schools to evaluate the School Education Programme, to compile their self-assessments of the school.
competencies and how can these be defined in relation to the (self) diagnostic, (self) reflective and (self) evaluative level of teacher competencies?

What is the standing and importance of teacher research in the realm of educational research?

What professional knowledge should teachers have in order to implement research in their own pedagogical practice? How can this knowledge be developed?

The theoretical background of teacher research and the professional model of the teacher – researcher

The initial theoretical-practical thesis used to define the importance of the research dimension in models of professional competencies is related to the declining professional status of teachers and to a certain danger likewise involving their university and master’s degree preparations.

We assume that if teachers are to be experts in the field of education, they will have to use continually acquired knowledge to professionally justify the procedures and results of teaching processes, which requires that teachers have theoretical and practical understanding based not only on critical theoretical study and systematic comprehensive reflection, but also objective results of teacher research of an action, evaluative type.

The university preparation of teachers should also be accorded the title of “university study” (the same as with other professions) and upon completion of these studies students should likewise be able to demonstrate research knowledge of the teaching profession to the extent required by master’s degree studies. This criterion could be fully met in dissertations, though these needn’t necessarily include an action type of research of actual pedagogical work. Therefore, plans are being considered for the realization of long-term projects – "pedagogical works" of teaching candidates, in which students will be able to address selected pedagogical and psychological issues using model types of teacher research.

In the Czech Republic the concept of teacher research is incorporated in neither the area of school practice – the professional roles and activities of teachers – nor the field of pedagogical methodology. In a way, research is becoming a necessity in the teaching profession along with the new education law and the requirement of schools and teachers to perform the self-evaluation of school education programmes. Instead of the research competencies of

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3 Despite the fact that university master’s degree preparation of teachers has been in place in the country for nearly 50 years, political inclinations have emerged to reduce this preparation to the bachelor’s degree level, or to extend the possibility for uncertified teachers to teach at the schools.

4 As is the case with “teacher research,” the terms “evaluation” and “self-evaluation” do not yet have firm footing in pedagogical terminology; as a result, teachers do not exactly know what is expected of them and tendencies are emerging to reduce the professional demands on the realization of these processes – that it concerns some type of regular self-reflection, a permanent dialogue on the problems of schools, etc. We regard
teachers, there is a focus on reflective, diagnostic and, rarely, evaluative skills in select systems of professional competencies. What’s more, these terms and their meanings are used interchangeably; the meanings are not standardized. Similarly, the term teacher research is lackin...
teacher into the actual research, as well as into the application of the acquired information and knowledge. Corey collected a great deal of information and thoughts on this new branch of research investigation. He assumed that the teacher’s knowledge of results and the consequences of his teaching originating from action research make it possible to develop and change practices better than when teachers only passively understand, study or read that someone else discovered something about their own teaching. Corey believed that the value of action research is based on the change that occurs during everyday work; he questioned the practical significance of representative research that produces the generalized opinions and experiences of the “majority” of teachers and practitioners. He considered it necessary that teachers and academics work together to form cooperative teams (CROOKES 1993; FERRANCE 2000; SANDRETTO 2007).

The teacher as researcher and scholar model was also intensively developed in the teaching profession and the education of teachers in the USA during the last two decades of the 20th century. In his publication American Education (1993), J. Spring devotes closer attention to this model and points out, along with the experts that have already been introduced, the risks of previous concepts that regarded teachers as merely passive objects on which university colleagues could use the best instructions for improving their own teaching. This conviction also went hand in hand with the tendency of academics to provide teachers concrete instructions and recommendations in the form of teaching strategies and education materials. However, these were so complicated and structured that some teachers were unable to use them at all. What’s more, this approach gave teachers the function of some type of “technicians” whose main task was to implement the training methods and materials developed by "someone else".

In contrast to this concept, the teacher as researcher and scholar model presumes that classroom teachers are in fact the most appropriate experts to conduct research for their own teaching methods and teaching materials.

Another important conviction of this model was that if teachers actively participate in the development of new curriculum documents, teaching strategies and teaching material, the level of their professional satisfaction would increase. R. Spring assumed that it is teachers actively involved in experimentation and evaluation of implemented methods and procedures who are reliable experts of their own pedagogical work. Furthermore, they are capable of effectively presenting the results of their work and cooperating with other teachers, university researchers and the academic community. Teachers were considered by the authors of the concept as “scientific” experts who, by means of their own research, could develop strategies for their own teaching and teaching materials better than if they depended on outside help. Methods developed and tested through their own experiences and research could also be more effective.

In addition to Spring, other experts have also addressed teacher research, which is the subject of lively discussion in the USA. These include, for example, Ebbutt (1985); Hopkins (1985 In: PARSONS. 1997); Elliott (1991); Kemmis (1993); and Lankshear and Knobel 2004.

Lawrence Stenhouse was the author of the concept of teachers as researchers and a proponent of action research in the field of education in Great Britain in the 1970s.
In his article, *Teachers as Researchers: the Quiet Revolution* (2001), J. Rudduck discusses this period and its impact on contemporary approaches. “The government tried to change education with big building blocks - a new curriculum, a new concept of evaluation – and used heavily financed projects for these purposes. However, we are trying to achieve something different in teacher research – something more substantial that has been developing gradually for many years, with progressive acknowledgement and national legitimacy. This is an important and extraordinary step – a quiet revolution” (p. 58).

In support of teacher research, L. Stenhouse argued that curriculum research and development should above all be useful to the teachers themselves and that the political recommendations for resolving the problems of practical application cannot be dictated from above. The type of changes that are proposed should be those that the teachers themselves can test in their own pedagogical work. Traditional research has its own importance as long as it is accessible to teachers, has an influence on their teaching and simultaneously helps the quality of teaching and education. L. Stenhouse imagined a timeframe of 25 years for implementing such a vision. He was convinced that it was precisely teachers who could change “classroom life” by means of deeper understanding obtained through teacher research. “This gives practitioners new perspectives on routine aspects of everyday life, enabling them to see common, well-known concerns from a different angle and to see things in the eyes of a stranger for a moment” (p. 60). J. Rudduck adds yet a third important reason in favour of teacher research: it leads teachers back to the essence of their profession – to students and teaching. A good school is not just a place for teaching; it is also a place in which teachers can reflect meaningfully on their own work. Research provides teachers the possibility of taking control back into their own hands; it enables them to evaluate the quality of their work, to examine and share their experience and to strive for professional improvement. (RUDDUCK 2001; McINTYRE 2004; LANKSHEAR and KNOBEL 2004)

In summarizing the key premises of teacher research, we can in particular point to its direct share in resolving problems arising from pedagogical work. It has an intervention nature, as the results of the research extend into the reality of the given professional area. The main goals include obtaining as much knowledge as possible about all of the processes and their contexts in actual work so that a broad range of inspired solutions can be postulated and proposed. We define teacher research as a process in which teachers/practitioners and other participants in school life evaluate in a managed, systematic, controlled (with clearly stipulated criteria), and critical manner their own pedagogical work, effects and processes tied to teaching by means of the strategies, methods and techniques of pedagogical research. The following attributes should in principle be respected:

- The research targets problems identified by participants themselves; the actual environment in all of its complexities is considered (the complexity of opinions on the effect of conditions and forms of social conduct). Teaching is evaluated, as are learning results.
- If the object of the research is the actual teaching, effects are increased by internalizing the needs of specific interventions; changes can be implemented in favour of the growth of pedagogical work quality.
- If teachers work together on “research teams,” space is created for transferring “tacit knowledge,” and the school becomes a “learning organization,” which subsequently
fosters the growth of the professional confidence and even prestige of the teaching profession.

According to E. Ferrance (2000) action research conducted by teachers IS NOT “the resolution of problems in the sense of looking for things that are bad; instead, it looks to uncover knowledge enabling qualitative growth. Action research isn’t merely research on others or on people, but on searching all available information in order to find answers. Action research is not about discovering why we make certain decisions or why we implement these strategies, but about thinking about ways to do things better – what we can change so that our students can learn more” (p. 3).

On the basis of all the theoretical foundations set forth above, we can define research competencies as an open and development-capable system of professional (declarative, procedural and contextual) research knowledge, approaches and personal prerequisites that are mutually connected and understood holistically and enable teachers to implement in their own work teacher research as a specific type of educational research. We base this on a comparative analysis of qualification/knowledge models of the teaching profession with regard to their research dimension from the selected approaches of Czech (ŠVEC 1995; LUKÁŠOVÁ 2003; CISOVSKÁ 2003; VAŠUTOVÁ 2004; NEZVALOVÁ 2005; JANÍK 2005; KASÁČOVÁ 2005; GÖBELOVÁ 2006; CABANOVÁ 2008) and foreign experts or theoretical concepts (SCHÖN 1983; SPRING 1993; KORTHAGEN 1995; FOSTER, GOMM, HAMMERSLY 2000; SCHRATZ 2005).

Nevertheless, increasingly greater attention is being paid to the issue of action and teacher research, its place and significance in pedagogical work, and the particularities and principles of implementation, etc., than the research competencies of teachers and the possibilities for further development. We can at least point to selected models of professional competencies that emphasize the purpose and importance of new roles and professional knowledge of teachers focussed on the research of the own pedagogical work. C.P. Koetsier, T. Wubbels, F.A. J. Korthagen (1996) rank research skills enabling teachers to evaluate their own activities so these can then be improved as one of the three key domains of professional competencies. The Scottish Chartered Teacher Programme (CHRISTIE 2003) requires teachers in the area of professional values and responsibilities to base work from critical reflection, self-evaluation and development, not only through personal engagement and systematic control, but also by studying professional literature and conducting research. In one of the four points of this domain entitled critical reflection, self-evaluation and self-development the teacher is required to be able to generalize evidence of effective teaching, individual teaching strategies and student learning, and to ensure that teaching is based on knowledge from professional literature and research which, as action research, enable teachers “to apply new knowledge, to critically contemplate research findings and modify work appropriately, to verify individual theoretical perspectives and to apply these in their work (p. 97). European Commission experts (Expert Group A in Teacher Education for the EU) also point out the complexity of the processes of teaching based on an intricate network of


contextual associations. A professional standard alone cannot demonstrate these to teachers; on the contrary, teachers as professionals should be capable of finding solutions to problematic situations by means of research investigations so that their positions are based on research knowledge.

**Research of the process and the results of developing the elementary level of research knowledge in students of primary education**

As was previously stated, the university education of primary school teachers in the Czech Republic has traditionally been conducted at the master’s degree level.

The so-called *Model of Reflective Teaching with Elements of Action Research (MRTAR)*, which is a component of the university preparations of primary education teachers, has become part of the innovative concept for the conclusion of studies at the Faculty of Pedagogy at Ostrava University.

**Model of Reflective Teaching with Elements of Action Research**

The MRTAR model is essentially a very close form of the action research project implemented in the environment of teachers’ pedagogical work. However, it does not contain all of the key features of a research investigation and as such cannot be called research. Primary education teaching students implement the MRTAR model directly during their concurrent pedagogical practice (7 weeks), as well as during the course of their own teaching and other related professional activities. They systematically reflect on selected problem areas based on theory and work of primary education and attempt to describe, analyze and evaluate these using selected research tools. The entire system of educational tasks and related professional activities thus move on the borders between reflective teaching (compare WILE, ZISI 2001; FARRELL 1998) and action research.

We monitor the following goals in students through the implementation of the MRTAR model:
- to increase the quality of the process and results of learning through the creation of conditions for meaningful learning, i.e. active, meta-cognitive, self-regulated and engaged learning;
- to enable students to create their own pedagogical works which, by means of their character and demands on the quality of processing approach the research project of teacher research of an action type and thus:
- systematically develop research competencies as a system of capabilities for the preparation, implementation and evaluation of the research project;
- through the individual phases of MRTAR, facilitate the development of separate components of research competencies, i.e.: the skills of critical and creative thinking and theoretical sensitivity, communicative proficiencies, social and ethical sensitivity, reflective skills and professional methodological knowledge.

MRTAR contains three key phases (projective theoretical and projective methodological, implementation and reflective), which the student completes during the three final semesters of studies; the student defends the written form (the so-called Exercise Portfolio) at the state graduation exams from pedagogy.
In phase 1 (projective theoretical) the student formulates a pedagogical problem inspired by theoretical studies or from concurrent pedagogical practice, proposes a procedure for a solution based on the study of theoretical sources, analyzes the problem in a term plan and compiles a theoretical abstract of key terms. For the practical research and resolution of the selected problem the student selects an appropriate research method and creates or modifies specific techniques as required (phase 1: projective methodological). Seminars give students an opportunity to defend the planned solution of the selected problem, while also providing valuable feedback from group discussions with other students and teachers.

A research investigation enabling the practical resolution of a pedagogical problem in the course of two concurrent professional internships (7 weeks) is an important experience for the student – phase 2: implementing.

In phase 3: reflective, the students acquire the skills to analyze and interpret the data obtained using selected research methods and to formulate a response to the problem. Students attempt to integrate the obtained results and opinions from their own research with theoretical approaches to resolving the problem in the way set forth in professional literature; the students search for examples from pedagogical project work, they describe the situation, select samples of student learning activities that document the response to the problem and evaluate the conditions of the project work from the perspective of resolving the problem. The creation and resolution of the pedagogical problem is therefore not merely a fictional exercise, but obtains a practical, realistic character that enables the student to test the extremely professionally demanding character of reflective teaching.

Research issue and its goals
MRTAR was confirmed by the research problem addressed in the research project; a description and evaluation of its possibilities in the process of developing research competencies and a reflection on the quality of the level of the developing system of professional research knowledge as components of research competencies in students of teaching primary education at the Faculty of Pedagogy at Ostrava University.

The research goals were structured on four key levels. The first of these was related to the evaluation of the formal MRTAR curriculum (the target and content point of departures, the operationalization of teaching goals, learning tasks and the activities of students in its individual phases). The second dimension of goals was aimed at determining the quality of the developing system of professional research knowledge of students studying to become teachers, by means of a qualitative analysis of the written and oral production of teaching activities (the Exercise Portfolio and the performance of the student at the state graduation examination in pedagogy). The third and fourth levels of goals were related to the response of the actual students to the MTRAR model (sources and causes of difficulties, the solution methods and sources of outside help; the subjective level of difficulty of individual teaching tasks; the meaningfulness of MRTAR, its significance for the teaching profession) and to selected conditions of direct teaching facilitating the development of the research competency (the dimension of the teacher’s personality and teaching of the subject), cognitive and

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12 Pedagogical problems can be formulated in the following manner: What effect can cooperative learning and teaching have on the quality of the classroom psycho-social climate? How can the internal motivation of children be improved through formative assessment? How can we help children in the first class of elementary school adapt to new learning conditions and requirements using activating teaching methods?

13 BUZAN (2008)
motivational aspects of activation activity, the social dimension (social aspects of activation activity) and the self-reflective dimension, the personality-professional (the “I” aspects of activation activity).

Research methodology:
A comprehensive research strategy was selected, and both quantitative and qualitative procedures of the analysis of studied effects and the collection of data were combined. The character of the research was specified as an applied, descriptive and evaluation type of educational research ex post facto.

The research investigation was carried out in two key stages; these were further divided into a total of five separate phases during the academic years of 2003-2005. The first (pre-research) stage was comprised of a basic group of 71 full and part-time students of primary education teaching who has passed the state graduation exam in pedagogy at the regular time. A total of 52 students participated in the second research stage (21 full-time and 31 part-time students).

The research methods and techniques involved: a content analysis of the formal MRTAR curriculum (the operationalization of teaching goals, education tasks and the activities of students in its three phases – projective, implementation and reflective); a questionnaire for students for considering the creation and resolution of a pedagogical issue (MRTAR) (59 items in 4 categories formed a numerical bi-polar evaluation scale, a Likert-Type scale, open items); a content analysis of the products of the teaching activities of students – the technique for indicating the quality of the written product (a qualitative technique with a graded structure), the Exercise Portfolio and the oral product (same technique) – student performance at the state graduation exam in pedagogy; a quantitative analysis of the term plan (part of the Exercise Portfolio) – the technique of positive and negative scoring providing a level of elaboration of the term plan; a modified form of the standardized CLIC (checklist of instructional characteristics) evaluation scale; (32 items in 4 categories - a Likert-Type scale with an open item); an in-depth interview.

A discussion of selected results: How can the educational tasks of individual phases of the MRTAR model facilitate the development of selected components of research competencies?
The study of professional literature in MRTAR is more than mere rote learning; with respect to related tasks the study of this literature leads students toward the need for functional comprehension involving critical comparison of diverse professional sources and thus fosters theoretical sensitivity (compare STRAUS, CORBINOVÁ 1999). Students also require this sensitivity in the subsequent implementation and reflective phases, as the research results have shown. The majority of students do not enter the final phase of defending their Exercise Portfolio at the state examination without regular theoretical study that helps the development of contextual knowledge, since it is based on reflective pedagogical work: “…it helped me become aware of practical information and convert it to theory…” “It refreshed my theoretical understanding…” (student) … “I am more focussed on the application of knowledge from the studied authors for managing the effective education process…” (student).

14 In the subsequent phase of this research we collected data in 2005-2009 from an additional 100 students; in this academic year we will analyze and interpret this data in an attempt to capture the development line of the studied effects of MRTAR.

15 Author R. G. Hoffman; Czech revision by J. Mareš. (In: ŠVEC; ŠŤÁVA 2002).
The critical comparison of professional theoretical sources, the professional demands placed on analysis and interpretation of research data and the evaluation of conclusions for solving the pedagogical issue help develop the critical thinking of the teaching students, and professional terminological proficiency is also refined: “...I had to read the book over and over, think about it, return again to information from research and then read again and think; then I finally understood” (student).

Let’s take a look at the selected category of the Exercise Portfolio, whose quality was assessed using the technique of scaled structuring described above. Items relating to the first project phase of MRTAR (1. content validity of the theoretical abstract; 2. the logical structure of the theoretical abstract; 3. placing the pedagogical problem in a broader theoretical context; 4. the professional level of the theoretical abstract) were around the 9th level of the evaluative scale (1 – lowest quality) in the qualitative favourable range of 6.1 – 8.4. The degree of subjective difficulty that students perceived in this phase was around the 9th level of the evaluative scale (1 – the least difficult) with a measure of medium difficulty (4.1 – 5.2).

Professional methodological knowledge as one of the other key qualities of research competencies is related in this phase of MRTAR to the items of choosing the research method and the modification or creation of one’s own research tools (with a view toward the nature of the assessed pedagogical effects and processes; the selection of the type of method, the formulation of individual goals). We measured values of 3.5-5.6 in the quality of the written product in these categories, and the students perceived the subjective difficulty of these tasks with higher values, in the range of 6.0 -7.9. The students also confirmed the difficulty of these tasks in the in-depth interview. In order to assess the nature of the researched effects, to select the methods, the specification of its type and the creation of a research tool the students need a high degree of subjective assistance from a university teacher – the MRTAR consultant. A total of 86% of respondents confirmed this assertion on the questionnaire. The help that students sought in professional literature was likewise substantial (77% of respondents agree or rather agree). The total level of subjective difficulty of phase 1 (projective) of MRTAR had a value of 5.6; the quality of this category in the analysis of the Exercise Portfolios had a value of 5.6.

The realization phase of the MRTAR model helps students to develop comparative skills and social and ethical perception (compare STRAUS, CORBINOVÁ 1999). The research showed that one of the most frequently used research methods, besides questionnaires and interviews, is observation. A majority of students communicated difficulties accompanying this seemingly simple research tool: “...first I wanted to observe the entire class, but it wasn’t possible to concentrate on the teaching and, at the same time, watch all of the students and record the results on paper; in the end I chose just a few students, but even that was challenging…” “I didn’t make notes of the observations right after the lessons; I thought I would remember everything important later. I was surprised when I couldn’t, and I had to repeat the observations in the classroom…” (student). The interviews with teachers, school management and parents help student develop the necessary communicative competencies and social sensitivity. Looking inside the “private lives” of the students, their primary families and the “education world” of the teachers helps students think about the ethical boundaries of research and the data that is processed: “…I didn’t know how to tell the classroom teacher about the research results – they weren’t very flattering to her, but she could learn about what she could change in her own teaching, in her relationship with the children…”
Students assessed the subjective level of difficulty in this 2nd realization phase at 5.1. With respect to the fact that this concerns one of the first opportunities the teaching students had to make use of the research methods, it is surprising that nearly 70% of all respondents disagree or rather disagree that they had problems using the chosen technique. The difficulties the students most often experienced in the course of the realization phase were related most of all to the amount of time required to complete the task and to problems of a methodological nature: “I wasn’t sure exactly what I was supposed to follow in the lessons; I wrestled with the formulation of questions on the questionnaire – I tried to give the students various formulations and find out how they understood them; other questions came to me only as I was evaluating the data from the questionnaires; I wasn’t exactly sure how I was supposed to use the chosen method, what the pitfalls were, what I should watch out for and how to evaluate the results” (student). Respondents saw another difficulty in the application of theory in practice: “putting the theory into practice and understanding what effect it has in reality; a lack of understanding of the terms – multiple theories; additional study of literature, connection of theory and practice;” “…teach, correct the behaviour of the students and, on top of that, make records of observations.” (student).

The MRTAR model fosters the development of reflective skills on all four levels as defined by M. Van Manen (1977). Technical rational reflections help primary decision-making on the subject of the pedagogical issue, its formulation into a problem question, the first attempts to visually capture the current status of individual understanding of the given professional subject on the term plan and to realize what I understand as a student and which professional sources I need to study. Students develop contextual reflections through the confrontation of theory and practice, resolving pedagogical problems with respect to personal and professional experience and the use of theoretical knowledge for intervention in work and solving the studied problems. According to M. Van Manen, it is in these situations that the teacher's practical contextual knowledge develops. The highest level, reflection-critical, is potentially developed by means of the previous levels. Critical reflection is realized in a broad social context and teachers apply deeply structured knowledge in this process. This is, including other theoretical sources, subjected to subsequent critical analysis, which helps the teacher consider multiple alternatives for the solution to the problem, to decide on the implementation of appropriate different possibilities and to think about potential consequences. If, during the course of their undergraduate preparations, students are led to a detailed critical analysis of selected pedagogical problems on the theoretical and practical-research level, they learn, in addition to intuition, sources that allow them to base their professional decisions on highly professional principles and hence to build the professional status of teaching as an expert profession and, simultaneously, their own professional identity and confidence. We can compare these statements with selected results related to the 3rd reflective phase of MRTAR.

The evaluated items of the Exercise Portfolio were the aptness and comprehensibility of the final written reflection, its arrangement and content validity, the meaningful and appropriate integration of professional theory into the resulting interpretation, the level of professional language, the meaningful and appropriate selection of examples from the concurrent pedagogical practice, and the understanding of professional terminology and professional theories. Values ranged between 6.1 – 8.4; we recorded the lowest level of quality for the students skills to functionally integrate insight from professional theoretical sources into final interpretations. The highest level of quality can be given to the ability to appropriately select examples from pedagogical work; several students document procedures and the results of resolving the pedagogical issue. Students rated this final phase of MRTAR with an average difficulty value of 5.4. Specific difficulties here relate primarily to demands placed on the
analysis and interpretation of obtained data. The students’ first attempts at finding an answer to the issue often betray a tendency to evaluate data superficially, to assess the conclusions of the investigation in a simplified manner using the language of practice and a failure to include professional theory. However, some respondents found the final stage of the MRTAR model easier in comparison with the previous stages. “…the final interpretation was easier that phase 1 and 2 because I was able to draw from practice and the studied literature…” “…it was easier for me to process the results and the evaluation than in the introductory preparatory part, as I already had more in-depth knowledge of the issue…” “…I mistakenly deleted my reflections from the PC; rewriting was easier and the results better…” (students). Individual consultations with the teacher at the end were also an important source of help for both full and part-time students (83 respondents). The study of professional literature, consultations of students outside of class and group consultations during lessons were likewise important. Tables 1 and 2 contain summarized data on the quality of the selected attribute of the Exercise Portfolio and the subjective degree of difficulty in resolving the individual phases of MRTAR.

*Professional methodological knowledge* is the final principle named as a key condition for developing research competencies. Although the MRTAR model contains only selected elements of action research, the individual stages of the model is similar to a classic procedure of research investigation. We place an emphasis with students on the methodological correctness of implemented research investigations; we guide them to a realization of the demands placed on action, evaluation research, especially on the benefits they can bring for their own teaching practice.

Let’s try to justify these conclusions using the results of the qualitative analysis of another key product of the teaching activities of students we used to assess the level of research knowledge development. This concerned the students’ performance on the state graduation examination in pedagogy - the defence of their Exercise Portfolios. The tested research tool enabled the assessment of only two selected indicators of quality performance: the level of *mastery of professional contextual practical knowledge of pedagogy* (the student’s understanding of the theoretical context of the solved pedagogical issue on the basis of the reflected pedagogical experience; the understanding of the ties between the key concepts of the term plan) and the level of *mastery of the professional declarative theoretical knowledge of pedagogy* (in the context of the solved pedagogical issue), without regard to the student’s understanding. The two items were graded on a scale of 1 to 5, with 1 indicating the highest level of quality.

Graf no. 3 offers a clear comparison of the average values achieved by full-time and part-time students in the categories of the levels of *contextual and declarative knowledge* and in the category of achieved classification degrees at the state graduation examination in pedagogy.

The analyzed data showed a qualitative difference in the values of performance for full-time and part-time students (in a similar way as the quality of the assessed items of the Exercise Portfolio). In the case of the level of *mastery of the contextual knowledge of pedagogy*, full-time students had a value of 1.47 and part-time students 2.32. The difference of 0.85 on the 5-grade scale can be considered as having orientational significance confirming the tendency of qualitatively lower performance of part-time students. It would be desirable to investigate the causes of this difference.
On the levels of both contextual and declarative knowledge the students of both forms of study have close values, which can clearly be explained as an indication that the students have contextual knowledge representing a theoretical-practical understanding of the thematic range of pedagogical theory. Even despite the fact that prior to the state examination the students repeatedly study professional theoretical sources for solving the pedagogical issue (as indicated in the interviews), their knowledge is not acquired only on the theoretical, declarative level, which in essence prevents its practical application.

If we take a look at the category of classification level, the average values of students of both forms of study are lower. This could indicate a certain benevolence in the evaluation of the performance of students by members of the commission.

The implementation of the MRTAR, the importance of which is strengthened by the defence of the Exercise Portfolio at the master's degree state examinations, opens functional space for students to create their own pedagogical works where they can use the knowledge of the selected field of pedagogy, the activity-based knowledge of research work and, last but not least, professional self-reflection. Through its activity-based, professionally experiential character, the MRTAR model creates conditions for meaningful learning with an active, metacognitive and self-regulated dimension. Students judge this output from their studies as meaningful (more than 93% of respondents) and also very highly rate the importance of realized professional activities for the actual teaching profession (more than 90% of respondents). These results are fortified especially with respect to the professional demands of individual education tasks and the amount of time that they require. Again, more than 90% of students stated that the implementation of MRTAR helped them understand pedagogical theory and research methods, and the importance of their use (92%).

With its targeted starting points and content focus, the MRTAR model approaches a relevant research project of an action, evaluation type. As such, it enables teaching candidates to discover the demands and specifics of professional research activities. In conclusion we can state that MRTAR has great potential for the development of the elementary level of research competencies for teaching candidates and teachers themselves.

Conclusion
Teacher research: a possibility or necessity?

In order to increase the prestige of the teaching profession it would be advisable for teachers to assume an increasingly greater level of public responsibility for the quality of the school curriculum, the development of the school organization and the results of student learning. The time is right for these changes. Representatives of school policy are beginning to admit that the level of school education is not bound by centrally defined standards but the local conditions in which the school operates. As such, teachers could be given new specific roles

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16 **A research instrument constructed for qualitative content analysis of the performance of students on the state exam will need to be structured in more detail, and an item will need to be created to capture additional indicators of the quality of this verbal product of teaching activities. It would be advisable to subject the indicators of validity and reliability to expert investigation and to conduct the statistical correlative analysis of obtained results, which had in this implemented investigation merely a pre-research nature.**
in the area of monitoring the school curriculum, in the processes of teacher, self-evaluative research assessing the quality of the fulfilment of these central goals. The creation of a school curriculum, its evaluation and the improvement of the quality of school life are new, desirable goals for all teachers, whose influence would therefore extend beyond the walls of the classroom. They carry with them a new dimension of professional competencies, new demands on systematic education. They place additional demands on teachers. The fulfilment of these goals requires internalized motivation to expand their own professionalism, a willingness to discover and understand complicated pedagogical phenomena and the complexity of the development structures of student personalities.

Questions concerning the quality of the research activities of teachers and their preparation and willingness to share in the research activities in the school environment remain unanswered for now. Cooperation between university academics and teachers in the field is essential if these questions are to be answered. Both sides can profit from this process if the cooperation is based on mutual trust and respect. Cooperative teacher research allows theory and practice to be connected. Academics can reveal the different shades of theory (typically seen by teachers as “grey”) and practitioners can share the “real” colours of their work. By participating, academics can follow the application of their theoretical knowledge in practice, understand their needs and offer evidence for their own research aims.

To update the interest of teachers and school leaders in participating in teacher research it is necessary to communicate better the goals and importance of teacher research and to create space for its gradual and systematic implementation through the cooperation of school and university institutions. Last but not least, it is necessary to introduce activities for developing research competencies in the preparatory and continuing education of teachers. These are essential for teachers if we accept arguments in favour of the effects and importance of teacher research and the place it can play in the quality and prestige of the teaching profession.

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Table 1

Average values of medians of the 2nd, 3rd and 4th categories of the analyzed Exercise Portfolio

<table>
<thead>
<tr>
<th></th>
<th>2nd category</th>
<th>3rd category</th>
<th>4th category</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time and part time students</td>
<td>7.08</td>
<td>6.88</td>
<td>6.81</td>
<td>6.90</td>
</tr>
</tbody>
</table>

Table 2

The difficulty of individual phases of the MRTAR model

<table>
<thead>
<tr>
<th></th>
<th>1st phase - projective</th>
<th>2nd phase - implementary</th>
<th>3rd phase - reflective</th>
<th>Overall difficulty of MRTAR model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time and part-time students</td>
<td>5.57</td>
<td>5.07</td>
<td>5.38</td>
<td>5.78</td>
</tr>
</tbody>
</table>
Table 3

Performance on the state graduation examination in pedagogy

- **Contextual knowledge**
  - Full-time students: 2.32
  - Part-time students: 1.47

- **Declarative knowledge**
  - Full-time students: 2.32
  - Part-time students: 1.52

- **Classification level**
  - Full-time students: 1.96
  - Part-time students: 1.42

Performance comparison between full-time and part-time students in pedagogy.

Full-time students outperform part-time students in all categories.
Towards a Research-based and Professional Teacher Education Programme

Anders Magnusson

A plead for increased academic content as a means to improve the overall quality of teacher education is often heard. Although the issue of quality in a professional education programme is complex and includes numerous aspects, it seems as if the scientific perspective (i.e., the academic content) is taken for granted and holds a unique position in relation to other equally legitimate perspectives. In policy documents and various kinds of analytical reports an increased amount of traditional, academic content is often mentioned as one possible answer to the problems of teacher education. Questions of why, what, how and to what purpose are rarely posed. The same goes for questions of what research and what theories that could be of use to the development of teacher knowledge. Therefore, in this paper I will formulate some questions about how academic knowledge may contribution to the development of professional knowledge in teacher education.

The need for increased academic quality of teacher education has earlier been illuminated in a meritorious way by Niemi and Rasmussen (Niemi, 2008; Rasmussen, 2008). In general it is fare to say that there is consensus in this matter, at least on political and academic levels. As an example one may mention the European Commission’s report to the Ministerial Council (European Commission, 2007), where, in an otherwise rather instrumental text, something that can be interpreted as an academic upgrading is suggested. Another example, taken from the Swedish context, is the recently proposed teacher education reform (Sverige, 2008), where a powerful reinforcement of the scientific perspective is suggested. At the same time, this proposition may also be used as an example of how the scientific perspective is taken for granted as if being sufficient in itself. Without any reported analysis or explicit research support, structure and contents are proposed, which resemble the separating perspective of previous educational arrangements, where different parts and areas of knowledge were distinctly separated as regards content.

Within the university there is also a tendency to take a separating perspective in relation to the different parts of teacher education. One chooses not to problematize the role of scientific knowledge in academic professional education. There are wordings in descriptions of structure and contents in different teacher educations, which indicate that the ultimate purpose of the training in using scientific tools in academic professional education is to develop some kind of research competence. If the function or role of the university is motivated by the idea that the future teachers are to be trained as researchers or consumers of research, this would in practice mean that the university does not accept the challenge to use the academic content in order to develop teacher knowledge as such.

We argue for the necessity to rephrase the question of quality in teacher education as a matter of how to organise teacher education so that the scientific perspective becomes an integral part in the development of teachers’ professional knowledge. In our view an important qualitative aspect of teacher education is the correspondence between form and content and the idea of what type of knowledge that should be developed and how this knowledge is developed. Unless these questions are taken seriously there is a risk that we, once again, construct a professional education programme where the academic elements are set aside in comparison to the more professionally oriented goals.
A short historical overview

Ever since the first Professor of Education, Bertil Hammer, was installed in Sweden in 1910, teacher education has struggled with the problem of integrating and legitimizing the academically oriented parts of this education. Despite continuous political ambitions to create structures for integration it was not until the 1990’s that the right conditions for integrated teacher knowledge emerged. In the beginning there was a struggle for power between disciplinary studies and the theoretical and practical part of the training year. Later the subject ‘teaching methods’ was developed as a somewhat more theoretical and experienced-based element in teacher training, and the subject ‘education’ assumed the task to ‘scientificate’ the training of classroom teachers, i.e., make it more academic and research-based. In the mid-1950’s Teachers’ Colleges were created whose tasks were to carry out research, professional development and instruction. For the most part, the programmes for elementary school teachers were integrated whereas those for secondary school teachers were separated.

Yet another step towards increased academization was taken, when the Teachers’ Colleges were merged into the university organisation (1977). In the proposition for a revised teacher education that was prepared after this organisational change, the subject area of didactics was constructed as a link between the theoretical and practical parts of the programme, thus, contributing to keeping a far too dispersed and separated teacher education together. Didactics had a rather secluded role in the training programme that started in 1988, but it is fair to conclude that this subject area received an increasingly important position because of the research that was initiated in the early 1980’s. Later it took over the role of teacher methods, or rather, the methodologists brought their knowledge area with them and moved into didactics. However, in relation to separation and claims of power this development meant that didactics became a battlefield where severe struggles were (are) fought between teachers of education, academic teachers and practitioners, all of them claiming a part in the space that was created in teacher education (Gabrielsson, 2005).

At the end of the 19th century there was a change of direction as regards theory of knowledge, which had extensive implications for our view on professional knowledge. This meant new conditions as concerns the function of academic knowledge in professional education. The previously well-established view of the relationship between theory and practice, where professional knowledge is expected to develop through application of theories in practice, has been challenged by a competing view where the professional knowledge develops through reflection on participation in various pedagogical practices supported by theories and theoretical knowledge.

Influenced by international movements and adjoining research areas (cf. the discourse on tacit knowledge in work-life science) a discussion was initiated within teacher education about how teachers’ professional knowledge could be described and understood in the light of the above mentioned change of thinking, and what consequences it could have for the structure and organisation of teacher education. In the investigation preceding the teacher education reform of 1999 (SOU 1999:63) this change is expressed in profound discussions about the relationship between theory and practice and about the role of reflection in the development of professional knowledge.

The overarching goal of teacher education is that the students should get a firm
foundation of a professional competence. This competence is complex and is built on different kinds of knowledge. The future teacher should, among other things, be educated to become a reflective – and critical – practitioner. To be critical means to have a scientific view on professional knowledge and on the teaching profession. It means to understand that scientific knowledge can be described in terms of how different theories can be applied in practical pedagogical activities. It also means that teachers’ professional practice can be the point of departure in theorizing and in creation of knowledge.

The students will in teacher education test the working methods that researchers are using. This means training in formulating and delimiting problems that are relevant to the teaching profession as well as in analyzing and treating them in a scientific way, with which follows requirements of a well developed sense of critical thinking.

The investigation suggested far-reaching changes concerning structure and organisation. Three educational areas were constructed: general educational science (AUO), areas of orientation or general subject areas (INR), and specialisation areas (SPEC), and in addition the traditional teaching practice, which was transformed into professional activity-based education (VFU). An educational science research ground was also proposed for teacher education, whereas general education and didactics were given subordinate roles or were not mentioned at all.

* This historical overview demonstrates how the conditions for integration of the scientific perspective have changed in teacher education - So as to get some answers to questions concerning what such an integration would mean and how it can be organised, we need a well-founded conception of the origin and character of professional knowledge. A description and analysis of the view of knowledge that appears in the 1999 investigation can be found in the following section.

Teachers’ professional knowledge and learning

The perspective on teachers’ professional knowledge and learning that is prominent in the above mentioned state investigation (‘the reflective practitioner’) has its foundation in a pragmatic knowledge tradition. According to Dewey the function of knowledge is to adapt the human being to the environment and to assist her in fulfilling goals that are set in a certain situation. It is not, in other words, a matter of mere passive adaptation, rather, knowledge is used to carry out intentional actions. Dewey’s expression in this context is ‘intelligent acting’ (Dewey, 1966). Schön, who introduced the concept of ‘reflective practitioner’, takes a critical stance to the function of scientific knowledge in professional education. He uses the concept of ‘knowing in action’ to describe the knowledge of the competent practitioner:

> There are actions, recognitions, and judgements, which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance

Schön is also using expressions like ‘knowledge in action’ - to denote ‘reflected knowledge’ - and ‘theories in use’ - to denote the theories that practitioners apply in practice (Schön, 1995).

Molander (1993) has further developed Schön’s concepts and is using ‘knowledge in action’ as an overriding concept for the knowledge of the expert practitioner. By ‘knowledge in
action’ Molander means vivid knowledge, worldly knowledge, which could also be described as practical knowledge, know-how, skills and intimate knowledge.

The work of the knowledgeable practitioner – which emanates from her meeting with a problematic situation – is characterised by knowledge in action, where attention and learning are key concepts. This also includes the competence to build a new theory for each situation based on a repertoire of conceptions, examples etc. (Molander, 1993, p. 157).

By using the concept ‘knowledge in action’ Molander intends to overarch the contradiction between theory and practice. The knowledge that we commonly describe as theoretical also contains practical dimensions, in the same way as practical know-how also includes theories, Molander often returns to the genuine handicraft in order to demonstrate that knowledge in action, or practice-based knowledge, encompasses both theory and practice. Thereby he does not question the theory per se, nor theoretical knowledge, but rather a kind of reproduced knowledge, i.e., separated, theoretical knowledge that is regarded as possible to apply in practice (Magnusson, 1998).

Molander makes an attempt to analyze the epistemology of practical knowledge. He displays the meaning of practice-based knowledge by describing such aspects as disposal and orientation. Molander is using these aspects to discern different kinds of knowledge. In his view ‘possessed’ knowledge is knowledge that is required for someone to master his/her job, i.e., the basic means that are conditions for being capable of performing a certain action, and ‘informational’ knowledge is knowledge that is required for performing this action in an appropriate way in a particular context. Molander views these polarised forms of knowledge as mutually dependent on each other and necessary for knowledge in action (Molander, 1993).

Molander describes knowledge in action as personal knowledge. He states that one prerequisite for knowledge in action is that we know our own self. Vivid knowledge requires authenticity and identity. He describes the importance of the individual in regard to knowledge as follows:

It is characteristic of knowledge in action, knowledge in action, that knowledge building is a create process and at the same time a matter of maintaining an action identity – and thereby the identity of individuals as acting and existing (….). In this way it is a question of personal knowledge, connected to the person who is acting (Molander, 1993, p. 255).

Knowledge in action, thus, presupposes a person who creates and acts. Molander regards practice-based knowledge as personal and holds that knowledge is contained in action, in the body and in the culture. Knowledge-in-action appears, in Molander’s world, as a dynamic process, creating of knowledge, which is moving between different parts and the whole, and between internal images and an external reality. Knowledge building goes on individually, but together with others. One’s own experiences as well as those of others help to sharpen one’s awareness. The connection between individual and action, just as between theory and practice, is illustrated by Tomas Tempte, who in his description of the practitioner’s knowledge uses the concept ‘the practical intellect’ (In Molander, 1993).

Rolf (1991) discusses the personal foundation of practical knowledge. With Polanyi as a point of departure he analyzes the relation between personal, tacit and professional knowledge.
Polanyi describes personal knowledge as the knowledge, which ‘emerges when knowledge traditions are united with individual experiences’. According to Rolf practical knowledge is personal in the sense that it follows its carrier. He concretizes the content of personal knowledge in the following manner:

In the personal knowledge we have acquired theories, methods, tricks, feelings, values and skills that can be used in whatever way our culture characterizes as valid.

In Rolf’s view personal knowledge is personal only if it appears as tacit knowledge in a person and if it is true and universal. Personal knowledge has, in other words, what Polanyi calls a ‘tacit dimension’, which, according to Rolf, does not mean that it is unspeakable, only that it has a tacit function in the action. The personal knowledge is internalised and taken for granted, but it can be activated and given a focal function, and thereby be subject to reflection and critique (Rolf, 1991).

Bernt Gustavsson (1996) seems to have similar ideas about personal knowledge. Based on personality and personal experiences an individual actively interprets new situations and ‘external knowledge’ and thus creates his own personal knowledge. In his discussion on ‘Bildung’ and the creation of knowledge Gustavsson formulates a dialectical view of knowledge, which departs from what is close and well known but also contains what is distant and unknown.

The dialectical (view of knowledge) can be described in terms of an oscillation in the sense that learning means a constant movement between the subjective and the objective, the internal and the external, the personal interpretation and the final result. Knowledge and learning then departs from experiences, personal identity and context.

The oscillation between internal and external knowledge demonstrated the dialectical character of knowledge and clarifies the general and contextual dimensions of knowledge (Gustavsson, 1996).

From a socio-cultural perspective on learning, knowledge is developed in communication with others and through taking part in different social practices.

Knowledge is something you use in your daily actions and it is a resource with the help of which you can solve problems, handle communicative and practical situations in an appropriate way. Knowledge is what helps me to see problems or phenomena as something familiar and as something I have experiences before.

An essential concept in this tradition is appropriation, which is used to describe the individual’s acquisition and mastering of intellectual (linguistic) and physical tools (Säljö, 2000).

In accordance with the perspective that is described here, the general teacher knowledge that students acquire in teacher education is neither theoretical nor practical but contains theoretical as well as practical dimensions. The knowledge is personal and may be described as readiness for action. The students acquire it through participating and working in different professional practices, as well as in their studies and reflections on the social and didactical dimensions of the profession.
Becoming a teacher does not happen by just learning and applying a certain ready-made package of knowledge, rather, it takes place in a dialogue between one’s own and other people’s experiences, between theoretically and practically formulated knowledge and through reflection and theorizing. The learning process takes place, as it were, while the students take part in different educational practices provided by the education.

The task of the academic knowledge is, in this context, to contribute to the students developing a scientific mind, with critical thinking, distancing and analysis as essential elements. The task is further to present different perspectives and theories as a foundation for understanding and reflection, and to contribute to the development of professional tools by demonstrating methods for examining one’s own practice.

Given this description of the nature and development of professional knowledge, the question remains what (academic) knowledge that is to be included in an academic professional education. The simple answer is that all relevant research, which contributes to making one’s own and other people’s actions in all parts of professional practice visible, should be included. Together with relevant perspectives the academic contribution to teacher education is created. The most difficult question - and the real challenge - remains, viz., how these parts can be combined. Expressed in Rasmussen’s (Rasmussen, 2008) terms: how can the meeting between scientific and practical knowledge be organised so as to optimize the development of professional knowledge among teacher students?

Experiences from a teacher education practice - the Linköping example

The teacher education (TE) programme in Linköping was structured and organised according to the idea of an academic professional education. The aim of this organisation was to create meeting-places between different traditions, forms and areas of knowledge. Based on an analysis of knowledge and learning pertaining to the education of teachers, the programme was developed as an entity, where integration, progression and continuity were strong principles in the planning process. In the following there is a description of the structure and contents of the TE programme with a focus on how academic knowledge has been integrated in the programme.

In local policy documents teacher education is described as an academic professional education. This means, among other things, that all parts of the TE programme should have clear links to both research and the practical field and that the students’ learning should be organised so as to make it possible for the students to encounter and study different perspectives and knowledge traditions and to become familiar with their future professional practice. The general aspects of the teaching competence are emphasised, and the student is given great opportunities, within the framework of the programme, to specialise in certain subjects and make personal choices. Teacher competence develops in interaction between scientific and practice-based issues and in the student’s active search for knowledge by oscillating between the university-based and the practice-based parts of the programme.

The intention has been to connect scientific thinking with practical professional knowledge in an explicit way, and thereby get to terms with the dualism that so often has characterised the relationship between theory and practice. The motto, which has guided this work, is that scientific know-how is professionally relevant and practical know-how is “scientifically relevant”. In this way scientific know-how becomes part of the professional identity and in
the end an integral part of professional practice. The scientific know-how, thus, is regarded as a perspective rather than a number of parallel methods or theoretical suppositions.

All parts of the TE programme are permeated by an ambition to develop a scientific perspective. As one step in a long-term training process a textbook no scientific methods is introduced during the first course in the programme. This book is used throughout the whole programme. During the first year the students carry out some minor empirical studies, which they present in written reports. Another important step in strengthening the scientific progression is the introduction of a new interdisciplinary course about Knowledge. The main aim of the course is to problematize the concept of knowledge in relation to different traditions, which a teacher is likely to meet during her/his education and professional practice. Because of its investigative character the course contributes to discerning different scientific traditions and their relevance to the daily work of a teacher. The course in addition offers an important contribution to making the students prepared for their major disciplinary studies.

Critical thinking is stimulated throughout the programme by means of the investigative and analytical way of working exposed in various course assignments that are connected to field studies and teaching practice as well as subject theory. The students practise critical treatment of sources by analyzing literature in seminars, where they scrutinize facts in textbooks and scientific articles. They are continuously trained in taking a reflective stance by linking theory and practice in course assignments and examinations. Several subject areas have investigative elements, where the students are trained in argumentation and problem solving. In some disciplines the students are also writing extensive examination papers.

While the TE programme in Linköping was planned a new major subject, ‘Pedagogical Work’ (later named General Education Area), was constructed which was supposed to constitute the scientific foundation (or platform) of professional knowledge. Pedagogical work is the frame of reference and reflection as regards the practical experiences of teacher students and teachers.

Studies within the General Education Area (GEA) are aimed at developing a didactic awareness and communicative skills among the students. The courses are thematically arranged around central concepts, such as school, communication, knowledge, learning, leadership, and teachers’ production of knowledge. All courses have a multi- and interdisciplinary point of departure, which means that the studied phenomena are analyzed from different scientific perspectives. The courses are also permeated by a practice-based view of knowledge. School activities and the different practices of the teaching profession are primary foundations for analysis, discussions and practical exercises. The content during the first year is intended to make a stable ground for essential teacher skills, which will be developed and deepened in both major disciplines and specific subjects. The decision to give two thirds of the GEA courses during the first year is to be understood on the basis of an assumption that disciplinary studies, the way they are performed in TE in Linköping, require a distinct educational science framework in order to be transformed into ‘teacher knowledge in action’ by the students in cooperation with the field of teaching. Because the students get an explicit base of research and practice - and thereby general teacher knowledge - during the first year, they are in a good position when it comes to developing more specific didactical knowledge in different subjects, major disciplines and areas of competence. The two other courses within GEA are given at the end of the education programme. Here the student’s own ‘teachership’ is construed and problematized, and she/he takes part in production of new knowledge in her/his subject area by writing a report at Bachelor’s level. Locating this work
with the final exam report in the realms of GEA indicates the important function in the students’ development of a general teacher competence.

The field-based part of the TE programme in Linköping can by all means be regarded as a matter of profile. Teaching practice is an integral part in most of the GEA courses and in the major disciplines, and according to the middle-field metaphor (see below) it is an important feature in the students’ learning to become teachers. The students carry out course assignments, in which they are expected to investigate, analyze and reflect on various phenomena in everyday school activities and to link this to the theoretical content of the particular course. Another important part in the students’ learning process is that teacher educators at the university and in the field identify and demonstrate their expertise, articulate and communicate it in discussions with students as well as in writings. The task of teaching practice to develop practically related knowledge is strengthened by the explicit anchorage that the disciplinary studies have in the academic tradition.

The teacher students’ learning is based on the principle of a ‘pedagogical middle-field’, which means that the students’ learning to become teachers is organised as an interaction between campus-based and field-based activities. The complexity of teacher knowledge requires access to expertise from the university as well as the school, and it is the students’ task to acquire theories and practical knowledge from both fields. Theoretically the two fields of expertise are separate, but if the pedagogical middle-field is to function as an arena of knowledge development, university teachers and school representatives need to communicate with each other in matters of expected content, course assignments and assessment criteria.

One of the tutors in the TE programme, a teacher of Pedagogical Work (PW) describes his work at a school in the following way:

When the students are doing their teaching practice in PW they normally have some assignment to carry out. Often it is some phenomenon that they are supposed to study closely and describe. On some occasions I have supervised their field assignments. Then I have sat down at a school with 4-6 students and discussed their assignment. The purpose of this conversation is to help the students verbalise their impressions and to formulate their practice-based questions in such a way that they can study them more systematically with reference to basic research methods. Sometimes the mentors have taken part in these discussions and contributed with their insights and ideas. This also gives me as tutor opportunities to put the students’ experiences in relation to the contents in their theoretical studies. The students have underlined that these tutorials are most valuable to them. They help them to organise all their impressions, and to problematize what happens in the school practice. To the mentors this is an opportunity to get some insight as regards the students’ assignments and how the students do when acquiring knowledge about different phenomena in school. My own opinion is that the tutorials in the field schools are a good opportunity for the students to transform their questions into inquiry. It is a way to blend together practice and scientifically formulated questions and methods (Alm, 2004).

This description of how a tutor is working in practice illustrated the idea of how integration between different forms of knowledge can be done. In the TE programme the pedagogical middle-field is used as a figure of thought or a metaphor for the factual and imaginary arenas that have been created with the purpose to function as meeting places between research -based and practice-based knowledge, between subject-related and profession-related knowledge, and between the academic and professional expertise.
Ending remarks

In this paper the question of quality in teacher education has been re-shaped from being a matter of extended academization to being a matter of how academic professional education can be structured and organised so that the academic knowledge contributes to the development of teachers’ professional knowledge. The point of departure in this discussion was an analysis of what kind of knowledge that is to be developed and how it is developed. Based on the perspectives on knowledge and teaching chosen here, a kind of knowledge emerges which is multi-faceted and complex; it is also practice-based, personal, contextual, action-oriented and often not articulated. This knowledge may be considered more as a readiness to act, which is developed in an interaction between campus-based and field-based parts, where the meeting between theories and practices create possibilities for socialisation, reflection and development of knowledge. Altogether, this means that academic knowledge is legitimized on the grounds of its function as support, or a tool, in the development and discernment of professional knowledge. The matter of quality in teacher education thus is about forming a teacher education, i.e., its structure and organisation, which facilitates integration, but also progression and continuity, in order to develop professional knowledge among the teacher students (cf. the state investigation).

A teacher education without integrative claims runs the risk of contributing to creating crevices between different parts of the programme and thereby also, in practice, preventing a common development of knowledge as well as the teacher students’ learning. Such a structure would also obstruct dialogue, consensus building and negotiations between the different actors and interests of the education programme. In a teacher education programme with integrative claims and a harmonious structure, on the other hand, covert goal conflicts become overt and can be confronted. The conflicts that have been identified in the Linköping TE programme can be described in terms of pairs of opposites; subject logic - profession logic, programme perspective - department perspective, society’s expectations - students’ expectations. At the same time the dynamics that emerges around these conflicts can be used in the continuous change and adaptation to new conditions. They work as a self-regulating power between what is desirable and what is possible.

The question of quality in teacher education, of course, is not merely about how the education programme is structure and organised or about the function of academic knowledge, but I would like to say that the choice between theoretical and practical knowledge, as well as the choice between structuring and organising education according to a separating or integrating perspective, is important to the quality of the education in terms of giving the best possible prerequisites for the development of professional teacher knowledge among the students. The TE programme in Linköping has made an attempt to structure teacher education and organise students’ learning based on a certain conception of the nature of professional knowledge. We think this is a necessary although not sufficient condition for improving the quality of teacher education. In order to go further in this matter, it is necessary to extend the exchange of experiences and to deepen our knowledge about the effects of different ways to organise teacher education programmes.

In other words, much more research and development work is needed so as to reach the goal as regards a high-quality European teacher education. For now we have to continue and carry
on our development work with united forces towards a research-based and professional teacher education programme.

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Drama education and the development of the personality and social competencies of teachers

1 Requirements of curricular reform in the Czech Republic on changes in the professional competencies of teachers

Since 2007 all schools in the Czech Republic began to teach according to a new education programme – The Framework Education Programme. Schools now use this programme to create their own distinctive school education programmes. The change this programme was intended to introduce into Czech schools should impact the very essence of education and places an emphasis on fulfilling the following goals:

- To allow students to embrace the learning strategy and motivate them for lifelong learning.
- To encourage creative thinking, logical reasoning and problem-solving skills in students.
- To guide students toward multilateral, effective and open communication.
- To develop the ability of students to cooperate and respect work and success, both their own and that of others.
- To prepare students to present themselves as unique, free and responsible personalities, to assert their rights and fulfil their responsibilities; to teach students to express positive feelings in their behaviour, conduct and in experiencing life situations; to develop awareness and sensitive relationships to people, their environment and nature.
- To teach students to actively develop and protect their physical, mental and social health and to have a responsible toward these.
- To lead students toward tolerance and consideration for other people, their cultures and spiritual values; to teach students to live together with other people.
- To help students recognize and develop their own abilities in agreement with realistic possibilities and to apply them together with acquired knowledge and skills in making decisions about their own life and professional orientation.

(The Framework Education Programme for Elementary Education, 2005)

The Framework Education Programme introduces and supports a number of changes in education. For example, it is now required to pay closer attention to the needs and possibilities
of students, to apply individualized and internally differentiated lessons, to create a positive social, emotional and working climate based on effective motivation, cooperation and activating methods of teaching, etc.

Theses changes raise the question as to what changes will then need to be made in the preparation of future teachers – on what part of their professional competencies should a greater emphasis be placed than in the past?

If a teacher is to support multilateral, effective and open communication, be tolerant, recognize and develop her own abilities, she must be competent of these things on her own.

But it is not enough to change only the methods, forms or content of the instruction for something else (for example Seberová, 2006, Gobelová, 2006). Changes in education also require changes in the social, emotional and working climate of the classroom and even the entire school. They require a different perspective on education, communication and problem solving. More than through new methods, the teacher influences these by her own personal conduct and communication, her different overall perspective and approach to students, to education, the world and that which comes from her behaviour and communication.

The difficulty of the teaching profession is related to the fact that the essence of education activities involves active social interaction with students. Social communication skills are of primary importance; situations, situational relationships and circumstances are the subject of the teacher’s activities. Education activities can be perceived as cooperation between the teacher and the student mediated by educational goals (Vyskočilová, 1987a).

According to V. Švec (1998c) the teaching profession is also made difficult by the fact that in addition to typical situations, the teacher often finds herself caught up in situations that are particular and unexpected. The teacher does not have an algorithmic strategy of pedagogical decision-making worked out in advance for these types of situations and is forced to resolve them immediately, properly and without negative consequences for mutual relationships. This means that the teacher needs not only professional knowledge, command and skills for her activities, but also personal qualities, knowledge and experience of a general human nature. This will allow her to be a teacher/professional on one hand and a teacher/human being on the other.

To a certain degree teachers have lost their fundamental standing in the dissemination of knowledge and are faced with the task of making the school more attractive for children.
This change is necessarily related to the quality of personality-social skills, knowledge and experience.

2 The personality-social competency of the teacher

2.1. The concept of personality-social competency of teachers in the CR

We are convinced that the personality and social sides of the teacher’s individuality are connected to such a high degree that it is useful to perceive and develop them as a single competency – the personality-social competency. Experience has shown that it is necessary to balance both sides of the teacher’s faculties – personality and social (communicative). In the case of social skills the need to strengthen the personality side is almost always emphasized (above all self-recognition and self-reflection), as the foundation of good social relationships is a balanced, integrated individual. In the case of personality skills the engagement in social contact is emphasized, as the development of the personality cannot occur with relationships with other people (further, for example, Kosová 1998).

The introduction of elements of the personality-social competency into the process of educating teaching students has undergone certain developmental changes over the past years at Czech universities, and these have crystallized into several contemporary forms. Svatoš (2000) addressed these developmental changes and the contemporary status of various approaches to the development of personality and social qualities at Czech (Czechoslovak) universities, and presents five individual curricular blocks:

1. **Rhetoric**, which contains the development of the verbal component of pedagogical communication (spoken expression, dialogue, questions, rhetorical exercises).

2. **Social communication** has these content units: sharing experiences, cooperation with a partner, nonverbal communication, social dialogue and its control, improvisation, and the locution of personal speech.

3. **Pedagogical communication** has content focused on: the structure of pedagogical skills, communication and the teaching process (mainly at the 1st level of elementary school), alternative approaches to teaching and communication, verbal teaching methods, lecture and instruction experiments, interaction with students’ parents, communication with children, pedagogical situations in the school.
4. **Drama education**, which includes at individual schools personality and social education, drama games and improvisation, active releases, the relationship of experience and expression, identity awareness, reflection and self-reflection, self-recognition, creativity.

5. **Diagnostics – analysis – observation** containing discovering, observing and evaluating other people, diagnostics of capabilities for cooperation, observation and evaluation of communicative expression, technical resources in communicative preparation.

### 2.2 The structure of the personality-social competence

We have defined the personality-social competency as a set of intrapersonal and interpersonal skills, knowledge, approaches and qualities that give individuals social behaviour and conduct appropriate to the given social situation and the given problem. They give teachers resourceful and effective behaviour and conduct in corresponding pedagogically standard and non-standard situations.

The quality of the teacher’s personality and social competency is best seen in the quality of the teacher’s communication; for this reason the discipline concerned with the development of this competency was named the Foundations of Pedagogical Communication in the Faculty of Pedagogy at Ostrava University. The aim of the discipline is the development of the personality-social competency of future primary education teachers. The subject, a link between pedagogical theory and pedagogical practice, is taught in the first year of study. The concept of the programme is very close to the programmes of pedagogical disciplines and pedagogical practice.

As part of research at the Faculty of Pedagogy at Ostrava University in the years 1999-2002 the content defined as the minimum of the personality-social competency was clarified:

#### I. From the personality perspective:

a) perceiving one’s own capabilities, skills and personality qualities – their strengths and weakness with respect to the teaching profession;

b) perceiving one’s own emotions and states and designating these with emotions; work with nervousness;
c) self-reflection /in model and practical situations), process awareness of the selected methods of self-reflection and skills in using some of these (self-reflection in lessons, the diary method);
d) the self-respect and self-awareness of teachers and searching individuals ways toward their improvement;
e) perceiving one's own external expressions in behaviour and searching individual ways toward their control in pedagogical situations;
f) the authenticity of the teacher and searching individual ways to its development, self-expression skills;
g) awareness of intrapersonal intelligence.

II. From the perspective of social competence

1. Social perception – perceiving partners:
   a) perceiving partner, understanding her expression (verbal and non-verbal), the skill of perceiving the partner’s abilities and skills (with contemporaries – in model situations, with students - in practical situations);
b) empathy and its development;
c) knowledge of factors that influence social pedagogical perception;
d) process awareness of active empathic listening in a pedagogical situation, individual skills for empathic listening (paraphrasing, asking questions);
e) perceiving the needs of students;
f) knowledge of interpersonal intelligence.

2. Communication (pedagogical):
   a) knowledge of the specifics of pedagogical communication;
b) making and maintaining contact with a group and an individual (in model and practical situations);
c) the appropriate use of nonverbal communication in pedagogical situations;
d) comprehensible and clear expression, sharing thoughts, opinions, emotions appropriate to the context of the situation;
e) the use of paralinguistic components of communication in pedagogical situations;
f) knowledge of communication styles and the ability to distinguish between these (in model, practical ad common life situations), skills for their appropriate use (in model and practical situations);
3. **Conduct in pedagogical situations:**
   a) knowledge of the specifics of the school pedagogical situation;
   b) prompt reaction to situational circumstances and their changes – improvisation abilities (in model and practical situations);
   c) awareness of conflict in pedagogical situations, process knowledge of behaving in conflict situations (in model situations), individual skills (formulating problems, search possible solution options);
   d) organizational skills;
   e) the creation of a favourable work atmospheres in the pedagogical situation.

4. **Holding the social role of teacher**
   a) knowledge of the specifics of the social role of teacher;
   b) beginning the acceptance of the social role of teacher;
   c) the skill of the appropriate expression of teacher status (in model and practical situations). (Cisovská, 2003)

3 **Drama education – the path to the development of the personality–social competency**

3.1 **A description of drama education**
We can describe drama education on the basis of its definition in contemporary theory: “…a system of controlled, active social-artistic instruction for children and adults based on the use of the basic principles and approaches of drama and theatre defined primarily by educational
or formative and secondarily specific artistic demands on one hand, and individual and joint possibilities for the further development of the personalities of participants on the other,” (J. Valenta, 1995, p. 27). Drama education as a discipline has its own goals, content and methods.

Drama education instruction involves the entire personality. The main goal of drama education is personality, social and aesthetic-artistic development. The goals of drama education can be perceived from three areas. First of all, its methods make it possible to influence attitudes, since they touch the cognitive, emotional and conative components. They also help develop abilities and build skills – sensory, motor, intellectual and, above all, social. One set of important abilities is creativity. Last but not least is knowledge “essential not only in and of itself, but knowledge that also supports the development of attitudes, abilities and skills,” (Valenta, J., 1995, p. 42). In drama education this is above all knowledge of one’s self, of relationships, communication and emotions. Drama education also includes goals in the area of building a relationship to the dramatic arts and art in general. Another goal of drama education is the facilitation of learning in other teaching subjects.

Drama education addresses themes of human life experiences (i.e. particularly relationships between people, the experiences, behaviour and conduct of people, interpersonal conflicts), especially in situations that can be characterized as dramatic. In this way life is modelled through acting so that students’ experiences are improved and so that the acting modelling life situations creates enriched or even entirely new experiences. “The subject matter is therefore diverse situations, mostly with complications…” (Valenta 1999, p. 27-28).

The education makes use of the spontaneous human ability to act, and gives this skill form by means of theatrical means with a specific aim. In other words, the methods of drama education are based on theatre, which is above all situational role playing. This mainly concerns situations that contain a certain conflict the actors are forced to solve on the spot. The situations are understandably model, fictional and created according to specific rules determined ahead of time. The obvious fictional nature of the situations, as E. Machková (1998) states, prevents any attack on the actors own person, and allows the actors to act out their attitudes, relationships and problems through metaphor and images.

The basic method in the broadest sense of the word, common to all styles and types of drama education, is improvisation, according to E. Machková, arising unscripted directly on the spot. The process provides an authentic experience in a fictional setting where the actor encounters actual difficulties (1998).
3.2. The development of individual areas of the personality-social competency through methods of drama education

3.2.1 Drama education and the intrapersonal competency of the teacher
Drama education provides us information about ourselves – confirming, confuting or correcting the image we had of ourselves.

Improvisation is an important tool for the development of intrapersonal competencies, enabling the actor as part of the play to liberate her “I” and behave more on behalf of herself than in real life situations (Valenta, 1995).

This is also documented by Moreno, who says that we can be more real on stage than in life. Actors on stage have the freedom to be what they are, more deeply and precisely than in real life (In Scheiffele, 2001).

The following play a role in the emergence and development of the intrapersonal competency:

1. **Information** (reflections) from other people, through direct and indirect expression, in roles and outside of these. “We even get specific information about “I’ from fictional characters – roles to which we’ve lent our “I” (Valenta, 1995, s.185 –186).

2. **The processes of self-reflection - recognizing and analyzing** our internal conditions and outward behaviour on our own. Self-reflection is one of the main goals and tools of drama, and is also alpha and omega learning. It proceeds with both the aim "of having information and evaluating it," as well as with the goal "of having information so I can use it in action" (Valenta, 1995). One of the main possibilities for self-reflection is **role playing in fictional situations**. By encountering a role that isn’t our own we not only learn about other people by stepping into their shoes; we also learn about ourselves by playing the role of someone else. Valenta (1995) states that the self-image of the actor confronts the model of the specific role and this process contributes to the actor’s self recognition.

3. **Processes of comparing**, in which we have some kind of gauge for evaluating ourselves (we can be the gauge, or it can also be of social environment). The following relationships are created in drama:
   
   - With yourself – the student can compare the level of her competencies involving self-changes in the areas of desired development with her previous condition.
• With the other actors (students) – how someone else reacts to the given situation or problem. This doesn’t mean that they have to compete to see who is better. This comparison can lead to the strengthening of self-respect and self-confidence: the student, by comparing herself to others, discovers that what she feels and thinks is similar to what others feel and think, and that it isn’t “bad” (I was surprised that not everyone wants to be a teacher at any cost. I thought that I was the only one who was uncertain” – the comment of a student in the diary). On the other hand, the student can discover how she is original and unique.

• With the character she is creating – the actor connects the demands of the role with her own possibilities and internal resources. In this way the student can encounter obstacles on the path to playing this role or, on the other hand, discover necessary conditions.

• With the characters the other actors are creating – the actor compares her own internal model of the characters played by the others with the internal model of the other actors.

4. **The factor of concrete experience in concrete situations** (the situations can also be fictional). The student can gain experience in drama education situations in various ways: through natural changes of her life roles and the confrontation of herself with their demands (e.g. she becomes the head of the working group during the preparation of the situation), or by empathizing with the roles of partners (outside of organized role playing). This can also occur in artificially induced situations in which fictional circumstances are additional, enriching possibilities of real circumstances that foster self-recognition and self-evaluation. The same is true in playing other roles through which she confronts what she knows about herself, and in the process gains even more awareness (according to Valenta 1995).

Drama education is also based on highlighting reflected reality; this encourages a greater awareness of a number of factors. This is also documented by Scheiffele (2001), who writes that drama isn’t merely the imitation of reality; it is an expansion, exaggeration. He recalls personal experiences and the experiences of clients who remember these dramatic games for a long time and sometimes use them as a foundation for their life. Students sometimes object, claiming that the acted situations are pretentious and that things in reality can never
be this way. It is necessary for them to realize that the acting is not simple reality; it’s an image of reality, a symbol.

The development of the intrapersonal competency takes place in the subject of basic professional practice during the course of the entire year; it is included in all activities, in the overall atmosphere of the approach, although the greatest attention is paid to this area at the beginning of lessons. Despite the fact that learning in drama education has a contextual nature, certain activities are focused more on the specific area of personality-social competencies than on others. For example:

*Imagine yourself in the role of teacher who has already experienced her entire career and is approaching retirement. Today you received a letter from a former student, who is already an adult. What would you like to read in this letter? Put the words on paper.*

### 3.2.2 Drama education and the competency for socially-pedagogical perception

Acting involves “complete modelling of interactions and communication, with changes of the actual life roles of the characters…mutual empathy, paraphrasing, modelling and reflection of characters “as in real life”. The actors experience everything as the representatives of the characters, as learn, in the process, to get to know people, themselves, relationships and communication.” (Valenta, 1995, p.113).

Students learn social perception by being directly in fictional situations; in the process of playing roles they make themselves understood, persuade, perceive their partner, and attempt to understand her verbal and nonverbal communication. Sometimes (especially in the first lessons) the task is aimed directly at social perceptions with the mission of “determining what exactly your partner is communicating to you in their role.” A more demanding form of this assignment is to uncover the partner's “secret wishes”.

In addition to direct role playing, the actors can also learn by watching someone else’s play, like a regular form of social study analogous to observation learning. According to Valenta (1995), watching plays has several possibilities:

1. **Simple observation** of plays has the advantage that the observer is not restricted in any way in perceiving the situation. I believe this is best used when the participants of drama education already have some experience and are sufficiently motivated to learn. They are
then able to concentrate on their observations, reflect without any advance task and their views are original and enriching.

2. **Observation with an observation assignment.** This is conditioned by an education goal: this can be a simple description or a more complicated analysis and interpretation. The observation can be focused purely on a teaching aim such as, for example, the identification of an error in the rehearsal of certain skills like assertive communication. The observation task can involve the entire acted situation, all of the characters, or only some of them. Students can observe, for example, nonverbal communication (e.g. only proxemics), verbal communication (e.g. questions), the conduct of one character or relationships between characters.

3. **Observation with involvement in the play,** which increases the level of observation; for example, the instructions: “When you recognize what setting your colleague is playing, enter the action as an actor and develop the situation… Once you recognize what the character is interested in, step in and take action.”

The following is an example of the assignment of a situation in which the development of social pedagogical perception was emphasized:

*A situation in the staffroom is created (fictional circumstances created using classroom resources, based on the experience of the students). This is a place where the school's teachers meet (fictional roles that the students select using their own experience and the "needs" of the school). A new teacher – a fresh pedagogy graduate – enters the situation. On the basis of an agreement with the teacher, each role has a secret assignment (to win over the new colleague, to be an opponent of introducing new teaching approaches, etc.).*

### 3.2.3 Drama education and the competency for pedagogical communication

Methods of drama education make use of fully developed communication and various possibilities of behaviour and conduct. As is the case in real life, all the functions of communication also appear in fictional situations – information is exchanged, participants influence one another. Communication can take place on several levels: characters communicate with characters (the “teacher” with the “parent of a struggling student”), an actor communicates with an actor, and there is also communication between the actors and the observers. Even when the communication between the characters in the play is disrupted,
the communication between the actors (the interaction of the actors) continues (according to Valenta, 1995).

Actors in dramatic plays can be put into three different levels of role playing and communication within these.

On the level of simulation, i.e. in one's own social role in a momentarily non-existing situation, which allows the actors to create and strengthen their own life role and communication, as well as to search for alternatives to their own communication (a "different I") and the use knowledge of communication in the situation they usually don't find themselves in. For example, a situation in which the student is given the task of persuading her fellow students of the usefulness (fictional) of a charitable event.

On the level of alteration, in which the actor takes on the role of a different person, acts as someone different, a different character, though without deeper psychological treatment, the student is given the possibility of finding out how her internal model of the given role (teacher, parent, inspector) communicates; it gives the student an opportunity to be herself in a different role and to search for an appropriate communication pattern.

The final level on which the actor can communicate is characterization, which means a deeper elaboration of acting of an alteration type involving the search for the complex psychological features of the character. For the student this means finding out how individual characteristic attributes of a person can influence the course of communication, and the student is given the opportunity to try out her own conduct in the framework of this personal qualities.

Drama education fosters the development of communication competencies primarily by offering actors the opportunity to behave outside of their entrenched standard models of interaction and communication (according to Valenta, 1995). Students have a possibility to try out new strategies and to experiment.

### 3.2.4 Drama education and the competency of conduct in pedagogical situations

The situation in drama education is the content of the instruction, the subject matter; in the same way, the pedagogical situation becomes the subject matter in Basic Pedagogical Communication.
Students learn by acting in various types of fictional situations; in their subsequent reflections they discover and control pedagogical situations. They identify and try to understand the content of the situation (meaning), i.e. to grasp what the situation involves.

By discovering that they can see a situation from a variety of perspectives (roles), the students learn that the meaning of the situation needn’t be the same for all of participants. The students also try to understand the circumstances of the situation; these include both constant conditions forming the specifics of the pedagogical situation and conditions that change and thus form the dynamic nature of the situation. Of equal importance is a comprehension of communication mechanisms (the interpretation of verbal and nonverbal communication signals) and, finally, recognizing oneself as an element in the system of the situation.

Conflict situations – dramatic situations that qualify as non-standard pedagogical situations – have a special standing. Conflict situations are good opportunities for practicing intervention, changing situations, their quick analysis and searching for communication strategies” (Valenta, 1995, p.110).

An example of activities in which the development of the competency of conduct in pedagogical situations was emphasized:

*Students (in groups) are to decide on a solution in the case of a student from the 5th class who intentionally damages school property. One group decides in the role of school pedagogues, while the second group decides in the role of parents. The two groups put their decisions up against one another and decide on the optimal solution.*

*The following situation is set up as a “class meeting” in which one student in the role of the student from the 5th class must inform the parents of what has happened and of the proposal for a solution. The other students play the role of the parents. The teacher takes on the role of the parent who completely disagrees with the solution, lets this be known in an aggressive manner, and attempts to win the other parents over to her side. The student in the role of the teacher has the right to bring the entire situation to a halt by saying “stop,” at which point the actors relinquish their roles and work together to try to find an optimal solution to the situation. After the student in the role of the teacher says “action,” the situation continues at the point where it left off.*
3.2.5 Drama education and the competency of holding the position of teacher

For a student and the development of her competency, role playing has a motivational importance, since this is a task that activates the student. Thanks to the fact that the students have an opportunity to investigate the demands of the role from the “outside,” they learn not only to orientate and recognize themselves in it, but are also “pressured” to resolve the situation in which they find themselves. The students do not solve a problem they may face in the future, but the circumstances give them a good impression of what may be ahead. Instead of answering questions like “what should a teacher do when…,” the student solves the task set by the instructor: “Imagine you are a teacher and you have…”

The role facilitates the acquisition of the competency by introducing “as if” existence into the situation and, “oscillating between the authentic form of my existence and an authentic form of non-authentic existence” (Valenta 1995, p. 37) frees the student for a moment of the responsibility that fetters her in a real school situation and also adds an activity that provides an assignment. The fictional situation allows the student to see the subject matter in the activity’s context. Abstract concepts become concrete in live actions; dry theory takes on a tangible form. Additional facilitation is that the role can show how it is played by one actor and then another – by means of exchanging roles.

We cannot forget the function of the role as an actual learning device (training). The playing of the role teaches the student certain active skills belonging to the role. The action can be repeated several times, evaluated and then the role can be acted again. Failures are permitted in drama education; these are then analyzed and explained. In our case the role is not only the means but also the content of the learning and the subject of its “investigation”. Experience with a certain role teaches us to perceive in a comprehensive manner – to understand the motives of other people, problems, experiences in various situations, attitudes, etc. (according to Valenta, 1995). Role playing is mainly improvised and thus teaches us to react better to circumstances without preparation in real – in pedagogical situations in the case of teachers. By playing roles we learn to react to changing circumstances, we learn more about ourselves and how to control our behaviour, how to change roles and the expected behaviour and conduct this entails.

Role playing can also be a means of relaxation and a certain release (also according to Machková, 1992); especially when improvised it produces feelings of a freedom that works
in the framework of precisely defined rules. Scheiffele (2001) writes that drama is not only a tool for acquiring experience and the incorporation of new knowledge; it is also a tool for expressing the suppressed dark sides of our personalities. Actors discover that they can choose to be different; they can play characters that are completely different than they are. This can be liberating and bring release, freedom and courage to experiment with the role and to change the established structures. The statements of students show that drama education is a form of relaxation for them (“After improvisation I felt as if I had taken a shower, some kind of sauna” – see the diary entries).

What is very important for teachers is that the methods of drama education facilitate the acceptance and creation of one’s own path to authenticity and discovering the essence of the teaching profession.

Examples of activities that emphasize the development of the competency for holding the position of teacher:

A card with a role is attached to the chest of each student in a way that prevents them from seeing the role they have been assigned. The roles are taken from the school environment (school director, beginning teacher, favourite teacher, the “tough” teacher, struggling student, the parent of the struggling student, the best student, inspector, caretaker, teacher with no authority, etc.). On the basis of the behaviour of the others, each student is to guess what role they have been given and, on the basis of this feedback, adapt her behaviour to this role. The situation is specified by the setting – the school corridor. Full pantomime is used in the first phase; full acting in the second phase (the students are not permitted to say the roles written on the cards). Questions after the first phase: “On what rung of the social ladder is your position? Where can you be? By which communication means did you find out?” After the second phase: “What’s it like for you playing this character? By which communication means did you find out?”

3. Conclusion

Through methods based primarily on fictional situations and role playing, drama education provides an opportunity for active experiential learning in which both personality and social levels are incorporated. The path of drama education allows for an individualized approach to personality-social development with the character of holistic and contextual learning. Not even the motivational function is neglected, not only from the perspective of the
personality-social development of students as such, but also with respect to the acceptance of a new social role – the role of the teacher and the individual search for what this profession should entail. This is one of the important ways of strengthening the professional competencies of teachers in response to the demands of the current curriculum reforms in the Czech Republic.

At the conclusion of my paper I would like to present for illustrative purposes several reflections from the diaries kept by students kept during lessons.

“Thanks to this class I also realized that what we have ahead of us won’t be exactly easy.”

“It helped me a lot; before I immediately began to raise my voice. Now I know that it is better to ask him what his problem is, how he sees it, and to try to resolve it.”

“So I talked and talked. I realized that sometimes I will have to hold back and listen more, because in order to speak more effectively I first need to listen.”

“Today’s seminar opened my eyes a bit, and now I pay more attention to the people around me – the expressions on their faces, their body language and I think about what their emotions are.”

“At the beginning of the semester I thought that nothing could be changed because I am twenty and I felt like an adult who was already complete. But now that the semester is approaching the end and I can see a certain amount of progress, I am just now realizing that I have deficiencies and shortcomings. I think this is the first step to success.”

Literature


This work was supported by the IGS Ostrava University under the contract Profesní potřeby učitelů primárního vzdělávání v nových podmínkách kurikulární reformy a požadavcích na profesní činnosti
Preparing subject matter teachers for work

1 Background of the study

What do teachers need to learn during their studies? Finland tries to answer this question by developing a teacher education with a rather simple structure. All teachers take their exams at the universities. According to Niemi (2006) the teaching profession in Finland has been considered a demanding expert task for which master’s studies at the universities are needed. Primary school teachers, the so called class teachers, with masters in education, teach the six first grades, while subject matter teachers, with masters in their teaching subject, teach grades 7 – 9 in secondary school and years 1 – 3 in upper secondary school. This structure is slowly being enriched when class teachers are given possibilities to deepen their knowledge in a subject which enables them to teach not just at primary schools but also at secondary school, grades 7 – 9. The studies of subject matter teachers have also been changed, giving them possibilities to choose the career of a teacher immediately when entering the universities. This change gives the universities possibilities to enrich the educational content in the studies of subject matter teachers. The research presented in this paper, replicating a study by Niemi and Tirri (1997), aims at analyzing subject matter teacher students’ conceptions about how their educational studies prepares them for the teaching profession.

The empirical data for the study was collected from evaluations of the educational studies of subject matter teacher students at Åbo Akademi during the years 2006, 2007 and 2008. The evaluations were executed as the students had finished the educational part of their studies and most of them were ready to enter working life. Subsequently, the paper aims at answering the initial question from the perspective of the teacher students. Even if the conceptions of their own abilities change with growing experience (cf Yrjönsuuri, 1987); the problems exposed by novice teachers (Blomberg, 2008) motivate an analysis of newly qualified teachers’ conceptions of their studies. Further motives can be found in the arguments expressed by teachers to leave teaching for other professions (Blomqvist, Keihäs, Hansén & Wikman, 2008). This research questions the ability of the educational studies to shape a realistic picture of the teaching profession. Though teacher studies have been popular in Finland, a growing movement to other professions can be noticed (Laaksola, 2007).

It is still easy today to agree with Niemi, who in 1984 noticed that the subject matter teacher education is a white spot on the map of educational research. As the class teacher education in Finland totally is wholly located at the Faculties of Education there is a tendency for statements about class teacher education being considered valid for all teachers, including subject matter teachers. In the next two sections I will firstly analyze conceptions of research based teacher education from the perspective of subject matter teacher education and secondly evaluate earlier research on teachers’ conceptions about the work preparing capacity of teacher education.

2 What is meant by research based teacher education?
The structure and content of a teacher education could certainly, as Hagger and McIntyre (2000) emphasize, be based on the character of the actual work that teachers are performing. In Finland, as in many OECD countries, teaching has been considered as a research based profession. As the concept of research based teacher education has been given various interpretations there is a need to scrutinize the variation between them. The aim is to analyze what the concept could mean for the subject matter teacher education.

According to Asking (2006) teacher education can be research based in at least three different ways: (1) the university teachers can be connected to research by doing research, (2) the students can participate in research and (3) the teaching can be characterized by the kind of curiousness and problem solving activities as within qualified research. Skaagen (2006) is skeptical of the possibility for Norwegian teacher education to be research based, if this teaching should be based on the research of the teachers. The width of educational research today implies that teacher educators cannot base the teaching completely on their own research.

Rasmussen (2006, and cf. Ulijens, 1997) underline that the teaching of students cannot be seen as doing science. The scientific anchoring should rather contribute to the clarifying of the thinking and help the teacher to reflect on his own teaching. Rasmussen also hopes that a teacher that is informed about research in the field of education could develop a critical attitude towards streams of fashion confronting professional teachers from time to time.

According to Niemi (2006) the key to Finland’s success in international assessments like PISA can be found in the research based teacher education that the country developed 30 years ago. Like Rasmussen she underlines that the work of a teacher does not lead to the same kind of scientific results as the one of a researcher, but teachers have to look at their work in the same way as researchers do. The task for teacher education is to develop a base for the continuing research like activity of a teacher which encompasses evaluation of different situations in the own teaching and in the school context. Based on this reflection teachers are supposed to develop their teaching.

According to Kynäslahti, Kansanen, Jyrhämä, Kroksfors, Maaranen and Toom (2006) teacher education should give the students a general competence in research methods as well as abilities to practice one or more research methods in the teaching. The aim of the research based teacher education should make the students (Ibid., s. 248-249):

(...) able to make educational decisions based on rational argumentation, in addition to everyday or intuitional argumentation. The skill of being able to think along the lines of research principles presupposes a general understanding of all-around research methods.

The ability to reflect on the own teaching is by Kynäslahti et al thought to be developed by general knowledge about research methods.

The concrete exemplifications of research based elements in the teacher training that are emphasized, for example in the form of realized projects for master’s thesis (see Westbury, Hansén, Kansanen & Björkqvist, 2005), usually from the class teacher training. Even if the variation among the themes that class teachers have focused on in their thesis work is substantial (Sandén & Wikman, 2009, upcoming), it is even more difficult to see the connection between research topics in the subject matter teacher training and teacher’s work. One of the teachers in a study of Blomberg
(2008), focusing on the first year in the profession, states that the thesis writing did not activate any pedagogical thinking at all.

According to Askling (2006) the need for teachers to develop reflective skills increases when society is decentralized. She suspects that the research based elements in teacher education are not always considered credible by students because of a discrepancy between the university teaching and the vocational elements in teacher education.

This discrepancy can also be found in an evaluation of the teaching in compulsory school carried out by the Finnish Education Evaluation Council (Atjonen, Halinen, Hämäläinen, Korkekoski, Knubb-Manninen, Kupari, Mehtäläinen, Risku, Salonen & Wikman, 2008) where some teachers question the theoretical knowledge developed in teacher education (my translation, TW):

*I do not think according to pedagogical terminology.*

*I think that so called pedagogical principles are too vague to be used directly.*

Referring to Tynjälä (2004) the excerpts could also be considered as examples of the transformation from formal knowledge to non formal expert knowledge. However, the second excerpt also gives reason to reflect on the nature of the expected knowledge and skills to handle teacher’s work. Often teachers’ reflection on the own experience is enhanced (Kolb 1984, Uljens 1997). To some extent the teacher’s work seems to be out of reach of conscious reflection. The knowledge is tacit, intuitive and situation bound, sometimes even the result of chance. Jank and Meyer (1997) consider that pedagogical acting is too complex and dependent on too many factors in order to be explained by a theory. If this description, or the notion of reflection-in-action for tacit knowledge (Schön, 1984), can be accepted, new demands are developed for subject matter teacher education. If we stick to the assumption of Hagger and McIntyre (2000) that started this chapter, we should certainly consider if general reflection on research methods is enough for developing teaching abilities or if the focus of these reflections even more should be moved from subject matter to students thinking and closer to the actual fields of action, the classrooms.

### 3 Research on teachers’ conceptions on the work preparing capacity of teacher education

Yrjönsuuri (1990) investigated how teachers of different ages thought that teacher education had prepared them for teaching. The investigation, in which both class and subject matter teachers participated, showed clear differences between the two groups. The class teachers considered social issues and teaching methods as their strong fields, while the subject matter teachers thought that subject matter knowledge was their strong field. The ability to plan and to evaluate was considered sufficient. The ability to handle classroom interaction was on the other hand considered as inadequate.

Niemi (1984) investigated subject matter students’ conceptions of their teachers’ training and also how they wanted to develop the training. The results indicated that the students were critical to the temporal and the short period of studies. They enhanced the importance of subject matter didactics and the practice with experience at the teacher training school. The distance between the theoretical pedagogy and concrete teacher’s work was experienced negatively. On the whole the
findings very much resemble the results of the current study, conducted almost 25 years later. The students did not want to eliminate the scientific focus of the studies, but wished a development of the concrete implementation.

The results seem to have resonance within a Nordic perspective. Ádalsteindóttir (2006) refer to a Icelandic study in which is shown that new teachers find many aspects in their work surprising. Lacks in the studies were identified in the ability to prepare the students for communication with parents. The new teachers also had limited knowledge about evaluation and assessment.

Niemi and Tirri (1997) carried out a follow up study to the investigation of Niemi (1984) referred to earlier in this paper. Based on characteristics for the post modern society the investigation was broadened to demands put on teachers due to changes in society. According to Niemi and Tirri (ibid.) the teachers gave their education favorable marks for abilities that can be considered central for class room action. The present paper can partly be considered as a replication of the study of Niemi and Tirri. I will therefore now in some detail refer their study.

In the study of Niemi and Tirri (ibid.) the subject matter teachers considered that they had been well or very well prepared to plan teaching (m = 3.95, scale 1 - 5), to evaluate their own teaching (m = 3.78) and to independently handle teacher’s tasks (m = 3.50). Niemi and Tirri (ibid.) considered this evaluation encouraging. However, the subject matter teachers thought that their studies had not prepared them enough for handling administrative duties (m = 1, 82), to deal with issues on student welfare (m = 2,06), to cooperate with parents (m = 2,24) and to act within the school community (m = 2,27).

Niemi and Tirri (ibid.) also compared the conceptions of class and subject matter students in their research. The results resembled each other to a great extent. The class teachers however thought that they had been better prepared to deal with issues in their work not directly associated with teaching. They also gave better marks to the ability to meet the students’ different needs, to cooperate with parents and to cooperate with different agents in society. Subject matter teachers thought they were better prepared for developing the curriculum of the school than the class teachers.

This section can be summed up by the interpretation of Niemi and Tirri (ibid.) who noticed in their study that the Finnish teachers seem to be well prepared for the teaching in class while the parts of teacher’s work which occur outside class are given less attention.

4 Method

The empirical material for this paper was collected through a questionnaire consisting of open ended questions and as well as multiple choice questions. The multiple choice questions were based on the questionnaire used in the study of Niemi and Tirri (1997). Some items were left out due to the different contexts of the evaluations and due to problems with translation (from Finnish to Swedish). This paper is then partly replicating the study of Niemi and Tirri, who however did collect their data at the time when the teachers had been in work life for one year. A full comparison of the results is therefore not possible.
The aim of the paper is to illuminate strengths and weaknesses in teacher education from the perspective of teacher students. The descriptive quantitative approach is complemented by an analysis of an open ended question.

5 Results

The results from the multiple choice questions are summarized in table 1. As can be seen from this table and from appendix 1, the results from the evaluations in 2006 – 2008 resemble the results from 1997. In fact there is a strong significant correlation between the results of Niemi and Tirri (2007) and the evaluation at Åbo Akademi in 2008 (appendix 2).

<table>
<thead>
<tr>
<th>1. to plan teaching</th>
<th>1997 (N &amp; T)</th>
<th>2006 – 2008 (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. to critically analyze one’s own work</td>
<td>3,76</td>
<td>4,08</td>
</tr>
<tr>
<td>3. to independently manage teachers’ varying tasks</td>
<td>3,50</td>
<td>3,88</td>
</tr>
<tr>
<td>4. to use different teaching methods</td>
<td>3,49</td>
<td>3,88</td>
</tr>
<tr>
<td>5. to manage classroom interaction</td>
<td>2,83</td>
<td>3,74</td>
</tr>
<tr>
<td>6. to master subject matter knowledge</td>
<td>3,29</td>
<td>3,68</td>
</tr>
<tr>
<td>7. to take the pupils entire personality into account</td>
<td>3,00</td>
<td>3,60</td>
</tr>
<tr>
<td>8. to further equality between sexes</td>
<td>2,71</td>
<td>3,25</td>
</tr>
<tr>
<td>9. to evaluate and assess pupils</td>
<td>2,86</td>
<td>3,13</td>
</tr>
<tr>
<td>10. to understand with and have knowledge about pupil welfare</td>
<td>2,06</td>
<td>3,10</td>
</tr>
<tr>
<td>11. to interact with society</td>
<td>1,79</td>
<td>3,05</td>
</tr>
<tr>
<td>12. to be confronted with multicultural questions</td>
<td>2,53</td>
<td>2,99</td>
</tr>
<tr>
<td>13. to act in of situations of crisis</td>
<td>1,94</td>
<td>2,95</td>
</tr>
<tr>
<td>14. to be responsible for extracurricular activities</td>
<td>2,36</td>
<td>2,86</td>
</tr>
<tr>
<td>15. to cooperate with parents</td>
<td>1,99</td>
<td>2,66</td>
</tr>
<tr>
<td>16. to act within the school society</td>
<td>2,23</td>
<td>2,62</td>
</tr>
<tr>
<td>17. to manage administrative tasks</td>
<td>1,87</td>
<td>2,00</td>
</tr>
</tbody>
</table>

**Table 1.** Summary of subject matter student teachers’ answers (mean) on multiple choice questions (Likert scale from 1 to 5, with 5 being the highest score).

Also the teachers in this study consider themselves well prepared for the teaching in class, while teacher’s work outside class is marked lower. In order to triangulate the results, the students also were asked what additional issues they would have wanted to learn during their teacher education. Table 2 and appendix 3 show that the main wishes are directed towards the classroom action, not so much towards the duties of a teacher within the society at large.

<table>
<thead>
<tr>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Sum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evaluation and assessment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>6</td>
<td>8</td>
<td>31</td>
<td>10,3</td>
</tr>
<tr>
<td><strong>Practical hints, theory in action, teaching methods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>7</td>
<td>23</td>
<td>7,7</td>
</tr>
<tr>
<td><strong>Special education, integration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>4</td>
<td>22</td>
<td>7,3</td>
</tr>
<tr>
<td><strong>Classroom management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>4</td>
<td>19</td>
<td>6,3</td>
</tr>
<tr>
<td><strong>Actions against bullying</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>3,3</td>
</tr>
<tr>
<td><strong>Administrative duties</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>3</td>
<td>13</td>
<td>4,3</td>
</tr>
<tr>
<td><strong>Variation in the levels taught (e.g. vocational)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>4,3</td>
</tr>
</tbody>
</table>

**Table 2.** Summary of an open ended question about students wishes about their studies
6 Discussion

The results of the study show a consistency in teachers’ conceptions about their studies over time and contexts. When compared to a study of Niemi and Tirri (1997) the strengths and weaknesses seem to be more or less the same. Core issues in teachers’ work (knowledge about planning, teaching methods, classroom interaction) are given high marks by Finnish teachers when measured with an interval of approximately ten years. Of the issues within the teaching process evaluation and assessment seems to need more emphasis. The capacity of teachers’ education to prepare teachers for duties in the society outside school is given lower marks than the core activities in teaching. However, when asked which types of content or activities teachers’ education should focus more on, teachers wish that even more focus should be put on classroom action like classroom management and teaching methods.

As for subject matter teacher education the results of the study question the concept of research based teacher education. Although the core activities in teacher’s profession are given good marks by the student teachers in the study, there are still wishes about more content and activities in the same areas. This means that the educational content in the studies should be broadened. This could also be interpreted as a need to enhance the authenticity of the studies. If research methods are considered beneficial for developing teaching abilities, the context in which the research of the master’s thesis is carried out, has to be considered important.

Litteratur


**Appendix 1.**

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>1997 (N &amp; T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. to plan teaching</td>
<td>4,09</td>
<td>4,24</td>
<td>4,43</td>
<td>3,95</td>
</tr>
<tr>
<td>2. to critically analyze one’s own work</td>
<td>3,87</td>
<td>4,07</td>
<td>4,32</td>
<td>3,78</td>
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<tr>
<td>3. to independently manage teachers’ varying tasks</td>
<td>3,67</td>
<td>3,78</td>
<td>4,20</td>
<td>3,50</td>
</tr>
<tr>
<td>4. to use different teaching methods</td>
<td>3,83</td>
<td>3,82</td>
<td>4,00</td>
<td>3,49</td>
</tr>
<tr>
<td>5. to manage classroom interaction</td>
<td>3,71</td>
<td>3,60</td>
<td>3,90</td>
<td>2,83</td>
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<td>6. to master subject matter knowledge</td>
<td>3,51</td>
<td>3,71</td>
<td>3,82</td>
<td>3,29</td>
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<tr>
<td>7. to take the pupils entire personality into account</td>
<td>3,64</td>
<td>3,53</td>
<td>3,64</td>
<td>3,00</td>
</tr>
<tr>
<td>8. to further equality between sexes</td>
<td>3,11</td>
<td>3,11</td>
<td>3,53</td>
<td>2,71</td>
</tr>
</tbody>
</table>
9. to evaluate and assess pupils 2.83 3.25 3.32 2.86
10. to be responsible for extracurricular activities 2.74 2.58 3.25 2.36
11. to act in situations of crisis 2.93 2.80 3.12 1.94
12. to understand with and have knowledge about pupil welfare 3.22 2.98 3.10 2.06
13. to interact with society 3.11 3.00 3.04 1.79
14. to be confronted with multicultural questions 2.96 3.02 3.00 2.53
15. to cooperate with parents 2.48 2.67 2.84 1.99
16. to act within the school society 2.61 2.48 2.76 2.23
17. to manage administrative tasks 1.87 1.89 2.24 1.87

**Appendix 2.**

Correlations

<table>
<thead>
<tr>
<th>yr08</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>Niemi &amp; Tirri</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1</td>
<td>.895(**)</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>yr08</td>
<td></td>
<td></td>
<td>17</td>
<td>.000</td>
</tr>
<tr>
<td>noch</td>
<td>Pearson Correlation</td>
<td>.895(**)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>noch</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>17</td>
<td>.000</td>
</tr>
<tr>
<td>noch</td>
<td>N</td>
<td></td>
<td>17</td>
<td>1</td>
</tr>
</tbody>
</table>

**  Correlation is significant at the 0.01 level (2-tailed).

**Appendix 3.**

Summary of the open question:
What additional issues would you have wanted to learn about during your teacher education?
(Vad hade du ytterligare önskat att få lära dig under lärarutbildningen?)

<table>
<thead>
<tr>
<th>The teaching process</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Sum</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>Evaluation and assessment</td>
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<td>6</td>
<td>8</td>
<td>31</td>
<td>10.3</td>
</tr>
<tr>
<td>Practical hints, theory in action, teaching methods</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>23</td>
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</tr>
<tr>
<td>Special education, integration</td>
<td>3</td>
<td>15</td>
<td>4</td>
<td>22</td>
<td>7.3</td>
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<td>4</td>
<td>4</td>
<td>19</td>
<td>6.3</td>
</tr>
<tr>
<td>Actions against bullying</td>
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<td>3</td>
<td>6</td>
<td>10</td>
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<td>1</td>
<td>7</td>
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<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT, using technology, black board techniques</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Planning longer sequences</td>
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<td>1</td>
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<td>Multicultural issues</td>
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<td>3</td>
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<table>
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<tr>
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<td>8</td>
<td>3</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>Activities outside classroom</td>
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<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situations of crisis</td>
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<td>2</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Student welfare</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperation with parents</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td></td>
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<table>
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<tr>
<th>Forms of pracx</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Sum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation in the levels taught (e.g. vocational)</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>More praxis lessons</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Developed supervision</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authentic praxis</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microteaching</td>
<td>1</td>
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<td></td>
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<table>
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<th>Mean</th>
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<tbody>
<tr>
<td>Topic</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td></td>
<td></td>
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<td>------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Deep knowledge, meta knowledge</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More subject matter didactics</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Teacher's person**

<table>
<thead>
<tr>
<th>Topic</th>
<th>2</th>
<th>5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling stress</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>The voice</td>
<td>1</td>
<td>1</td>
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Quality in Teacher Education
Teacher Education Policy in Europe (TEPE) Conference 2009
Umeå University, Sweden
May 18-20

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Keywords
Recruitment, drop-out, internationalization, research anchoring, comparison

Abstract
Challenges to Nordic Teacher Education Programs
It is not an exaggeration to say that Nordic teacher education is in crises. Except from Finland all Nordic countries suffer from a falling amount of applicants, from high drop-out rates, and from a high amount of students with low academic knowledge and proficiency prerequisites. The Nordic countries adapt quite differently to the Bologna process in respect to the qualification framework, the Three-Cycle System, and the degrees offered. All Nordic teacher education programs are except from the Danish program research based programs, but in practice this is accomplished with high variation. Starting from a newly published comparative study of Nordic teacher education programs (Nordisk_Ministerråd/Nordic_Council_of_Ministers, 2008) we will in this paper particularly elaborate on the issue of recruitment, but also on the issues of internationalization, and research anchoring. This will be done in relation to already known challenges to coming teachers from increasing student diversity due to immigration and political expectations to high academic student outcomes.

Challenges to Nordic Teacher Education Programs
Even if the Nordic countries show in many respects great similarities they are very different when it comes to teacher education. Their teacher education programs are organized differently with regard to length, specialisation, and location, they are structured differently with regard to subjects and academic elements, and they are regulated differently. Nevertheless teacher education programs in the Nordic countries are to a wide degree fighting the same kind of problems, however in most cases with the Finnish teacher education as an exception. All Nordic countries except from Finland – though to a different extent – are facing problems with recruiting enough good students, they adapt differently to the Bologna-process, and the knowledge base is not in all countries anchored in research based knowledge. These differences and few more will be elaborated in this paper.
Recruitment

The problem of recruitment is twofold. On the one hand the amount of applicants – with Finland as an exception – has decreased over a number of years and on the other hand it has also been difficult to attract good students. Additionally the teacher education programs suffer from high drop-out rates not least from students with low entrance grades.

In Denmark the amount of applicants (1. priority) to teacher education for primary and lower secondary education (1-9(10)) went down by 37% from 2004 to 2007.¹ This fall continued in 2008 so that the fall since 2004 has been 42%. The decrease comes after a ten year period with a relatively stable and high number of applicants. Iceland has between 2004 and 2007 had a fall by 40%, and is the Nordic country with the highest decrease. Norway has in the same period been struck by a fall in applicants (allmennlærerutdanning) by 22%. This fall is however in 2009 turned into an increase of 35% in relation to 2008 (Samordna_opptak, 2009). In Sweden the amount of applicants has in the period 2004-2007 went down with 22%, but this number includes teacher education to primary and secondary education (1-12). Only Finland has a high and stable amount of applicants. In 2007 the country had 6296 applicants of whom 892 were accepted which correspond to 14%. The general picture concerning recruitment to teacher education in the Nordic countries is quite similar and shows a strong decline in of applicants over the last five years – with Finland as the exception.

The Nordic teacher education programs are as already said not the only facing a declining amount of applicants. They also suffer from high drop-out rates and low completion rates, again with some variation between the countries. In Denmark and Norway the drop-out rate is 35%, which also is the level in Sweden since the teacher education reform of 2001 (Statens_Offentliga_Utredningar_(SOU), 2008, p. 54). In Iceland the drop-out rate is 20%.² It is a general tendency that a substantial amount of the students that drop-out do it in the first years of the programs.

Studies in Denmark and Norway show that students’ grade point average at the time of acceptance is of major importance for their success of completion. The higher grade point average the higher probability of completion; the lower grade point average the higher probability of drop-out (Næss, 2006). In Denmark and Norway the grade point average has been falling over a number of years. Since the middle of the nineties teacher education students in Denmark have had a lower grade point average than the high school year group as a whole. In 2006 the average at upper secondary school leaving examination was 8.3, while it for teacher students was 7.9, and to this comes that the average for teacher students as a tendency is falling (Andersen, 2008). Today in more Nordic countries nearly all qualified applicants are accepted.

Again with Finland as an exception teacher educations in the Nordic countries are facing a triple challenge regarding recruitment: Firstly to attract more students, secondly to attract better students, and thirdly to retain the admitted students.

Against this background it becomes interesting to look closer into distinctions between the Finnish and the other Nordic countries’ teacher education programs in regard to organization,

¹ Where nothing else is mentioned the numbers are from (Nordisk_Ministerråd/Nordic_Council_of_Ministers, 2008)
² There is no central specification of drop-out in Finnish teacher education.
quality and status to give possible explanations to differences in attractiveness. This done deliberately knowing that such factors are not the only factors that count for students’ choice of a career, and deliberately knowing that factors related to the labour market situation also play a role. Of course we draw attention to the fact that it is debatable to assume that one country’s education should be modelled by other countries just because it is not challenged by problems of recruitment. However we think that such a comparison will generate tentative explanations that can help dismantling myths about what works and contribute to a (more) realistic picture of possible advantages and give a hint about where to start further efforts and research activities.

We will especially focus on the subjects in the teacher education programs that are specifically directed at professional use, i.e. educational science (pedagogics), subject matter didactics, practice teaching, and the coupling of theory and practice. We want to compare the weighing of these subjects to see how they play together with the academic subjects. The reason is that it is those subjects that make the education stand out clearly as a TEACHER education, and also because it is in the weighing of those subjects explanations for solutions to the problems of teacher education are often seen.

On the one hand it is said that teacher education might be able to attract more students if it is made more practice oriented and if practice has a greater (not to say great) extent in teacher education programs. In a number of studies, among others a recently published Danish study, teacher students express the opinion that practice plays a too modest role in the teacher training program. They would like a more practice oriented program with more practice teaching. This is also an often heard reason for dropping-out (Jensen et al., 2008). At the same time an also recently published Danish study shows that potential applicants choose not to take a teacher education because it is seen as too unchallenging. They think the academic level is too weak and not sufficiently anchored in research knowledge; that teacher education is for those who cannot do anything else (CapacentEpinion, 2008).

Rooted in international research that attacks the problem of recruitment from a quite different perspective it is on the other side pointed out that it has to do with the educational systems ability to attract strong students. This research tradition does not ask actual and potential teacher students about their opinions, instead it directs its attention to what characterises teacher education in countries with high-performing school systems defined by the PISA studies. Those top-performing countries are able to recruit teacher students from the top 30% of each cohort graduating from high school. Finland even from top 10% (Barber & Mourshed, 2007, p. 16). In other words you might say that there is a close correlation between student quality and the quality of the compulsory school system.

**Pedagogics**

Pedagogics or educational science is traditionally seen as the glue in teacher education that guarantees its cohesion and also as a strong element in shaping the identity of teacher professionals. The educational science subjects are considered to be the subjects that distinguish teacher education from being just a continuation of high school or from subject based bachelor and master studies.

In the Finnish primary teacher education (1-6) the size of educational science subjects is quite large, namely 120 ECTS and only a little less in lower secondary teacher education (7-10),
namely 60 to 120 ECTS. The volume of educational science subjects is lowest in Norwegian and Danish teacher education.

Table 1: Size of educational science subjects

<table>
<thead>
<tr>
<th></th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>33</td>
</tr>
<tr>
<td>Finland</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>60/120</td>
</tr>
<tr>
<td>Iceland</td>
<td>50</td>
</tr>
<tr>
<td>Norway</td>
<td>30</td>
</tr>
<tr>
<td>Sweden</td>
<td>No national regulation</td>
</tr>
</tbody>
</table>

In the debate on the size of educational science subjects in teacher education two considerations or interests, which are difficult to unite, have been opposed. On the one hand we see an interest in polyvalence of teacher education programs, i.e. their ability to couple to other educational programs. This interest is in favour of a strengthening of the academic subjects at the expense of educational science subjects, which also will increase the possibility of development of consecutive teacher education programs. On the other hand we see an interest in teacher education aimed at its professional aspects and at practising. This interest is in favour of strengthening the educational science subjects. The argument is that an education based on academic subjects not necessarily provides teacher students with the best teaching competence. Contemporary teacher education research agree unambiguously that students taught by teachers who are able to combine subject matter knowledge with subject matter didactical knowledge and competence achieve the best student outcomes (Darling-Hammond & Brasford, 2005; Helmke & Weinert, 1997). In this respect integrated teacher education programs seems to be best.

Finnish teacher education has maintained educational science subjects (pedagogics) as a strong and extensive professional element. Other Nordic countries have strengthened the less professional elements in their educational programs which now and then have been at the expense of educational science subjects. A proposal for a new teacher education in Norway it is suggested to strengthen educational science. Except from giving the subject a new name Pedagogics and Knowledge of Students (Pedagogikk og elevkunnskap) it is done by an underlining of the subject as a scientific basis of the teacher education program. The subject is said to be scientifically founded as well as praxis related and is given a size of 60 ECTS (Kunnskapsdepartementet, 2009).

Subject matter didactics
Subject matter didactics is closely related to pedagogic. All Nordic teacher education programs stress the importance of subject matter didactics, and in all programs subject matter didactics is integrated in the academic subjects. It is only in the Finnish teacher education at Åbo Akademi that the size of subject matter didactics is defined. In Finnish teacher education subject matter didactics has a size equivalent to 50% in the first main subject and 20-40% in the second main subject. Probably this is a higher share than in other Nordic countries’ teacher education programs. It is supposed that integration of subject matter didactics in the main subjects and its quite big size is a major contribution to making teacher students better educators in their main subjects: not experts in subjects, but experts in teaching subjects.
<table>
<thead>
<tr>
<th>Table 2: Size and placing of subject matter didactics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECTS</strong></td>
</tr>
<tr>
<td>Denmark</td>
</tr>
<tr>
<td>Finland</td>
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<tr>
<td>Iceland</td>
</tr>
<tr>
<td>Norway</td>
</tr>
<tr>
<td>Sweden</td>
</tr>
</tbody>
</table>

**Practice teaching**

As already said it is a widespread assumption that teacher education could benefit from being made more practice oriented (e.g. longer periods of practice teaching or training posts), and that this in itself would contribute to an increase in recruitment. Studies and evaluations in and of Nordic teacher education programs show however that it is mostly weak students who express a demand for more practice in teacher education; strong students want a strong theoretical anchoring (CapacentEpinion, 2008; EVA, 2003; Högskoleverket, 2005; NOKUT, 2006).

The Finnish teacher education, which is a five year program, has less practice teaching than any other Nordic teacher education (5-7%). Danish teacher education, which is a four year program, has most practice teaching (15%) followed by Iceland. Unless you want to attract weaker students, then there is no evidence for increasing the size of practice teaching; but more likely for a strengthening of its quality, including the coupling between theory and practice.

<table>
<thead>
<tr>
<th>Table 3: Size of practice teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECTS</strong></td>
</tr>
<tr>
<td>Denmark</td>
</tr>
<tr>
<td>Finland</td>
</tr>
<tr>
<td>Iceland</td>
</tr>
<tr>
<td>Norway</td>
</tr>
<tr>
<td>Sweden</td>
</tr>
</tbody>
</table>

**Coupling between theory and practice**

Teacher education is often experienced as a two world education. On the side the world, which is related to the teacher training institution and on the other side the world, which is related to the practice school? Traditionally teacher education to a wide degree has lefted it to the students to take responsibility for the integration of the two worlds. The evaluations of the Danish, the Swedish and the Norwegian teacher education programs, which took place in the period 2003-2006, all showed that this is too hazardous. While the coupling between theory and practice was found to be all too weak it was recommended to establish proper mechanisms for coupling in the teacher education programs. All Nordic countries are aware of the problem and pays attention to it, but it seems like Denmark has gone furthest in the sense of establishing proper structures for the coupling between theory and practice.

<table>
<thead>
<tr>
<th>Table 4: Coupling between theory and practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
</tr>
<tr>
<td>Finland</td>
</tr>
<tr>
<td>Iceland</td>
</tr>
<tr>
<td>Norway</td>
</tr>
<tr>
<td>Sweden</td>
</tr>
</tbody>
</table>
Main subjects
It is difficult to compare size and number of main subjects in the Nordic teacher education programs, because this in many countries is left to local decision. Generally speaking there are major differences in size and number between the Nordic teacher education programs.

<table>
<thead>
<tr>
<th>Country</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>144</td>
<td>2 or 3</td>
</tr>
<tr>
<td>Finland</td>
<td>120</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>120-160</td>
<td>2</td>
</tr>
<tr>
<td>Iceland</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>160 (min.)</td>
<td>Vary</td>
</tr>
<tr>
<td>Sweden</td>
<td>No national regulation</td>
<td></td>
</tr>
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</table>

The trend in Nordic teacher education, taking Finland as a model, is specialisation in subjects as well as in age levels. Finnish teacher education has for many years been age-differentiated in a class teacher education (klasslärare) for primary education and a subject teacher education (ämneslärare) for lower secondary education. The class teacher education typically attaches importance to educational science while the subject teacher education attaches importance to the main subjects. Age-specialisation was introduced in Danish teacher education with the reform of 2006 (Undervisningsministeriet, 2006). The Main subjects Danish-language and math has to be chosen either at primary (1-6) or at lower secondary (4-9) level, with some overlap. In Sweden an account on teacher education from 2008 advocate for two different teacher education programs: A primary teacher education (grundlärare; 1-6) including four streams (preschool teacher, teacher for the youngest years (0-3), teacher for the middle years (4-6), and after-school teacher) and a secondary teacher education (ämneslärare; 7-12) also including four streams (teacher in common subjects (7-9), teacher in common subjects in high school and adult education, teacher in vocational subjects in high school and adult education, and teacher in aesthetic subjects) (Statens_Offentliga_Utredningar_(SOU), 2008). A report from the Norwegian parliament from 2009 about a reform of teacher education also advocate for age-specialisation. Like in Sweden it is proposed to divide teacher education into two programs, one for primary (1-7) and one for lower secondary (5-10) with an overlap in the middle. Subjects aimed directly at the profession as a teacher (pedagogic, subject matter didactics, practice teaching and the bachelor thesis) are supposed to be shared by both programs (Kunnskapsdepartementet, 2009).

Internationalisation
The Bologna process
The Bologna process has its name from the declaration that was signed by 29 European countries in Bologna in 1999. Today the process encompasses 46 European countries. The overall objective of the process is to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange that is attractive to European students and staff as well as to students and staff from other parts of the world. The declaration determines ten objectives, among which two may be seen as particular challenges to Nordic teacher education programs:

- Adoption of a system of easily readable and comparable degrees in order to promote European citizens employability and the international competitiveness of the European higher education system.
• A quality assurance system which is accordance with *Standards and Guidelines for Quality Assurance in the European Higher Education Area*.

All the Nordic countries’ adaptation of teacher education programs to the Bologna process is in progress. The process of adaptation is done quite differently, at different speed, and also at different levels of ambitions.

The first challenge concerning a comparable organized degree system deals with the structure of teacher education programs partly by describing the programs and their elements in the European Credit Transfer and Accumulation System (ECTS), and partly by describing learning outcomes in relation to national qualification frameworks. Such frameworks refer to the overall European qualification framework developed within the Bologna process. The qualification framework describes learning outcomes from three categories, knowledge, skills and competences and locate teacher education in relation to three levels of higher education, first (C1), second (C2), and third (C3) cycle.

The ECTS-system as a numerical statement of the total work load of a given program is introduced in all Nordic teacher education programs. Also subjects and courses are defined by ECTS credits, but to a wide degree without changing the existing organisation of subjects. Sweden has not employed ECTS credits, but hp-points that however have the same value as ECTS credits however. The Nordic programs are only modestly structured and organized in modules, which makes transfer of credits and mobility difficult.

All the Nordic teacher education programs have prepared or are on the way with descriptions of learning outcomes.

Often the break down in cycles is described as a 3+2+3-structure, which for teacher education including as a maximum the two first cycles means a 3 year bachelor (C1) and a 2 year master (C2). The Bologna process states however that first cycle (C1) qualifications typically may include 180-240 ECTS credits while second-cycle qualifications normally carry 90-120 ECTS credits, but the minimum requirement should amount to 60 ECTS credits at second cycle level.

All Nordic teacher education programs have adapted or are on the way with adapting their programs to this structure. It is done differently. The picture looks like this: In Finland and from 2011 Iceland’s teacher education to primary and lower secondary education (1-9 (10)) is a 3+2-program where teacher competence is obtained at second cycle (C2) level (300 ECTS). In Denmark teacher education is a first cycle (C1) professional bachelor degree of 4 years duration (240 ECTS). In Norway teacher education is also is a first cycle (C1) degree consisting of a 3 year bachelor plus 1 extra year (240 ECTS). The proposal for a new teacher education program in Norway suggest that 800 student places should be established at master-level (C2) before 2014 (Kunnskapsdepartementet, 2009). In Sweden teacher education is as well at first cycle (C1) as well at second cycle (C2) level dependent on what year groups it is aimed at.

All Nordic countries have introduced quality assurance systems (the second challenge) in accordance with *Standards and Guidelines for Quality Assurance in the European Higher Education Area*. Accreditation systems have also been introduced for individual education
programs in all countries except from Norway where accreditation is done at institutional level.

**EU-efforts**
According to EU it is necessary that all teachers are graduates from higher education institutions, that all teachers are supported to continue their professional development throughout their careers to the highest level, i.e. through all three cycles, and that teacher education is based on an academic and scientific basis that can promote evidence based practice (Communities, 2007; European Commission, 2005).

These EU-ambitions are met in almost all Nordic countries. In all Nordic countries except from Denmark teacher education is located at universities and university colleges regulated by university legislation and its demands for research based teaching. In Denmark teacher education is located at university colleges where teaching is development based but not research based; though with research attachment to universities.

This distinction between Denmark and the other Nordic countries is reflected in competence demands to teachers in teacher education. The formal demand to competencies is in all Nordic countries MA-level, but a trend in the direction of increasing the number of PhD’s has become visible. In Finland the competence demand for teacher education teachers is a PhD-degree. At sight this will also be the demand in Iceland for employment on a permanent basis. In Norway NOKUT (The Norwegian Agency for Quality Assurance in Education) in its evaluation of Norwegian teacher education recommended at least 20% PhD’s in teacher education, and in Sweden Högskoleverket (The Swedish National Agency for Higher Education) operates with a general demand of 30% PhD’s, which in the account on teacher education from 2008 is wished to be 50%. There is no specific specification of the number of PhD’s in Danish teacher education but the number is estimated to be very low. With teacher educations’ location at institutions with no research obligations it seems that the incitement for improving the number of PhD’s is very little, and that it will take many years before the level equalizes that of the other Nordic countries.

**Challenges**
All Nordic teacher education programs are integrated programs regardless of their size, level and location, and all Nordic programs attach importance to subject matter didactics as an integrated element in the main subjects.

The coupling between theory and practice is in made more specific in the size and organization of practice teaching. There seems to be a strong case for strengthening the quality of practice teaching rather than increasing its size. In Finland with a high student quality (only about the best 14% are accepted) and high PISA scores practice teaching covers a smaller part of the program than in any other Nordic country, where as good as all applicants are accepted. In Finland practice teaching takes place at partner or training schools tied to the teacher education institutions. The teachers at these training schools are highly qualified to support the teacher students in their learning, and the content of teacher training is tightly linked to the actual practice within the schools (Barber & Moursched, 2007, 29).

Such efforts to couple theory and practice are also found in the departmental order of teacher education in Denmark, to the effect that the students acquire practical competences in
preparing, carrying through, and evaluating teaching. It is determined that practice teaching must be prepared, carried through, and supervised in a close co-operation between teachers in educational science, teachers in main subjects and practice teachers. Further it seems important that the educational theory taught is of a kind that supports the solving of relevant problems in practice, i.e. whether it is able to guide practice (Rasmussen, 2007).

Nordic teacher education is facing a number of challenges among which focus will be directed towards three factors:

- The demographic composition of students in schools and following from this increased diversity and heterogeneity.
- The demand for research or evidence based knowledge about what works in order to obtain better student outcomes.
- Reforms of the steering of public institutions through the introduction of standard/test-based systems.

**Diversity**

The school in the Nordic countries as well as in many European countries is facing the challenge coming from increased immigration. Immigration creates new forms of diversity in many schools and classes and increases the complexity many teachers must be able to handle. This is also a challenge to teacher education, which has to pay (more) attention to the development of intercultural knowledge and competences, special education, dual language teaching, and recruitment of students from other ethnic groups.

Most Nordic teacher education programs include one or more subjects that are common to all students and that pay attention to intercultural knowledge and competence as well as inclusion and social equity. In Denmark the subject is called Christianity, Life knowledge and Citizenship (Kristendomskundskab/livsoplysning/medborgerskab), in Finland Language and Communication (Språk och kommunikation) and Ethics (Religion, Livssyn og Etikk). In Sweden an element of this character can be part of the common education area (allmänna utbildningsområdet, AUO).

Special education teachers are considered to be especially valuable in supporting and compensatory teaching of students from immigrant families with the need of a certain organized teaching. With its latest reform of teacher education Denmark has made it possible for teacher students to select special education as a main subject. Finland has a particular special teacher education program. In Norway students are able to choose an element from the special teacher education program or to couple special education as a research discipline to their teacher education (allmennlærerutdanning).

In Denmark it is possible for teacher students to specialize in teaching dual language students by selecting the main subject Danish as Second Language (36 ECTS). In Norway it is possible to be educated as a dual language teacher. Both countries seem to suffer from having too few dual language teachers. In Denmark the reason is that it is difficult to open classes at small teacher training colleges, and in Norway that the program is only offered by initiative of the colleges.

In pace with the increase of diversity in the Nordic countries an increase in teacher students with a different ethnic background is seen in teacher education. In Denmark the intake of
students with a different ethnic background in the period 2003-2005 has been 6-7%, in Norway the number for 2005 was 5%, while in 2005/06 Sweden admitted 16% and in 2006/07 13%. In other words the diversity in student composition seems to be followed by a similar diversity among teacher students. An obvious conclusion might be that a reduction of cultural boundaries between teachers and students by employing more teachers with another ethnic background will be valuable for these students’ learning outcomes.

**Evidence based practice and standard/test-based curricula**
A general trend towards research based teacher education in the Nordic countries can be observed. The rationale behind this trend is to be found in a wish to educate research informed reflexive practitioners with a critical attitude to the many fashions and fads in education. Another rationale is the demands on teachers coming from accountability policy. Accountability policy defines responsibility at all levels of the educational system. On the one hand it happens by describing clear societal expectations to school performance as standards and objectives and on the other hand by holding all parties, especially teachers, accountable for the students’ learning outcomes measured in standardised tests. Such a policy stands or falls with knowledge about what works in teaching and how teaching can be improved. It seems only meaningful to hold teachers accountable only if they are educated and competent practitioners.

Four out of five Nordic teacher education programs are research based. Both programs in Finland are at MA-level (C2). Today teacher education in Iceland is a university degree at BA-level (C1) but from 2011 it becomes at MA-level (C2). Norwegian and Swedish teacher education takes place at university colleges and universities, but regardless of the location it is assigned to the same legislation with a demand for research based teaching. In Norway teacher education leads to BA-level (C1). In Sweden it is at BA-level (C1) for primary and lower secondary education and at MA-level (C2) for upper secondary education. Only the Danish teacher education is not research based. It is development based. It takes place at university colleges and leads to a professional BA (C1).

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I as a teacher - Catching patterns of professional development in primary school student teachers’ stories

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Abstract

The study describes student teachers’ understanding of the teacher’s role, and analyses how this understanding develops in different stages of their studies. The student teachers in the sample study in the primary school teacher curriculum at Haapsalu College of Tallinn University. For the purpose of our study 38 student teachers from all years of study (from 1st to 5th year) were asked to narrate about themselves as teachers. The study utilized a cross-sectional qualitative design where patterns and characteristics of different cohorts were identified and analyzed. The aim is to improve teacher education and the professional development support provided within it.

An inductive content analytical procedure was applied in order to interpret the data and to produce descriptive categories. Four categories were formed based on what appeared to be the core issues in stories: View of teacher role and own sense of teacher identity, motivation to become a teacher, and readiness for professional development; discrepancies between the ideal and the experienced situation; and experiences of theory-practice integrated programme

Data indicated that there were certain patterns present throughout the studies. By the end of the first semester student teachers were more focused on personal aspects of teachers’ identity (ethical and moral aspects of teachers’ work). In the middle of their studies the students begin to worry about professional knowledge (can I use all these theories in practice?). By the end of the studies they describe professional domains within which they need to develop themselves further. They realize that the teaching profession requires life-long learning and a will to engage in constant learning. These findings have an important impact on the management of teacher education programme balancing student teachers’ learning processes and supporting their identity building.

Keywords: Teachers’ preparation, student teachers’ identity, identity building, narrative
Introduction

Teaching is an occupation that involves not only the professional competence, but also the teacher as a person. For this reason, professional and personal development are important parts of teacher education. In this study, the student teachers’ development is investigated through their own narratives about themselves as prospective teachers and their views of teacher role. Narratives offer pre-service and in-service teachers possibilities to reflect on their professional development and to learn from analyzing their beliefs, values and teaching practice. For teacher education programmes, teacher educators, administrators and policy makers the stories of teachers are significant authentic research data and development tools. The study drawing on relevant literature on teacher identity and professional development describes student teachers’ understanding of themselves as teachers, and analyses how this understanding develops in different stages of their studies. The aim is to improve the teacher education programme and the professional development support provided within it.

Teacher development and identity building during pre-service teacher education

The pre-service teacher education as a relatively long and important phase has received a lot of criticism over the recent decades. The obtained knowledge is considered impractical and several studies have focused on finding new approaches to integrate theory and practice and to support reflection processes of student teachers (Argyris & Schön 1974; Lortie 1975; Levin 2003, Korthangen & al 2006).

Feiman-Nemser (2001) argues that the central task of learning in pre-service teacher education programmes is the need to analyse the existing beliefs and to form new visions and understanding of learning and learners. According to Kagan (1992:150), pre-service and first-year teaching appear to constitute a single developmental stage during which novices accomplish three primary tasks: (a) acquire knowledge of pupils; (b) use that knowledge to modify and reconstruct their personal images of self as a teacher; (c) develop standard procedural routines that integrate classroom management and instruction. Terms and concepts, such as image of self as a teacher, professional/teacher identity and professional self, all focus on continuous “becoming”. The construct of professional self is an ongoing developmental process; and can be influenced by school, reform, and a broader set of social and cultural contexts (Lasky 2005: 901, Cross & Gearon 2007: 54). Sachs (2003) writes: “Teacher identity stands at the core of the teaching profession. It provides a framework for teachers to construct their own ideas of “how to be” and “how to act” and “how to understand” their work and their place in society. Importantly, teacher identity is something that is neither fixed nor imposed; it is negotiated through experience and the sense that is made of that experience” (Ibid. 126). Additionally, Wenger (1998:149) argues that “there is a profound connection between identity and practice. Developing a practice requires the formation of a community whose members can engage with one another and thus acknowledge each other as participants”. Both of these authors emphasize the continuous change of identity and the important role of practice in identity development. It is evident in pre-service education and continues throughout the career.
During the initial education the previous experience as a learner and long apprenticeship of observation during their schooling (Lortie 1975) have powerful influence on identity building. Student teachers have already formulated views on what teaching is like and how it is done. The challenge is to become aware of this former knowledge and focus on how to change it. There is evidence that becoming teachers who fail to reconstruct their image of self as a teacher may encounter frustrations and leave the profession. Thus, identity building is a core question in student teachers’ professional development (Bullough & Gitlin 2001).

Having studied the professional identity of teachers Kelchtermans (1993) points to the following aspects through which teachers’ professional identity is described:

- A vision of oneself as a teacher – how do you describe yourself as a teacher?
- Evaluating oneself as a teacher – how good of a teacher do you think you are?
- The meaning of one’s activities – what motivates you to choose a job, continue in your chosen profession or give it up?
- An understanding of one’s tasks as a teacher – What does the profession entail and what are the norms according to which the teacher’s profession is described and evaluated?

Beijaard and his colleagues identified four “essential features” that relate to identity formation (Beijaard & al 2004): 1) professional identity formation is an ongoing process of interpretation and reinterpretation of experience, 2) professional identity implies both person and context, 3) a teacher’s professional identity consists of multiple sub-identities (or “selves”) that are more or less harmonised. The more central a sub-identity is, the more costly it is to change or lose that identity, 4) agency is an important element of professional identity, meaning that teachers have to be active in their processes of professional learning.

The well known Frances Fuller’s stage-model of teacher development posits a three-stage model of teachers’ development, moving from (1) concerns about self, to (2) concerns about tasks, to (3) concerns about students and the impact of teaching (Fuller 1969). The stage-model of development has been elaborated by other researchers and many authors have emphasized the need to develop professional identity to understand a teacher’s role and mission as assumption for becoming a teacher. Even reflection studies on daily classroom practice focus on deeper questions about teachers’ beliefs, values and mission (Korthagen 2004).

Glatthorn (1995:41) differentiates between three groups of factors that seem to influence teachers’ development: (1) those involving the teacher as a person (personal factors), (2) those relating to the context in which the teacher lives and works (contextual factors), and (3) those involving specific interventions to foster teacher development. There are no doubts that teacher education curriculum has a great influence on becoming a teacher.

For example Calderhead (2006:44) stresses the importance for teacher educators to acknowledge that pre-service teacher education courses should provide tasks in the nature and at the level on which student teachers are able to learn, meaning practical tasks for which they have the necessary knowledge, skills, interest and motivation. From the personal factors the question of student teachers’ motivation to become a teacher is very important. There are many different ways to subcategorise motivation, the simplest one being the distinction between intrinsic (doing something because of internal interest of the person) and extrinsic motivation (doing something because of some other external
reasons). Research has shown that the experience and the performance can be very different when one is doing something for intrinsic versus extrinsic reasons (Ryan & Decy 2000). Intrinsic motivation facilitates student teachers’ engagement in tasks that enhance learning, reflection and develop self-concept and professional identity.

**Primary school teacher education programme at Haapsalu College of Tallinn University**

In order to contextualize our study, we describe the teacher education programme in which the students study. It is important to understand the context in which the students of our sample study, as there are currently two teacher pre-service education models in Estonian universities: the mono-phase or integrated model (primary school teacher education), in which professional and subject studies take place concurrently, and the two-phase or consecutive model (for subject-teachers), in which a two-year programme on teacher education takes place after the completion of three-year subject studies. Our research is placed in the mono-phase context, which is likely to facilitate teacher identity and professional development in a different way than the two-phase model.

*Framework Guidelines for Teacher Education* prescribe the volumes and the requirements from initial teacher education through in-service training (*Õpetajate koolituse raamnõuded* 2000). Primary school teachers get the Master’s degree (300 ECTS) with education as the major. This degree qualifies to serve as a primary school teacher at the comprehensive schools in the grades from 1 to 6, teaching almost all subjects in these grades.

The aim of pre-service education is to develop basic professional competences as prerequisite for the induction year and to develop readiness for future in-service training acquiring the following competences in primary studies:

- readiness for self reflection and self-regulated learning;
- competence in subject and didactics methodology;
- readiness to create a favourable learning environment and lead a learning process, taking into account that a great deal of learning is taking place outside a school building;
- readiness to apply scientific research methods in a learning process and environment analysis and to apply research results in practice;
- competence in communication skills.

Attention is paid to the content in educational studies and its implementation into practice, to guarantee the student teachers’ professionalism, to reinforce the role of pre-service education in the university and to develop in-service training for academic staff. Pedagogical practice proceeds from the idea that it is a long process to become a teacher, where a support system and guidance play an important role. Emphasis is on cooperation with practice schools and on the development of mentoring system.

The general purpose of teaching practice is to provide students with the opportunity to acquire practical professional skills and knowledge in school environment and to reflect on the skills and knowledge acquired. Special purposes are: perception of the learning and educational processes of the school as integral system; perception and formation of pedagogical and subject didactics-related skills; development of self-evaluation skills; and realizing the importance of learners’ extra-curricular activities and cooperation skills.
Teaching practice is a spiral process occurring throughout the studies, which starts from theoretical studies and acquisition of professional skills and moves towards more complicated levels. The practice period starts with the observation practice in the second year and ends in the fifth year with the teaching practice in a minor subject.

Observation practice takes place in the fall semester of the second year of studies and the basic form of study is observation. Student teachers become familiar with the school as a developmental and developing environment and its documents of educational policy. Students also practice conducting some parts of lessons. Teaching practice in grades 1-3 is conducted during the third year of studies and it is divided into two parts: 1) during the fall semester, students practice as teaching assistants in grade one, experience adjustment to the school, and develop cooperation skills; 2) during the spring semester, students practice as teachers conducting lessons and performing class teacher’s duties. In the fall semester of the fourth year of studies, student teachers practice in grades 4-6. The purposes of the teaching practice are to provide experience of conducting lessons, functioning with pre-teenage children, and cooperating with parents. The teaching practice in the minor subject consists of teaching in grades 7-9 of basic school. Such an arrangement is possible thanks to a well-integrated Master’s curriculum where completion of teaching practice in different stages ensures application of theoretical knowledge in practice simultaneously.

**Method: Exploration of narratives**

Stories in teacher education serve a dual purpose: They offer pre-service and in-service teachers possibilities to reflect on their professional development and to learn from their beliefs, values and teaching practice. For teacher education programmes, teacher educators, administrators and policy makers the stories of teachers are significant authentic research and development tools. The sample consisted of student teachers studying in the primary school teacher education programme at Tallinn University Haapsalu College. The study involved all students at all course levels (first through fifth year). The number of students participating in the research was 38 from of total of 48 students in the programme. The actual number of respondents consisted of those students who were present at the time of data collection.

In this research, the student teachers were asked to write a story about themselves as teachers. The topic was “I as a Teacher Today” implying that what one is today may not be what one was yesterday or may become tomorrow. Thus, in order to write about the topic, students were implicitly guided to position themselves in a journey. Understanding what one is today, may require the comparing and contrasting of the sense of who one is with prior experiences of oneself or with ideals that one may strive towards. The students were given free hands. With such an open, narrative topic it was up to the students to choose what to write about, and what to exclude (cf. Kyratzis & Green 1997). It is beyond the scope of this research to analyse the decision-making and the exclusions that students made in their stories. We focus on what is included in the stories, i.e. the features of their identity that the students wish to tell about. No guidelines about the length of the story were given. The stories were on average one and half pages in length, with the minimum length being half a page, and the maximum two pages.

We do not, however, apply a narrative method on the data analysis. Rather, we approach the data from a content analytical perspective. This is due to the fact that we wished to
form a coherent picture of the main themes and topics for students of each cohort instead of identifying types of stories or narrations among the students. Content analysis is suitable for analyzing unstructured, qualitative data, such as diaries and narratives, and appropriate when data is elicited through broad questions rendering the information unstructured. We applied an inductive content analytical procedure in order to produce descriptive categories of the student teachers’ experiences of themselves and the teacher education. Through the categories we have attempted to describe the phenomenon in a condensed and general form (cf. Weber 1985; Marshall & Rossman 1995). We identified expressions that pertained to the experience of oneself as a teacher or to one’s development during the teacher education. We then abbreviated the expressions into condensed descriptions, which were grouped together according to thematic un-predefined categories (see Appendix).

The data were collected and initially analysed by the first and second author. First, one of these two authors independently identified themes, and these were verified by the other. As the main themes were identified, supporting evidence from the narratives was chosen and quotes provided to illustrate the themes. At this point, one of the two authors, together with the third author of the paper made clarifications of the themes and the third author analysed the evidence chosen to illustrate the themes.

Due to the small number of students in each class it may have been possible for the teacher who collected the stories to identify the individuals behind them. This may have influenced how the students portrayed themselves as teachers. The same applies to the fifth year students who were asked to include their stories with their practicum report. Social desirability (Tuckman 1972; Morgeson & Campion 1997) may have led to the students describing themselves in more positive terms than what they actually felt as teachers. Also, the existing teacher-student relationship may have increased social desirability effects. Simultaneously, the existing relationship may have facilitated engagement in deeper and more critical reflections of their own experiences. In addition, the students pondered in the stories on their worries, fears and own shortcomings in a way that appeared genuine and honest, and decreases the interpretation that social desirability effects could have contaminated the data.

Inter-rater reliability was 84 % indicating that there was some disagreement on the categorizations of the data. The percentage can be explained by the fact that when the theme categories were clarified in the second round of analysis, it resulted in re-interpretations of some of the evidence and consequently the evidence for that part had to be placed under other categories.

The two authors who collected the data and did the initial analyses were involved in the teaching of the students and had established teacher-student relationships with all cohorts. The third and fourth author were not involved in the data collection and in no way connected with the students. We see that this combination of involvement with the student sample on the one hand and lack of involvement on the hand provided a fruitful ground for analysis with in-depth understanding as well as analytical openness.

**Ethical considerations**

The total number of research participants was fairly good for a qualitative study of this kind. Yet, the fact that the number of students in each cohort was small requires us to consider certain ethical issues to be considered.
All students present at the times of data collection chose to participate. The students were informed of the research initiative, and all students consented. The stories were anonymous. However, due to the small number of students in each class it may have been possible for the teacher who collected the stories to identify the individuals behind them leading some students to be more cautious in their writing.

For the most part, data collection took place in connection to course work in class, except for the fifth year students, who were asked to respond via e-mail or add their narrative to their practicum report. The data collection was arranged in this manner as the fifth year students did not have course work left at the university. On their part, the narratives were not anonymous, placing these students in a different position. They had the option of not participating, but again, with the small number of students in the fifth year it may have been easy to identify the individuals who did not participate, which again, may have made the students feel more obliged to respond.

**Student Teachers’ Professional Development through the Curriculum**

The central themes that emerged in the narratives describing the students’ view of themselves as teachers or their experience of teacher education were labeled as follows:

- View of teacher role and own sense of teacher identity
- Motivations to become a teacher, and readiness for professional development
- Discrepancies between the ideal and the experienced situation
- Experiences of theory-practice integrated programme

When looking at each cohort at a time, we were able to identify a pattern through all cohorts. How the students described themselves as teachers in the first year differed in some sense quite significantly from the description of the fifth year students. It is this pattern we attempt to reveal in our following analysis.

In the first year the students’ views about the teacher were mostly based on idealistic assumptions associated with the teacher’s personality. There are also references to the responsibility of the teacher, i.e. guiding young people in citizenship, and teaching being a rewarding and therefore a desirable job. The students realized that they are at the beginning of a developmental journey:

> You cannot become a teacher in five years. Necessary pedagogical skills and knowledge are acquired during the practice of the teacher profession.

At this point the students were also revisiting their motivations to become teachers:

> I cannot wait to get in front of the classroom to put myself on test (teacher practice). I am waiting for the didactics’ courses to get the knowledge how to pass on my wisdom. During the lectures I tried to imagine myself in different situations to get the idea if I can make it. You only have to wish and put some effort in it.

They may be justifying their choice to enter teacher education, or they may be mirroring their expectations against their actual experience comparing these with each other. Their expectations and actual experiences may differ, and they try to consolidate their expectations with what is taking place in the teacher education. Worries and fears are not so much present at this point. Instead, the stories convey a picture of optimistic and eager students wanting to learn more about the work of a teacher.
In the second year the students begin to focus more on the teacher’s actions. What does the teacher do, and what is he or she supposed to be doing? There is a kind of exploration of the boundaries of a teacher’s work present in the stories. It may be difficult to define who one is as a teacher, if the lines are not clear what teaching is and what it is not. Clearly, the students’ perspectives of the many facets of the teacher’s work are rapidly broadening, perhaps as a result of the first practice experiences. As with the first year students, there is optimism and cheerfulness, as shown in the quotes below:

I am a teacher who is committed to every student, who evaluates individuality, uses tips from the alternative pedagogy, who goes to work with a smile on the face and leaves the schoolhouse smiling.

Reflections on the personal motivations for entering teacher education shift towards how the students themselves experienced teaching while pupils and how these prior experiences are similar to or different from their current experience. We can detect a continuum in this topic from the first year, or it may be that this question surfaces at different points for different students. Nevertheless, it appears to be something which defines the student teachers in the early phases of their studies. The students realize that they have learned a lot and the teacher education programme has supported their professional and personal development. In terms of self-efficacy, students tend to move either in a positive or a self-doubting direction.

I have collected many thoughts about my future job, so much positivity and will, so that in three years I will be a perfect teacher, just like I have imagined.

Currently I am afraid of children, myself and my skills. I have doubts about my abilities and knowledge, but there is one thing I know for certain – I want to become a teacher.

Students who expressed concern about their ability to copy with classroom situations and disciplinary issues appeared to exhibit more self doubt and questioning. This, however, may not be an indication of negative self-efficacy, but rather a sign of some of the reflective processes characteristic for this phase in the student’s development towards teaching competence. It may also be an indication of deeper reflective processes related to identity work.

An interesting question is why the students lift forth disciplinary problems in the classroom as they have not yet had practical experience and are unlikely to have been exposed to serious situations of this kind:

Maybe, I would get into trouble with how to organize work in the classroom – to make students work and give them the needed knowledge. I still dread the discipline problems. I am afraid of being walked over.

It appears that much of the doubting and uncertainty may be a product of the stories of more experienced teachers. Part of this questioning may be related to figuring out how theory and practice are related. The label disciplinary problems may actually be a way to conceptualize issues that in fact arise from other circumstances than pupil behavior. Disciplinary problems may also work as a label for the teacher’s personal fears and feelings of uncertainty. The feelings of uncertainty may be ambiguous without a clear focus, whereas disciplinary issues provide a relatively understandable, plausible and concrete target for the fears. Another explanation may be that the students have experienced these problems while still pupils in school. The students may have felt that
disciplinary problems were caused by the teacher’s lack of experience. They may have seen the teacher’s struggle in these situations, and felt empathy towards the teacher. Now, when they are themselves entering the teaching profession the prior experiences are activated.

As the students move towards their third year, they appear to exhibit a realistic view of the joys and challenges of the teacher’s work. At this point, the students have already some practical experience as they have practiced in schools for approximately two months. These experiences are at best empowering for the student teacher, and support the development of a teacher identity. The practice appears to be significant learning experience for most students, and as such, a strongly positive experience reinforcing their wish to become teachers.

Being a teacher – this feeling is fantastic. The thing that I do is exactly what I should do.

Right now, I am more a teacher than ever; this is confirmed by positive experiences from the practice.

In their stories, the students express a search for their own personal and individual ways of being a teacher. They realize that they cannot simply copy other teachers, but they have to figure out their own ways of teaching. Part of this realization is likely to involve the need to understand the pedagogical justifications that underlie choices that teachers make. It also reflects a growing pedagogical awareness in the student teachers. The following teacher feels that she will find her way of being a teacher once she gets to explore her opportunities and limitations in a teaching situation the planning of which she has been in charge of herself. There is clearly a need to figure out the boundaries of one’s pedagogical understanding and test it empirically:

I don’t see a teacher in myself yet, because I haven’t been able to give a unique lesson.

The student teachers want to find fresh and creative ideas that they feel that reflect themselves as teachers. They have experienced they joys and challenges of the job, and simultaneously they realize that there is a lot of personal resources at stake in the teacher’s work:

I have understood that being a teacher is one of those professions that will exhaust you in the end. You won’t know how to relax.

The student teachers think about their own ways of coping and sustaining in a demanding profession without burning themselves out. Again, we can ask how much of this concern is based on stories they have heard from more experienced teachers, how much is based on their own practice experience, and to what extent their concern is influenced by their own experiences from their teachers while still in school.

As students are in their fourth year, they begin to express more and more child-centered pedagogy in their stories of themselves as teachers. This appears to be a logical step in the process of growing pedagogical awareness. They exhibit a growing concern for the kind of experience their pupils will have with them, and they wish to make the pupils’ school experience a positive and empowering one:
I know how to value a child and a study process. I have made myself clear that we own a huge power to change something in children’s lives and generally on the field of education. A teacher with a golden key creates opportunities, with which they touch every student.

The student teachers express concern about facilitating change and making learning possible, but instead of focusing on themselves as teachers in this process their focus has shifted to the learners, i.e. the children. Here appears to be a clear shift in focus when comparing with the narrations of the second year students. The pedagogical understanding of teacher’s work appears to mature sometime around the third year of studies, for some perhaps a little later and some a little earlier. Nevertheless, the teaching practice appears to play an important role for the development of the pedagogical understanding and adopting an approach to teaching which truly focuses on supporting pupils’ learning. As pointed out, during the third year the student teachers first assist and then conduct lessons and perform class teacher’s duties on their own. The students acknowledge the role of the university studies and the teacher education programme in their development as teachers:

I have a quite realistic picture of the teacher’s job and how important it is. “Yesterday” I thought that I could teach just coming straight out of my school desk. Today it is quite humiliating to admit such thoughts from my youth. I have acquired much knowledge about teaching different subjects and I’ve also changed my views of the school world.

They also compare their prior understandings about teaching and how to become a teacher with their current experiences from the programme including teaching practice, and they realize that their views have become more complex and mature. At this point, references are made to how they thought about teaching at the very beginning of their studies, and often the difference may be quite drastic.

In their fifth year, the students express an ever deepening child/learner-centered approach, in which they integrated didactical knowledge in order to form a full comprehension of what teaching is all about.

It is important for me knowing how to guide students on their way. I can appreciate a situation when the teacher doesn’t answer the students’ questions right away. It is important to guide them; it develops their independence and skills to get along in life successfully.

Part of this understanding is related to the realization that being a teacher requires continuous learning. The students view the need for continuous development positively, anticipating the opportunities of learning that their future jobs will offer them:

Teacher’s job develops continuously and offers challenges, and that’s why it engages me. Just finished practice added me more confidence and I realized how good it feels to develop continuously.

The students express at this point a strong motivation to start working in schools. They draw on their professional knowledge, and they can relate this knowledge to the actual teaching work. In a sense, the following quote shows that the student has successfully integrated the theoretical and practical aspects of teacher’s professional knowledge:

I feel quite well in front of the classroom, because I have acquired good didactics, methodical basics and much practice during five years.

The experiences from practice periods are often mentioned as a resource that the student teachers draw upon when discussing their relationship to their profession and the teacher
education programme. It appears that the practice periods integrated throughout the teacher education programme support not only the development of professional knowledge but also the development of a teacher identity.

The passed practice has helped me getting know myself as a teacher and I can see that everything impossible during the first school practice is more realistic. I feel that I am confident in front of the class.

Their concerns are mostly related with the issues of time management and heavy workload, how to combine family and work life, and again, the disciplinary issues that appear to emerge from past fears.

Earlier I worried about how I can get through my lesson, now I worry about my students and the way we get to our results together. However I, as a young teacher, have some fears and questions also. My weak spot is a lack of confidence in solving discipline problems. I am afraid of being unfair and not taken seriously. I don’t know how seriously a teacher should take things.

Overall, the student teachers frequently mention the change they have experienced in themselves as future teachers and as persons. At this point in their studies, they are able to reflect upon their development over a period of five years, and they are also able to pinpoint phases that have induced change.

I have changed a lot since the first year – both knowledge and experience levels
To be honest, I could never expect what kind of changes this profession demands from me.

The practicum is one of the most important eye-openers allowing the students to take significant steps forward. It is during these phases that the knowledge accumulated up to that point is consolidated and integrated in the multifaceted teacher identity.

Discussion and implications for teacher education

Prior research (Fuller 1969) has identified stages that beginning teachers go through as they enter the teaching profession. At first, they focus very much on themselves as teachers. The second stage entails focusing on skills and methods. In the third stage the focus is turned towards the learners and how to support the learning process. Our research indicates that students in teacher education go through similar stages starting from focus on oneself and moving beyond the immediate self towards methods and skills of the teacher in the second year of studies, after which the focus turns towards the pupils’ learning. Despite the fact that this has not been a longitudinal study, we are confident that we may draw some conclusions about typical issues in the student teachers’ identity at different points in their studies. We discuss the development process in terms of the categories identified in the data and outline implications for teacher education.

The view of a teacher’s role and sense of teacher identity among the student teachers has changed over the course of the past five years of teacher education towards a clearly articulated learning-centered approach to teaching in which the teacher’s main role is to facilitate the learning of pupils. In some ways, the understanding of pupils’ learning is related to student teachers’ understanding of their own learning processes. In the beginning of the studies the student teachers exhibited a more teacher-centered view of the teacher’s tasks in the classroom, including the delivery of knowledge and direct instruction. As views about the teacher’s role shifted from focus on the teacher/teaching
towards pupils/learning there appeared to be a change also in how one’s own teacher identity is described.

For teacher education, the crucial question is how student teachers experience their own learning. Focus in the programme needs to be directed toward supporting the students’ own learning, and the experience that they have of themselves as learners. Teacher educators need awareness of different approaches to teaching in order to be able to not only facilitate student teachers’ learning processes, but also to model good teaching-learning processes for the students.

Most students express high intrinsic motivation to become a teacher throughout all their years of study. There is, however, a slight difference in their expressions – the students from the first year express their motivation separately from their role as a teacher. The students feel that they have “something in them”, perhaps a characteristic, ability or some aspects of personality that would make them good teachers. Their focus is on willingness to change the world. This tendency is getting stronger during the studies and the students in their final year seem to feel like a teacher already, their motivation is evident in their expressions of their own sense of teacher identity. They also express their readiness for professional development more than the students from first years of study. The students from the final year start to express a strong motivation to begin work, although they acknowledge that they still have a lot to learn.

The students from the first year do not identify the difference between the ideal and the experienced situation. The more they learn, the more worried they seem to become. Alternatively they realize the limitations of their knowledge and understanding as they cumulate. Students from the second and third years express mainly their worries about how to handle the real-life situations. Many feel that they fail in handling disciplinary problems. When the students have a possibility to practice more, they start talking about their experiences and most fears they used to have leave room for only one main concern – the lack of time that does not allow them to behave like they imagine a good teacher would. Some students express their worry that they might not be able to handle this and fail to choose the teaching profession because they feel that the job is too exhausting. Many students also note their immaturity thinking that they were ready to teach at the beginning of their studies. In initial teacher education we as teacher educators should pay attention to student teacher motivation in becoming a teacher and their first experiences in the practice. If the students are motivated then even if they experience some difficulties, they are still willing to learn from their experiences. The task the students need to perform should require moderate effort and support their self-efficacy beliefs. Our data suggest that time-management issues should be addressed especially during the practice and fourth-fifth year, since this seems to be a strong demotivator for teacher profession among student teachers who have had a possibility to practice longer periods.

The discrepancies between the ideal and the experienced in terms of becoming a teacher appeared to involve students’ self-efficacy beliefs. Some students exhibited a firmer belief in their ability to become teachers, whereas some students exhibited more self-doubt and worries about different aspects of a teacher’s job, including their own ability to work as teachers and disciplinary concerns. It is important that a teacher education programme provides sufficient support for those prospective teachers who have concerns and possibly a lower sense of self-efficacy. Doubting and worrying may also be part of their self-reflective process, in which case it is important that they get support.
For the teacher education programme the results imply that the practicum should be set in an environment that optimally challenges and supports the student teacher’s development. This is particularly important for those students with stronger doubts, and possibly weaker self-efficacy beliefs. The practicum may, for this group of students, be a potentially empowering experience at its best, but support and supervision are nevertheless necessary elements in the programme. It is vital at this point that these students have positive experiences that support their self-efficacy beliefs and professional development. It can be argued that all student teachers benefit from positive practicum experiences, but that the reality of the teacher’s work may be quite different from the empowering experience that student teachers gain while having full access to the support structures of the teacher education programme. Yet, we firmly believe that the way in which the reality and the actual teacher’s work is perceived is related to the students’ sense of self-efficacy and experience of being in charge in their work as a teacher. Teacher education programmes can support the sense of efficacy in the student teachers by providing positive, strengthening, yet real and authentic experiences. The key is what kind of mechanisms are in place for providing support to young teachers.

The way the students described themselves as teachers and their development during teacher education often boiled down to the issue of their experiences of the theory-practice integrated programme. The point at which the practice takes place appears to be optimal: the students have enough knowledge, competence and understanding of themselves as persons in order for them to take full advantage of the practice period. If the practice took place earlier on in the programme, it may not fully serve its purpose in supporting students’ development as teachers.

The implication for the teacher education programme is that the studies best serve their purpose when integrated, yet with a solid enough theoretical foundation to provide a spring-board between the practical experience and the student teachers’ self-reflection. Arguments have been presented in favour of starting practicum already at an earlier phase. Our data, however, supports the notion that reflection is most fruitful when the student teachers have some foundation of knowledge to reflect upon.

We believe that researching student teachers’ professional identity continuously during their studies serves dual purposes: It develops teacher educators and supports student teachers’ identity building. This is one possibility for breaking out reproductive practices in teaching and teacher education.

References


### Appendix: Overview of categories and supporting data

<table>
<thead>
<tr>
<th>Name, course</th>
<th>View of teacher role and own sense of teacher identity</th>
<th>Motivations to become a teacher, and readiness for professional development</th>
<th>Discrepancies between the ideal and the experienced situation</th>
<th>Experiences of theory-practice integrated programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anu I</td>
<td>Young, with few experiences, beginner.</td>
<td>Full of desire to develop and get better. I want to finish the chosen road.</td>
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<td></td>
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<td>The thought – teaching is not for me – stays in the background. I hope to be</td>
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<td>supported and guided; waiting for the practice period, which is known as a</td>
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<td>worry-point. It gives you the choice to decide upon the teacher’s job or</td>
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<td>the retraining.</td>
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<tr>
<td>Krete I</td>
<td>Today it is about a quarter of satisfaction that will</td>
<td>I want to get my own class impatiently to show them my knowledge (including</td>
<td>The wish to become a teacher was definite. At college I feel that</td>
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<td></td>
<td>be in 5 or 8 years</td>
<td>vital skills).</td>
<td>my choice has been right.</td>
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<tr>
<td>Kaia I</td>
<td>I know for certain that I would put into practice all</td>
<td>I would like to speak up about the arrangement of the educational system.</td>
<td>It is hard for a young teacher to stay on her speciality.</td>
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<td></td>
<td>my creative ideas to educate Estonian students.</td>
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<tr>
<td>Karolin I</td>
<td></td>
<td>The profession of a teacher is not easy, although it is the most thankful</td>
<td>You cannot become a teacher in five years. Necessary pedagogical</td>
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<td></td>
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<td>job. There is a wish in me to change something in the educational system,</td>
<td>skills and knowledge are acquired during the practice of the</td>
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<td>be open to new things, and help young people to find their gifts. Isn’t our</td>
<td>teacher profession.</td>
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<td>lives’ purpose continuous development and getting to know ourselves better?</td>
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<td>Merike I</td>
<td></td>
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<td></td>
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<tr>
<td>Mari I</td>
<td>I am not yet a teacher, but certainly there is some</td>
<td>I cannot wait to get in front of the classroom to put myself on test (teacher</td>
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<td></td>
<td>“teacherness” in me.</td>
<td>practice). I am waiting for the didactics’ courses to get the knowledge how</td>
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<td>to pass on my wisdom. During the lectures I tried to imagine myself in</td>
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<td>different situations to get the idea if I can make it. You only have to</td>
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<td>wish and put some effort in it.</td>
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<tr>
<td>Terje I</td>
<td>I will do anything to become a good teacher who has</td>
<td>A teacher must be able to guide even the most miserable person into our</td>
<td>I have got an idea of the teacher profession.</td>
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<tr>
<td>Name</td>
<td>Statement</td>
<td>Additional Information</td>
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<tr>
<td>Tiina</td>
<td>Being a teacher isn’t only developing your knowledge, but also developing skills, behaviour models, principles and self-image. At this point I am not yet a teacher, because for me, teacher’s profession requires achieving a special standard and prestige.</td>
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<tr>
<td>Merili</td>
<td>I have not studied for a long time, so I cannot say if I am going to be a good teacher. I will do everything to become a good one.</td>
<td>Currently I am afraid of children, myself and my skills. I have doubts about my abilities and knowledge, but there is one thing I know for certain – I want to become a teacher.</td>
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<tr>
<td>Hanna</td>
<td>I am a teacher who is committed to every student, who evaluates individuality, uses tips from the alternative pedagogy, who goes to work with a smile on the face and leaves the schoolhouse smiling.</td>
<td>When I came to learn, I thought that I know everything; there is no need to learn more. Time passed and I realized that my knowledge and skills are non-existent.</td>
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<tr>
<td>Maili</td>
<td>I couldn’t presume that teacher’s profession is different than my own teacher’s job. It used to be a “carrot and stick” method, but nowadays it doesn’t work. Students have to wish to learn and a teacher should not push them all the time.</td>
<td>Currently I am afraid of children, myself and my skills. I have doubts about my abilities and knowledge, but there is one thing I know for certain – I want to become a teacher.</td>
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<tr>
<td>Sandra</td>
<td>I know everything in theory, but I cannot imagine how I am going to make it. My ideas about the teacher profession have been changed positively comparing to the beginning time.</td>
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<tr>
<td>Liis</td>
<td>I am developing and changing, not yet a teacher, but I will become a good one and that is my aim.</td>
<td>Thanks to different subjects I have become more confident and better. The things that college provides us, supports my development.</td>
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<tr>
<td>Laura</td>
<td>I believe that I am able to make up different exciting worksheets to bring more interest into students’ life.</td>
<td>Maybe, I would get into trouble with the work organization in the classroom – to make students work and give them the needed knowledge. I still dread the</td>
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<tr>
<td>Name</td>
<td>Comments</td>
<td>Discipline problems. I am afraid of being walked over.</td>
<td>of Didactics has created a shallow idea of the teacher’s job.</td>
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<td>Liina II</td>
<td></td>
<td>If I had to give a lesson, I would refuse, because I feel that there is so much to learn. I’m sure, I would handle it, but I wouldn’t be a good teacher.</td>
<td>I feel that I have developed a lot during this short period of time, discovered the advantages of becoming a teacher. The time I have spent here has given me much knowledge – both professionally and personally.</td>
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<td>Kertu III</td>
<td>I am scared but at the same time I’m moving on towards the end of my studies and getting a job in a school, where I want to go to; where I can develop. I have some expectations, fears and a small vision. I want to work in a school that has a potential to develop and I could feel good.</td>
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<td>The picture of what will come is clearing up day to day, month to month. I hope it won’t break into pieces.</td>
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<td>Kadri III</td>
<td>My experience package (which gives you the professionalism) is very small. If you imagine the teacher’s experiences as a wedding cake, then I would be a small cherry on it.</td>
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<td>Maarja-Liis III</td>
<td></td>
<td>I don’t feel confident in class teaching and fear discipline problems. It is hard to difference work so that each student gets the tasks that suit his/her skills.</td>
<td>Right now, I am more a teacher than ever; this is confirmed by positive experiences from the practice.</td>
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<td>Margot III</td>
<td>I would like to be a teacher whose students are not afraid of laughing, whose methods are fresh, whose presence forms physically and mentally safe environment. I would like to be a teacher who knows how to enjoy life.</td>
<td>During the last week I understood that I really want to become a teacher, because I would go through the fire and water.</td>
<td>I have understood that being a teacher is one of those professions that will exhaust you in the end. You won’t know how to relax.</td>
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<tr>
<td>Mairi III</td>
<td>Being a teacher – this feeling is fantastic. The thing that I do is exactly what I should do.</td>
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<td>Certainly I have become more patient with myself and others.</td>
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<td></td>
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<td>When I came to the university I had no idea what does it mean to be a teacher. Now I have understood how wonderful profession it is. I know how to offer students fun and help, be confident, open-minded and friendly teacher.</td>
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<td>Name</td>
<td>Description</td>
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<tr>
<td>Kaire  III</td>
<td>I don’t see a teacher in myself yet, because I haven’t been able to give a unique lesson.</td>
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<tr>
<td>Luise III</td>
<td>Today I imagine myself as a good, self-confident and creative teacher. I can make a class my own.</td>
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<td>Evelyn IV</td>
<td>I am a partly developed modern teacher-creative, open-minded and flexible. Above all I think that I am human-centred and thoughtful trying to show students that they are safe.</td>
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<td>Britta IV</td>
<td>My imagination and plans about the job of a teacher are bigger than I could put into practice. Certainly I would make my lessons interesting and protean, so that students wouldn’t have to stay in a routine. My aim as a teacher won’t be teaching a book or a workbook, but my subject.</td>
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<td>Martiine IV</td>
<td>Today I am a kind-hearted teacher, who isn’t afraid of using new methods. However, I am not fully ready to deal with all consequences. Today, I am, as a teacher, cheerful and I try to make the teaching process enjoyable and interesting for the students.</td>
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<tr>
<td>Taavi IV</td>
<td>Today I am full of hope and believe that besides the sleepless nights I will be a good teacher in the future.</td>
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I still have no evidence that I could be a teacher, but in my heart I feel that I am Me as a teacher today – this is a challenge.

I have much to learn, but most of it comes during the work.
I have a wish in my heart- to make the students’ first years beautiful and memorable; I want to make children confident and creative. If you want to do that, you have to approach with games.

Comparing the time, when I came to the college to the future career as a teacher, I am quite sure that I am exactly half way.

However, I’m not sure if I could be an authority in front of the classroom. I have doubts in succeeding. I believe that after a year I will have more confidence in me.

Today I’m not quite sure if I could be an authority in front of the classroom. I have doubts in succeeding. I believe that after a year I will have more confidence in me.

I have developed and learned a lot, but I am not a “real” teacher yet.

Right now I’m having a lack of confidence – what to do in front of the classroom and how functional it is. But I have a quite realistic picture of the teacher’s job and how important it is. “Yesterday” I thought that I could.

This job is what I want to do. I can say that 100% because I have just come from a practice. If someone offered me today to step into a classroom, I would go but without quitting my studies. This is the place where they make me a better teacher, put positive energy and creativeness into me.

I have a wish in my heart- to make the students’ first years beautiful and memorable; I want to make children confident and creative. If you want to do that, you have to approach with games.

College has been a big influence on me. I sincerely believe that here they provide us with the best pedagogical education in our republic. We are formed teachers who are needed in our changing society.

I must say that making interesting lessons is a time-consuming process, but college has given us for that a good knowledge package.

I have developed and learned a lot, but I am not a “real” teacher yet.

I have a quite realistic picture of the teacher’s job and how important it is. “Yesterday” I thought that I could.
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<th>Name</th>
<th>Statement</th>
<th>19</th>
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<tr>
<td>Elisabet IV</td>
<td>I am a teacher who dreams of her own class, with who to move on in one direction. I am a teacher who has a lot of development space to become a better one. I am a teacher who desires to get more experience, promote the school life and to be a good guide for the children during their studies.</td>
<td>19</td>
<td>teach just coming straight out of my school desk. Today it is quite humiliating to admit those things from my youth. I have acquired much knowledge about giving different subjects and I’ve also changed my views of the school world.</td>
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<tr>
<td>Kaija IV</td>
<td>I know how to value a child and a study process. I have made myself clear that we own a huge power to change something in children’s lives and generally on the field of education. A teacher with a golden key creates opportunities and with that touches every student.</td>
<td>19</td>
<td>At a moment I am a teacher who is a bit experienced in teaching with all its sides - thanks to the practice. During the university years I have acquired much knowledge and skills I am more confident than I was when I came to learn in college.</td>
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<tr>
<td>Hele IV</td>
<td>I think that I am a better teacher I could wish for. In the future I imagine myself in front of elementary classes. The teacher profession is hard. However it gives you much positive feedback.</td>
<td>19</td>
<td>There is much to learn and there are definitely things that will not be learnt in the university. I as a teacher today – am ready (almost). The comprehension of the teacher’s profession has changed during the university years. When I was a beginner student I thought that the education a teacher needs is full of theory. Now I look back and think that a teacher gets an education through the practical experience. Being a teacher has given me</td>
</tr>
<tr>
<td>Name</td>
<td>Reflection</td>
<td>New Ideas and Methods</td>
<td>Challenges and Solutions</td>
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<tr>
<td>Marti IV</td>
<td>I feel that I have much to develop. I believe that I am a good teacher, trying to develop myself and being open to be developed. I don’t like to be assessed. Although, a reasonable evaluation would be nice. It is important to get a constructive feedback. I value the reflection of myself, which is positive. From that comes courage to be creative.</td>
<td>Certainly I am open to different new ideas, methods.</td>
<td>A sad feeling will come, because I don’t plan my lessons separately like I did in the past. I have developed a system for that. Is it also going to be like that in school? Hope not. Lack of time is a constant problem. By all means, I have discovered pleasant sides in me which I like about teaching. I am open to different thoughts and visions.</td>
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<tr>
<td>Lotte IV</td>
<td>Being a teacher doesn’t mean just teaching but foremost that I am a lifelong student. I am not perfect and never will be. Knowing that helps me to learn from all situations and therefore guide others better.</td>
<td>I appreciate the learnt knowledge, but I am sure that I don’t know all the things needed in teacher’s job. It is a continuous development. I am a student for life myself.</td>
<td>I have changed a lot since the first year – both knowledge and experience levels. To be honest, I could never expect what kind of changes this profession demands from me.</td>
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<tr>
<td>Katrin V</td>
<td>To sum up, I can say that after last practice I feel very confident to start my pedagogical career.</td>
<td>Nevertheless, knowing that I am not yet a perfect teacher makes me study more and develop myself.</td>
<td>Thanks to my mentors, who supported and encouraged me I feel today that I am ready to become a teacher. However I am a bit doubtful because I know that teachers have quite a big work load. In addition to giving lessons, you have to prepare them and check all kinds of assignments. It takes time and energy. Today I don’t think about the teaching like I did a few years ago. The practices in college have developed me a lot, although I should not forget that complementing oneself is a continuous process. Having passed three most important practices I feel that I have made a huge leap. If I compare myself in the first school practice and in English practice, the difference is noticeable. In the first case I couldn’t even make up a logical lesson and that’s why I didn’t enjoy giving lessons. In the last practice, the lesson structure came logical by itself. Giving lessons was the ultimate pleasure.</td>
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<tr>
<td>Helen V</td>
<td>It is important for me knowing how to guide students on their way. I can value the situation when a teacher doesn’t answer students’ problems right away. It is important to guide them; it develops their independence and skills to get along with life successfully. I value the teaching process knowing how to teach new material interestingly. Teaching must be originated from student’s interests, age, development level and environment. A teacher should find a suitable approach for all students, leaving no one aside. A teacher is taken as a role model, who knows everything about everything. She passes on her thoughts, attitude and feelings.</td>
<td>I am ready to use my principles in life, so I want to stand in front of a classroom as a teacher.</td>
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<tr>
<td>Ines V</td>
<td>Students wanting to come into my class - is the most important thing. Because of that I always plan my lessons as interesting and varied as I can.</td>
<td>Nevertheless I have to admit that at the moment I am overtaken by thoughts, which I have never had. I am having doubts in becoming a teacher. These thoughts make me sad because I love the job, but during the practice period my family was laid aside.</td>
<td>Now I can say that I am confident and I value students. Thanks to the skills to analyse my activities I have developed and become more self-confident teacher.</td>
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<td>Priit V</td>
<td>I can see the weak spots of my students and obviate the discipline problems. I want to help make the learning process interesting and varied for the students.</td>
<td>Teacher’s job develops continuously and offers challenges, and that’s why it engages me. Just finished practice added me more confidence and I realized how good it feels to develop continuously.</td>
<td>I feel quite well in front of the classroom, because I have acquired good didactics, methodical basics and much practice during five years.</td>
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<td>Teele V</td>
<td>I feel like I’m developing with my students. I don’t just give the 45 minute lessons filled with activities; I try to move on together with the students towards our goals. It gives me self-confidence and peace of mind.</td>
<td>I am looking into the future, wanting to develop and be a teacher.</td>
<td>Earlier I worried about how I can get through my lesson, now I worry about my students and the way we get to our results together. However I, as a young teacher, have some fears and questions also. My weak spot is a lack of confidence in solving discipline.</td>
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<tr>
<td>Elisa V</td>
<td>I want to be a teacher who is not afraid of making mistakes. I want to be friendly, thoughtful, concrete, and democratic. I want to teach the things I like. I am planning to be consistent.</td>
<td>Not a day passes, without thinking about my future workplace and job.</td>
<td>I am now a much different teacher than I was a year ago. The fifth year has made some things clearer. I have understood what kind of a teacher I want to be and what kind not. I know the principles I would like to follow as a teacher.</td>
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Qualifying teachers for flexible learning environments

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Abstract: There is still much to desire when it comes to teacher qualifications and the integration of technology into learning environments. This goes for all levels of education. Two possible angles of attack for optimal integration of technology in education are: initial teacher education and professional development through in-service or further education.

Most students nowadays have already acquired elementary PC skills. What is most necessary now are pedagogy and methodology to apply the technology within curriculum, to integrate it for better learning. Teacher trainers should be reflective and well trained in the area themselves, thus being able to demonstrate best practice in their everyday work with students. Many of the present holders of such positions are not up to the required level yet. Experiences from a TT institution with integrated ICT for all students and an option to a master’s programme for ICT in Learning are outlined in the paper.

Online courses for in-service and upgrading of teachers, particularly aiming at university and college staff, including teacher trainers, has been tested in a global setting. This set of two courses at master’s level, named E-teaching I and E-teaching II, awarding 10 + 10 ECTS credits, has turned out a great success, and are presented here. Reactions from course participants document acquirement of new knowledge and skills.

Introduction

New information technology and Internet are already well integrated into most walks of life. Education is joining the band wagon, but there is still much to desire when it comes to teacher qualifications and the integration of technology into learning environments. This goes for all levels of education, from kindergarten to university. There are two major paths to follow in order to raise teacher qualifications with respect to optimal integration of technology, integrating ICT better within initial teacher education and to offer in-service or further education for staff members. Both alternatives should be applied to supplement each other.

Elementary training of PC skills for teachers is no longer a major task in teacher education; most students have already past that stage. What is most necessary now are pedagogy and methodology to apply the technology within curriculum, to integrate it for better learning. This requires teacher trainers to be fluent, reflective and well trained in the area, thus being able to demonstrate best practice in their everyday lectures and guidance. Many of the present holders of such positions are not up to the required level. To support further development of their staff the teacher training institutions should be involved in R&D projects, preferably involving some students at master’s level. Strategies and experiences from a teacher training institution where ICT is integrated for all students, with an optional and popular extension to a master’s program labelled ICT in Learning is outlined in the first part of the paper.

An online programme for in-service and upgrading of teachers, particularly aiming at university and college staff, including teacher trainers, has been offered and tested in a global setting. This set of two courses at master’s level, named E-teaching I and II, awarding 10 + 10 ECTS credits, has been very well received, and is presented in more detail in the second part of the paper. Reactions from course participants document both initial lack of competencies in the field of e-learning, and the acquirement of new knowledge and skills.

Teacher training finding its way to true integration of ICT

Teacher education is constantly being exposed to criticism as well as to new trends and changing pedagogical ideas. Application of different technologies for learning purposes has been among the waves that have been advocated by teacher trainers. When ICT became more easily available with the introduction of handy personal computers around 1980, academic staff members were more or less sceptic to automating or de-personalising the teaching/learning process. Arguments for and against acceptance of the new options were strong and well founded, but will not be repeated here. However, a short outline of the development within a particular, rather small teacher training institution will precede a description of the present situation, reflecting how one now thinks that a balanced solution may have a positive effect on future teachers’ competencies.
The initial impulses came from study visits to Scotland, Canada and USA in 1982-83 when Stord/Haugesund University College (HSH) started looking into the applications of computers in education, and particularly in teacher education. At the early stages focus was particularly on technology, computer literacy and programming, also testing some primitive games and computer assisted learning (CAL) applications. The college was, however, among the first institutions in Norway trying to break away from the technical and informatics centred focus, searching for pedagogical and subject oriented applications. The first study programme named Informatics for teachers, started in 1983, awarding equivalents of 30 credits (ECTS). It was pointed out to the students that they had come to the wrong place if their goal was to be computer specialists, programmers or technical experts; here the focus would be on computers applied for learning purposes. Head of the study programme in 1984 announced that he expected that this kind of studies would only be around for about 5 years; then the subject specialists would take over and integrate ICT into their methodology and proper contexts.

He was certainly proved wrong on this assumption! Actually it took around 20 years before the majority of academic teacher training staff became conversant with the technology at a level where it could be properly integrated. In the meantime special study programmes on Informatics for teachers recruited students from initial teacher training as well as from schools around the country where teachers wanted to learn about the educational applications of ICT. Content and methodology evolved along with new technology, with new ideas and experiences. Outcomes from local, national and international R&D activities in the field were discussed and gradually worked into revised study plans, expanding the offer from the initial equivalent of 30 credits, first to 60 and then to 90 credits (ECTS), i.e. ½ year of full time study. Eventually a full master’s programme titled ICT in learning (120 credits) was approved from 2003.

The ICT department for teacher training at HSH was among the pioneers of net based learning, both nationally and at a European level. Jointly with 3 other higher educational institutions in Norway they formed Norway-net with IT for Open Learning, NITOL (Haugen, H. & Ask, B. 2005), as a follow-up of the European DELTA project Just In Time Open Learning (JITOL, 1992), where several courses within Informatics for teachers were offered as open learning through Internet. Within a rather short time the whole study programme was made available over the Internet. Hundreds of Norwegian teachers attending the courses thus gained experience with net based learning in a practical way.

Models and experiences from these early stages of e-learning were developed and exchanged through national and international papers, conferences and projects. Examples of such projects are Models for European Collaboration and Pedagogy in Open Learning (MECPOL, 1996) and Models for a European Networked University for e-learning (MENU, 2001). Engaged in around 10 different European projects where net based or blended learning was in focus, parts of the teacher training at HSH became quite up-to-date with respect to e-learning, gradually involving and training a broader spectre of staff members.

**ICT in present teacher education at HSH**

The status of ICT in teacher training programmes at HSH has changed gradually through the past quarter of a century. Initially the couple of enthusiasts starting the courses in 1983 thought that the special ICT-focus would only be required through a 5 year introductory phase. Next a growing professionalised faculty of devoted instructors and developers established their own well functioning Department of ICT in Learning. Then the final stage, when the institutional administration decided on today’s complete integration. The master’s degree programme of ICT in Learning is now spread over the whole Division of teacher education, where most of the other subject departments are contributing. The strategy has been to make ICT a common denominator, a characteristic for all teachers graduating from the Stord/Haugesund University College.

**For all students**

Like most other higher education institution HSH has wireless networks, a common LMS (Fronter), standard software, support desks, general information distribution via the network etc. When students now enrol for teacher education at HSH, the introductory study guide tells them among a lot of other things that

> Student guidance is done both individually, in groups and over Internet. The education stresses that you are active and contributive. Application of ICT as a tool is central. (Translated from: http://www.hsh.no/studier/larar/allmennlarar.htm)

All students are expected to attend an introductory course on network procedures, use of the LMS, rules and regulations for communication on PCs and networks. For students who do not feel quite comfortable with the new technology when they enter the college, additional basic training is provided during the first weeks. Here again the educational setting of technology is in focus, but the necessary practical skills are of course also checked. It is expected that all students are able to produce all hand-ins, group works etc. in electronic formats.
Every staff member has his/her own PC with software and network access, both at the office and from home. Required training has been provided to prepare daily use of the technology. Hence most of the subject instructors are now applying ICT for administrative purposes, as part of the total learning environment they offer, and for communication with students and colleagues. Some of them are also involved with students at master’s level and in R&D projects that are encouraged for professional development purposes.

Finally now, after more than 25 years of pioneering and internal efforts to convince colleagues of the potential and options that the new technology offers, integration and general use of ICT seem to have penetrated the whole teacher education programme at HSH.

**Specialisation, Master’s degree programme**

As described above, specialisation towards ICT in education has evolved gradually over a long period of time, around 20 years. Proposals for new courses and degrees have been worked out and presented for local administration as well as to the Ministry of Education, partly in collaboration with other institutions. The first approval of the master’s programme was initially signed by the Ministry of Education in 2002, actually as part of a European Socrates project (MENU, 2001), and has since been through a few changes and developments. A re-certification and quality approval by the Ministry was acquired in 2007.

The present study programme is described briefly in English on the HSH web site (HSH Master):

**A master degree in ICT in Learning**

**Number of Credits:** 120

**Objectives:**
1. To be an interdisciplinary study on a graduated level that focus on the use of ICT in educational theory and praxis.
2. To give a scientific basis of research and development in the use of ICT in learning and to qualify for the PhD studies.

**Contents:**
This is a graduated study program, based on teacher education. The meaning of the title, "ICT in learning" indicating that the main goal is the integration of ICT in a learning environment. It is not the study of technology or learning theory as separated disciplines.

**Organization:** Lectures, seminars, online teaching aids

**Program / Course Plan:**

<table>
<thead>
<tr>
<th>Initial Semester</th>
<th>Course</th>
<th>Course Code</th>
<th>Num. of Semesters</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st</td>
<td>Arts education profile - Music 1</td>
<td>MAS-MU01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>1st</td>
<td>Arts Education Profile, Art and Crafts</td>
<td>MAS-KH01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>1st</td>
<td>General didactic profile 1</td>
<td>MAS-ALM01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>1st</td>
<td>Introduction to ICT and learning 1</td>
<td>MAS-DIG01(1)</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>1st</td>
<td>Language profile - Norwegian 1</td>
<td>MAS-NO01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>1st</td>
<td>Social Science Oriented Profile 1</td>
<td>MAS-SAF01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>1st</td>
<td>Subject didactic profile in mathematics 1</td>
<td>MAS-MAT01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Technological oriented profile 1</td>
<td>MAS-TEK01(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Arts education profile - Music 2</td>
<td>MAS-MU02(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Arts Education Profile, Art and Crafts 2</td>
<td>MAS-KH02(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>General didactic profile 2</td>
<td>MAS-ALM02(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Introduction to ICT and learning 2</td>
<td>MAS-DIG02(1)</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2nd</td>
<td>Language profile - Norwegian 2</td>
<td>MAS-NO02(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Social Science Oriented Profile 2</td>
<td>MAS-SAF02(1)</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>Subject didactic profile in mathematics 2</td>
<td>MAS-MAT02(1)</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>
As can be seen from the above table of courses, several subjects are explicitly involved in larger parts of the study programme (40 credits) as options according to student interests. In addition, the master thesis will also involve subject specialists as central advisers, guiding the students through their research projects. The benefits from this cross-subject involvement is two-fold, 1) the students will see ICT in a relevant setting for a specialisation of their choice, and 2) the professors will be involved in up-to-date R&D work relevant for their own fields of teaching. Inputs received through guest lectures, visiting professors and scientists from external environments add to this professional development of the local academic staff.

**Student attraction and feedback**

Even since the early days of ICT courses at HSH, the popularity has been high among internal students as well by external candidates who generally are qualified teachers working in primary or secondary schools. The great advantage for external candidates that were bound by geographic, employment and family situations was the net based access to in-service and further education through the NITOL project. Some of the courses in the master’s programme are still presented through the Internet, but the whole study programme is now more of a blended learning approach, making it slightly more difficult for students located in other parts of the country. There are now 3-4 compulsory sessions every year, located to HSH for 2-3 days each time, normally adjacent to weekends.

The shorter study programmes, 30 or 60 credits, have attracted hundreds of students over the years, and have been so popular that the college study administration in periods has closed or limited this offer in order to direct larger groups of students to choose other electives for their teacher training. It is understandable that school authorities fear that the popularity of ICT among teacher students may lead to lack of new teachers who have the necessary qualifications for mathematics, science or language teaching. Whatever perfect tool ICT may be in the learning process, it can not be used without proper content and understanding of subject methods. A remedy against this pitfall has been to set a deeper study of at least one “school subject” as an entry requirement to any of the ICT study programmes.

For the master’s programme this has been clearly spelled out in the study plan, where at least one year (60 credits) specialisation is required at the bachelor or higher level before starting the first courses of the programme. Since the study was introduced in 2003, with less subject specialisation at the master level, this has been an entry requirement. After the major reform of structure in 2006-07, when the subject specialisation continued into and through the whole programme, this requirement had to be enforced even stronger. Never-the-less, student attraction to the ICT programme has continued to be great. Even at times when enrolment to higher education in general and for teacher education in particular, has been going down, the master’s programme has kept up its popularity.

This may have been a pillow for the college administration to sleep on, knowing that there are always more applicants to the programme than there are vacant places. Hence there has hardly been any marketing for the ICT in learning at all, no ads in newspapers or magazines, no flyers or big headers on the college web page. It is tempting to believe that mouth-to-mouth information by well satisfied students is an efficient way of marketing a study programme. But perhaps some more marketing had been helpful for all those candidates who do not happen to hear about the possibility for an interesting and flexible study period in their professional career.

**Further professional development**

Teachers who are already out in schools or universities will have a constant need for professional development in order to keep up to their required level. This is particularly true for professor and academic staff who are in charge of higher education, meant to be models for their students in future careers. The introduction and proper application of ICT and modern learning environments are important measures in that respect. Not everyone has the possibility to enrol for a full master’s programme. Then other, shorter and less formal courses may be the best option.

The need for access to education on a global scale requires new and flexible ways to offer education, also at university level. This has encouraged the globalisation of some ideas initiated during the NITOL project,
The growing demands for higher education around the world render particularly universities in developing countries under pressure to accommodate larger numbers of students. As the situation is now, economy, campus facilities as well as access to qualified staff set limits for intake of new students, far below national and regional demands. Vast masses of knowledge-hungry candidates are knocking on the university gates. Available resources are insufficient to meet the needs through traditional systems and organisations.

Governments and agencies in developed parts of the world have programmes for foreign aid, financing education etc. in developing countries. There is almost no end to the needs for solving the most urgent situations. Much of the efforts towards education go into primary and adult education in order to overcome illiteracy. By the time these obvious and urgent needs are supported, there are hardly any means left for higher education, let alone for in-service or further education of already qualified teachers and other academics. In some cases bursaries or grants are offered for further studies or post graduate work at institutions in developed countries, thus taking the grantees away from important duties and students at their home institutions. The training in a different cultural setting may even be of less value when they return, or still worse, may tempt the grantees to continue working under better conditions in the developed parts of the world.

Could net based study programmes, developed and anchored locally, be a way to keep the academics at their home institutions, thus creating new learning environments for larger masses of their countrymen? This may improve capacity, accessibility and cost effectiveness for more students, and avoid the brain-drain from already scarce resources.

Objectives and actions
The United Nations University (UNU) encourages activities that may raise competence and confidence at universities globally. A special branch of the UNU, the Global Virtual University (UNU-GVU), has during a pilot period of 5 years (2002 – 2007) initiated and established a global network of universities for developing joint degrees and building online competence for teachers and professors. Main objectives are to support sustainable development and establishment of learning organisations and communities that strengthen local competence and meet demands for higher education.

Qualification of teaching staff in Africa, Latin America and parts of Asia to develop, organise and tutor their own online courses and study programmes, will raise confidence and promote self reliance. It will also strengthen the local cultures and national characteristics without lowering quality of higher education. This is contrary to the practice of delivering courses and study programmes from or in more developed countries, options that may be regarded as cultural imperialism.

Two dedicated courses on e-learning, both at master’s degree level, each awarding 10 credits (ECTS), are offered globally online to professors and teaching staff.
- E-teaching 1, basic online methodology and pedagogical principles for tutors (E-t 1)
- E-teaching 2, planning, designing and development of online courses (E-t 2)

The courses are developed on the basis of material and experiences from collaborative EU projects on e-learning (MENU) and take advantage of expertise in partner institutions. Jointly with UNU-GVU two Norwegian universities, University of Agder (UiA) and Stord/Haugesund University College (HSH) have been running the courses and taken the academic responsibility, awarding formal credits and diplomas to teachers & professors who complete the work and exams.

In principle the courses are to be financed through student fees. During the UNU-GVU pilot period, however, available funding has allowed to establish bursaries to cover greater parts of the fees for participants from developing countries. Economy has thus not been a major obstacle for interested staff members so far. The major challenges that remained are related to lack of time and to the unstable infrastructure, causing some of the registered students to drop out without completing the course.

The lack of infrastructure and access to modern technology is often argued against this strategy for offering higher education to target groups in developing countries. Statistics now show, however, that the situation is changing drastically. Nowhere in the world is the usage growth as high as in Africa, Middle East, Asia and Latin America. It is thus reason to believe that within a few years’ time the access to Internet will be rather widespread also in the developing world. Therefore, preparing the present and future teaching staff at universities and schools in these regions for the new learning arenas may be of particular value to strategies, plans and activities. Despite the low percentages in column 4 in the table below, the last column is rather impressive.
<table>
<thead>
<tr>
<th>World Regions</th>
<th>Population (2008 Est.)</th>
<th>Internet Users, Latest Data</th>
<th>% Population (Penetration)</th>
<th>Usage % of World</th>
<th>Usage Growth 2000-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>975 330 899</td>
<td>54 171 500</td>
<td>5.6 %</td>
<td>3.4 %</td>
<td>1 100 %</td>
</tr>
<tr>
<td>Asia</td>
<td>3,780 819 792</td>
<td>657 170 816</td>
<td>17.4 %</td>
<td>41.2 %</td>
<td>474.9 %</td>
</tr>
<tr>
<td>Europe</td>
<td>803 903 540</td>
<td>393 373 398</td>
<td>48.9 %</td>
<td>41.2 %</td>
<td>474.9 %</td>
</tr>
<tr>
<td>Middle East</td>
<td>196 767 614</td>
<td>45 861 346</td>
<td>23.3 %</td>
<td>2.9 %</td>
<td>1296.2 %</td>
</tr>
<tr>
<td>North America</td>
<td>337 572 949</td>
<td>251 290 489</td>
<td>74.4 %</td>
<td>15.7 %</td>
<td>132.5 %</td>
</tr>
<tr>
<td>Latin Am/Carib</td>
<td>581 249 892</td>
<td>173 619 140</td>
<td>29.9 %</td>
<td>10.9 %</td>
<td>860.9 %</td>
</tr>
<tr>
<td>Oceania / Austr</td>
<td>34 384 384</td>
<td>20 783 419</td>
<td>60.4 %</td>
<td>1.3 %</td>
<td>172.7 %</td>
</tr>
<tr>
<td>WORLD TOTAL</td>
<td>6,710 029 070</td>
<td>1,596 270 108</td>
<td>23.8 %</td>
<td>100.0 %</td>
<td>342.2 %</td>
</tr>
</tbody>
</table>

Figure 2: Internet statistics (Internet World Stats) (Copyright © 2000-2009, Miniwatts Marketing Group. All rights reserved worldwide.)

Pedagogical approaches to effective learning are changing with trends and time, also for online learning. The online E-teaching courses have both presented and practiced a social constructivist approach, a method that has caught great interest among the highly qualified students, i.e. professors and teachers. This is acclaimed a very suitable method to make online learning an attractive alternative for higher education, particularly in lifelong learning perspectives. Social constructivism is a variety of cognitive constructivism that emphasizes the collaborative nature of learning. According to the Berkley Graduate Student Instructors’ Teaching Resource Centre (Berkley GSI), social constructivism was further developed from the Soviet psychologist, Lev Vygotsky, and is now well applicable for online learning.

An extra asset here is the high level of knowledge among the participants, all of them being well qualified academics. It is thus a matter of tutoring and guidance to make collaboration, peer tutoring and constructive criticism among peers constitute a strong learning resource. To many of the participants this way of studying and learning is new, and it has taken both time and efforts to break their academic habits and convince them of the benefits. The final results, however, have come out very positive.

Ministries of education as well as university administration have seen the potential of the new learning channels and opportunities for their regions, and have asked representatives from GVU to arrange workshops and seminars for their academic staff. Feedback from these seminars has been equally positive as for the online activities.

Outcomes and conclusions
During the past 5 year pilot period UNU-GVU has established its network, initiated professional study development and taken on the task of training university staff for e-learning activities. The results so far are promising. Challenges and feedback are valuable experiences for further activities and development.

Positive feedback
The E-teaching courses have now been running for 5 years. The interest has been great and teachers/professors have registered from all over the world. During this period the feedback from students has been overwhelmingly positive. Several quotes of enthusiasm are recorded and show that there is really a potential for online learning in Africa and other developing parts of the world. A few examples from the recent courses (Training the trainers) prove the point. First one example from the Middle East:

*Participating in GVU E-Teaching course has proved to be a time-wise and worthwhile decision. It does fill a gap that exists in the online learning world. I recommend the GVU course without any minimal hesitation. I just would like to thank the faculty for allowing the students the golden opportunity to participate in a collaborative learning environment. We all learned this the best way available and this is by practice.*

**Amal Saadallah, M.D., M.Sc., Ph.D., CCRP, Saudi Arabia (E-teaching I)**

Then one from Somaliland, Africa:

*I thought that it was like other classes where you have to compete for higher marks and grades, instead I found myself more of a collaborator and a contributor than a receiver. The discussions are held in a more academic style and it also requires reading if you have to upgrade your reasoning.*
Amir Ahmed Manghali, Capacity Building Advisor, Somaliland National Disability Forum, Progressio Hargeisa, Somaliland (E-teaching I)

- and a third example from Malawi, Africa:

I support e-learning as a better option for achieving a learning goal especially in the so-called developing nations, as Face-to-Face education is becoming more and more expensive and unaffordable to the common man. The cell phone is also welcome as you can communicate with tutors when you are in a dilemma by either calling or sending sms to ask for assistance. Please continue to develop and offer on-line courses like these for adults like us to develop our selves.

Grace Gwalla, primary school teacher, Gaborone, Botswana (E-teaching II)

Expressions like these from mature, well qualified students are way beyond what has been experienced through years of “normal” university teaching. It encourages further efforts and beliefs that the method is worth while pursuing.

Challenges
Infrastructure was frequently a problem in the past, especially in developing countries where Internet access is unstable and the bandwidth is low. Some of the students e.g. in Uganda, Tanzania, Malawi have had difficulties in this respect when the electric power is interrupted for several days and the students had no possibility to log on and collaborate. As indicated above, this is now gradually improving.

Economy has been a challenge, and is now becoming an even sorer point. Most students from developing countries can not afford to pay course fees according to European or USA standards, and bursaries have to be established to cover the costs of running the courses. After the pilot period ended in December 2007, the UNU-GVU was looking for alternative ways for funding the activity.

Language is also a challenge. Courses using English as the working language can be hard for students who have English as their second or third language. Being able to read, write and discuss in an academic style may be too difficult for some of them and may cause much extra work. The use of asynchronous discussion forum, however, helps a bit by allowing students better time to formulate their meanings, compared to e.g. chat or even a physical class room situation. Interactive video or Skype sessions are thus only of limited use, mainly because of costs and bandwidth, but also for not allowing sufficient time for reflection among students during discussions.

Status
Despite uncertain funding and support during the fall 2007, new groups of teachers started on the first modules of E-teaching 1 both in 2008, and in 2009.

The E-teaching courses seem to fill a need for pedagogical and basic education and training for university personnel in order to exploit the possibilities of ICT and Internet. Results and experiences of the pilot period are presented in the Pilot Phase Completion Report (GVU 2008). It seems clear, however, that the interest within target groups as well as among university leadership and politicians is already great, and is likely to grow in the years to come as the infrastructure improves.

In addition to helping with primary and secondary education, one of the challenges to the developed parts of the world is to find ways of supporting activities that open up for efficient use of new technologies and relevant pedagogical approaches for offering education to the vast masses of candidates to higher education. The acquired skills and knowledge may also be used for facilitating secondary education, thus preparing more candidates for university studies. GVU’s domain is higher education, however, and it is believed that this is the most correct end to start the training of national and institutional personnel for dissemination to other areas. Experiences from fairly simple efforts with online training, as outlined above, are worth following up in the years to come.

Future of the E-teaching courses
The Ministry of Education in Norway that has supported the UNU-GVU economically during the pilot period, has not been prepared to or willing to continue the support after the pilot phase. This means that UNU-GVU is in a down period for the time being, but may be revitalised when the economic situation changes. In the meantime the University of Agder, now as academic responsible for the E-teaching courses, still offers the courses to teaching staff all over the world. But there are no bursaries, a fact that makes it a bit problematic for academic staff from developing countries to pay the fees. Better times will hopefully come, not only for developing countries, but also with regard to establishing more global networks in order to facilitate recognition of competence across borders.
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The Value Dimension in Professional Teacher Preparations in the Czech Republic.
How to Work “with Dimension of the World of Meaning, Values and Human Involvement” in the University Preparation of Teaching Students?

Tat’ána Göbelová

The teaching profession in the dimension of understanding the objective and subjective world

“The only teacher worthy of his name is the one who cultivates the spirit of free thought and the sense of personal responsibility.”

J. A. Comenius

The nature and quality of our knowledge determines our existence and coexistence with others. Education is embedded in European tradition as cultural animi – as something ideal and complete. But what is ideal and complete for man?

Man is a being that interprets himself and his surroundings. He then fetters this interpretation with an evaluative approach to himself, other people and things. To learn – this also means understanding the moral resources of our civilization. Because tied to learning is not only uncovering that which belongs to the natural essence of the world and that which is not affected by our subjectivity; it is also our evaluations that denote the relationship to experienced reality and is linked to human meanings, to the world of values. Education cannot be reduced to training for a specific performance, for a profession, qualifications; it cannot be reduced to mere technology. One of the risks of contemporary education is its dehumanization – the diversion from the human sphere and the sense of education as a process of forming a person, the diversion from “education as spiritual images created freely by man forms of existence created and established by human action (FINK, 1989, p. 134).

Teachers are faced with the challenging task of a dual education dimension. To help students understand the objective world through theoretical knowledge. But there is also a second level of the world, subjective, composed of meanings and values. Tied to learning is not only uncovering that which belongs to the natural essence of the world and what is not affected by our subjectivity; it is also our evaluations that express the relationship to our experienced reality and is linked to human meanings, to the world of values.
The specifics of understanding the subjective and objective world

The know-how and information society and the knowledge society influence the transformation of the concept of educational goals, though not always in a positive way. The keys to success in the know-how and information society are flexibility, innovation and the ability to continually perfect and learn. The reverse side is an emphasis on success and the ability to stand up to the competition. Information and know-how can therefore drop to the level of mere goods subjected to market mechanisms. While understanding is a leading force, the relationship to knowledge is changing. It is no longer based on the realization of the life of the spirit or on the emancipation of humanity; it is a relationship of users of a certain complicated conceptual apparatus and a material set of tools and those who benefit from its output (LYOTARD, 1993, p. 160).

**Guiding principles for a quality school system**

McKinsey studied the results of 25 school systems, including the 10 most successful education systems. According to McKinsey the following three guiding principles are the most important for achieving true improvements in results for a school system:

1. “The quality of the education system cannot be higher than the quality of its teachers;
2. The only way to improve results is to improve teaching methods.
3. Achieving universally high results is only possible when we introduce mechanisms that ensure that the school provides every child high quality education,” (McKINSEY and Company, 2007, p. 40).

In the UNESCO study the role of teachers is addressed in chapter 7 – The Teacher and New Perspectives.
“The importance of the teacher’s job has probably never been praised so highly as it is today. Teachers play a key role in:

- developing attitudes toward learning, awakening curiosity, inspiring independence and supporting intellectual endeavours;
- they contribute to the shaping of character and thought of the new generation.”

(Learning: The Treasure within, 1996).

Primary education in the Czech Republic and primary education teacher preparations at Ostrava University.

According to the conversion table of the International Standard Classification of Education (ISCED) and the Czech education system, ISCED 1 corresponds to primary education – in the Czech school system this is the first level of elementary school (without practical and special elementary schools), the first level of practical elementary school and special elementary school (without the two final years). (Source: the Institute for Information in Education).

With respect to content, primary education in the Czech Republic is focused (as is the case in other EU countries) mainly on the creation of basic literacy: the development of reading, writing, arithmetic and basic attitudes and knowledge of the world. The key documents of Czech primary education policy include the National Programme for the Development of Education (the so-called “White Book” from 2001), to which is tied the Framework Education Programme, a key tool for current curriculum reform.

Emphasis on:

- **learning**, respecting and developing the individual needs, possibilities and interests of each student (including students with special education needs);
- an active and practical character, motivation for additional learning, teaching activities, searching, discovering and finding appropriate ways to solve problems;
- a stimulating and creative school environment that encourages the less talented, protects and supports weaker students and ensures that each child, through teaching adapted to his individuals needs, progresses in harmony with his own conditions for learning. A friendly and accommodating atmosphere invites students to study, work and activities according to their interests, and provides them space and time for active learning and the full development of their personalities.
- The evaluation of performance and the working results of student must be based on the fulfilment of specific and achievable goals, on the assessment of individual changes of students and positive evaluative judgement.
- During the course of elementary education students gradually gain the quality of personality that enables them to continue in their studies, to improve in their chosen profession, to keep learning throughout their entire life and to contribute to society according to their abilities,” (Framework Education Programme, p. 4-5).
Questions of professional preparations:

How to prepare future teachers for specific education aims set forth in the Framework Education Programme?

“Elementary education should help students form and gradually develop key competencies and provide a reliable foundation of general education focused mainly on common life situations and on practical behaviour (Framework Education Programme, part C: Concept and goals of elementary education).

How to realize educational goals: “To help students recognize and develop their own abilities in agreement with realistic possibilities and to apply them together with acquired knowledge and skills in making decisions about their own life and professional orientation.”

Teacher preparation – emphasis on development:

The personality and moral aspirations of teachers

The professional aspirations of teachers

Key competencies
- psycho-didactic (how to teach)
- communication
- organizational and control
- diagnostic and intervention
- advisory and consultative
- self-reflective (Spilková, 2006)

The qualitative aspects of teacher preparations

- the development of the personality qualities of students,
- the development of a professional identity,
- the creation of the teacher's concept of instruction and students,
- the individualization of the process of becoming a teacher
Z. Helus points out four integral components leading to a strategy to strengthen the position of the teaching profession:

- “The first component involves identifying areas of teachers’ pedagogical faculties.
- The second component concerns the relationship between the academic/university education of teachers and the demands placed on instruction/school practice.
- The third component concerns the creation of effective help for teachers to overcome weaknesses and deficiencies.
- The fourth component concerns the development of the qualifications of the teaching community, with high moral and professional aspiration; to administer professional matters in the widest possible spectrum.” (HELUS, 2007).

The development of personality and moral aspiration in the professional preparations of teachers

**Worldview area, “civilization competency,” “value competency”**

<table>
<thead>
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<th>Problems:</th>
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<tr>
<td>► How does the contemporary school deal with the difference between its training (qualification) and education functions? Does contemporary school and pedagogical practice reflect the differences between “knowledge, information and facts” and the presentation and development of values? Does it differentiate between information and values, the qualitative differences of intellectual consideration and acts of evaluation?</td>
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<tr>
<td>► What meaning do school education, training and socialization have for students as individuals and as members of society?</td>
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<tr>
<td>► How is what is to be taught and what students are to learn justified? Can the cultivation of a person be identified with education and qualifications, without the development of human subjectivity?</td>
</tr>
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<td>► Can the perception of the world from the perspective of what it means for individuals and society (the world of meaning and values)</td>
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What value priorities can we incorporate into curriculum documents?

What values should be given preference and developed?
The problem of the universality of values, value conflicts. The ethical dimension of act..

The legitimacy of decision-making.

A practise part:

A practical illustration of possibilities of character-moral aspirations of students in the instruction of philosophy of education

*How to work “with the dimension of the world of meaning, values and human involvement,” “how to mediate the understanding of such concepts as the meaning of life, good, truth and beauty” in the university preparations of teaching students?*

The subject of philosophy of education is focused on the areas of:
- Care for personal identity
- Care for society
- Care for language and communication – “care for logos as meaningful speech”
- Care for the relationship with the world as a whole – “care for transcendence”¹.

The first task we give students is to understand what philosophy is about. Especially when fewer and fewer secondary school students go through introductory philosophy instruction and the word philosophy is instead something that arouses fear. According to K. Jaspers the basic functions of philosophy include: clarification of existence (clarification of “I”), interpretation of the world and transcendence (traversing existence and the world in the direction of God (JASPERS, 1950)). We can establish common ground for philosophy and pedagogy on this foundation.

In its fundamental questions, pedagogy touches on real philosophising – the internal struggles on the meaning of existence, grasping and understanding the world as a whole, the infliction of context. The actual questions on the meaning of education and knowledge are the original questions of philosophy. Only a truly philosophical view of education can explicate the task of education to the actual identity of the educated.

Man does not arrive in the world positively designated to be a morally responsible, thinking being. He arrives in the world without direction, support or order. He could survive

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living as an animal (wolf children), but doesn’t have a chance to achieve human qualities. Therefore he must learn to weigh his actions, decisions; he must meet with others. For this very reason he needs order, support, direction; he needs training as a path toward grasping the foundation and potential of his own existence in the world, in relationship to other people and to his own self.

Education philosophy is not based on the given designation of man; instead, it searches, explains and questions the essential assumptions for forming human dignity and the quality of humanity and life. Philosophising is the reflex that leads to clarification, criticism and justification, to what we want to lead our students.

The subject of education philosophy 1 and philosophy education 2 are part of the university teacher preparations at Ostrava University.

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<th>Philosophy of education 1</th>
<th>Philosophy of education 2</th>
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<tr>
<td>The learning outputs of philosophy of education 1 are:</td>
<td>The learning outputs of philosophy of education 2 are:</td>
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<tr>
<td>• Knowledge and understanding of basic philosophy terminology.</td>
<td>• Knowledge, analysis and evaluation of contemporary education theory and their value dimension.</td>
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<tr>
<td>• An analysis of basic philosophical question and their connection to education (ontological, gnoseological problems and the philosophy of man).</td>
<td>• Philosophical reflections and education goals – “learn to recognize,” “learn to behave,” “learn to co-exist,” “learn to be” – application, analysis, synthesis and evaluation with regard to the actual role of the teacher.</td>
</tr>
<tr>
<td>• A philosophical analysis of the structure of human existence (man as the development of consciousness on his own, man as part of society, man in relationship to the world, care of transcendence) and its application analysis and evaluation for personal existence and pedagogical practice.</td>
<td></td>
</tr>
<tr>
<td>• Knowledge and understanding of the traditions of European education and its value dimension, ability for application, analysis, synthesis and evaluation for pedagogical practice.</td>
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Seminars are mainly focused on the development of the actual value competency of teaching students. This constitutes knowledge of a well-constituted value system, and the ability and preparedness to act with the awareness of this knowledge.

An example of qualitative inquiry in the university preparations of future teachers – applied phenomenology

In the university preparations of future teachers it is easier to teach students theoretical knowledge in the dimension of understanding the objective world. But are we capable of teaching students how to understand terms such as the meaning of life, good, truth and
beauty? And how can we work with the world of meanings, values and human involvement? How can we help students gain a deeper understanding of their own existence on the basis of their experience with their actual being, its purpose and meaning?

One approach to understanding the subjective world is qualitative methods that let us examine the meaning and individual purpose of existence. Qualitative methods for studying the direction of life come closest to the way we are normally used to speaking about these things. The true value of qualitative research lies in its connection to the real world and in its ability to describe phenomena in social and historical contexts (Kemmis, 1980).

The use of qualitative research in the area of applied phenomenology – the phenomenology of practice (VAN MANNEN, 1990) for the concrete application of the phenomenological “discovery of the meaning and purpose of existence” in the education of teachers for the 1st level of primary school.

We stand at the beginning of the 21st century like pedagogues before a new/old question: what is the answer to the question of the final meaning of man and of everything that exists? And how can we address this demanding task in the university preparations of future teachers?

Qualitative methods as a starting point for discovering the meaning and purpose of existence – writing essays.

Qualitative research: The content of essays on individual existence.

As part of the inquiry the author investigated what students studying to be teachers at the first level of primary school ( uncertified teachers with practical experience) felt about their own existence.

Essay assignment: “For me being a person means …(list examples of what you think)"

The essays were assigned during seminars in education philosophy in 2007. Respondents: part-time students in the field of Teaching at the 1st level of primary school. A total of 28 students participated in the inquiry (96% women, 4% men). The content of individual essays was then discussed in lessons and, subsequently, in individual interviews.

The inquiry focused on what was important in the lives of the respondents (goals, purpose of existence, meaning). The following goals were offered by the respondents:

Division into groups:

1. Defining existence in the social dimension, relationships with other people (man as a social being);
2. Discovery one’s self; self-development, self-realization;
3. Meaning;
4. Social conscious – help and serve others (help others in need, pass on what I know to others);
5. Ethical dimension (know how to distinguish between good and bad, search out good, be fair);
6. Global responsibility (responsibility to the Earth, co-exist with nature, protect life, not harm animals);
7. Pleasure (travel, take advantage of free time, take joy in work);
8. Work, teach children;
9. Unclassifiable goals.

A dual concept of life appeared with respondents:
- "as a gift" ("cherish, be modest; awareness of being small");
- "as a mission" ("help others, understand, distinguish, evaluate one’s own behaviour; teach children, do not harm others, protect, search for good").

The social dimension was listed in first place (as the first association with one's own existence) – ("live in society," "live with family," "be surrounded by friends"). This correlates with research by Ebersole (1998, p. 182), in which relationships with people are typically listed in first place in numerous studies of various populations, various cultures and ethnicities.

The inquiry confirmed the dimension of understanding human existence in three dimensions:
- individual
- personal
- ecological

Several respondents listed all three dimensions of existence as goals and meaning in the essay, others favoured above all the individual dimension.

Differences in the succinctness of the expressions from various respondents were recorded – some gave very vague responses (these were usually preceded by introductory declarations such as “I don’t usually think about that” or “that's a very difficult question”).

**The application of information from the inquiry**

Qualitative studies are very valuable in the area of investigating the understanding and quality of education, even though we cannot generalize the results of the inquiry, which, after all, is not the aim of a qualitative study. The created knowledge from a qualitative inquiry is important in and of itself.

A summary of the positives and negatives from the essays

Individual qualitative inquiries (in our case using the method of essays), can be used for purposes of understanding experiences that would remain unrevealed in normal lessons.

The negatives are the fact that the method is time demanding and difficult to apply; there is also a problem in drawing general conclusions. The advantage of this approach is that the freedom respondents have in expressing themselves helps provide a vivid image of subjective experiences with individual existence. This correlates to the aim of phenomenology – not to provide answers, but to uncover the meaning of human existence.

Deeper understanding and reflection on existence is very significant for the interpretation and formation of a person. It is therefore important for students to be able to select for further study from various authors they have become acquainted with during the lesson; for this reason they are provided with an extensive and thematically structured bibliography. In this way they can address themes they are interested in to learn more. This inquiry also provided
me suggestions as to which themes should be included in the study text "Learn the Art of Being" for the education philosophy course.

The application of information from the inquiry for philosophy of education seminars
- the necessity of getting to know one’s self;
- deepening the understanding of the ethical dimension of life – distinguishing between good and bad, the problem of conflicting values;
- a focus on the meaning and goals of our existence – understanding the criterion of the quality of goals of our attempts in the dimensions of vitality, humanist, social awareness, cooperation, creativity, culture and responsibility (Křivohlavý, p. 139, 2006);
- to help students in searching for their individual meaning;
- the possibility to compare the purposes of existence and its meaning with other members of the group, on the basis of reading the selected literature.

**Conclusion…**

According to Senge (1990), acquiring a more “sacred view of work” in the structure of the learning organization is based on:
- concentration on the main values and visions (their critical assessment and questioning);
- the holistic and spiritual dimension;
- openness;
- participation in decision-making.

In the UNESCO study one of the main functions of education is to adapt humanity in a way that allows it to take over control of its own development (Learning: The Treasure Within, 1996).

In university preparations this means strengthening the value dimension of teacher preparations in these areas:
- understanding one’s own existence, developing the ability to sense the meaning of one’s own existence;
- understanding the world of meanings and values, creating value consciousness on the basis of deep reflection on human existence;
- developing and recognizing the ethical and ecological contexts of our behaviour and our preparation to act in the dimension of these contexts.
Appendix:

The contemporary concept of professional training for primary education teachers in the Czech Republic after 1989

A master’s degree is required to teach on the first level of primary schools in the Czech Republic. The preparation of primary school teachers occurs at universities in the Czech Republic (since 1946). In addition to theoretical knowledge, the university education of teachers also includes internships of various lengths in schools. The length of university study for teachers on the 1st level of primary school is five years. Studies are completed with a defence of the student's dissertation and the state graduation examinations; upon successful completion of these students receive a diploma and the academic degree of Mgr. On the basis of the 1997 Lisbon Treaty on the Recognition of University Qualifications, all bachelor’s and master’s degree graduates are automatically issued a free Diploma Supplement (DS).

The 2001 amendment to the 1998 Education Act contains the main legal arrangements of the Bologna process. The introduction of the principles of the Bologna process became an important part of the strategy of the Ministry of Education, Youth and Sports and individual universities. The principles are part of the long-term aims of the ministry, the National Programme for the Development of Education in the Czech Republic and the Strategy of Development of Tertiary Education for the period of 2000-2005 (2010). According to the Bologna scheme three cycles of university education are realized – bachelor's, master's and doctorate (EURYDICE, 2005).

The model of the current education of primary school teachers in the Czech Republic:

- structured – the consequent model of teacher preparations;
- unstructured single-phase integrative model (SPIKOVÁ, 2004).

Bi-level model of professional preparations:

- the undergraduate education of teachers;
- “further education of teachers”

Faculties of pedagogy (and additional universities involved in teacher preparations) participate in both levels of the professional teacher preparations with their education offers.

We can diagnose three areas of problems in the teaching profession today:

- the undergraduate preparation of students;
- the lack of uniformity in professional teacher preparations;
- missing teacher standards.

The undergraduate education of primary education teachers

From the perspective of academic teacher preparations we can distinguish five basic components:

- a common base (university preparations);
- an occupational subject component – the certification of teachers;
- an occupational didactic component – how to teach;
- a pedagogical-psychological component (diagnostics, specific teaching troubles, personalized teaching);
- practice.

Professional teacher preparations in the Czech Republic are marked by a non-uniform approach. A joint approach by the state (the Ministry of Education, Youth and Sports) and concrete employers (school directors) is lacking. New ministry documents represent an attempt to rectify this situation (a draft of a law on pedagogical workers and changes to a number of other laws – a modification of the prerequisites for performing work as a pedagogical worker, their education and career system).

The Czech education system for the professional development of teachers is mainly missing:

- an explicit specification of the quality of pedagogical work (in the form of teacher standards) and its subsequent (self) evaluation. This indicates the current impossibility of differentiating the quality of teachers and subsequent rewards on the basis of such evaluations (the problem of system continuity – the Framework Education Programme sets forth education standards for students, but teacher standards do not exist);
- greater interconnection of theory and practice;
- Teachers are missing room in their schedules for further education; teachers are not provided the possibility of broader cooperation or, for example, peer evaluation;
- Missing financial resources prevent the introduction of certain selected systems of change (e.g. pedagogical assistants for schools).

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IGS Ostrava University under the contract No. IGS-
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Using ICT to support leaning and teaching in universities in The Former Yugoslav Republic of Macedonia
Mike Quickfall

A European Union funded TEMPUS project for three year has been operating in The Former Yugoslav Republic of Macedonia to bring about change in the way that courses in three of its Universities are delivered. The project has focussed on courses in Faculties of Education and the training of teachers to introduce methods of learning and teaching that are supported by ICT and e-learning. In recent years, primary schools and high schools in the country have received international support for using computer in the classrooms but little has been done to update practice in the Universities. The presentation will briefly describe the context for the project and will explain how it strived to meet its objectives.

The successful introduction of ICT into the learning and teaching process is dependent upon many different factors such as the existing infrastructure, the receptiveness of staff to welcome change, familiarity with technology, in-service training and the degree to which management support the initiative. The presentation will provide an evaluation of the project, highlighting areas of concern, aspects that were effective and those which proved to be problematic. The introduction of computers and associated technology brings its own specific problems and these also will be addressed.

There is a danger that projects such as this are viewed by some as a one way flow of expertise but as this project as demonstrated learning is a two way process, and all participants have much to gain from the professional, cultural and educational interactions that take place.

The presentation will conclude by offering advice for teams who are managing or about to implement similar projects, to recognise problems before they become too difficult to manage; identify the critical factors that determine the impact of a project; the organisation of training and professional development; the need to provide strong support to the staff in the target country.
The teacher educator: a neglected factor in the contemporary debate on teacher education

Marco Snoek, Hogeschool van Amsterdam
Anja Swennen, VU University Amsterdam
Marcel van der Klink, Celstec, Open University of the Netherlands

Abstract
Recent studies identified that the teacher is the most important factor influencing the quality of education. Following this line of reasoning it is then likely to assume that the teacher educator will be the most important factor influencing the quality of teacher education. Though many studies and policy documents attempt to identify the qualities of teachers, only few publications address the quality of teacher educators. This paper examines the contemporary European policy debate on the quality and status of teacher educators. Two issues will be addressed. Firstly, to what extent is teacher education regarded as a profession? Secondly, what actions and measures are proposed to maintain or increase the quality and status of the teacher educators’ profession? Based on literature on professions and professionalism a framework has been developed to guide our examination of European policy documents on teacher education to identify to what extent these documents express notions on teacher educators as professionals.

Introduction
In recent debates on the quality of education, much attention is given to the quality of teachers and teachers are identified at the most important factor influencing the quality of education in schools ((Abbott, 1988); Hattie, 2003; McKinsey, 2007). The quality of teachers has a larger impact on the learning of pupils compared with the impact of the quality of the curriculum, the teaching methods, the school building or the role of parents. As a result much attention is given to policies with respect to teacher quality. Although the jurisdiction of the European Commission is limited in the area of education, the Commission has recently given considerable attention to the quality of teachers, thus stimulating national governments to invest in the improvement of teacher quality, for example by exchanging policies and practices across Europe (see for example Snoek, Uzerli & Schratz, 2008).

In these policy debates there is a strong awareness that the quality of teachers depends on the quality of their teacher education and this is reflected in recent European policy documents published by the European Commission (European Commission, 2005; 2007) or the European Council (European Council, 2007). As an addition to the policy documents, the European Commission, together with the OECD initiated research, such as the Teaching and Learning International Survey (TALIS) that investigates the learning environment and the working conditions of teachers in schools. This policy attention for the quality of teachers and teacher education is reflected on national levels. Recently several of European countries have raised the level of initial teacher education to the master’s level and many European countries have
developed explicit standards for the teaching profession. National governments feel a strong responsibility towards the quality of education and therefore towards the quality of teachers.

Teacher standards or professional profiles play an important role in this responsibility. ‘The overarching priority is for countries to have in place a clear and concise statement or profile of what teachers are expected to know and be able to do. This is necessary to provide the framework to guide initial teacher education, teacher certification, teachers’ ongoing professional development and career advancement, and to assess the extent to which these different elements are being effective’ (Freidson, 2001).

Given the contemporary European attention for the quality of teachers and teacher education, it is interesting to see what parallels exist between teachers and teacher educators. When the general consensus is that teachers are the most important in-school factor influencing the quality of learning of pupils, it seems appropriate to assume that teacher educators are an important factor influencing the quality of student teachers. Following this line of reasoning it is quite likely to expect sufficient attention for the quality for teacher educators in the European policy debate. If the teacher educator plays a key role in the quality of teacher education, then the issue of the professionalism of the teacher educator becomes an issue of paramount importance. Recent publications (see for example (Klink, 2008; Loughran, 2006) Swennen & Van der Klink, 2008) argue that the professionalism of the teacher educator is best served by perceiving teacher educators as a specialized professional group and that teacher educators need specialized professional activities in order to fulfil their complex tasks (Smith, 2003). The emergence of the teacher educator profession is reflected in the establishment of national and international professional associations, like the American Association of Teacher Education (ATE), the Association of Teacher Education in Europe (ATEE) and the Dutch association for Teacher Educators (VELON), which can be regarded as an indication that teacher educators themselves see their work as a profession.

This paper discusses to what extend the teacher educator can be perceived as a distinct profession. The next sections elaborate on the issue of what constitutes a profession, on emerging new professions (professionalism) and measurements and actions to enhance professionalism. After a brief description of the applied methodology, the findings will be presented, followed by the preliminary conclusions and recommendations for further research.

**Characteristics of professions and professionalism**

Although the English word ‘profession’ may refer to occupations in general the word was originally used for high status professions, like medicine, law or architecture. The members of these prestigious professions and outsiders as well, attach certain, positive, characteristics to these professions. Here we highlight briefly the five main features of the classical view on professions.
Monopoly of the members of the profession is the foremost important feature of high status professions in the classical view on professions: “Those specialisations which embody values held by the public at large, the state or some powerful elite are given the privileged status of monopoly, or control over their own work. This monopolistic control is the essential characteristic of ideal-typical professionalism from which all else flows.” (Freidson, 2001, 32). A second feature concerns the prominent role of the profession regarding the entry requirements and the further professional development of the individual members. Professions also have the power to judge, and subsequently even to exclude, members who do not keep to the professional standards and ethical code. The third characteristic of prestigious professions is that they have an ethical code that has at least two important aims. First it is a means to win the trust of the public and public bodies (often governments) that have the power to license the profession and members of the profession. Trust of the public is an important aspect of the status of professions as they existence predominantly depend on service to the public the Association of Teacher Education (Evets, 2006). The second aim of the ethical code is to serve as a guideline for good conduct of the members of that particular profession. The fourth important characteristic of true professions is academic knowledge (Abbott, 1988), formal knowledge or technical knowledge (Goodson & Hargreaves, 1996). “Academic knowledge legitimates professional work by clarifying its foundations and tracing them to major cultural values. In most modern professions, these have been the values of rationality, logic, and science. Academic professionals demonstrate the rigor, the clarity, and the scientifically logical character of professional work” (Abbott, 1988, 54). Finally, a fifth feature of the true classical professions is the freedom of establishment. Members do not have a job contract but are independent and self employed.

It goes without saying that teaching and teacher education have never been regarded as true, classical professions. Teaching, like nursing, social work and librarianship, was called a semi-profession (Etzioni, 1969) or sub-profession (Marcus, 1975). Members of semi-proessions are less autonomous then those of the true professions and they work within organisation and institutes, like schools, hospitals and libraries that are characterised by bureaucracy and hierarchy. The autonomy of teachers and schools is furthermore limited by the influence of governments that have, depending on the rules and regulations in specific countries, more or less influence on the content of the curriculum and the pedagogy of the teachers (see Snoek & Žogla, 2008).

Over the last decades the term ‘new professionalism’ has been broadly used to refer to various kinds of occupations that can not be regarded as true professions in the classical sense, such as teachers (Evans, 2007; Goodson & Hargreaves, 1996, Robertson, 1996). Although the meaning of the concept ‘new professionalism’ is somewhat blurred and varies from author to author and context to context, there are some general characteristics, which will be outlined here.

Marco Snoek, Anja Swennen & Marcel van der Klink: The teacher educator: a neglected factor in the contemporary debate on teacher education, TEPE, 2009 (draft, do not copy without permission of the authors)
One general characteristic is that ‘new professionalism’ is connected to discourses concerning improvements in the quality of work and a stronger emphasis on output requirements. In most European countries these changes are initiated by the government and not by the professionals themselves. As a consequence most teachers looked at the concept with negative feelings. New professionalism was linked to “labour flexibility and deregulation of schools” and the discourse was about “quality, outcomes, professionalism, flexibility, work teams, competency” (Robertson, 1999).

A second characteristic of new professionalism “involves a movement away from the traditional professional authority and autonomy towards new forms of relationships and collaboration with colleagues, students and their parents” (Hargreaves, 1994, 424).

A third characteristic of new professionalism is accountability. Assessments of pupils and students are frequently conducted to gain detailed insights into their learning outcomes. Furthermore, teachers have to explicate how their teaching contributes to achieving the intended learning outcomes.

A fourth feature is the emphasis on improvement and innovation of work, though professionals seem to differ in this respect. Some professionals, like teachers, tend to rely on routines, even if these routines are not quite appropriate anymore, while other professionals like business consultants, are more in the forefront of the continuous renewal of concepts, methods and tools.

A fifth feature concerns the nature of the knowledge base, which is not formal and academic like in the classical professions but is mainly the result of experience and reflection. Characteristic for the teaching profession is the lack of a clear and well-defined body of knowledge (Smith, 2003).

At sixth feature concerns the increased attention (and resources) for professional development of teachers throughout their careers. It is generally accepted that in our knowledge intensive society lifelong learning becomes essential for career-long professional performance and employability.

A seventh characteristic concerns the implementation of teacher standards describing competences and qualifications of beginners and expert teachers. An example of standards for different stages in their career is developed by the Training and Development Agency for Schools’. The frequent use of the word ‘professional’ indicates the importance that is given to the further professional development of teachers.

It goes without saying that not all these features full apply to teacher educators. The debate on the professionalism of teacher educators consists of many references to suggestions to increase the professionalism of teacher educators. The fact that these suggestions are mentioned so often might be interpreted as a sign that the professionalism of teacher educators deserves more attention. Drawing on the work of Loughran, 2006; Lunenburg & Willemse (2006), Murray &
Male (2005), Swennen & Van der Klink (2009), Smith (2003), Van Velzen, Van der Klink, Swennen & Yaffe (2008) the following actions and measurements are frequently mentioned by stakeholders in the debate on professionalism of teacher educators:

1. Expressing concerns about the professionalism of teacher educators
2. Suggesting proposals for improving professionalism
3. Initiating research to investigate the state of the art
4. Launching committees and advisory boards
5. Implementing national legislation on teacher educators
6. Development of accountability systems
7. Attention for teacher educators’ professionalism in the accreditation of teacher education programs
8. Implementing selection criteria for entry into the profession
9. Offering formal education (courses or entire master program) for new teacher educators
10. Induction programs for teacher educators
11. Resources and requirements for continuous professional development
12. Measures to enhance careers and mobility of teacher educators
13. Implementing an ethical code for teacher educators
14. Encouraging participation in (international) networks
15. Implementing standards for teacher educators
16. Development of a practical knowledge base for teacher educators

What these actions and measurements have in common is that they all contribute to the further professionalization of teacher educators. The first seven items in the list are typically actions and measures undertaken by governmental bodies, while the other actions and measurements are more likely to be conducted by the management of teacher education institutes or by the teacher educators themselves. For example, the development of standards for teacher educators in the Netherlands was primarily the responsibility of the VELON, the Dutch Association of Teacher Educators (Koster & Dengerink, 2001). The issue of how to position teacher educators in the discourse on new professionalism has not been addressed fully and deserves in our view more attention. This study intends to redress this omission and contributes to our understanding of the profession of teacher educators by answering the following two questions:

1. What features of professionalism of teacher educators are mentioned in the selected documents on international and national levels?
2. What measures and actions are proposed at national and international policy levels to encourage the professionalism of teacher educators?

In this paper we focus on question 1 and within question 1 on the policy documents on an international level.
Methodology

To answer questions of this study an analyses of policy documents has been conducted to search for information on the status of this profession and actions and measurements to improve teacher educators’ professionalism. The study was restricted to the main European policy documents that consider the issues of teacher education and teacher educators from a European perspective. The following six documents were regarded as influential in the contemporary debate on these issues:

• Teachers Matters (OECD, 2005). This OECD publication addresses issues that are essential in attracting, developing and retaining effective teachers.

• Common European Principles for Teacher Competences and Qualifications (European Commission, 2005). This document from the European Commission is developed in the context of expert groups on themes from the Education & Training agenda of the Commission. The documents identify common principles with respect to teacher competences and qualifications, aiming to support member states to develop their teacher policy.

• Improving the Quality of Teacher Education (European Commission, 2007).

• The Council Conclusions (2007) which summarizes the main findings of some previous documents and formulates directions and conclusions for the further development of teacher education in Europe.

• The Quality of Teachers (ATEE, 2006). In this policy paper the Association of Teacher Education in Europe contributes to the debate on teacher standards through 7 recommendations on the identification of indicators to identify teacher quality.

• Teacher Education in Europe (ETUCE, 2008). In 2008, the European Trade Union Committee for Education published a policy paper on teacher education.

The procedure for the analysis consisted of a search within the document using teacher educator(s) as search terms. Fragments were selected that contained these search terms and then they were examined by at least two researchers. For this purpose a classification scheme was developed to assist the researchers in sorting the text fragments. This scheme consisted of the features of professions (old and new professionalism) and the actions and measures as discussed in the previous section.

Findings

Table 1 displays an overview of the findings of the analysis of the international documents, One of the documents ‘Common European Principles for Teacher Competences and Qualifications’ (2005), did not provide any information on teacher educators and is therefore not included in the table.
Table 1. Suggested actions and measurements expressed in European policy documents to enhance professionalism of teacher educators

<table>
<thead>
<tr>
<th>Actions &amp; Measures</th>
<th>Improving quality of teacher education</th>
<th>Council conclusions on quality of teacher education</th>
<th>Teachers matter</th>
<th>ATEE Policy paper on the quality of teachers</th>
<th>Etuce policy paper on teacher education</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Present proposals</td>
<td></td>
<td>p. 3 and 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Initiating research</td>
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<td></td>
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<tr>
<td>4. Advisory boards, committees</td>
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<tr>
<td>5. Selection criteria</td>
<td></td>
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<td>p. 15, 34-36</td>
<td></td>
<td></td>
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<tr>
<td>6. Formal courses</td>
<td></td>
<td></td>
<td></td>
<td>p. 15, 34-36</td>
<td></td>
</tr>
<tr>
<td>7. Induction programmes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8. Resources and requirements CPD</td>
<td></td>
<td></td>
<td></td>
<td>p. 34-36, 45</td>
<td></td>
</tr>
<tr>
<td>9. Career and mobility</td>
<td></td>
<td>p. 3 and 4</td>
<td></td>
<td>p. 50</td>
<td></td>
</tr>
<tr>
<td>10. Ethical code</td>
<td></td>
<td>p. 15</td>
<td>p. 8</td>
<td>p. 25, 34-36</td>
<td></td>
</tr>
<tr>
<td>11. Professional networks</td>
<td></td>
<td>p. 15</td>
<td>p. 8</td>
<td>p. 34, 59</td>
<td></td>
</tr>
<tr>
<td>12. Standards</td>
<td></td>
<td>p. 15</td>
<td>p. 8</td>
<td>p. 36,60</td>
<td></td>
</tr>
<tr>
<td>13. Practical knowledge base</td>
<td></td>
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<tr>
<td>14. Legislation</td>
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<tr>
<td>15. Accountability systems</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>16. Accreditation Teacher Education programs</td>
<td></td>
<td></td>
<td></td>
<td>p. 235</td>
<td></td>
</tr>
</tbody>
</table>

The six documents contained only four references to the status of the profession of teacher educators. A close examination of these fragments revealed that these fragments did not describe aspects of the current status of the profession of teacher educators, but listed desired developments for the next years.

Several documents clearly express concerns regarding teacher educators’ professionalism. Especially the arguments in the Etuce policy paper demonstrate that European Trade Unions experience a strong need to improve the quality of the staff of teacher educators across Europe.

The OECD report expresses the concerns that in different words can be found in more reports:

A number of Country Background Reports expressed concerns about the approaches used in teacher education programmes. For example, the Norwegian report stated that “teacher educators have difficulty in giving their teaching a practical focus and relating pedagogical competence to the individual subject. Subject teachers say that students often do not understand that they are receiving instruction in didactics, while students have difficulty in seeing how what they learn in different subjects is linked to what they need to know in a practical, teaching situation.” Norwegian teachers express similar concerns; research
indicates that initial teacher education is not highly valued and that teachers commonly perceive a gap between theory and practice in teacher education (OECD, 2005, p. 108).

The Etuce policy paper is the only document that clearly suggests actions related to the entry of the teacher educator profession:

Teacher educators should be able to provide student-centred education in close cooperation with other colleagues. As outlined in the previous chapter, the ETUCE emphasises that all teachers should be educated to Master’s level in higher education and, of course, teacher educators must have the qualifications required to be able to teach at that level (Etuce, 2008, p. 34).

Though not clearly expressed the Etuce policy paper suggests that if teachers need a Master degree teacher educators need to possess a doctoral degree in order to be equipped for teaching on master level. The Etuce policy paper is also the only document that clearly addresses the theme of the further professional development of teacher educators:

In order to meet the demands placed on the profession, all teacher educators - including mentors at schools - should be given the opportunity to undertake proper lifelong learning of their own. Ongoing professional development is a must. Both time and financing should be made available. Agreements should be reached to allow sabbatical years for professional development. This must include provision for qualified replacement staff (Etuce, 2008, p. 36).

Actions for career and mobility were expressed in two documents: the Etuce policy paper and the document of the European Council. Both documents emphasise the need to perceive career and mobility not to a restricted national level but rather on a European scale:

Support mobility programmes for teachers, student teachers and teacher educators which are designed to have a significant impact on their professional development, as well as to foster better understanding of cultural differences and an awareness of the European dimension of teaching (Council Conclusions, 2007, p. 4).

Participating in professional networks is regarded as a strong impetus to improve teacher educators’ professionalism. Text fragments on the need for networking were discovered in three documents that all point at the same advantages of networking. Here a fragment from the report of the Commission ‘Improving quality of teacher education’:

Links between teacher educators, practicing teachers, the world of work and other agencies need to be strengthened. Higher Education institutions have an important role to play in developing effective partnerships with schools and other stakeholders to ensure that their Teacher Education courses are based upon solid evidence and good classroom practice (Commission of the European Communities, 2007, p. 15).

The same three documents also suggested actions on the level of implementing standards for teacher educators and their suggestions were very comparable. Here a fragment of the ATEE policy paper:

If we want teacher educators to be role models for their student teachers, then teacher educators should be explicit about their own professional quality, the indicators of this quality and the way they use them to develop professionally in a systematic and self-regulated way. In this respect, teacher educators carry a heavy responsibility, as the quality of teacher
educators affects not only the quality of teacher education and the learning of the student
teachers, but also the attractiveness and the quality of the teaching profession and therefore
the quality of the education that is provided to pupils.
The ATEE, as a professional community of teacher educators in Europe, will continue to
stimulate communities of teacher educators to develop indicators of teacher educator quality
within local or national contexts and to exchange such between their communities (ATEE,
2006).

All three documents imply that the development of standards is not a responsibility for the
national states but that teacher educators themselves must take up the endeavour of formulating
standards for their own profession.

Conclusions and discussion
In this paper we presented the findings of the first phase of a larger study into the profession of
teacher education in policy documents. In this first phase we analysed policy documents about
teacher education on an international level. The focus in this paper is on the question: what
characteristics of professionalism of teacher educators are mentioned in the selected documents
on an international level?

It is clear from the findings that the policy documents have limited attention for teacher
educators and their professionalism. If teacher educators are mentioned at all, it is to express
concerns about the quality of teacher educators. With the exception of the Etuce document no
concrete suggestions are made to improve the profession of teacher educators or to encourage,
the professional development of teacher educators. In various studies the authors state that there
is little attention for teacher educators in general (see for instance Smith, 2003, Swennen & Van
der Klink, 2009) and that there should be more research into the learning and development of

The results of the study indicated that the references to teacher educators and their
professionalism are not only limited, but they do not present the actual status of teacher
educator’s professionalism. They describe the wishes and needs for teacher educators to enlarge
their professionalism.

The study we presented here is a small scale study. However we made a thorough search
for policy documents that were published on a European and world level and as far as we know
we have analysed all relevant papers.

To ensure an analysis that is as reliable as possible two researcher made the search for text
fragments about teacher educators and two researchers assigned the text fragments to items on
the list with characteristics of professionalism and the suggested actions and measurements. The
meaning of the outcomes was discussed by all three authors. However, the scarcity of the
mentioning of the teacher educators in the policy documents limited the discussion.

The outcomes of our study encourages us to continue our research about teacher educators’
professionalism in policy papers and we intend to expand the research to policy documents on
national European levels and investigate what the influence of policy documents is on the professionalism of teacher educators.

We conclude that there is a lack of attention for teacher educators in policy documents and that the needs for induction and further professional development of teacher educators are hardly described on the level of in international policy documents. This conclusion is disturbing in a time when the quality of teachers is one of the main issues to secure the quality of schools for our pupils. It is important that policy makers and researchers together develop ideas for the induction and further development of teacher educators as a specialized professional group.

References


Ulf Lundström

Paper, TEPE, Umeå university, May 2009

The construction of upper secondary teachers in current Swedish education policy

The educational reforms and restructuring in recent years, as well as current reforms, pose questions about the teachers’ professional roles and project. The aim of this paper is to describe and discuss how the upper secondary teachers’ professional roles and projects are constructed in current policy texts. The results imply a shift in the construction of teachers and views on desirable knowledge. The previous emphasis on teachers’ autonomy is replaced by stronger state governing and teachers’ reduced power over their work-area. Certain tasks for the upper secondary education is given priority, while others are toned down, which may influence teachers’ professional identity.

Background

During the last two decades the Swedish school system has been radically restructured, and the speed of educational reforms does not decrease. The core of the so-called system-shift of the 1990s was about decentralisation, management by objectives and results and marketisation. These changes paved the way for a breakthrough for the concept professional teachers in Sweden. At the same time upper secondary education was thoroughly reorganised and a new national curriculum and grading system created. This development continues with a new reform of the upper secondary school in 2011. The new Reform Commission report proposes a new “total reform” of the upper secondary school.

The reform of upper secondary school coincides with several other important changes: a reform of the teacher education, a government commission about teacher accreditation, a new Education Act and the implementation of a new grading system. At the same time the expansion of market solutions continues.

In these times of educational change it is relevant for teacher educators and researchers to examine and try to understand what new meanings the reforms imply for the teaching profession. Policy documents are vital for the understanding of what is more or less desirable in teacher education and teachers’ work, and pose questions for critical reflection. Policy contributes to facilitate certain constructions of professionalism and knowledge, while others are rejected.

As a part of, as well as a consequence of, restructuring efforts, the teacher is “reconstructed” – and the meaning of being a teacher, as well as what a teacher is expected to do, is changed. (Carlgren & Klette 2008, p. 118)

The aim of this paper is to describe and discuss how the upper secondary teachers’ professional roles and projects are constructed in current policy texts. Based on this, certain issues are focused: motives for change (what’s the problem?), autonomy, professional knowledge and tasks.
A discourse analysis of policy documents

The analytical approach is critical discourse analysis (Fairclough 1995). In line with Fairclough, the goals of such an analysis is “denaturalizing” (1995, p. 36). This implies a concern for the effects of discourse. Ideology and values underpinning discourses are focused to investigate what is implicit and what in practice becomes naturalised, that is, taken for granted or common sense. Bacchi’s “What’s the Problem”? approach is helpful to understand “how the construction or representation of those [policy] issues limits what is talked about as possible or desirable, or as impossible or undesirable” (1999, p. 3). It also facilitates to see competing constructions of issues and what is left out or left unproblematised. One starting point is to analyse what issues that make the agenda and how the issues are labelled.

It should be added that even if discourses position and constitute individuals within social and institutional frameworks, I attempt to avoid "discourse determinism" (Watson 2006, p. 511). The relation between discourse and people is interactive (Fairclough 1995, p. 39) and there is always a scope for action.

In the rhetoric of reforms, the motives for change are described as problems the reforms are supposed to solve. I use the concept problem representation, defined as “ways in which ‘problems’ get represented in policy proposals” (Bacchi 1999, p. 1). These problem images represent political trends that shape the teachers’ work context.

The task then is to open up the problem representations contained in policy proposals to critical analysis, teasing out the presuppositions which lodge there and speculating upon the implications of particular discursive constructions of the problem. Most importantly, there is a need to consider what goes unproblematized in particular discursive constructions. (Bacchi 1999, p. 207)

The goals of education policy are often linked to assumptions about what education is expected to achieve, which in turn is linked to teachers’ professional tasks. To grasp these explicit or implicit goals I use four discourses of learning in the so called learning society, as described by Gewirtz (2008, p. 416):

1. Personal fulfillment.
2. Citizenship.
3. Social inclusion or social justice.
4. Work-related learning. (Dominated by a neo-liberal view on the relation learning – work)

The analysis in this paper is based on an examination of recent Swedish state policy documents (Table 1). The documents represented in the study are some important documents from the reforms of upper secondary education between 1988 and 1994 (which I here call Reform 1) and the new Reform Commission report from 2008. In Reform 1 I include documents concerning change of governing of schools. They represent important changes, even if they were not specifically about upper secondary school. In order to get another angle on the current reform, the Commission report on accreditation of teachers (SOU 2008:52) is examined as well. (I call the documents from 2008 Reform 2). Documents from two reforms of the teacher education are also mentioned. I only touch upon them briefly in the analysis but they illustrate that the construction of teachers is going on a wide front. A change which is not
analysed in this paper is the Reform Acts that created favourable conditions for independent schools (Prop. 1991/92:95 and 1992/93:230). They constitute a starting-point for the development of a liberal, competitive school market. This is also part of the construction of teachers but I will not focus that issue this time.

Table 1: The analysed documents

<table>
<thead>
<tr>
<th>Reform 1</th>
<th>Reform 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decentralisation (Prop. 1989/90:41)</td>
<td>Teacher accreditation (SOU 2008:52)</td>
</tr>
<tr>
<td>New teacher education (SOU 1999:63)</td>
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</table>

**Professional knowledge and tasks**

A comparison between the reforms of upper secondary education from the beginning of the 1990s and the new Reform Commission report shows a shift of the construction of teachers and as a consequence what kind of knowledge is desirable. In short, it is a shift from a strong emphasis on teachers’ professional judgement to an emphasis on demands from the receivers of the students, that is, working life and higher education. The new definition of the task of upper secondary education is to satisfy the skills supply needs of the receivers. This implies a narrow definition of competence, which is the dominating concept of knowledge in the report.

The emphasis in the new Reform Commission report on the power of the receivers implies that one task for the upper secondary education is given priority, work related learning, while others are toned down. To produce a skilled workforce is the main task of the education.

It is important for working life, both private and public employers, to have access to a well educated workforce and it is also important for growth issues, for industrial policy in a municipality or region and for the country as a whole. (SOU: 2008:27, p. 59).

I have designed a system that meets currently assessable needs based on what can be deduced from the continuously on-going changes in working life (…)The vocational education programmes I propose shall enhance employability and the upper secondary level will in future be defined by the established diploma objectives for each programme in cooperation with receivers. (SOU: 2008:27, p. 65).

Other tasks, like preparation for participation in a democratic society and contribution to rich personal growth are hardly visible in the report. This is noteworthy as those tasks are still present in the national curriculum – which is, by the way, the one which was published in 1994. Furthermore, the concept Bildung, which was important in the previous reform is absent in the new report. In the report from 1992 Bildung was defined as a person’s
cultivation and creation of herself into something new which makes freedom possible (Committee proposal 1992, p. 49). It is about people’s free and active search for knowledge and an understanding of the self within the world. This is a definition that oppose a view of Bildung defined as a cultural canon for an élite in the West (Gustavsson 2007).

The concept was part of a discussion about contents and tasks of education:

> Education should not merely be a planning instrument. Should it be satisfied with effectuating the demands of the contemporary economy or time spirit, it would accomplish its assignments badly (SOU 1992:94, p. 57)

A critical interpretation of the new committee proposal would say that the opposite intention is predominant: to execute the demands of the now prevailing state of the market and spirit of the time. It is mentioned that the task of the education is to prepare the students for active participation in society, but the overriding message is that the task of upper secondary education is to ”satisfy the skills supply needs of working life and the higher education sector” (SOU: 2008:27, p. 59).

The receivers’ strong position in the new report has consequences for the view of knowledge. The word competence is used 203 times in the text and apparently it implies a narrow definition of the concept: knowledge in a technical or instrumental sense. This interpretation of the meaning is even clearer in the English summary as competence is translated with the word ”skills”. This narrow definition also clashes with the present curriculum, in which several interacting knowledge forms are described as desirable:

> Knowledge is a complex concept which can be expressed in a variety of forms – as facts, understanding, skills and accumulated experience – all of which presuppose and interact with each other. Education shall not emphasise one aspect of knowledge at the cost of another. (Swedish National Agency for Education 2006, p. 6)

In comparison, expressions of knowledge in the new report are worded like, e.g.:

> What skills do students need to cope with their next step in life? This also explains my cooperation with receivers, those who ”receive” upper secondary school students, when it comes to assessing what requirements are stipulated now and in the future. (SOU 2008:27, p. 61)

> …the diploma project on a vocational programme verifies whether the student is sufficiently competent to be employed in the relevant occupational segment and on a higher education preparatory programme whether the student is sufficiently competent to study at university/college. (SOU 2008:27, p. 75)

> A vocational programme leads to a vocational diploma that provides a recognised qualification that in turn enhances employability. The vocational educational programs I propose shall enhance employability and the upper secondary level will in future be defined by the established diploma objectives for each programme in cooperation with receivers. (SOU 2008:27, p. 65)

Competence is also the word used for teachers’ knowledge in The Commission report on accreditation of teachers but the definition differs from the new Reform Commission report. The descriptions of accreditation systems in other countries and varying efforts to summarise the teachers’ knowledge base constitute quite a rich, but vague, definition of competence. A profession perspective is more prominent in this report.
The concept professional teachers was introduced in the state policy documents about changes of governing and the devolution of responsibility to the municipalities. This implied a wide space for professional judgement and teacher autonomy. Professional teachers seemed to fit like a glove in a decentralised school system, managed by objectives and results (and the state financial crisis of the time may have made the fit even better). The strong position of the teaching profession was expressed in several documents:

The responsibility to choose teaching contents and methods to reach the national curriculum goals rests with the teachers. (SOU 1992: 94, s. 296. My translation).

The teachers’ opportunities to influence teaching contents and methods shall be extensive. Thus, teachers’ competence will be taken care of and their professional role be strengthened and developed. (prop 1989/90:41 s. 5. My translation).

I (school minister of education Göran Persson, our comment) regard a higher degree of local responsibility-taking as necessary, as it is my conviction that the force behind school development now must be sought in the classrooms and the single school. It is the experience and professionalism of school leaders and teachers that has to be utilised (prop. 1990/91:18, p. 23. My translation).

A professional teaching staff leads to increased demands on the formulation of curriculum as well as better opportunities to realize goals and intentions. From that perspective, management by goals can, in order to be effective, be said to presuppose professional staff; professional in the sense of staff with common ethical foundation and knowledge base. (SOU 1992: 94, s. 44. My translation)

The new Reform Commission report is characterised by another tune. The teachers are still named professional but this time they are allotted a much more modest role. They are replaced by a new key actor: the receivers of the students. The receivers are defined as the working life and higher education, and they are given the role of deciding what to demand from the education and the quality of the result. I will here argue that this shift implies a change of views on knowledge and, furthermore, a new priority of the tasks of upper secondary education.

In fact, the very definition of the aim of the education is described as being for the sake of the receivers:

As regards vocational programmes, the aim is to educate students for an occupational segment. The aim of higher education preparatory programmes is to prepare students for higher education studies. (SOU 2008:27, p. 74)

An important aim with the new structure is the different receiver requirements. (SOU 2008:27, p. 61, 62)

The influence of working life and higher education regarding contents and quality demands are clearly and repeatedly expressed in the text:

I therefore propose that the task of upper secondary schools to satisfy the skills supply needs of working life and the higher education sector be further clarified in the Swedish Education Act. I also propose a clear role for receivers, i.e. working life and the higher education sector, when it comes to formulating educational objectives. (SOU 2008:27, p. 59)

Vocational diplomas (…) shall be designed in close consultation with the relevant industries. A vocational diploma guarantees that the student is well prepared for the occupational sector at which the programme is aimed. The same is true of a higher education preparatory diploma; it
shall be designed in close consultation with representatives of institutes of higher education.
(SOU 2008:27, p. 73, 74)

When the National Agency for Education prepares the issues (regarding content, my comment),
the stakeholders of each programmes shall have a strong influence over the content via the
proposed national programme councils. (SOU 2008:27, p. 61, 62)

In contrast to the receivers, the teachers are not salient in the new report. They are mentioned
as professionals, but their role seems restricted:

In a school, governed by goals, they [the teachers] receive and perform the task by means of
their professional competence. (SOU 2008:27, p. 330)

I also see them as an important resource in the efforts to attain national equity and to include
teachers as a professional group in the national quality assurance system. (SOU 2008:27, p. 65)

Continuing professional education is a prerequisite of successful implementation. (SOU 2008:27,
p. 617)

It is notable that even the decentralised governing is mentioned as a problem. The new
committee proposal is permeated with the intention to strengthen state control:

The current situation implies very strong producer control instead of upper secondary schools
performing a task formulated by the governmental political level as described when
the reform was presented at the beginning of the 1990s. This also means that the conditions for
formulating and implementing a national education policy have been weakened. Whether upper
secondary education is nationally equitable is strongly debatable. (SOU 2008:27, p. 56)

The Commission report on accreditation of teachers is characterized by ambivalence with
regard to teachers’ autonomy: on one hand, teachers’ professionalism and knowledge are
elaborated, on the other, the necessity to strengthen state control is emphasised. The latter is
expressed in the context of the quality discourse: “there is a need for some kind of quality
assurance of teachers” (SOU 2008:52, p. 80). The core idea of the reform is to enhance the
quality of education by regulating the teachers’ competence. Professionalism is defined as
competence. Competence results in quality, and as quality is defined as goal fulfilment, the
reasoning is basically about governing. This line of thought ends up in a perception of
professionalism in which the profession is a managed profession – which contradicts the
considerable professional autonomy assumed by traditional profession theory.

**What’s the problem?**

The rhetoric underpinning the reforms of the early 1990s was to a large extent about rapid
changes in the surrounding world and the need to prepare for the high change pace and the
uncertainties and competition of globalisation. Flexibility became a key-word. The changes
mentioned were the global economy, the new information technology, the international mass
culture, the multicultural society and the environmental threats. Furthermore, Sweden had
changed radically since the World War II. A changing world demands changing knowledge,
and flexible organisations and individuals. This development takes place in the context of the
knowledge society:

Knowledge and education is one of the most important means for a society to create welfare and
prosperity…The knowledge growth is one of the most important forces for social reform in our
time…The knowledge explosion, changes in working life, internationalisation and the global
responsibility for our common future will raise new and growing demands for education in our
society. (prop. 1990/91:85, p. 42)
The importance of education for the sake of economic competitiveness was emphasised:

Investments in education are crucial in the government’s policy to strengthen the long-term competitiveness and economic growth. (prop. 1990/91:85, p. 108)

The new labour market was described as internationalised, occupations (especially low-qualified) disappeared and new occupational groups emerged. These changes demanded a flexible upper secondary school. Other arguments for change were that centralised governing no longer was possible, and that the changing times had created changed teenagers that demanded something new from school.

Shortly after the non-socialist coalition won the Swedish election in 2006, the new Minister of Education, Jan Björklund, announced a “total reform” of upper secondary school. In a newspaper article he described the new government’s problem representations. The reasons for the need for reform was a picture of a dysfunctional education: “no other type of education struggles with so many acute problems as upper secondary school” (Björklund 2006). The problem the Minister mentioned was, more precisely, the large amount of failing students and drop-outs, too many students on the individual programme, the low quality of the vocational programmes and the possibilities to choose courses tactically. He concluded that there was a need for “a far-reaching reform of the Swedish school system” to make Sweden as successful during the 21st century as it was during the 20th century” (ibid).

The motives for change, summarised above, correspond to the argumentation in the Reform Commission report (2008:27). The main argument is that the student outcomes are not good enough and a disproportionate number of students have incomplete final certificates. A new, more standardised upper secondary school (including the introduction of a diploma) is an answer to that problem:

Higher education preparatory programmes shall provide better preparation for higher-level studies than is currently the case. (p. 71)

There is a belief in the report that upper secondary school has become too diversified, because of a vast amount of programmes and profiling. This variation makes it difficult for students to gain an overview, and the receivers of the students (universities, companies and organisations, etc.) are not able to grasp what their qualifications actually mean. The solution is stricter programme-structures with reduced student choice. Apparently, the new committee proposal is eager to strengthen state control, which I will illustrate under the headline Autonomy.

Another remedy for the assumed low quality of the current upper secondary school is a clearer division between vocational and study-oriented programmes. I would call this a historic shift as it constitutes a break in the striving to integrate all students in one school, which has been important in Swedish education policy during the 20th century (especially after World War II).

The core of the Upper Secondary Educational Reform Commission’s analysis is that the present upper secondary school has many shortages, and that the new reform will solve them through large-scale changes. This is summarised in three main issues, which will be discussed in the final section:

- The student’s right to a good education needs to be strengthened.
- Responsibility, structure and regulations need to be clarified.
- Greater cooperation in upper secondary education between receivers and school governing bodies is needed. (SOU 2008:27, p. 58)
The committee report on accreditation of teachers, (SOU 2008:52), formulates several motives for introducing an accreditation system. The strongest argument is that it will enhance the quality of education. Quality is defined as goal fulfilment. The underlying assumption is that student outcomes have deteriorated. Another important argument is that the demands on teachers have increased due to changes in governing (management by objectives and results) and societal changes. The teachers’ tasks have become broader and more complex, which creates a need to strengthen their competence. Expressions of the perception that teachers face increased demands has during several years grown to something like a jargon about an extended teaching role in policy documents:

The systematic quality development work in a school managed by objectives and results implies that the teachers’ responsibility for evaluation, follow-up and school-development has increased. (SOU 2008:52, p. 293)

Some other motives for accreditation are mentioned in the report, but they seem to be of less importance than those mentioned above. One is to motivate teachers for continuing professional development and school-development. Another is to make the Swedish teacher education more compatible with other European teacher educations. Furthermore, the report speaks for development of new career paths for teachers, by increased academisation. The last, but hardly the least, reason for teacher accreditation is the fact that the number of qualified teachers has decreased during the last few years.

**Concluding discussion**

In a broad perspective, the construction of teachers and knowledge in the new reform proposal poses questions concerning human development, power relations and what kind of society we would like to have in the future. In this concluding discussion I will elaborate some of those questions, using brief summaries of the examined issues as a starting-point. Even if The Commission report on accreditation belongs to the reform 2-period, I put it in a separate column to get a richer picture.

*Table 2: Professional knowledge and tasks*

<table>
<thead>
<tr>
<th>Reform 1</th>
<th>Reform 2</th>
<th>Accreditation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional knowledge (defined by the profession), framed by goals and assessments? Several interacting knowledge forms, including Bildung</td>
<td>Competence, as defined by the receivers. Instrumental. Personal fulfilment toned down.</td>
<td>Competence, defined as professional knowledge base - prerequisite for quality = goal-fulfilment</td>
</tr>
</tbody>
</table>

It is confusing but interesting that the notion of international economic competitiveness within globalised economy underpins both reform periods. Paradoxically, it is a perspective that is more explicitly expressed during the first period – in spite of its wider agenda regarding the tasks of education. The notion is more implicit in the second school reform, but the narrow and instrumentalised conceptions of education as means of enhancing individual
employability and the creation of a modern work-force in line with employer demands is apparent.

The priority of desired learning discourses is a core issue, which will be crucial both for student learning and teachers’ professional identities. In the new reform proposal, the learning discourses of personal fulfilment, citizenship, social inclusion and social justice are downgraded, while work-related learning is what counts. This should be alarming to politicians as well, at least for those who consider education as an important prerequisite for a democratic society.

Liedman (2008) has analysed the international competence discourse and claims that it is constantly present in discussions on today’s education. Furthermore, competence is often connected to quality. His explanation of that link is that there is a striving for quantification, an intention to quantify performance. The competence concept makes it possible to compare different individuals’ ability to perform certain tasks. Liedman thinks that there is a belief that measurable performances will make the workforce more efficient, but he is critical to superficial quantification. He argues that human qualities are not suitable for quantification.

Knowledge is also a part of the lifelong learning discourse. Liedman discusses the various meanings of lifelong learning. On one hand it is perceived as opportunities and life chances for an individual, while on the other hand it is regarded as the individual’s constant adaption to the shifts of the labour market. Liedman claims that the curriculum implies a meaning of the concept which excludes an interpretation as simple adaption to the labour market. In contrast, the emphasis on competence and receivers’ influence in the new report carries a meaning of lifelong learning which is close that of adaption to the shifts of the labour market.

In The Commission report on accreditation of teachers the concepts lifelong learning and learning society are less present, compared to the other documents. Lifelong learning is mentioned a few times, mainly in the context of European educational policy. Different learning discourses are hardly visible in the text. However, the report elaborates the notion of a knowledge base. This represents both understanding and respect of professional knowledge. It is true that professionalism is defined as competence (SOU 2008:52, p. 74), which may represent a narrow view, but the reasoning and international examples of richer and dynamic definitions of a knowledge base indicate a more substantial understanding.

A broader understanding of knowledge, as practical and tacit, is present in the proposal to introduce an introductory year for new teachers, as well. The aim of the introduction is double: professional support on one hand, and control and assessment on the other. I regard this supervision in a community of practice as a step forward as it is a way to avoid the “sink-or-swim-approach” that many new teachers have experienced – with heavy costs both for the individual and for the school as an organisation. It is also an acknowledgement of the teaching profession as a complex and difficult profession.

Table 3. Autonomy

<table>
<thead>
<tr>
<th>Reform 1</th>
<th>Reform 2</th>
<th>Accreditation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional teachers in a decentralised organisation, managed by goals and</td>
<td>Stronger state governing, and the receivers as the core</td>
<td>Two-sided: Stronger state governing and enhanced professional status. Both</td>
</tr>
</tbody>
</table>
The marked prominence of the receivers of the students (defined as the working life and higher education) is something new and notable. It is not just about a close dialogue. It seems to be about employability, but even something more: the power of working life and higher education are given the right to define the tasks and what they count as quality of upper secondary school. I repeat the formulation of the new committee report: “the task of upper secondary schools is to satisfy the skills supply needs of working life and the higher education sector”. This reduces the teaching profession to obedient servants for educational decisions made by the state, trade and industry. From a profession perspective this development can be described in another way. The change constitutes a crucial shift: the students have traditionally been the clients of the teaching profession, now the receivers are the clients. This shift will probably have impact on the teachers’ professional identity, as well as the priority of what kind of learning is desired. A teaching profession with profound moral understanding of the work, able to practice wise professional judgement, has the potential to function as a guarantee against a narrowing of educational goals in our time. Autonomy (however not unrestricted) is a prerequisite for that.

The new ambition to strengthen state control is apparently a change of the view of decentralisation, which has been predominant during two decades. It is motivated by care of a nationally equitable education. It could also be interpreted as a lack of trust in the teaching profession. The accreditation report represents an alternative view. It is characterised of ambiguity with regard to the balance between management and profession perspectives. I think this is a healthy contrast to the state- and receiver- dominated perspective of the new upper secondary school report. It is apparent in the literature on change that unless those involved in the actual implementation of change are able to create meanings out of the reforms, or if change contradicts their professional identities, the reforms are bound to fail (Fullan 1997). Thus, I regard a balance between management (e.g. state governing) and profession as the most fruitful way forward – even if that implies ambiguity and a need to balance differing interests.

Table 4. What’s the problem? The problem representations.
As mentioned, the new commission report claims that there is a need for large-scale changes in three areas:

- The student’s right to a good education needs to be strengthened.
- Responsibility, structure and regulations need to be clarified.
- Greater cooperation in upper secondary education is needed between receivers and school governing bodies. (SOU 2008:27, p. 58)

I would call the first issue a platitude: Who would deny the students’ right to a good education? The formulation presupposes that the education is bad. This is not convincingly proved. It may be regarded as a failure that not 100 per cent of the 16 year-olds have finished an upper secondary education with a complete exam within three years, but is a perfect school realistic in an imperfect world? I certainly regard visions as important in education, but there is a risk that the so called monitoring-regime, or accountability trend ends up with school staff that most of all experience situations with insufficient means for the stated aims. To search for deeper understandings of what a successful education is, the perspectives need to be widened and embrace the surrounding world, the local, national and global contexts. There is a need to avoid the notion of educational work and life as taking place in decontextualised arenas.

The solutions are implementation of a new programme structure, a clearer division between vocational and study-oriented programmes and an ambition to closer cooperation with working-life. The individual programme, where there are too many students that lack study motivation and complete grades, will be replaced with apprenticeship education and a tenth (preparatory) year in compulsory education. These measures are not problematised. There is no substantial reflection regarding risks for increased social segregation. I perceive the idea to hold students with incomplete grades an extra year in compulsory school as naïve. Students who have failed compulsory school often lack motivation and do not feel that they are in a context where they flourish. The prospects of solving that situation by way of being left behind, in the same milieu as they have experienced failure, are not good.

The second issue, clearer responsibility and structure, seems to imply a stronger state governing and more power to the receivers of the students. It is notable that the intentions were the same regarding the reforms in the beginning of the 1990s: the education at the time was regarded as too disintegrated and hard to grasp. But more power was given to the teaching profession, not to the receivers. This situation poses questions that lack convincing answers in the new report: What makes the structure of the new education clearer? How can we be convinced that representatives from trade, industry and higher education are better suited to create an upper secondary education than the teachers? What learning discourses will these representatives (for example managers of car repair shops or hospitals and professors of biology or French): personal fulfilment, citizenship, social inclusion and social justice may be toned down or disappear or work-related learning? Will they support a school for all, even students at risk and students that are not “high-performers”? Will they work for democratic values, critical thinking and individuals’ rich personal growth? There is a risk that competence in a narrow, instrumental sense and measurable outcomes aimed at employability will be the definition of knowledge and quality.

The third issue, to improve the cooperation between schools and working-life, was also prioritised in the previous reform. In what ways will cooperation be facilitated by the new
reform? An analysis regarding the conditions and priorities of for example industry and trade is lacking. At present, some vocational programmes it is difficult to arrange practice for their students, due to high pressure of profitability and competition in working-life. The new reform proposal does not give any solution to such realities.

I called the new intention to divide instead of integrate vocational and study-oriented programmes a historic shift. Even if I agree that there is reason to problematise how compulsory study-oriented courses for all works in practice, I cannot see the reasons to open up for lowered demands and restricted life-chances for about half the students. It contradicts a basic conviction in education: the belief in humans’ extensive capacity to develop themselves. Furthermore, the restricted eligibility to higher education that the new committee proposal implies, risk increased social segregation. I am convinced that social, cultural and economic capital play a role in teenagers’ choices.

Reforms of teacher education is a parallel story to the reforms on upper secondary school, regarding the motives for change: In the first reform report (SOU 1999:63) the problem representation was to a high degree about the changes that a fast changing society and lifelong learning demanded, while the problem representation in the second reform proposal (SOU 2008:109) is primarily formulated as discontent with the present educational quality. Furthermore, the striving for a more flexible education in the first reforms and the shift towards stricter programme structures and reduced student choice is a parallel trend.

An interview study carried out a few years ago showed that the upper secondary school teachers had been left behind regarding their opportunities to create meanings of the comprehensive reforms of what I here call the first reform period (Lundström 2007). The reforms did not seem to be fully implemented. The substantial organisational changes and lack of support and time had constituted obstacles to development. This uncertain situation poses concerns as new substantial reforms are about to start. They will certainly demand lots of wise judgement and professional self-confidence from the teachers.

References


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Let Teachers Learn! How to ensure the access of all to in-service training.
Súsanna Margrét Gestsdóttir

EUROCLIO is the European Association of History Educators. At our numerous training events for teachers we have been made strongly aware of the increasing difficulties ordinary teachers in many countries are faced with when wishing to work on their continuous education. This is contrary to the well recognized trend towards the importance of lifelong learning. Teachers are expected to get continuous training, participate in professional development events and activities and follow in-service activities However, there is little direct support for training and development of teachers as surveys have shown. If this development continues, large parts of the teaching community in Europe will be excluded from in-service training on an international level – more important in this day and age than ever.

We need a campaign to make educational authorities aware of the situation, make them aware that there is a number of European documents and agreements that recommend in very clear terms the necessity of allowing teachers to learn!
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Teacher Education Policy in Europe (TEPE) Conference 2009
University of Umeå, Sweden

Monday 18th – Wednesday 20th May 2009

Conclusions and Recommendations

The TEPE Network met at the University of Umeå for its third annual conference from the 18th to 20th May 2009 and participants exchanged views about ongoing development processes in Teacher Education in Europe. We also reflected on changes which have been implemented at our institutions, as well as in our national systems, as a result of joint efforts at a European level to modernise higher education in general and teacher education in particular as an integral part of this system.

We are witnessing important changes in educational systems in Europe at this time and the year of 2010 will be an important landmark in the Bologna Process. It is expected that at the Vienna and Budapest March 2010 conference, European Ministers from 46 countries will declare the establishment of a common European Higher Education Area and that the basic aim of the Bologna Declaration has been achieved.


The first document makes it clear that while we are coming ever closer to a common European Education Area in 2010 – a goal of the Bologna Declaration of 1999 – we are also facing new challenges “beyond 2010”. Ministers state that: “In the decade up to 2020 European higher education has a vital contribution to make in realising a Europe of knowledge that is highly creative and innovative. Faced with the challenge of an ageing population Europe can only succeed in this endeavour if it maximises the talents and capacities of all its citizens and fully engages in lifelong learning as well as in widening participation in higher education.”

The second document also considers the position beyond 2010 and the conference welcomed the fact that Teacher Education remains a priority also on the “EU-27” agenda. Strategic objective 2 on improving the quality and efficiency of education and training states that “there is a need to ensure high quality teaching, to provide adequate initial teacher education, continuous professional development for teachers and trainers, and to make teaching an attractive career-choice.”
The conference recognised that task of the TEPE Network is to support Teacher Education within the 2020 EU-46 Higher Education Area as well as within the EU-27 Education and Training perspectives.

The conference reconsidered and reaffirmed the Conclusions and Recommendations adopted at the Ljubljana conference in 2008. Working Group took these as a starting point and discussions were wide ranging and action oriented. Accordingly these Key Recommendations from 2009 can be seen as a list of priorities for 2010 in order to make progress on achieving the longer term goals that were elaborated in Ljubljana in February 2008.

**Key Recommendations**

The conference called for:

1. Recognition of the importance of a long term and integrated view of teacher education that includes initial teacher education, induction and continuing professional development and that also recognises the need to support teachers as life long learners throughout their careers.

2. Greater recognition of the need for teacher education to be based on a balance and interconnection between a strong research-based curriculum in Higher Education and strong support in the process of identity formation of teachers in practice.

3. Greater attention to be given to strengthening the professionalism of teacher educators as a task for the professional community of teacher educators in the first instance, but also supported by incentives from policy makers.

4. The development of a common framework of quality indicators for Teacher Education in Europe.

5. Three way communication between researchers, policy makers and TE practitioners: researchers in TE, policy makers and decision makers at the institutional, local and national level and TE practitioners at the institutional level and as mentors in schools.

6. An emphasis on systemic quality enhancement at the institutional level (the Bologna Process stressed that quality is the primary concern of higher education institutions), comprehensive national action plans for implementing the agreed European principles (within the EU Education and Training 2010) as well as national action plans regarding the “social dimension” (stressed in the recent Leuven / Louvain-la-Neuve communiqué of the Bologna ministers).

7. The development of joint research projects in order to advance research in and on Teacher Education and in particular to promote quality in Teacher Education.