Multimode teacher education:
Distance education, blended learning, and learning while working

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Abstract

Teacher education interacts with social changes and it must be constantly able to react to new requirements and challenges. In this article, we will discuss multimode teacher education as one possible answer to these requirements. It is a variation of teacher education in which pedagogical ideas of distance education are adopted. At the conceptual level, multimode education includes elements from several theoretical approaches which we will clarify through a conceptual analysis. We will discuss multimode teacher education from four perspectives: 1) distance education, 2) alternative interpretations, 3) learning while working as a teacher, and 4) research-based teacher education.

Keywords: *Teacher education; Distance education, Multimode teacher education*

Introduction

Teacher education interacts strongly with changing social circumstances. A sudden shortage of qualified teachers may appear which prompts teacher education institutions to increase student enrolment. The economic and financial position conditions of students changes together with the underlying economic condition picture of society. Demographic changes may take place in the student enrolment, for example regarding the average age of the students. All the changes mentioned above have taken place in Finnish teacher education during the past decades. There has been a dramatic fall in the number of qualified teachers actually teaching due, for example, to the loss of male teachers in the war and the mass retirement of the post-war generation of teachers. Economic security has declined because of the relative decline in the size, as value, of student grants. As a result, students are forced to take jobs during their studies. The average age of students has increased. Students are older than before and they may have study and work experience from a variety of fields prior to their entering teacher education.

Naturally, teacher education faces a challenge in attempting to answer these changing needs, often at short notice. One solution has been distance education or, more precisely, some applications of distance education. By adopting the ideas and activities of distance education, Finnish teacher education has answered the challenges posed by, for example the heavy shortage of teachers in the late of 1980s and early 1990s and the present situation in which students work at the same time as they study.

Although the challenges described above may be regarded as temporal, it is clear that teacher education must be constantly aware of and be able to react to new requirements and

challenges. Teacher education systems are based on a number of main organizing themes (Galluzo & Pankratz, 1990; Zeichner, 1983; Noffke & Zeichner, 2006). The theoretical basis for teacher education in Finland could be characterized as a research-based approach (Kansanen & al. 2000; Jakku-Sihvonen & Niemi, 2006). Applying distance education brings new aspects to this main organizing theme. As already mentioned, challenges may vary but the ability to answer them remains constant. Similarly, the application of distance education may vary in answering these needs. However, the call for a theoretical basis that takes different kinds of variations of teacher education into account has become constant. The theoretical basis for the various aspects of distance education is called multimode teacher education.

In this article, we will discuss the different concepts of multimode teacher education. We will base our analysis on the Finnish teacher education system which has adapted the new idea of combining a *teacher's work* with teacher education. Adult students are working as officially unqualified teachers in schools and are responsible for a class on a daily basis as part of their teacher education. Accordingly, we are dealing with *learning while working* which is one of the concepts we will address in this article. This kind of teacher education cannot be organised in the traditional way but requires a new kind of pedagogy. It is not just a question of practical arrangements – organizing teacher education in a 'multimode' way – but a wider educational approach with its own theoretical framework and concepts.

'Multimode' refers to a variety of combinations of on-campus and off-campus learning and to various ways of using educational technology. Network-based learning environments (WebCT, BSCW) are used for discussions and document storage. There are also network-based recorded lectures. When some students live and work far from the teacher education institution, video conferencing is used to connect face-to-face meetings on campus with a distant site. A student's work teaching his or her own class is supervised over a practice period. When this classroom is far from the teacher education institution, a university supervisor uses videoconferencing to supervise this teaching (Kynäslahti, Kansanen, Jyrhämä, Krokfors, Maaranen & Toom, 2006). A student's work as a class teacher is also an essential part of the studies. The pedagogical idea is to bring educational theory and everyday life at school and in the classroom together (Krokfors, Jyrhämä, Kynäslahti, Toom, Maaranen & Kansanen, 2006).

At the conceptual level, multimode education includes elements from several theoretical approaches. Our aim in this article is to clarify that framework, through a conceptual analysis of multimode teacher education. We will discuss this from four perspectives: 1) distance education, 2) alternative interpretations, 3) learning while working as a teacher, and 4) research-based teacher education. Our starting point is that multimode education is a blend of different aspects of several concepts related to these four perspectives.

The perspective of distance education

Like multimode teacher education, distance education could be regarded just as a practical way to provide education for those people who for some reason are not able to attain traditional, full-time studying in an educational institution. However, distance education is nowadays seen as a field of education with its own theory, concepts and pedagogical ideas.

Distance education has eagerly sought its own theory during the last forty years. The field is, as Saba (2003) comments, relatively young. There have been approaches like 1) what are the characteristics of distance education and 2) how distance education can be distinguished from other forms of education (Saba, 2003, p. 4). Concerning our research, the latter question can be transformed to: How distance education differs from the traditional university teaching and studying. Distance education and traditional education are coming

closer together. From the point of view of multimode teacher education this kind of development is interesting. In the following we will discuss diverse arguments presented by a number of theorists of distance education concerning how they see the changing relationship.

Some scholars have taken a stand according to which differences between distance education and traditional education should not be emphasised. All that constitutes educational processes, when a student and a teacher meet face-to-face, also constitutes educational processes when they are physically separated (Shale, 1988). Further, distance education theory 'has to explain education when instructor and learner are under the same roof as well as when they are not' as Saba (2003, p. 10) puts it. One of the most far-reaching views is the equivalence theory launched by Simonson and his colleagues. The basic idea is that it is (distance) educators' responsibility to provide equal learning experiences for students, whether they are on-campus or off-campus and in whatever way they are linked to resources or instruction they require (Simonson, Schlosser & Hanson, 1999). Simonson *et al.* call for 'appropriate application'. It implies that students are provided with the means that make it possible to experience that kind of studying which was endeavoured; if students are expected to act collaboratively, isolated individual off-campus students should be provided with technology which enables collaboration. They emphasise that equivalent distance education relies on the use of information and communication technology.

Indeed, technology is often highlighted when today's relationship between traditional and distance education is discussed. Garrison, Anderson and Archer (2003) underline on-line learning in their elaboration of the theory of distance education and they treat it as a flagship of distance education. They warn that now that online learning is increasingly used in traditional education, the distinctive characteristic of distance education is challenged. Pedagogy, which has been typical for distance education, is becoming typical for traditional education as well, thus losing its speciality. Traditional university teaching is increasingly starting to use that kind of pedagogy, which has typically been used in distance education. A catalyst of that development has been the increasing use of information and communication technology in traditional higher education. Multimode teacher education places itself between distance education and traditional higher education being an example of the development described above. It contains elements of both traditional on-campus studying and distance education.

One manifestation of coming together on-campus and off-campus studying is the virtual university. It was intensively discussed since the year 2000 and nobody seemed to have a clear understanding what this phenomenon actually was about. On numerous occasions an often presented point of view was the idea of symbiosis. The virtual university was seen as an extension of the traditional university. A virtual dimension could complete and enrich the education that the traditional one organised. This kind of view, concerning the virtual school in general, had been previously presented by Tella (1995).

Concerning the relationship between traditional university and distance education organisations Keegan (1993) presents a categorisation: 1) autonomous institutions and 2) mixed institutions. While the first category refers to correspondence schools and distance teaching universities, it is mixed institutions, which are of interest here. They can be: 1) independent study divisions of extension colleges, 2) consultation systems, which are assigned both to a distant university or college, from which they receive their degree, and to a nearby "consultation" institution, from which they receive instructional services and 3) integrated systems, in which an academic department, supported by administrative staff, provides the same curriculum to both on-campus and remote students. Multimode teacher education evidently belongs to the third one: integrated systems.

Although the discussion about the changing relationship between traditional and distance education is of present interest, the idea of using the distance education pedagogy in

entire higher education is nothing new. For example, Wedemeyer argued that pedagogical ideas could be benefited by on-campus studying. He called for 'independent study' in order

> 'to free on-campus or internal learners from inappropriate class placings or patterns, to provide off-campus or external learners with the opportunity to continue learning in their own environments, and developing in all learners the capacity to carry on self-directed learning, the ultimate maturity required of the educated person.'
> (Wedemeyer, 1977, p. 2114.)

As Keegan (1990, p. 56) comments, it is noteworthy that Wedemeyer, as a distance educator, did not restrict the definition of independent study to distance learners only but placed on-campus students under the umbrella of the concept as well. The concept brings together 'internal' and 'external' studying. Students who study in the traditional way are provided with 'freedom from lecture attendance … by the allocation of a series of readings and individual study programmes.' (Keegan, 1990, p. 56). In other words, traditional higher education, which is based on full-time participation and face-to-face teaching, may benefit from the ideas of distance education including independence and learner autonomy. The latter refers to Moore. He favoured students' ability to autonomously make decisions upon the setting of objectives of studies, methods of study and evaluation (Moore, 1977). Study programs could be then estimated on the grounds whether it is a student or a teacher who makes decisions considering these three areas. In the University of Helsinki both normal and multimode students are expected to construct an individual study programme and get it accepted. We think this makes them more conscious of their studying and helps them to justify their pedagogical decision-making.

When defining distance Moore used two concepts as criteria: dialogue and structure. Dialogue refers to provision of two-way communication (between a teacher and a student). Structure deals with the extent to which a study program is responsive to a student's needs. With these criteria 'distance' can be measured in any study program. Moore evaluated his ideas presenting the idea of transactional distance. The main components, dialogue and structure, remained, but compared to the earlier concept of distance Moore emphasised the pedagogical nature of distance. Because of physical distance there may be a communication gap and a psychological space of potential misunderstandings between a teacher and students (Kearsley & Moore, 1996, p. 200). As with the case of distance, also transactional distance can be measured in the same manner. We come to another concept Moore has favoured, namely autonomy. To put it simply: the greater the (transactional) distance, the more responsibility is required by a student. The link to Wedemeyer's independent study is obvious. Learner autonomy is an individual issue in the sense that different persons have varying capabilities to make decisions upon their own performance. Some students are comfortable with a lot of autonomy while some others appreciate dialogue and structure.

Multimode teacher education evidently bears several characteristics of distance education. First, there is, indeed, the distance. Some students live and work hundreds of miles away from physical settings of the provider of teacher education. They study more independently than their classmates in the traditional class teacher education do. Their studies are part of formal education aiming to be a flexible alternative way to study. Different kinds of assignments are an essential part of the studies. Finally, as it is nowadays typically the case in distance education, multimode teacher education also includes several kinds of uses of information and communication technology.

Another aspect of distance education deals with students' capabilities and rights to make choices concerning content and scheduling. That aspect will be discussed later under the title *flexible learning*.

The perspective of alternative pedagogical interpretations

Blended learning. Our multimode teacher education began in the early 1990s, when methods of distance education were for the first time brought to teacher education. Traditional on-campus studying was blended with off-campus learning, often facilitated by the use of information and communication technology (Falck, Husu, Kronlund, Kynäslahti, Salminen & Salonen, 1997). Today, this kind of mixture is often indeed called blended learning (Whitelock & Jelfs, 2003). It follows that the multimode teacher education can be seen as a variation of the concept of blended learning. The basic idea is simple: it refers to mixing different pedagogical elements to achieve a flexible wholeness. Scholars debate if these elements refer to the use of different kinds of information and communication technologies, to different kinds of combinations of individual study and group work, or for example to a variety of mixtures of face-to-face studying and e-learning (Driscoll, 2002; Kerres & de Witt, 2003). Apparently, blended learning is still a somewhat vague concept. However, it has attracted significant attention in the practical field (Kerres & de Witt, 2003). Blended learning provides a promising ground for the academic field as well, so as to put the idea of multimode education in a wider conceptual framework of teacher education.

Accordingly, it is a question of flexible ways to organize higher education. Thus the concept of *flexible learning* has emerged. Collis and Moonen (2001) see flexible learning as a situation in which a student has a range of options from which to choose concerning pedagogical issues. These issues may relate to time (starting and finishing a course), content of a course or social organisation of studying (face-to-face; group, individual). It is 'movement away from a situation in which key decisions about learning dimensions are made in advance by the instructor or institution' (Collis & Moonen, 2001, p. 10). Interestingly, Collis and Moonen speak only about students' options to make choices, not those of teachers.

Concerning the multimode teacher education that is discussed here, students do not necessarily possess a possibility for a great variety of choices between different alternatives concerning how or what to study. 'Alternative' in our case points to the very organisation of education: choosing between traditional full-time participation and a multimode education. Doing it in a multimode way makes studies possible for people to whom full-time participation is not possible. Here we come to educational equality and, thus, to the principles of distance education.

In the University of Helsinki, teacher education is seen as flexible in two ways. Firstly the learning environment and study culture is seen as collegial and the students role in it as an active one where pedagogical thinking is practiced by engaging in argumentative thinking skills. On the other hand the curriculum of teacher education is seen as a process rather than a static product (Zeichner, 1983).This is one of our orientations in regard to research based teaching, studying and learning in higher education.

In the late 1980s and 1990s the concept '*multimode teaching*' became used in educational discussions. Paakkola defines multimode teaching in the following way:

> Multimode teaching is a form of teaching, which is based on students' self-study. It is mainly carried out using learning material made for self-study purposes and it is facilitated by restricted interaction. (Paakkola, 1991, p. 18.)

The definition is not something strikingly original. Self-study and learning material are often mentioned when speaking of distance education. However, 'restricted interaction' is worth paying further attention to. It points to the fact that when people are not in the same room at the same time interaction becomes different from the traditional classroom teaching. This is

certainly true but the world of communication has changed since Paakkola's definition. The use of information and communication technology has enriched the ways in which students and teacher may interact. E-mail and groupware used as a studying platform, for example, can be seen as rather effective ways for communication between participants of study programs. Opportunities for face-to-face interaction may be restricted but interaction, using today's various possible ways to communicate, is not necessarily restricted.

The work-related perspective of teacher education

The multimode education evidently deals with *learning while working*. In that case students' work relates to the studies and in the studies their work is intentionally used to be of benefit. Although the connection between work and studying is apparent, the concept of learning while working does not fit the multimode teacher education as easily as one might expect. It is not widely discussed in the literature of teacher education. There are some examples concerning the integration of practical work and theoretical studies, like reports on in-service teacher education (Grundy, Robison & Tomazos, 2001), mentors supporting student teaching (Martinez & Coombs, 2001) and mentoring in general (Carter & Francis, 2001) as well as students dropping in to their familiar classes (Graham & Thornley, 2000). Retallick (1999) investigated teachers' workplace learning as professional development. Although the focus of his research is very near of that of our study, our case differs somewhat from all the examples listed here. The students of the multimode teacher education are not beginners or inexperienced in teaching. Neither are they students who after many years of theoretical studies are moving to the practical studies in teacher education or teachers who have come to complete their former teacher education studies. They have experience in a teacher's work but they are beginners as students in teacher education.

Learning while working is often characterised as informal learning. Typical for informal learning is that it takes place outside the educational institution. Marsick and Watkins's (1990) theory of informal learning treats learning while working as the opposite of learning in school. Learning is a side effect of work; it is not purposive activity. That is not the case while studying in the multimode teacher education. There are two kinds of connections to formal education: 1) studying is a part of the university studies, and 2) the working context, school, as such is an educational institution. Learning is not seen as a side effect either but as a result of purposive activity.

Learning while working, as it appears in multimode teacher education, is part of formal education. Honkonen has outlined this connection by stating that the institution goes to the working place and workers act as students or students as workers. The students are not only physically but also through the curriculum at their work places (Honkonen, 2002, p. 39). As to the studying in one's own class, this is a feature of virtual university where the relation between the university and the surrounding society becomes closer than the traditional respective relation (Jyrhämä, 2003). This is like speaking of teachers as students or students as teachers.

The relation of work and learning may be understood at three levels: 1) work, 2) working community, and 3) working organisation. While it is clear that learning while working refers to work, a teacher's work in particular, the viewpoints of working community and working organisation are of less importance, or at least their role is different from learning while working in general. So far, we do not have a clear picture to what extent multimode teacher education works as an intervention into the world of the school. This kind of intervention was not our purpose in the first place. Such being the case multimode teacher education was not directed to the development of the schools although the student teachers have some assignments regarding the whole school. It is also questionable whether the

schools discover how to utilize the new link to teacher education that comes through the student. For that reason the development of the organisation can be questioned. The viewpoint of the organisation hardly comes forth and the viewpoint of the working community is also problematic. There is no guarantee that the new knowledge acquired by the student teacher would come into use among the colleagues. The possible change may only concern a student teacher's own class.

The mutual discussion among the students may, however, serve the certain feature of learning that Järvinen and Poikela (2001) characterize by stating what is important is not the mere question of learning while working because working as such does not bring about learning. Essential is the reflection on deeds and actions as well as sharing experiences with others, which points to the community of the student teachers. They come from different kinds of schools and working contexts, which encourages reflection and the sharing of experiences. The role of the working community is not, however, totally lacking. At the end of the studies the student teacher is mentored by a teacher of the local school. According to our results, (Kynäslahti, Kansanen, Jyrhämä, Krokfors, Maaranen & Toom, 2006) participating in the teacher education have aroused some interest among the colleagues, which possibly causes pedagogical discussions and updating of knowledge in the community of teachers. We followed Mezirow's ideas to combine deliberative action with critical reflection. In addition to the individual approach, activity in the community of the school leads to communicative learning, to mutual understanding of the working community (Mezirow, 1990, pp. 5-10).

A more defined approach to learning in the workplace is *apprenticeship learning*. According to Nielsen and Kvale (2000) it means learning through participation in social organisation of a workplace. There are reciprocal responsibilities for both the master and the novice for a long period. They present four elements that apprenticeship learning covers:

1)   Connections to practice
Apprenticeship learning takes place in some social organisation, usually in a workplace. Being a member and taking part in performance of that social organisation a student gradually becomes a qualified member of a professional community.
2)   Adopting professional identity
When a student step by step learns different skills and pieces of knowledge related to a profession, it enables a means for the student to obtain a professional identity.
3)   Learning without formal education
A student is provided with an opportunity to observe and imitate the activities that his or her colleagues carry out.
4)   Evaluation through practice
Evaluation mainly takes place through actual situations in a workplace. It deals with continuous experimenting with one's skills and with response, which follows from that experimenting. Often there is a final proof in the form of a specimen made by the learner.

The aspect of apprenticeship learning especially comes into view in a practice period which is carried out in the student teacher's own class. It is mentored by another teacher, who is officially competent or a principal of the school (as well as supervised by a university lecturer). In other words, a more experienced professional counsels a less experienced colleague. An interesting aspect here is the development of professional identity. Our previous results revealed (Kynäslahti, Kansanen, Jyrhämä, Krokfors, Maaranen & Toom, 2006) that the student teachers had felt inferiority as incompetent teachers in the school. After they had started their teacher studies this feeling had somewhat changed and their professional self-assurance had increased.

Service learning comes from American literature and provides a special perspective to teacher education. Buchanan and his colleagues define it in the following way: 'Service learning is a pedagogical approach in which students learn and develop through active participation in thoughtfully organised service experiences that meet actual community needs.' (Buchanan, Baldwin, & Rudisill, 2002, p. 30). Service learning emphasizes students' capacity to real-world problem solving (Harkavy, 2004). The relationship between a teacher education unit and a community (a school) is reciprocal suggesting benefits for both parties. Student teachers can increase their understanding of being a teacher and community members (teachers) may benefit from efforts of student teachers and the teacher education unit. This approach also pays attention to special expertise that members of a school community may provide. Student teachers see their professors to take part in solving problems to which they do not have immediate answers. Student teachers do not teach in classrooms but they have some project that they carry out, outside of classrooms. In this way they do not march in into already existing pedagogical settings created by the teacher of a class but they act more independently. However, the performance is facilitated by both local teachers and university teachers. Accordingly, teacher educators themselves also learn in service learning which is assumed to have implications for the development of teacher education. Service learning also aims to develop teacher education and data is gathered for this purpose.

When we speak about carrying out teacher education at the school level we deal, at least to some extent, with *school-based teacher education*. In some countries an essential change has taken place in the role of schools in the teacher education system. Furlong expresses this commenting that while traditionally schools just made their classroom available for students to practice, nowadays schools have greater responsibility for professional preparation of incoming teachers (Furlong, 2000, p. 12). England and the USA have experienced this development in the 1980s and in the early 1990s while some others including Australia and the Netherlands have followed somewhat later. The reason for the rise of school-based teacher education is not necessarily pedagogical. For example, Furlong argues that in England the change largely dealt with political interest answering the wishes from the right. In the pedagogical side, real school settings have been emphasised. School-based teacher education has been described as a shift from a theoretical bias to 'chalk-face' reality and the demise of educational theory in favour of subject and disciplinary studies (Carney, 2003, p. 415). Although the way in which school-based teacher education is organised in different countries varies, a common feature seems to be supervising and mentoring (Sinclair, 1997; Duquette, 1998; Furlong, 2000; Timperley, 2001). In other words, a student teacher is mentored by the school (a teacher of the school) and supervised by a teacher education institution.

A 'dual' learning route, as Snoek (2003) calls it, has been introduced in the Netherlands. It is targeted for people who have completed prior studies of some kind. A teacher candidate applies both for teacher education and for a job at a school and the school, in turn, applies for assessment from a teacher education institute for assisting a student. In another Dutch model student teachers are hired in schools when they are still studying and a triple learning-working-agreement is signed by all three parties, a student, a school and a teacher education institution. Accordingly, schools are a part of teacher education and in some cases schools have arranged their curricula in such a way that students are able to take part in on-campus studies during weekdays. From the point of view of teacher education it is a question of work-based curricula in which the needs of schools have been taken into account. (Snoek, 2003.)

In those teacher education systems in which a school-based approach is applied, the concept of 'partnership' has been discussed. As Penney and Houlihan point out the concept can be criticised because of its vagueness referring to poor theorising and to the context

specific character of empirical studies (Penney & Houlihan, 2003, p. 242). Despite these weaknesses, the concept provides an interesting viewpoint to the school-university relationship which is applied in the multimode education. Furlong and his colleagues (Furlong, Whitty, Whiting, Miles, Barton and Barrett, 1996) present a continuum between 'integration' and school centred teacher education. This relates to the three models of university-school partnerships that they found in their research:

  1) Collaborative partnership. According to this model students are exposed to different kinds of educational knowledge, a part of which is coming from a teacher education institution and another part coming from the school and, further, some part coming from elsewhere. Students are expected to criticise what they learn in the school and compare it with what they learn in the teacher education institution and vice versa.

  2) HEI-led partnership ('HEI' referring to higher education institution). In this model schools are used as a resource for teacher education in providing learning opportunities for students. As was already mentioned, this is called 'integration' by Furlong, Whitty, Whiting, Miles, Barton and Barrett (1996). Interestingly, students carry out assignments, given by university teachers, in their own classes. Indeed, they utilise their own work in their studies. On the other hand, integration is an essential concept for the basic approach that we follow in our teacher education, namely research-based teacher education referring to the integration of educational theory and practice. Our view of integration is, however, reciprocal. Being integrative means two-way processes in which theory is utilised in the practice and there are efforts to use experiences gained in practice for benefit in theoretical studies. In the course of studying in one's own class the students integrate their daily work with their teacher education studies that are going on just at the same time. The direct connection to work is also utilised in the group discussions between the students and teacher educators. In that sense, integration in our understanding remains rather a collaborative model than that of HEI-led.

  3) Separatist partnership. According to this model, there is no systematic attempt to bring teacher education institution and school together. Here, integration is something that students themselves have to achieve. (Furlong, Whitty, Whiting, Miles, Barton & Barrett, 1996.)

  Another issue which the concept of partnership includes is the responsibility of education that is carried out in the classroom. Jones (2001) investigated partnerships in two school-based teacher education systems, in England and Germany. She found out that in England, partnership was defined on the basis of contractual arrangements that existed between school and teacher education institution, while in Germany partnership pointed to the relationship between a mentor and a student teacher. As Jones (2001, pp. 83-85) describes the situation, in England the pupils are 'on loan'. Student teachers do not teach their own class but that of some other teacher, for example the class of a mentor. In Germany it is different. A student teacher teaches his or her own class bearing the total responsibility and being paid for the job. In the Finnish context the situation resembles the German system. The student teachers of the multimode education work as autonomous teachers bearing the sole responsibility of their doings. This serves the ideas of Borko's notion, when discussing the research in the relatively young field of teacher learning, according to which a teacher's own classroom is a powerful context for their learning (Borko, 2004, p. 7). In our case partnership relates to: 1) a (student) teacher of a school being a student of a teacher education institution and 2) a student (teacher) being a sovereign teacher of a school. One of the teachers of a school has a contract and acts as a mentor. That role is, however, secondary to the role of the supervisor of the teacher education institution of the university. The supervisor visits the schools in which the students work. We do not see the kind of danger of derangement that Sutherland, Scanlon and Sperring report. They argue that one of the reasons why 'a new

school-university partnership' was developed in Australia was the notion that teacher educators in general were removed from the profession and the current professional practice of school teachers (Sutherland, Scanlon, & Sperring, 2005, pp. 79-80).

A difference between most of the school-based teacher education programs that were referred to above and our multimode teacher education is the independent role of a student as a teacher. In our multimode teacher education the student teachers do not enter a class of some other teacher but they work in their own classes and mostly unaided. Neither is there any formal agreement between the department of teacher education and the school and the school is not officially involved in teacher education. However, we can to some extent speak about work-based curricula when a student's work as a teacher has taken into account the courses of the program.

The perspective of research-based teacher education

In this article, we discuss a new aspect that applying distance education brings to the main organising theme of teacher education, that is, the research-based approach, including teacher's pedagogical thinking.

Teachers' pedagogical thinking refers to the ability to conceptualize everyday phenomena, to look at them as parts of a greater entity and to justify decisions and actions made during the instructional process. Becoming trained in research-based thinking provides students with the opportunity to self-directed reflection and to develop a personal practical theory of the instructional process (Kansanen, Tirri, Meri, Krokfors, Husu & Jyrhämä, 2000). This emphasizes a student's ability to conceptualize the everyday phenomena of a teacher's work. In multimode teacher education the fact that student teachers work as teachers during their studies can in itself become a pedagogical issue. Accordingly, the actual circumstances, that seem to call for the use of distance education, fit the theoretical ideas of teacher education. This is one of the starting points of this article.

Conclusion

In this article we have called for a theoretical framework that responses to the changing needs and conditions of teacher education. In today's world, where there are different kinds of alternative variations and routes of teacher education, often using the pedagogy and applications of distance education, a flexible theoretical framework is needed. In this paper, we have provided an analysis of the various elements that can be included in multimode teacher education.

Multimode teacher education is but one example of current developments in higher education. Off-campus and on-campus learning are becoming blended. A salient theoretical basis for this pedagogical development is provided by distance education. For years, the theory of distance education has discussed issues such as independent study, learner autonomy and the use of educational technology. These issues are now increasingly becoming part of the pedagogy of traditional higher education, for example in the form of the virtual university. A number of concepts that describe this development have emerged. In this article, we discussed blended learning, flexible learning and multimode teaching.

An essential feature of multimode teacher education is the relationship between work and teacher education. The general concept we used here was learning while working. However, there are also more detailed concepts such as apprenticeship learning and service learning. The concept of school-based teacher education brings us back to the basic theory of teacher education and to practical questions concerning the organization of teacher education: How the relation between theory and practice can be realised.

Multimode teacher education is a pedagogical view of the realisation of a special aspect of research-based teacher education and teacher's pedagogical thinking. It is based on pedagogical ideas that come from distance education. It also includes a specific relationship between work and studies, a relationship that has been elaborated into a pedagogical idea of teacher education.

References

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain, *Educational Researcher, 33*, 3-15.

Buchanan, A.M., Baldwin, S.C., & Rudisill, M.E. (2002). Service learning as scholarship in teacher education, *Educational Researcher, 31*, 30-36.

Carney, S. (2003). Learning from school-based teacher training: Possibilities and constrains for experienced teachers, *Scandinavian Journal of Educational Research, 47*, 413-429.

Carter, M., & Francis, R. (2001). Mentoring and beginning teachers' workplace learning, *Asia-Pacific Journal of Teacher Education*, 29, 249-262.

Collis, B., & Moonen, J. (2001). *Flexible learning in a digital world: Experiences and expectations.* London: Kogan Page.

Driscoll, M. (2002). Blended learning: Let's get beyond the hype. http://www-8.ibm.com/services/pdf/blended_learning.pdf. Visited 31 May 2004.

Duquette, C. (1998). Perceptions of mentor teachers in school-based education programs, *Journal of Education for Teaching, 24*, 177-179.

Falck, A., Husu, J. Kronlund, T., Kynäslahti, H., Salminen, J., & Salonen, M. (1997). Distance education in school enviroment: Integrating remote classrooms by video conferencing, *Distance Education, 18*, 213-224.

Furlong, J. (1996). Re-defining partnership: Revolution or reform in initial teacher education?, *Journal of Education for Teaching, 22*, 39-55.

Furlong, J. (2000). School mentors and university tutors: Lessons from the English experiment, *Theory Into Practice, 39*, 12-19.

Galluzo, G.R. & Pankratz, R.S. (1990). Five attributes of a teacher education program knowledge-base. *Journal of Teacher Education*, *41*(4), 7-14.

Garrison, D., Anderson, T., & Archer, W. (2003). A theory of critical inquiry in online distance education, in M. Moore & W. Anderson (Eds.), *Handbook of distance education* (pp. 113-127). London: Lawrence Erlbaum.

Graham, S., & Thornley, C. (2000). Connecting classrooms in pre-service education: conversations for learning, *Asia-Pacific Journal of Teacher Education, 28*, 235-245.

Grundy, S., Robison, J., & Tomazos, D. (2001). Interrupting the way things are: exploring new directions in school/university partnerships, *Asia-Pacific Journal of Teacher Education, 29*, 203-217.

Harkavy, I. (2004). Service-learning and the development of democratic universities, democratic schools, and democratic good societies in the 21st century, in M. Welch & S. Billig (Eds) *New perspectives in service-learning: Research to advance the field* (pp. 3-22). Greenwich: Information Age Publishing.

Honkonen, R. (2002). Työssä oppimisen retoriikat - Teknisen funktionalismin korvaajia vai täydellistäjiä? In R. Honkonen (Ed.), *Koulutuksen lumo: Retoriikka, politiikka ja arviointi* (pp. 35-53). Tampere: Tampere University Press.

Jones, M. (2001). Mentors' perceptions of their roles in school-based teacher training in England and Germany, *Journal of Education for Teaching, 27*, 75-93.

Jyrhämä R. (2003). Class teacher education in a virtual university - an academic programme, learning through work. *EDUCATION-LINE*. Available online at: http://www.leeds.ac.uk/educol/documents/00003440.htm (Accessed 26 June 2005.)

Järvinen, A., & Poikela, E. (2001). Modelling reflective and contextual learning at work, *Journal of Workplace Learning, 13*, 282-290.

Kansanen, P., Tirri, K., Meri, M., Krokfors, L., Husu, J., & Jyrhämä, R. (2000). *Teachers' pedagogical thinking. Theoretical landscapes, practical challenges.* New York: Peter Lang.

Kearsley, G., & Moore, M. (1996). *Distance education: A system view*. Belmont: Wadsworth.

Keegan, D. (1990). *Foundations of distance education*. London: Routledge.

Keegan, D. (1993). A typology of distance education, in K. Harry, D. Keegan, & M. John (Eds.), *Distance education: New perspectives* (pp. 62-76). London: Routledge.

Kerres, M., & De Witt, C. (2003). A didactical framework for the design of blended learning, *Journal of Educational Media, 28*, 101-113.

Krokfors, L. Jyrhämä, R., Kynäslahti, H., Toom, A., Maaranen K. & Kansanen, P. (2006). Working while teaching, learning while working: Students teaching in their own class. *Journal of Education for Teaching, 32*(1), 21-36.

Kynäslahti, H, Kansanen, P. Jyrhämä, R. Krokfors, L. Maaranen, K., & Toom, A. (2006). The multimode programme as a variation of research-based teacher education. *Teaching and Teacher Education, 22*(2), 246-256.

Marsick, V.J., & Watkins, K. (1990). *Informal and incidental learning in the workplace.* London: Routledge.

Martinez, K., & Coombs, G. (2001). Unsung heroes: Exploring the roles of school-based professional experience coordinators in Australia preservice teacher education, *Asia-Pacific Journal of Teacher Education, 29*, 275-288.

Mezirow, J. (1990). How critical reflection triggers transformative learning. In J. Mezirow and Associates, *Fostering critical reflection in adulthood. A guide to transformative and emancipatory learning* (pp. 1-18). San Francisco: JosseyBass.

Moore, M. (1977). A model of independent study, *Epistolodidaktika, 1*, 6-40.

Nielsen, K., & Kvale, S. (2000). *Mästarlära.* Lund: Studentlitteratur.

Paakkola, E. (1991). *Johdatus monimuoto-opetukseen*. Helsinki, VAPK-kustannus.

Penney, D., & Houlihan, B. (2003). Higher education institutions and specialist schools: Potential partnership, *Journal of Education for Teaching, 29*, 235-248.

Retallick, J. (1999) Teachers' workplace learning: towards legitimation and accreditation, *Teachers and Teaching: theory and practice*, *5*, 33-50.

Saba, F. (2003). Distance education theory. Methodology, and epistemology: A pragmatic paradigm. In M. Moore & W. Anderson (Eds.), *Handbook of distance education* (pp. 3-20). London: Lawrence Erlbaum.

Shale, D. (1988). Toward a reconceptualization of distance education, *American Journal of Distance Education, 2*, 25-35.

Simonson, M., Schlosser, C., & Hanson, D. (1999). Theory of distance education: A new discussion, *American Journal of Distance Education, 13*, 60-75.

Sinclair, C. (1997). Redefining the role of the university lecturer in school-based teacher education, *Asia-Pacific Journal of Teacher Education, 25*, 309-328.

Snoek, M. (2003). Scenarios for Dutch teacher education. A trip to Rome: Coach bus company or travel agency, *European Journal of Teacher Education, 26*, 121-135.

Sutherland, L.M., Scanlon, L.A., & Sperring, A. (2005). New directions in preparing professionals: Examining issues in engaging students in communities of practice through a school-university partnership. *Teaching and Teacher Education, 21*, 79-92.

Tella, S. (1995). *Virtual school in a networking learning environment.* OLE Publications 1. Department of Teacher Education, University of Helsinki.

Timperley, H. (2001). Mentoring conversations designed to promote student teacher learning. *Asia-Pacific Journal of Teacher Education, 29*, 111-123.

Wedemeyer, C. (1977). Independent study. In A. Knowles (Ed.), *The international encyclopedia of higher education* (pp. 2114-2132). Boston: CIHED.

Whitelock, D., & Jelf, A. (2003). Editorial, *Journal of Educational Media, 28*, 99-100.

Zeichner, K. (1983). Alternative paradigms of teacher education, *Journal of Teacher Education, 34*, 3-9.