Changing Roles of the Teacher in Inter-Institutional Networks of Schools

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Abstract

This article discusses results of two Finnish research and development projects. Inter-institutional networking of educational organisations brings about new aspects to teacher's work but the teacher still has the main responsibility of organisation of education. Teaching in distance learning environment, overall, sets the teacher in a new position and emphasises some of the roles of teacher over the other roles.

Keywords
Teacher roles, Organisation, Fordism

Introduction

Inter-institutional networks of schools is a new phenomenon in the Finnish educational system. The first electronic networks of this kind emerged at the beginning of 90s. After the pilot phase, use of information and communication technologies to link different educational institutions together has become an alternative for schools, especially for small rural schools, in developing their organisation of education. Teacher education has taken an active role in this process by taking part in research and development projects of many kinds. It is evident that teachers' work will change as the society changes towards increasing use and importance of technologies in all sectors of social life (Tella et al. 1998). Our article reports two projects which are examples of how teacher education has been involved in research of the use of information and communication technologies to answer educational needs of people, and of the changing role of the teacher in this process. Our main emphasis is in the role of teachers in these two different kinds of experiments.

The Distance College Project, organised by the Finnish National Board of Education, focuses on research concerning the impact of modern information and communication technologies on adult education in general and on lifelong learning in particular. The project investigates an open and flexible distance learning environment, the roles and the pedagogical thinking of the teacher, as well as the learning process, motivation and attitudes of the student. Data for this project will be collected from 11 distance colleges all over Finland.

The other project (Kilpisjärvi Project) deals with the establishment of a new, lower secondary school in the small, geographically isolated village of Kilpisjärvi, using inter-institutional networking. Some preliminary results were presented in HUSITA 4 (Kynäslahti & Stevens 1996). This very small school in the northwestern part of Finnish Lapland was established in 1994, and from the very beginning it joined a network of schools through videoconferencing and audiographics. The other participants of the network were the Primary Teacher Training School and the Secondary Teacher Training School of Helsinki University, and the small and outlying Ruskela Primary School in southern Finland.

Distance Colleges and the New Roles of the Teacher

In teaching and guiding of distance colleges various media (e-mail, WWW, television, radio, fax, telephone, letters etc.) is being used depending on every schools resources, students' home resources and teachers' and students' skills. Also the use of a web based IDLE (Integrated Distributed Learning Environments) called LearningSpace is growing slowly. Teachers and students also meet in the beginning and in the end of every period. In addition teachers have tutoring hours weekly either at school or at home when students have a possibility to come to meet the teacher or to contact him with any media available.

In this kind of learning environment where the communication and interaction is either partly or on whole being mediated by the information and communication technologies the nature of the interaction is changing to be more on the textual basis. This textual emphasis of the interaction makes us wonder how is it overall possible for example to have a personal and close relationship to the students. Or how is it

possible to create a feeling of a group and to implement collaborative learning methods? And most of all, what is the role of the teacher in these processes? It is interesting to see how does the teacher interact in this environment, how does she create situations and possibilities for interaction and how does she promote the interaction of the students 'through distance'. How is it overall possible to practise oral skills, capabilities of expression and group communication skills, which all are important elements of interaction and social contacts?

We are not talking about a radical change of teacher's work and roles - rather some already existing roles are being emphasised and some are being weakened. Of course some new roles could also be identified. Roles of the teacher vary a lot according to the viewpoint from which we are looking at the case. We could argue teachers to have some 'traditional roles' like educator, colleague, researcher, developer etc. Or we could argue him to have some totally new roles like learning theoretician, editor of the structure or content etc. (Inglis 1998) connected to creation of the web-based learning material. Especially in the web based IDLE environments teacher's new roles as an instructor of interaction and communication increase manifold (cf. Hein 1996; Naukkarinen 1998) to be for example that of tempter, persuader, challenger etc.

The findings of the first year give us some information about the changing roles of the distance teachers and also some ideas about their thinking. Teachers, who work as distance teachers in this context, also work as full-time teachers in a college or in an adult college. Thus their day is fully covered with their duties. They produce learning material suitable for distance teaching and suitable for every student's needs. In addition they also participate in producing web-based learning material with experts. Teachers them selves consider one of their roles to be a producer of a learning material and also that of secretary - a lot of their working hours in distance college are spent in creating, copying and sending material through different media.

Distance teachers' skills in ICT are still quite poor even though every one of them uses it. Half of the teachers have got education in ICT and it's pedagogical use, but there is still the other half who need education in operating in this kind of working environment. Teachers mainly use ICT out side of work and the next step will be to adapt its' use to their work. This leads us to think teacher's role as a student (cf. Niemi 1996). Every day routines as well as the methods of teaching and assessment towards more qualitative process (Palloff & Pratt 1998) are changing rapidly. Working in a continuously changing environment with new technologies, with the ideology of open and flexible learning, with the ideology of life-long learning, with the pressure to keep up with the development and with the pressure to create and innovate new, sets the teacher in a position where his one of the most obvious roles is to be a student. Teachers considered their role as a learner one of the most evident roles.

Another role that was emphasised was the role of instructor. In an open and telematic collaborative learning environment the teacher's role as an instructor of communicative and interactive skills is obviously emphasised (Niemi 1998) She guides students skills to interact versatile ways through different media. Thus teacher guides student's collaborative skills but also means for autonomous studying and self-directness. The teacher directs different learning processes of individual learners and the development of their competence for learning. She also persuades learner to extend his range of learning potential. This requires high and varied expertise (cf. Niemi 1996) of the teacher, so that she can serve as a learning manager and to carry the overall responsibility for education at a local level (Kynäslahti & Wager 1999).

Current teacher studies maintain the importance of the teacher's communicative and interactive skills (e.g. Niemi 1996, Niemi 1998, Tella & Mononen Aaltonen 1998). Also the teachers in our study thought that in the future their role as a communicator and collaborator would be emphasised in distance college environment. This follows the overall thinking of the change of communication habits through different media. Teaching a dialogue between various belief systems will probably be crucial (Mononen-Aaltonen 1998) and teachers must be capable of dialogue with both students and the more extensive school community, and possess ability for collegial co-operation.

Teacher's skill to interact is crucial in encouraging process of the learner. Teacher's role as a motivator (cf. Rönkä 1997) is clearly emphasised in an open and telematic learning environments. In this kind of learning environment, where most of the interaction is mediated and a high level of self-directness is needed, the motivation of the learner has to be relatively high through the whole learning process (Vahtivuori, Wager & Passi 1999). The teacher encourages students for studying and making contacts to instructor as well as to other members of the teleteam. She encourages, stimulates, persuades, induces, creates a positive atmosphere and "facilitates a sense of being a group" (Palloff & Pratt 1998). She gives personal feedback to the students and this way she also gives his attention to this person - the importance of a personal feedback seems to grow in this kind of learning environments. It is important for the student to have a feeling of being noticed - this is an important element of the group cohesion (Passi & Vahtivuori 1998). Thus the teacher's role in an open and telematic learning environment is to make space for social and especially for personal matters (Palloff & Pratt 1998).

According to both Niemi (1996) and Sariola (1997) the emphasis of the teacher's duties lie on planning of learning environment. Sariola (1997) maintains further that the work of the 'virtual teacher' takes more place at the planning stage than that of classroom teacher. It also seems that the planning in these learning environments takes more time than in the classroom-based environment. Teacher creates the best possible possibilities for studying and acts as an "educational facilitator" (Palloff & Pratt 1998) and organiser. She sets the minimum requirements for the course, runs the course forward according to the flexible plan made with the students, stimulated students with questions, comments and directs the conversation as well as follows it quietly. In the communal learning teacher has an essential role in constructing knowledge-

building community (Passi & Vahtivuori 1998).

Competence and Responsibility of the Teacher in the Network of Schools

During the last years, Finnish schools have discovered the potential of information and communication technologies, for providing organized collaboration between separate schools or other participants, including universities, companies or individual persons with a certain expertise. According to Farnes, 'The area of education where everyone participates, namely compulsory schooling, is now organised on Fordist lines. Perhaps we can look forward to a post-Fordist transformation towards flexible mixed mode methods and autonomous learning as the success of mass higher and continuing education works its way down the educational system.' (Farnes 1993, 18). Mixed modes of organizing the education both in traditional education and distance education will become all more common which blurs borders between traditional education and distance education (Moore & Kearsley 1996). Inter-institutional networks of schools is one example of blurring lines of this kind. We argue that the emergence of electronic school networks encourages to consider post-Fordist transformation of educational system which may have its implications also to the role of the teacher. Campion (1995) suggests that post-Fordism is a *frame* worth to be used in the research of distance education. One of the starting points of the debate about post-Fordism, discussed mainly in the journals Open Learning and Distance Education, has been the application of Badham and Matthews' (1989) model of the Fordist, neo-Fordist and post-Fordist production systems (Campion & Renner 1992; Campion 1995; Renner 1995) According to this model, production can be defined with three variables: 1) product variety, 2) process innovation, and 3) labour responsibility. This has been elaborated in the theoretical frame of distance education to the Fordist, neo-Fordist, and post-Fordist strategy.

According to Campion and Renner, **the Fordist strategy** for distance education suggested a fully-centralised, single-mode, national distance education provider with division of labour and production process which is fragmented to component tasks. **The neo-Fordist strategy** extends the Fordist system. It allows higher levels of flexibility and diversity than the Fordist strategy but it, however, retains a highly-centralised Fordist approach to labour organisation and control. The neo-Fordist strategy may deal with centrally-controlled, yet locally-administered model of distance education. It bears a strong relationship to Fordism while it has an deskilling effect on academic staff. **The post-Fordist strategy** is characterised decentralisation and by high levels of all the three variables mentioned above. It fosters a skilled and responsible workforce with autonomous control of their administered courses being able pay attention to the changing needs of students. (Campion 1995, 194; based on Campion and Renner 1992, 10-11)

In the following we will investigate two aspects of teachers' role in the small rural lower secondary school of Kilpisjärvi: requirements for teacher's competency and their responsibility of education delivered in the school. This small lower secondary school was established 1994 in the community of Kilpisjärvi in the Finnish Lapland and the school was linked with the Teacher Training School of Helsinki University with the use of ISDN-based video conferencing. Teachers in the Helsinki school have taught pupils in the other school in variety of subjects, mostly in mathematics, English and history. About 15 % of education in this small school has been organised with help of distance education through the network.

One of the main ideas of school network is sharing of resources and expertise. In our case, the school has got special knowledge from outside mediated with help of information and communication technologies. What is, then, the role of a local teacher when a remarkable share of education is organised with the use of external specialists? Does this composition reduce needs for competency of a local teacher and, in this way, enhance neo-Fordists aspect of 'de-skilled academic staff'? The main reason for the Kilpisjärvi school to participate in this inter-institutional network of schools is to ensure the quality of education by acquiring competent teaching from outside the school. Distance education through network is, then, characterised by competency. All parties in Kilpisjärvi, pupils, parents, and teachers, regarded that distance teachers are more competent than local teachers. Thus, distance teachers appear as masters of their field and the local teachers, inevitably, a bit like novices, even if most of them in fact are formally competent teachers. The distance teachers are experts of those subjects where there is not a local teacher available or where the local teacher needs support by a more competent and a more experienced specialist. Use of distance education technologies compensates those restrictions that a small size and remote location cause for the school like Stevens (1994) has argued. In this juxtaposition, local education seem to be less qualified education with an aspect of second level expertise.

In their visionary book, Tiffin and Rajasingham (1995) argue that the functions of conventional school (here: local education) and electronic mode school (here: network of schools) differ. The traditional one deals with learning of social and interpersonal skills, with learning of practical skills, with cultural inheritance and so for. Electronic one, then, deals with cognitive learning (cf. Tiffin & Rajasingham 1995, 177). The local teachers in Kilpisjärvi became some kind of tutors in those subjects where a part of teaching takes place through the distance education link. They helped in practical matters and gave technical support when needed. In on-line situations, local teachers checked that connection was established, that technical equipment work, that the material sent beforehand had been delivered to pupils, and other such task to ensure that video lesson will succeed. Again a picture of low-skilled, although technically high skilled, local tutor-teachers appears. Their work provided a frame to which success of distance education in great extent based. Their responsibility, here, concerned practical matters.

The importance of local knowledge became obvious during the research project. With local expertise we

refer to teachers' knowledge about the context where the people of Kilpisjärvi live, and knowledge about pupils, parents and homes. Local teachers were experts of this knowledge. They knew parents very well. They also had information about pupils' learning problems, their attitudes towards school and towards different subjects, their skills and abilities, and other such knowledge which is significant for pupils' learning and which they used for their benefit in teaching. This kind of knowledge is not, of course, any new thing for teachers but is one of the main elements in teacher's work. In the context of school networks, however, local expertise might be even more crucial for successful education. Teachers' local knowledge concerned also familiarity of the educational needs of pupils and of the community. With this special local expertise the Kilpisjärvi teachers localised education which was mediated to the school. Localisation dealt here with the process how distance education was made to work especially for these few particular pupils in Kilpisjärvi.

So far it seems that in the Kilpisjärvi project networking of schools indicates rather neo-Fordist than post-Fordist tendency. The Kilpisjärvi school is a part of electronic federation where expertise and resources are mediated from a bigger and more resourceful participant to a less privileged member of the net. The status of expertise has lessened in the local school. Expertice has escaped to experts in Helsinki. Is it really so? Generally speaking, the work of a local teacher has not become narrower along the new distance education resource from outside. What has happened is actually just contradictory to such a scenario. There is not any signs that the responsibility of local teachers for the wholeness of secondary education has lessened. The main responsibility of delivery of education has remained in the local school despite of the outside impact. The local teachers are in charge of the wholeness of teaching and they are responsible of pupils learning, even regarding to those lessons which have been instructed by teachers of the network. Responsibility of a local teacher have, in fact, widened because it was she who was in charge of pupils success in their studies, not only concerning her personal work as teacher, but concerning pupils success in distance education as well. If a pupil had difficulties to learn on distance lessons or he or she has dropped out in the rapid tempo of those lessons it was the local teacher who took care of the individual guidance of the pupil. Local teachers were in charge for pupils success in their studies, not depending on if they have been taught by local teachers or distance teachers. On the other hand, the teachers in the Kilpisjärvi school commented that they regard distance teachers more competent than themselves. Thus, the professional requirements of the local teachers have more like increased than decreased. They must take responsibility, in addition to their own work, over other, more competent, teachers' teaching. Local teachers were expected to take care of pupils learning also in such areas which is expertise of a distance teacher and which might be unfamiliar to the local teacher. From this point of view, the role of a local school and the character of local education has not shifted to less academic field but the nature of local teacher's work has widened. Thus, it is not surprising that teachers in Kilpisjärvi experienced the project as in-service training for them.

Conclusion

Our two research and development projects indicate that in an information rich and communication intensive teaching and learning environment the teacher is even more needed than before and that she has not been replaced by new technologies. Inter-institutional networks of school is still a new phenomenon in Finland and research projects connected to them are young and fragile which emphasises the importance of the role of teacher (cf. Rönkä 1997). We argue that educational activities of an telematic learning environment rely heavily on the teacher whose teaching and guiding is one of the very reasons why the students have gathered together. The teacher is responsible for the entire interactive network and she must master both face-to-face and distance teaching situations.

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