THE ROLE OF THE FACILITATOR IN THE DEVELOPMENT OF TEACHERS' ICT COMPETENCE

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The advantage of distance training of in-service teacher for using ICT in their everyday work is that the participants learn about the pedagogical values of using computers by actually using them as tools in their own training. During the course teachers have to consider the advantages and drawbacks of searching the internet, processing data, or using communication technology, in their own pedagogical setting. This experience allows them to incorporate the use of ICT in their everyday teaching practice relatively easy.

However, on-line teacher training means a special challenge to the mentoring teacher, or the facilitator. Enhancing computer literacy, technological skills and pedagogical methodology at the same time is rather difficult, especially if the target audience is the teachers themselves, who are more and more interested in the use of ICT (Kárpáti, 2001; 2004). In the present paper we would like to show the complex nature of on-line teacher facilitation, referring to the roles the facilitator has to fulfil during the training. The research is based on the data from the EPICT pilot course in Hungary, 2006.

EPICT – a European online course for teachers on ICT in Education

The European Pedagogical ICT (EPICT, www.epict.org) an online course based on the Danish Pedagogical ICT license, is aimed at training teachers for the use of ICT in their teaching practice, thus incorporating the methodology of using computers in the classrooms as well (Gjörling, 2005). Between 2000 and 2006 over 85 000 teachers have acquired an EPICT license in Denmark and Norway alone. In 2007, the course is offered in Italy, Greece, Great Britain, Iceland, Uganda, Ghana, Australia, Canada and Cameroon and being piloted in Austria and Slovenia. In Hungary, the Centre for Multimedia and Educational Technology and UNESCO Chair for ICT in Education at Eötvös University, Budapest, joined the EPICT Consortium in 2005, adapted and piloted the course in 2005-2006 and accredited it as *the first online in-service course for teachers in Hungary* at the end of 2006. The main goal of EPICT is to provide a quality distance training course for educators, in an authentic e-learning environment that facilitates the incorporation of information and communication technologies and methods in everyday teaching practice. It is considered to be very important that teachers should be provided with *ICT skills and pedagogy simultaneously*, as this is the only way it can be used in schools.

The "*EPICT training method*" is rather different from what teachers in Hungary are used to. On one hand, learners work in groups of four, assisted by a specially trained online facilitator. The group has access to the training material on-line in a learning management system

(LMS), they study the materials together, do the exercises on their own, eventually seeking assistance of their peers and decide on a module assignment together. *Collaborative methods of knowledge acquisition* is unusual as a working method and unique in Hungary as a training method for teachers. According to teacher surveys, (Falus, 2006) it is still uncommon to share ideas and views with colleagues in the same school, not to speak about teachers from other institutions. On the other hand, professional communication via internet is also quite new to some teachers in Hungary, as they mainly use it for gathering information for work or leisure and personal communication.

The EPICT training material is *module-based*. ([i]) Each group has to accomplish 4 or 8 modules to receive the EPICT Basic or EPICT Advanced License. The 4 basic modules are compulsory, but the other four may be freely chosen by the group from 14 optional modules. [ii]Each module has a different focus but a similar structure, the main text describes the most important technical and pedagogical tools of the topic, provides activities to practice the skills, and offers additional articles, good practice descriptions and links. When the group members are finished with the module, they agree on solving one of the three evaluation tasks offered. All the tasks are authentic, educationally related and require teachers to test a new e-learning solution, develop content within their own teaching practice or collect data from their students, or design learning scenarios for their own teaching circumstances. The report of the task is evaluated by the facilitator on the basis of set criteria.

Feedback and evaluation is also something very different as well from the general practice teachers follow in Hungarian schools. The facilitator evaluates the plan of the module assignment first, and then provides detailed feedback for the final solution the group puts together. The feedback depends completely on the group's ICT level and development, as there is no set standard, and it is the facilitator who decides whether the solution of the module assignment is acceptable from that particular group or not. The facilitator can, and in fact, should *challenge the group* by asking further details to be added to the assignment if s/he wants to push the members of the group a little deeper into the topic of the module. The group can start the next module only after the facilitator accepted the module assignment.

The Hungarian EPICT nationalization process started in October 2005, by adapting the original Danish modules to the Hungarian needs. The pilot course was launched in September 2005, with 120 participants in 32 groups, and 9 facilitators. Although the virtual learning environments are not used in teacher training in Hungary (Nyíri, 2004; Hunya, 2005), in the pilot course Moodle was chosen, primarily because it is an open source solution that is available, among more than 20 nationalized versions, in Hungarian language, and supports on-line co-operation, stores data, and allows both synchronous and asynchronous communication among members. The pilot course lasted 8 month (from the end of September 2005 till May 2006), and an optional face-to-face meeting was offered monthly, if the facilitator and the group felt that it was necessary to either technically or methodologically prepare for the following module.

Participants of the EPICT pilot course

120 teachers who participated in the EPICT pilot course came from a variety of school types in different parts of the country. Participants of the pilot course for EPICT in Hungary were 130 primary and secondary teachers. They have been invited from among more than 450 applicants who volunteered to test the in-service course under accreditation that was offered free of charge for participatory evaluation. Participants include all teaching levels ranging from kindergarten up to institutions of higher education. The majority of teachers (61 %) came from secondary education (grammar and vocation al schools, ages of students: 12-18), another 28 % from primary schools (ages of students: 6-14), the minority representing kindergarten education (8 %, ages of children: 2-6) and tertiary level (3 %, ages of students: 18-23+). Pilot participants represented major age groups of the teaching population almost

equally to that of the Hungarian average: the majority, 47 % were between 30 and 40 years of age while 32 % are between 41 and 53 and 11 % under 30. Only a minority of teachers (11 %) were employed in leading positions (school heads and deputies, leaders of kindergartens). Men and women were almost equally represented (54 versus 46 %) and the same is true for the disciplines: 42 % teach humanities or, as junior level primary teachers, are specialised in this area, 48 % are teachers of science and maths and 10 % other disciplines including the arts or kindergarten education.

Complex measurement of results of the EPICT in-service training were introduced to evaluate efficiency in terms of ICT skills gains and changes in pedagogical strategies and methods. We employed instruments to reveal personality traits, (the California Personality Inventory), our own ICT Competence Survey and an Educational Strategies Questionnaire. All survey instruments were correlated with course results judged by facilitators. (Kárpáti, Török and Szirmai, 2006, 2007)

ICT knowledge and skills (termed "ICT competence" as an index) was found to correlate strongly with most social factors that can be developed through a vast array of well-known methods, are often employed by teachers who, on the other hand, as students of ICT, may need to practice them themselves. Reliability, emotional stability and a good intellect may be considered more hereditary features, but flexibility and extraversion, that were also found characteristic for good ICT users, can be trained as well. ICT competence indices showed that ICT attitudes highly correlate with the willingness to socialise and the ability to establish good relationships. Tolerance was found strongly associated with positive ICT attitudes – a feature that is inevitable for innovative and responsive pedagogy as well. Self-control and intellectual efficiency also characterise those teachers who managed to establish and maintain positive attitudes towards ICT.

In relation to *personality traits*, participants in the course with high level general ICT competence (individuals who possessed good skills, had positive attitudes towards computer culture and could also make good educational use of digital tools and methods) were those who were found socially adaptive, tolerant and friendly. Immersion in a culture that requires frequent communication, seeking and giving support, explanation of needs and understanding the explanation of others clearly requires social skills as much as technical ones – at least in the teaching community. Before focusing on the development of the latter, it seems inevitable to develop the former. Fortunately, there is ample proof that these features can be enhanced considerably through collaborative tasks and game-like activities.

Nine facilitators taught the pilot course, who received a training from the Danish centre only 4 months before the course started. Each facilitator worked with at least two and a maximum of eight groups during eight months of the training. Findings of the pilot course served as a starting point for the work of our facilitators who could build their coaching strategies on their group members' characteristics of behaviour and ICT use.

Facilitator roles in the EPICT pilot course

All the pilot facilitator had previous experience in teaching adults, and in teaching the use of ICT, and most of them were trained teachers of informatics. However, only 3 out of the 9 facilitators had experience in distance education. The different activities and roles the facilitators took during the 8 months of the training can be analyzed on the basis of the log files saved in Moodle, which show the quantity and quality of their participation. The use of the LMS, the forum messages, chat sessions, and the quality of assignments handed in by the groups provide a general understanding of the facilitators' work. Furthermore, facilitator and group interviews were recorded to clarify the role facilitators played in this training.

Facilitators have to assume diverse roles that require different personal and professional skills and abilities, educational beliefs and attitudes: course management, teaching face-to face and online, tutoring and coaching – this last role involving counselling of first time online learners, catalyze co-operation among team players and individualists. They are responsible for the management of the introductory and the optional face-to-face meetings, for the appropriate and systematic use of the learning management system, for the evaluation of the module assignments within 24 hours, for maintaining group motivation, keeping the deadlines, for administration and communication among facilitators and course providers.

Facilitator roles are generally grouped into four main areas, although under different headings but with very similar definitions: pedagogical, social, administrative and technical roles are mentioned (Berge, 1995; Hootstein, 2002). Hootstein (2002) calls mentor – facilitators as people "wearing four pairs of shoes", referring to the four main roles they have to undertake.

Pedagogical roles

Obviously, many facilitator roles are in connection with the pedagogical goals of the training. However, in the distance learning setting, it is not the facilitator who provides the learning material, as it can be read any time in the LMS. The facilitator uses the forum to ask questions or give comments which help the participants understand the basic concepts of the learning material and practice the skills covered (Berge, 1995). During the learning process the participants often ask the facilitator to solve the problems they are facing, but the correct response to these questions is one which helps the learners solve the problem by offering further strategies, ideas or resources, but the final solution is not provided, as in the EPICT assignments the participants have to describe, analyze or compare their own teaching environment, so they have to come to a conclusion themselves.

In the EPICT pilot course the forum messages sent by the facilitators in most cases referred to the pedagogical and not the technical content of the modules. Brainstorming, discussing, arguing about the topic on the forum is one of the most valuable parts of the training, and it is important that the facilitator should take an active part in the forum discussion.

Example from the pilot course when the participants discuss a pedagogical issue:

- *In the ICT and reading module T asked me if I know any software for creating stories. My answer is: no. Do you?*
- *I know Lapoda, but I don't like it very much. I expected something more, although if we have to work with it, then we'll be fine, it seems to be easy to use.*
- *The problem is that we always have low primary students in mind. We could ask 4-5th graders to draw something or they could illustrate a story using Clipart. The we would not have to bother with other software.*
- *I like this idea, chose a good story and we'll do the drawing!*

One of the most important roles of facilitators during the pilot course was giving pedagogical feedback and evaluation. The EPICT philosophy supports an evaluation which is completely based on the progress of the participants; there are no standard minimum requirements set by the learning material but it is the facilitator's role to either accept the assignment or send it back to the group for further development. This is a very difficult and challenging task for the facilitators, as the group has to accept their decisions as well. The feedback for the assignments is always a detailed analysis of the solution, with critical remarks and concrete prompts for development.

An example of facilitator feedback form the pilot course:

Hi! I really like the module assignment you sent for Module B. I understand that you worked hard on it. I found especially interesting the development of dyslexic children, as I never ha to face this problem in my own teaching. The task sheet you prepared is clear and pretty. You use the pictures very well, and I also liked the task with the different font types. Using different colours helps children acquire the use of capital letters, understand the text and instructions.

I would like you to work a little more on the lesson plan. First, allocate time limits to each task, that is, explain how long a task should last. Second, please elaborate on the last point, evaluating classroom work, a little more. How feedback is given? Who gives the evaluation? Are their any variations?

During the pilot course the participants regularly expressed how important for them positive feedback is. This fact is even more important if we consider that in Hungarian education giving positive pedagogical feedback is not considered to be very important in education. Examples of expressing the appreciation of positive feedback:

Thanks for the praise!

Thank you for the positive feedback. We are sure that you have received much nicer solutions, but as you said, with our skills it is not that bad after all.

However, not all the groups reacted to the facilitator response positively. The reason might be the novelty of the evaluation system, or the bad communication of the facilitators. If the facilitator could not define further work required form the group in a way that was clear or challenging enough for the group, the participants simply felt that the facilitator was not fair and considered the new tasks unnecessary or useless. This was communicated on the forum either by asking the facilitator to give reasons or concrete help, or they sent the first drafts of their assignments as 'final versions', thus letting the facilitator know that they do not wish to further elaborate on the topic.

Example for communicating the 'final' nature of assignment:

We have finally finished the reading module. It was really difficult, we had very little time, we are overloaded, and we hope you will not find any mistakes in it.

It took several months and assignment evaluation until the participants understood and accepted this form of group work and feedback.

Social roles

The second most important role of on-line facilitators is to develop the best possible circumstances for learning, by creating a positive group atmosphere, trust and group cohesion. The collaborative working methods in EPICT require daily communication among the members of the groups, mutual understanding and trust. It was absolutely necessary even in groups where the participants had known each other before, were colleagues from the same school or region. Although a lot has been written on group building strategies in schools (Dörnyei&Murphey, 2003), these techniques cannot always be used in an on-line setting. Hootstein (2002) argues that on-line facilitators can enhance group cohesion by stimulating group discussions with case studies, problem solving tasks, or questions, as higher interactivity is the key to success, what is more, it is nearly as important as the course content.

Moodle allows the participants to upload personal data and photographs about themselves as well, which made communication during the pilot course more personal. Facilitators put a special emphasis at the beginning of the course on getting to know the participants and asked them to provide information about themselves. However, it took approximately a month of on-line communication until the first signs of group cohesion occurred. By December, that is the third month of the course, a lot of messages contained animated gifs or little Christmas surprises for each other and the facilitator. By this time the first virtual present, a virtual rose was sent to a teacher who celebrated her nameday.

The lack of communication was more challenging for the facilitators. We accepted a short break during the Christmas season but it was a little surprising that most groups did not sign in during January either. Later they explained that January is a very busy period in schools and they had little time. Course organizers should take this fact in consideration when they plan an on-line course. A number of motivating or problem solving messages were sent by the pilot facilitators in this period.

Example of motivating or problem solving messages

Dear Group!

What happened to you? You are one of my most active groups but now it seems you disappeared. Why?

- *Winter tiredness?*
- *Skiing holidays? (in this case I am really envious :-)*
- *Were I too strict when giving feedback? In this case, I am really sorry for the wording!*

Wishing you a very good work!

Administrative roles

The 'third pair of shoes' (Hootstein, 2002) of facilitators is related to administrative duties, like setting the time frame of the course, deadlines, formulating rules of forum use, etc. Berge (1995) considers the administrative duties as crucial roles facilitators have to take in order to make the on-line course successful. As Hungarian educators are not familiar with distance education characteristics, it is very important that the facilitator sets the deadlines, requirements, and communication rules in an open and clear way. In the pilot course some of the dates and requirements were set by the course provider but the organization of face-to-face meetings and group rules for participation were left with the facilitators. Most of the messages sent by the facilitators to the groups were in connection with deadlines, some facilitators sent only this type of messages, which had a rather negative effect on the group. One facilitator sent only 40 messages altogether during the 8 months, and among these there was only one (!) which did not concern administrative issues.

Teaching participants how to use forums is also considered one of the administrative roles facilitator have to undertake in on-line courses. It generally helps on-line communication if the rules of individual and group work, rules of forum presence and forum netiquette are clear to everyone. In the pilot course it proved to be helpful if the facilitator prompted the participants about these issues, if clear instructions were given or if the facilitator set the forum topics in advance in a clear way. Example from the pilot for administering the forum use:

> *Fantastic activity and creativity. However, opening six new topics about the same issue for the same people suggests that the forum is not used properly.*

Technical roles

The aims of the on-line course can only be reached if the participants use a learning management system they know well and where they feel safe. At the beginning of the course, it is the facilitator's role to show how the LMS works, and should offer technical help if needed. Without being able to use informational and communication technology (text, images, voice and video) well, the participants will not be able to acquire the skills taught in the course. Obviously, facilitators have to master these skills in order to provide the best support for the participants with very different technical skills, learning styles and learning goals. As mentioned before, most facilitators in the pilot course had a degree in informatics as well, and they very often had to support the participants in technical problems. Example for technical support on the forum:

> *You should transform your images into smaller resolution. I suggest that you use the Photoshop program or if you don't have this, than you can do it with the Gimp freeware. If you have any problems, please writ, I am happy to help.*

During the Hungarian EPICT course, the technical role of the facilitators was partly overtaken by the technical help desk offered by the course provider. The problems of signing in, forgotten passwords and uploading files were solved by the help desk, and the facilitators gave technical help mostly in connection with the concrete modules and assignments.

Conclusion

In on-line courses, the *facilitator roles* are basically different from the traditional roles teachers assume in schools. We propose four broad categories to characterise these roles: *pedagogical, social, administrative and technical.* On-line facilitators have to assume these roles to help participants reach their learning goals in the problem-based, practice centred, self-developmental, cooperative learning process. The course material is processed and practiced by the participants individually and they transfer the skills to their own teaching practice. Facilitators help to solve the problems and enhance learning during small group on-line interaction. The goal is that this interaction remains after the course ends and a close professional co-operation and communication continued among alumni members of the students who are now members of a new knowledge building community of educators.

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[i] Each EPICT module is divided into the following elements:

- Pedagogical introductions and articles
- Best practice articles
- ICT-skills exercises
- ICT manuals
- Inspirational links

[ii] Content of the European Pedagogical ICT Licence:

Compulsory modules of EPICT: Using the Internet and Internet resources, Search and evaluate data, Writing electronically, Communicating electronically.

Optional modules (select 4): Using digital images, Using spreadsheets, Using presentations, Producing educational websites, A head start with databases, Models and simulations, Layout and dtp, Educational software, ICT and learning styles, ICT and reading (special needs), ICT as a compensatory tool (special needs), Games and learning, and School innovation