Teaching skills training trough e-learning

Cătălin-Cosmin Glava\textsuperscript{a} *, Adina-Elena Glava\textsuperscript{a}

\textsuperscript{a} Babeş-Bolyai University, Faculty of Psychology and Sciences of Education, 7 Sindicatelor street, 400029, Cluj-Napoca, Romania

Received October 14, 2009; revised December 23, 2009; accepted January 7, 2010

Abstract

The present paper, “Teaching Skills Training trough e-Learning” is organized around the concept of didactical competence – a concept that presently suffers important reconsiderations, requested by the more and more intense awareness of the implications, which the current tendencies and realities of the society context have on the specific of educational phenomena and implicit on the teacher’s professional profile. Particularly, the educational implications on the didactical competence profile of the usage of new information and communication technologies have been explored.

Keywords: e-Learning; teaching skills, didactic competences.

1. Problem Statement

The concept of didactic competence represents a real challenge for the pedagogical research and reflection in the context created by the necessity of redesigning and redefining the professional profile of the teacher. The didactic competence definition is currently placed at the edge of the epistemological perspective (meaning the scientific perspective towards the educational phenomenon, the didactic training being a form of professionalization as any other) with the artistic perspective (didactic competence represents rather a native talent, which can hardly be acquired through formal training. We do not exclude here the possibility for one to have native educational inclinations, but we cannot admit the intuitive approach to education. Consequently we argue for the professional, competent foundation of the educational approaches.

The necessity of a theoretical and experimental approach to didactical competence concept is even more imperative now when the education faces the new challenge of educational integration of the new technologies of information and communication. The new technologies tend to overpass the status of simple didactic instruments of instruction and education. The computer, the Internet, the mobile phone, the electronic post, the real time messaging, the on-line telephony represent realities the youngsters are familiarized with and they can become real useful
educational means. The option of their exclusion from the educational milieu only deepens the perception of school anachronism.

2. Purpose of Study

Our research intention was that of verifying if the didactic design and management of competences improvement is possible and efficient in the context of using new didactic designs and class management models that recommend themselves through novelty elements, which they integrate.

In order to reach that intention we propose a thorough analysis of the didactic competences and of the implications for didactic training. We will also look at the set of technological competences required for the nowadays teacher and we will propose a manner of training the didactic competences while focusing on the educational integration of new technologies. Thus we proved the impact of new technologies educational integration not only for training of technological competences but also for the training of the whole pedagogical profile of competences.

The profile of didactic competence is defined in our study as a dynamic and complex structure, that includes learning products with an operational, instrumental value that structures around certain cognitive and affective – attitudinal acquisitions and represents objects of permanent re-crystallization and evolution, generated by integration of practical and theoretical experiences that appear along the time.

In fact, the competence paradigm evolves towards the new approach where the competences represent integrated sets of capacities to obtain performances in a specific field, by flexible and innovative use of the cognitive, affective, psychosocial and possibly psychomotoric acquisitions in order to successfully solve complex tasks, problems or sets of problems and, generally, to function effectively within a given context and role.

3. Methods

By putting in correlation a new educational paradigm generated by the usage in the learning system of the new technologies with a new methodological approach in the field of the specific didactic competences development - didactic modeling – we were able to offer an integrated approach of the didactic competence profile and also the understand this construct in its complexity and dynamic.

Our research intention was that of verifying if the modeling of the didactic competences of design and management of the educational activity is possible and effective in case certain specific didactic design and learning management genuine models are used. These didactic models have in common the educational use of the new information and communication technologies and illustrate some of the newest trends and contemporary contributions in the filed of teaching and learning theory and practice.

The didactic design model of WebQuest and the learning and classroom management model of BSCW were selected on the bases of the premises that if teacher is confronted with elements of innovation as the educational use of ICT he is forced to reconsider his own believes and cognitions regarding the didactic design and management of learning and classroom on one hand and of the teaching practices on the other hand.

Given the above presented theoretical premises in the following we will present the general and specific hypotheses of the empirical study presented here:

Main hypothesis:

The use if didactic design model that imply the use of Internet and of a model of classroom organization in virtual environment contributes to the development of didactic use of ICT and offer a favorable context for significant development of curriculum design and learning and classroom management competences in teachers.

In other words, we presumed that the training of teachers in the educational use of two technological models – BSCW and WebQuest – will contribute not only to the training of technological competences but also of the curriculum design and classroom management competences.

Secondary hypotheses:

SH1: The use of the virtual classroom model offered by the cooperative platform BSCW determines the training of competences related to cooperation, team communication, control and management of own learning,
management of time, and implicitly to the development of students’ learning and classroom management, a fact that will be visible in the quality and incidence of activities on the platform.

For the beginning we aimed at analyzing the impact of BSCW platform use in the training of the abilities of initiating social interactions, of communication and cooperating, by observing the quantity, quality, type and incidence of the subjects’ activity on the cooperative platform. These data permit us the deduction of conclusions related to the effectiveness of the on-line platform use for the training of didactic competences necessary for classroom and learning management.

**SH2:** The use of WebQuest model of didactic activity design through the use of Internet resources leads to development of specific competences of didactic design, a fact that will be observable in the didactic quality of design products subjects created.

The second aspect we intended to prove was the fact that WebQuest model, used for didactic design of learning situations that propose Internet resources as information sources, contribute to the training of abilities involved in the design of learning tasks, of the instructional milieu, of the learning process itself, of the evaluation criteria, abilities that are integrated in what we name the didactic competence of curriculum design

**SH3:** The articulated use of the two models determines the significant development of teachers’ competences in the use of information and communication technologies in education.

The third aspect we observed was to demonstrate the fact that by using the cooperative platform BSCW and design model WebQuest we can contribute to teachers’ technological competences development.

**Actions targeted by the research process were the following:**
Selection of the teacher training curriculum content units that will be modeled through BSCW and WebQuest.
To integrate the two models with the contents selected.
Analysis of the didactic efficacy of the two implemented models by reporting it at a set of performance indicators for the didactic competence.

Curriculum design model **WebQuest** was firstly proposed in 1995 by Bernie Dodge, professor of educational technology at San-Diego State University of California, USA, with the contribution of Tom March, pre-university professor at Poway High School, California. Starting with year 1995 Bernie Dodge maintains an educational portal named WebQuest at the address [http://webquest.sdsu.edu/](http://webquest.sdsu.edu/), and the number of the strategy users is enormous on the entire globe.

The starting basic idea was that of integrating learning situations with previously selected cultural, educational information sources existing on the Internet in order to train students in information processing and development of critical thinking.

**General characteristics:**
- A qualitative Webquest project offers students a contextualized learning situation: a specific problem to solve, a thorough investigation on a subject; a solution to a social or community problem etc.
- Integrates a motivational factor: a real learning context, a form of learning activity organization that supports activism and learning autonomy, specific, realistic roles that make learning exceed the classical framework of school learning etc.,
- Knowledge sources that students have access to are accessible according to their age and individual or group particularities.

**Didactic characteristics:**
- WebQuest project integrates requirements that mach the official curriculum exigencies and thus contributes to meeting the national curriculum aims;
- Includes didactic challenges such as: cooperative learning, interdisciplinary tasks, transferable skills (communication, use of computer, planning and monitoring of own learning) training;
- Encourages self-evaluation by including a set of detailed evaluation criteria that are given in advance to students;
- Supports the development of the learning process by describing the steps that are to be followed in order to reach the learning objectives and by proposing specific graphic and cognitive organizers that support information processing;
- Facilitates the transfer of the didactic project in a different context by integrating a page of didactic indications useful for other teachers.

**Interface characteristics:**
WebQuests are work materials that can be easily accessed by students through the use of computer. They have the appearance of a web page and integrate attractive visual and graphical elements that facilitate the use of the project.

Navigation on the project page must be facilitated by the logic and psychologically adequate organization of content.

BSCW („Basic Smart, Cooperate Worldwide” or “Basic Support for Cooperative Work”) represents an electronic environment which we used for development and delivery of the training course dedicated to teachers who were subjects of the experiment. This environment integrate some of the characteristics of an ordinary classroom, but by using the Internet, it reconstructs this milieu as a virtual environment and offers possibilities of cooperation, communication, information collection and creation of new learning products.

The shared working place BSCW was created as a research prototype in 1995 by Fraunhofer-Institut für Angewandte Informations-technik FIT together with OrbiTeam Software GmbH and since then new optimized versions of it were issued that integrated a growing number of characteristics and options. In competition with a large number of similar alternative systems, BSCW distinguish itself through its high accessibility, given by its low cost and even free of charge for non-commercial users. The company offers the users not only the software component but also its own servers, in case of a low number of users. Consequently, use of BSCW in educational institutions represents an accessible option.

Platform BSCW represents an excellent means for the creation of a virtual classroom thanks to certain characteristics that we will present in the following as they have a significant pedagogical importance: Accessibility, “User friendly” Interface, Multilinguistic support, Administrability, Autentification, Polling, Creation and posting of documents, Documents versioning and freezing of documents, Right of access, Possibility to modify the format of documents, Facilities of searching inside the platform, Creation of discussion and debate spaces on the platform, Transparency of users actions, e-Mail, Contacts list, Documents sharing, Option of limiting ones access and possibility of modify the documents, Calendar, Date and hour of document modification, Date and hour of posting a message on a discussion space, Date and hour of platform entry, History of objects posted on the platform.

4. Findings and Results

Quantitative and qualitative analysis of the results research step rolled was oriented in three major directions:

1. The outlining of the didactic competence profile concept, of its complexity and dynamic and the experimental validation of the explicit model of this construct.

The articulated use of the didactic design model WebQuest and of the classroom and management model BSCW demonstrated the impact which the configuration of each competence has over each of the others, illustrating the unitary model of didactic competence profile. Data obtained through the statistic, quantitative and qualitative analysis of the learning activities and products subjects developed support the fact that the systematic use of the two models significantly contribute to the development of educational design of effective learning situations and of classroom management competences. Integrated with these learning results, the effective training of technological competences was made.

2. The verification of the efficiency of the didactic competences modeling through the BSCW virtual class model and WebQuest didactic design model.

The investigation developed regarding the didactic competence area started with the acknowledgement of the integrated character of the didactic competence profile. Consequently, we selected the modeling as the methodological context for improving the didactic competences of teachers, considering that through their integrated character, the models offer us the possibility of multiple representations of concepts and practices related to the targeted competences and synthesize these representations in unitary structures. We started this process with the assumption that the didactic models used for the pedagogical competences development must be transferable as such or with their components into the classroom didactic activity and, in the same time, to constitute sources of inspiration for the teacher and for the optimization of his pedagogical activity.

3. Verifying to what extent is the development of teachers’ competences on the use of new information and communication technologies efficient inside the integrated context of the development of pedagogical design competences and of classroom and learning management skills.
One of the main points of our research was that of identifying the apprehension of teachers and future teacher students for the educational use of ICT as means of educational process improvement and of development of their technological skills involved in educational use of these tools.

Starting with the prerequisite that the technical skills involved in using of ICT cannot be separated from the applicative context they are implemented in, we outlined the extension of the profile of technological competence involved in educational use of new technologies, by integrating these competences with the didactic competences of designing learning situations and of classroom and learning management.

Similarly, at the practical, experimental level, aiming at training of technological competences, we created a training milieu focused on educational use of ICT training. Within this experimental setting the training of technological competences was contextualized by the integration of the technical tasks with didactic tasks of learning situations design and of classroom and students learning management. This contextualized learning individualized our training program comparing with classical computer training, giving an enhanced relevance to the technical operations and offering valuable practical suggestions for the creative use of technical options included by different software in order to improve the efficacy of didactic activities.

5. Conclusions

Our conclusions lead to a set of aspects that may be considered when aiming at the improvement of initial and continuing education of teachers, given the current pressure for teacher training in the field of educational use of new technologies:

The development of ICT competences must not resume to the training of technical abilities, their effective development being accomplished only if correlated with the development of didactic competences specific for planning the efficient teaching situations of learning which may imply the use of new technologies and of the management of learning and of class.

The didactic competences development program is efficient as long as this follows the actual didactic practice specific to certain domain of education, the informative aspects being integrated with the formative ones, which are centered on abilities training.

The real experimentation of the formative aspects of ICT used in education represents a key factor for creation at teachers of a positive attitude towards new technologies and their educational use. Moreover, professional development mediated by the electronic learning environment determines teachers to understand the potential which the new technologies of information and communication have for the general improvement of teaching and learning activities.

References


