

Teachers for the Knowledge Society

Masterprof: A program to educate Teachers for the Knowledge Society

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Abstract

Masterprof is a master program that was designed *within* and *for* a comprehensive partnership among faculty, graduate students and school teachers in order to give a consistent response to the social need for better educated teachers. This challenging aim requires top innovation at various levels of intervention. Therefore, *Masterprof* benefits from a flexible competence-based curriculum that is implemented via an interactive approach within a blended learning system. The new methodology is sustained by meaningful assessment tasks and multiple research partnerships. Our paper briefs on the philosophy of this didactic master program and the results of a two year implementation.

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Selection and peer-review under responsibility of *Masterprof* team.

Keywords: research partnership; curriculum for teacher education; blended learning; meaningful assessment; interactive methodology, learning community

1. In search of adequate teacher education solutions

For centuries, the philosophy of education was based on the principle of transmitting knowledge to every new generation. This means that a stable body of knowledge is acquired by youngsters in a stable social, economical, and educational context. Today this pattern cannot be applied any longer due to the dynamic knowledge development. The globalisation of the economy, the internationalisation of the society and the rhythm of technological changes put tremendous pressure on the workplace where functional competencies are in high demand. Thus, questions about the role of schools arise from the perspective of the emerging knowledge society. The social and economic needs of nowadays life require more adequate ways of teaching and learning. If the workers from the job market are expected to take responsibility for identifying and solving problems and for adapting to change, students should also take responsibility for their own learning, develop the know-how-to learn skills and problem solving strategies (Berryman, 2000). The pace of change and the directions of change are no longer linear. Instead, they are global and profound. Given the present context, the school that attempts at preserving the old philosophy of teaching and learning actually remains far behind the knowledge economy that is intertwined with the knowledge society (Singer,

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2007). Attention to the quality of human capital in different countries naturally led to concerns about how school policies relate to students' performance and how teachers could be better trained. The data from various international studies such as TIMSS, PISA and PIRLS provide ways of comparing performance in several school systems and act as evidence for the internationalisation of education. Training the teachers is yet an internal affair of each country, and every country is in a process of searching for better ways of educating the future educators (e.g. Fullan, 2000; Singer and Sarivan, 2006; Singer and Moscovici, 2008; Shulman and Sherin, 2004). In Romania, the need for quality teacher training is even more stringent since the system still orients the graduates towards the education field by marginalization. The best graduates accept a teaching position until they find another, better paid, job. Very few well prepared youth remain in the education system. The reason of the lack of interest for the teaching career is not only a financial one. The frustration also comes from the poor initial teacher training the graduates possess. The psycho-pedagogical courses are theoretical. Very little time is devoted to didactics and the teaching practice is rather formally organised. The students tend to skip it, as they feel it does not help them too much.

2. A didactic master program

As an introduction to the volume dedicated to the *Teachers for the Knowledge Society* conference, this paper brings into attention the philosophy, principles, objectives, structure, and results of the master program that led to the organization of this event.

Being aware of the actual context and needs, we designed a project for the initial and in-service training of teachers by means of an innovative blended learning master program that is focused on the development of teaching competences which are adequate to a dynamic, inclusive and open society. The master program has targeted the following objectives: improve the qualifications of teachers and teacher trainers; develop career opportunities for teachers; refresh research in specific didactics and connect students, teachers, professors and trainers in research partnerships; harmonize the academic level, the school practice and the school curriculum; support students, teachers and professors to use on-line learning techniques as a means to promote, develop, monitor and disseminate didactic information; set an interactive centre where students and teachers can access useful resources for their educational projects. Through its objectives, the *Masterprof* project was included in the Priority Axis 1 of the European Social Fund within the Sectorial Operational Program for Human Resources Development 2007-2013: Education and training for economic growth and the development of the knowledge-based society.

3. Innovations within the Masterprof program

Who could actually teach the students who have to learn differently in order to better adapt to a changing world? Of course, a gifted teacher would find the best strategies for such a challenging learning situation. But gifted teachers are a few in any society, while the contemporary school is a mass school. Every child deserves a gifted teacher. If there are not many of those being born, then the training system should optimize the education of the expert teachers who are able to cope with the unfamiliar contexts. How could a society provide a large mass of expert teachers so that children are never subject to teaching practices that are obsolete and counterproductive? This is the question that inspired us when we designed the *Masterprof* program. Our answer comprises a set of key issues related to curriculum, methodology, assessment and the research partnerships.

3.1. A competence-based student-centered curriculum

We approached the expert teacher education from a three folded perspective: anthropological, epistemological and social. The anthropological perspective is given by the individuals with their interests, needs, level of acquisition, cognitive and attitude profile; the epistemological one is represented by the fields of knowledge, each with their specific symbolic codes and procedures; the social perspective is defined by the knowledge society with its demands and implications for the labour market. We further describe the interactions among these factors.

“Each individual exhibits a personal way to relate to a domain of study: he/she has a certain level of previously acquired knowledge in the field, a certain intelligences profile and displays his/her own learning style. The interaction between the individual and the epistemological factors determines a change in the students'/ graduates' thinking pattern and improves their competence within the field of study; the same interaction could influence the

domain via the research process that is carried out by the student. Such influence depends on the quality of the research. The social factor pushes the youth options towards certain domains of study that represent the socio-economic vector of progress. On the other hand, the social factor itself is influenced by the individual, by the competition on the labour market, as well as by personal contributions to the knowledge process. In the same time, the social factor restructures the domains of knowledge through its dynamic component which is the labour market. This one influences the epistemological factor (by multiplying, reinforcing, diminishing the fields of study) and is influenced by the same factor via the applied research which directly gives new solutions for real life problems and develops new professions.” (Singer and Sarivan, 2006, p. 399). This dynamic interaction led to a model for the development of the graduates’ competences so that they become the experts who are able to easily integrate in the society and contribute to the knowledge advance in their domain. Further on, the *Masterprof* program benefits from a generative framework that combines two sets of procedural macroconcepts. On the one hand, there are the domain-specific competences that the future graduates are expected to develop as part of their initial academic education. On the other hand there are the teaching competences that are specific to the subject they teach. All teachers share a number of fundamental operational tools (planning, organizing, assessing and reflecting on classroom activities) but they learn and later perform them in the specific context of their field of expertise. The expert teachers are those well trained professionals who have acquired a specific teaching profile in order to facilitate the learning of a specific thinking profile in their students’ minds. This specific teaching profile consists of a series of teaching competences that result from the complex interaction of domain-related acquisitions and the basic teaching procedures. In this respect, the teachers are ”double experts” who are able to determine a conceptual transfer towards their students.

From such a perspective, the *Masterprof* program targets a set of competences that shape the graduate profile as an expert teacher. These are the following: Apply research projects at classroom/ school level in order to optimise the educational process and/ or to solve community problems; Participate in activities to promote educational projects, practices, experiences that have a social and ethical impact; Communicate research/ learning experiences to various partners within the educational community; Transfer the procedures that are domain specific into a didactic methodology that is relevant for the learning of the respective school subjects; Deconstruct teaching stereotypes/ clichés by identifying the learning/ teaching difficulties and by developing research for an effective educational process.

To transform these competences into acquisitions of the actual student, we carefully designed a new curriculum where the subjects were grouped into the following clusters: the core curricular area (that offers the fundamental knowledge of the teaching domain); the specialized curricular area (main subjects for the expert teacher training); and the functional curricular area (subjects derived from the specific social needs of the contemporary society: Communication, ICT, Entrepreneurship, Management of values). Two tutorials to support educational research and another one to assist the development of the final dissertation were also included in the program. The curriculum is designed with many options so that the students can organize their learning route according to their interests and needs.

3.2. *The blended learning interactive methodology*

If an innovative curriculum is to be well implemented then it needs an innovative methodological counterpart. The masterprof students are not subject to the classic delivery of the academic course. On the one hand it is really bizarre to promote active strategies within a lecture. On the other hand a deep understanding of the active methodology needs to be enhanced by experiential multirepresentational training (Singer and Sarivan, 2009). This is a model of training in which students explore the teaching concepts both as learning contents and as methodological tools that they first experience in the academic setting and they later apply in their schools. This complex learning activity involves the students in a dynamic construction of meaning that is memorable and transferable in the classroom practice.

Prospective teachers should experience their learning and get involved in real classroom problem solving. Contextualized learning is more effective and it helps the teacher trainers to readjust their courses to the current educational issues. Project work as well as research projects represent a good option in this respect.

Within the masterprof program we have chosen the blended learning approach. The online component is very useful for busy teachers who need to be in their schools and cannot afford long hours in face to face courses at the

university. In the digital era, the use of the computer as a medium of learning is very profitable for teachers who have growing numbers of students that qualify for the new non-linear approach to learning (Veen and Vrakking, 2006). The face to face component remains nevertheless the most important one (70% of the curriculum is delivered via face to face activities). On the one hand, there are many teaching topics that have more flavour if they are presented in situ – some of the active methodology topics, the classroom management etc. On the other hand, the lack of experience in using the computer as an interface for learning imposed a cautious attitude towards a larger online share.

The interactive methodology which was developed within this project aimed at facilitating access to new models of the teaching career: active participation into learning communities, peer learning, self assessment and personal reflection, designing portfolios for personal development. In the same time, new methodological approaches were applied by our faculty. For example, case studies, critical thinking procedures, problem-based and inquiry-based learning became current approaches in some of the courses. The best cognitive tools for the research of the novices who get trained to use the experts' methodological inventory in problem solving are the instructional strategies that are derived from the basic procedures of a specific domain of study. By that we understand a transfer of the core research method from the domain of knowledge into a teaching strategy in the school subject that derived from the first. Thus, domain specific training techniques were used within the teaching of the specific didactics. We stress these training techniques because one cannot be a general teacher and cannot simply apply basic teaching procedures in a classroom. The act of teaching overcomes application of general education theories. It needs to be a specific teaching for a specific domain of study. Otherwise, no effective learning happens in the students' minds. In order to train the "double experts" we mentioned above, the teaching methodology ought to be reshaped, basically transformed into a new set of "specific didactics". Traditionally the teaching methodology involves the mere attempt to *apply* the pedagogical theory to the teaching of a school subject. A new and efficient perspective originates in a number of conceptual reference points that need to be *transferred* within the specificity of the teaching-learning-assessment process of a given domain of study.

3.3. *Meaningful assessment to enhance deep understanding*

The development of the expert teachers' competences determines a holistic view of pedagogy that consistently integrates learning, teaching and assessment. Within the *Masterprof* program the assessment is transparent, criteria-based and reflects a competence-based approach. Thus prospective teachers learn from their own experience and further transfer the fundamental acquisition of quality assessment in their profession.

In this context, the backwash effect should be considered in more depth. The backwash effect refers to the influence that a test or, in general, an assessment measure has on the way students are taught (frequently the teaching mirrors the test because teachers and students as well want success when it comes about examination).

The assessment within the didactic courses is project-based and combines a variety of practical tasks. This option is intended to give a positive backwash on the curriculum provision.

4. A target for the present and for the future times: university-school partnerships

Masterprof was developed *within* and *for* many-folded partnerships. The curriculum design and the methodological innovation have been sustained by a number of experts of various backgrounds in terms of education, field and culture. They currently cooperate and benefit from the interaction within the online community. The professors who are involved in the master program are committed to develop learning partnerships with the graduate students on the basis of research projects. These projects are tested and implemented in schools and, consequently, new partnerships are developed between the master students and the teachers in the application schools. As a result of the multirepresentational training, the learning partnership is infused at classroom level.

Among the intentions of the *Masterprof* program there is the renewal of the didactic research at academic level by means of partnerships within the learning communities that evolve and develop on the platform as well as with direct interventions in the partner schools. The didactic research does not have a proper tradition in Romania, nor does it receive a particular focus at present. The master program can determine a positive change in this respect. Its online facilities as well as the availability of a number of experts for the development of didactic research might launch a number of interdisciplinary projects. The digital materials that were structured within the program are a

good starting point in this respect. Their authors need to come together and set the basis of an editorial project comprising series of didactics or simply the development of thematic resources and of specific materials for a certain subject matter.

5. Success and failure within the implementation process

So far, the masterprof program has created an innovative teacher education model that stands for a conceptual and methodological consistent response to the challenges of the knowledge society. The success of masterprof lies in the following assets: a coherent curriculum, a blended learning methodology, a set of modern online materials, a well equipped and nicely designed resource center, a functional eLearning platform that facilitates the development of the various learning communities, well trained professors who are committed to interactive methodology, meaningful assessment and research partnerships with their students and teachers in schools, graduate students who graded well in all the assessments (some of them even managed to develop highly appreciated research papers that are included in the present issue of the *Procedia*), a few school teachers who got involved in partnerships and also managed to elaborate original papers.

Nevertheless, the initial project in its conceptual complexity is far from being implemented. Fewer students than the estimated numbers got enrolled. Apparently, the majority of the graduates in search of a master program could not understand the advantages of a flexible curriculum with various strands of specific didactics that support the deep understanding of a specific teaching mode. Many of the faculty who were offered the opportunity to join the learning community and, by that, upgrade their methodology as well as their research focus and capability, participated in formal, rare interactions. The partnership with the application schools that were a key factor for the intended renewal of the didactic research did not function properly. Only a few individual teachers took the chance to get involved in the project and managed remarkable results with their students.

We can observe that all the minuses are connected to the human resource component in all the three target groups of the project (faculty, graduate students, teaching staff in the application schools). Basically, *Masterprof* was successful for a number of individuals who were in search of solutions for the many teaching problems they needed to cope with. For these people – faculty, students, and teachers – *Masterprof* offers the generative model that supports their need of adaptation, innovation, contextualization of a student-oriented approach. They have become the expert teachers that the project targeted. The failures of *Masterprof* relate to the fact that the educational changes in the last twenty years multiplied without clear compass and without closure. Actually no reform attempt was ever completed. There is suspicion about the use of innovation in the expectancy horizon of the teaching staff. This educational difficulty is part of a social issue as Romania is still in transition from a totalitarian regime and planned State-owned economy towards the knowledge model. The mindsets are somewhere in between the gated communist checkpoint and the open global culture, being unable to operate a clear choice in either direction. The mixed results of masterprof mirror these equivocal social, cultural, educational positions.

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