

QUALITY OF TRAINING OF NON UNIVERSITY TEACHERS

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Abstract: *Teacher qualifications show an important but complex relationship to student outcomes. The international evidence shows that non-qualified adults working as teachers or teacher aides do not generally have a positive impact on student outcomes, and in some cases have negative impacts. So it is very important to develop national infrastructure in order to assure quality of teachers training. This paper presents analysis of the present situation and suggest road map for development of quality infrastructure for training of non – university teachers.*

Key words: *training, non university teachers*

1. INTRODUCTION

Numerous documents (Lisbon, Sorbonne, Bologna, Prague, Berlin, Bergen and London declarations and communiqués) define necessary steps and measures that will eventually lead us to knowledge-based society and economy. Lisbon Declaration highlights the role of human resources and investments in education, training and knowledge at all levels and in all forms.

Concern for the effective technical and professional training of teachers is increasing the world over. One of the very important aspects of quality education is quality students' outcomes in the elementary schools, primary schools, high schools and vocational high schools.

Teacher qualifications show an important but complex relationship to student outcomes. The international evidence shows that non-qualified adults working as teachers or teacher aides do not generally have a positive impact on student outcomes, and in some cases have negative impacts. Conversely, highly qualified teachers can have very marked impacts on the outcomes for diverse students, particularly younger students.

Students learn more from teachers with high academic skills than teachers with weak academic skills. The evidence is stronger when higher order student outcomes such as critical thinking and sustained thoughtfulness are included in outcome measures.

There is a substantial body of evidence showing that students' achievement, particularly in engineering, ICT, mathematics and science is influenced by their teacher's previous study in those subjects, along with the teacher's pedagogical knowledge.

This paper will present current problems in the filed of training of non university teachers, especially from the aspect of specific, training in

the filed of ICT and science. Some of the possible actions will also be suggested.

2. NEED FOR TRAINING OF NON UNIVERSITY TEACHERS

According to OECD Program of International Student Assessment PISA from 2006, Serbian students are below OECD average of 500 score points (science score 436, reading 401, mathematics 435). Only 0,3 % Serbian students are on the top level in comparison to 16,7% in Finland, 11,6 in Poland, 7,7 in Norway or 5,4 in Slovakia. If students do not have high level of knowledge and skill, they will not be able to perform well on market labor or University. Unqualified labor force will not contribute to economy or foreign investments.

On the other hand Serbia promoted aims of its educational reforms that all children shall have a good start in school, academic knowledge and professional skills.

There are number of documents both international, European and Serbian that deal with teachers' training.

Relevant international / European documents:

- "Education & training 2010" the success of the Lisbon - strategy hinges on urgent reforms
- Teachers for tomorrow's schools - analysis of the world education indicators – UNESCO
- UNESCO, EFA Global Monitoring Report 2005 (goal of enabling teachers to use ICT to enhance the quality of teaching and learning, the UNESCO ICT in Education Programme)
- OECD – TALIS with its issues to be examined: Linked to this, the professional development that teachers undertake and how this is connected to appraisal systems, how it is supported by school leaders and how it impacts on classroom practices.

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- Pisa tests 2006 (in all categories Serbia is far below an average in math, science)

Relevant national documents:

- Law on higher education, National Employment strategy
- Republic of Serbia: National report about fulfillment of goals stated by UN for children

There also other legal aspect in Serbia that support professional and permanent training of non-university teachers:

1. Labor law (no. 24/05 I 61/05) with special attention on article 49, which states that employer, has obligation to provide continues and permanent education as well as professional development to employers in situations when working environment, implementation of new working procedures and organizations demand competence improvement.

During work, employer has obligation to learn, professional train, and financial support is provided by employers' financial resources and other sources (budget, income, sponsorship, donation and self participation for education and training). This approach ensures financial sustainability of the project.

2. Law about general education (Sl. Gl. No. 58/04, 62/2003, 64/2003, 62/2004, 79/05, 81/05, 83/05 and 101/05) states that teacher, pedagogist and expert associate in education have obligation for professional development in order to fulfill and improve educational process (article 120).
3. Act of continuous professional development and acquisition of title „teacher, pedagogist and expert associate in education“(Sl. Gl. no 14/2004 and 56/05), as sub-law act states, as well as obligation for training and professional development (articles 2, 3 6 and 10), that teacher, pedagogist and expert associate in education have obligation to have at least 100 (hundred) hours of training program in 5 (five) years.

It is important to emphasize that according to PISA test number of teacher who participated in professional training and development programs in the last three months is below the average in Serbia comparing to OECD average.

Professional development of each teacher is very important in rapid changing modern society with new challenges and demands for non university teachers. Progress toward information and communication systems and technology, global data and information interchange and number of specific demands of modern technology force adaptation and re configuration of teachers' training system as well as position of the teacher in working environment (Training Teachers to

Integrate ICT into Education, UNESCO ICT in Education). Changing role and position of teacher is new imperative for society, as well as permanent life – long learning for non university teachers. Professional development includes increase of teachers' awareness about their role in improvement of education process.

During their carriers teachers have been facing demands for continues improvement of their knowledge and skills in order to follow changes in study programs, characteristics and needs of children's learning or new findings about metrology and pedagogy. That is reason why non university teachers need permanent learning based on their basic education and knowledge.

In the perspective of continual and lifelong learning, knowledge of non university teachers presents continuum with included initial education, phase of introduction in teachers' profession and continual professional development. In this continual learning process each phase has to rely on the previous one. Concept of continual professional developments has to ensure coherency between education, continual educational and all forms of educational and learning (formal, non-formal and informal learning).

One of the most important pillars of the reform of education in Republic of Serbia is development of the training system for professional development of non-university teachers in all levels. In Serbia up to now, professional development of University teachers was personal interest of teacher, although according to Law, teachers need to have professional development training programs. Teachers of today need corpus of knowledge starting form specific knowledge (specially in the fields with rapid technological changes, ICT, CAD...) as well as pedagogic, psychological and methodological skills.

3. DEVELOPMENT OF INFRASTRUCTURE FOR TARINING OF NON-UNIVERSITY TEACHERS

One of the possible approach is the development of national network for training of non – university teachers supported by ICT. It is important to emphasize that this approach would be in line with the national priorities: training of non-university teachers, development of lifelong learning in society at large, development of partnerships with enterprises and definition of qualification framework.

Specirfic objecties could be drawn form the general project objective.

The specific objecitves are;

- Redefinition of national politics for non-university teachers' training,
- Development of infrastructure for teachers training, the network of regional centers and training courses that should improve specific teachers' competences (pedagogic, communication, and subject) and
- Development of strong ICT support both through training in the field of ICT and development and support of learning management system for permanent training and education and hosting and interchanging of different teaching material.

The first step should be redefinition of national politics in training of non-university teachers. Serbia's national politics should be analyzed and compared with politics from EU. After benchmarking and SWOT analysis redefinition of national politics should be made.

The mission of the professional development of teacher is to ensure high quality transfer from teachers to students and to direct students' development toward education, intellectual and social responsibility and social and cultural integration.

Standards for teacher profession are socially expected roles of teachers and they should serve as a basis in definition of training courses and programs for teachers training and support for teachers' mentorship.

Standards for teachers' profession assume competences of teachers for new ways of work and teaching in educational process, competences to perform tasks and activities out of curricula, capability to develop new competences and knowledge in their students, development of their own competences and implementation of information and communication technologies.

Professional competences of non-university teachers are stated as: pedagogic, program and communication.

Training and developed courses have to fulfill demands for improvement of the most important competences for teachers: pedagogic, subject, and communication competences should be developed by training and selection of courses from different groups: general skills, soft skills and professional skills.

The second specific should be development of infrastructure for teachers training. Regional centers for teachers training should be at location of Universities in Serbia.

The main purposes of the centers should be:

- Development of courses for training of teachers and other people from the field of education accordant to directions of

Ministry of Education, regional needs and specific needs from the Union and industry.

- Organization of workshops for non-university teachers.
- Training of trainers for teachers training.
- Organization of different trainings, and seminars,
- Resource centers (with literature, ICT infrastructure, support for development of e-learning material for LMS and other support...)
- Promotion and support for INSET system for teachers.

Regional centers, their network and complete infrastructure should support training and professional development of non-university teachers according to regional differences and common needs and values.

Regional centers for training of non-university teacher should be place for:

- Monitoring and evaluation of training needs and development of programs and training for professional development.
- Exchange of professional experiences and ideas.

Each regional center for Serbia should have task to develop training courses for professional skills, and training for pedagogic, subject and ICT competences in mutual cooperation with others. This

approach should assure recognition of regional differences (PISA results recognize regional differences) but on the other hand general basis should be assured in order to provide common ground, flexibility and mobility through system. All courses from main three groups should be elective so personal development and training of each teacher should be highly individualized, open and flexible.

Special attention should be devoted for training for development of ICT and specific skills. The adequate selection of courses and modules should enable the teachers to enhance their skills in specific fields, but they can also be used for interdisciplinary and multidisciplinary profiles. It is also important to ensure specific competences for vocational high school teachers for many different reasons. Global economy, with its competitive productivity, the impact of technology on the skills required for employment, the fast-changing job market with its festering unemployment, demand effective and efficient initial and continuing education for the world of work. So non-university teachers need new skills for a new age in many different disciplines (computer numeric control, bioengineering, and computer aided design.

The specific objective should be improvement of the quality and relevance of teachers' training in Serbia by introducing new information and communication technologies. It is often stated that the use of ICT in education can increase the reach and quality of teaching and learning, serve as catalysts for change, and empower teachers and learners for better educational outcomes.

As the first step it is necessary to perform country (Serbian) and regional (regions in side of Serbia) analyses of the major challenges, orientations and examples of good practices for teachers e-learning and delivered these as a report national authorities. In order to improve teachers' competences in ICT differnt approaches will be used. Training of non-university teachers in the filed of ICT, using Internet technology, e-learning, and usage of e-learning management systems as well as develop and support of central Learning Management System for further e-learning of non-University teachers as well as hosting and exxhange of different e-Learning material for teaching on all level of schooling.

Background reports form EU experiance should enable a comparative cross-country analysis to be implemented that provides a broad overview of teachers training and e-learning policies and practices between partner countries. More specifically, these reports should identifie the main issues, actors and challenges in the development of teachers training and e-learning in Serbia.

The last part of the system should be assurance of monitoring and evaluation. The main goal of monitoring is modification, improvement of the practice. So it is very important to have infrastructure to evaluate not just results and outcomes but processes that produced specific outcomes.

These training and infrastructure for training have to ensure promotion through improvement of professional competences and professional development of teachers. Also it is necessary to propose for recognition of all forms of learning and prior learning. Continues process will ensure trained and competent teachers with ability to further develop, and improve quality of education in Serbia.

In achieving these goals, the planned actions should follow and respect the recommendations and documents issued by international entities, as well as the documents related to the national acts and laws in the field of teachers' training. The acquisition of the best practice and experience EU countries will also play a significant role in achieving these objectives, as well as the goal to develop a system that should be compatible with

European education system and regulations and guidelines governing teachers' training practices.

4. CONCLUSION

This paper presents analysis of main issues in training of non- university teachers. It is clear that is very strong connection between knowledge and competences of teachers and succes of students specially in the file dof ICT, engineering and science.

In this paper we present suggestion for development of infrastrucuture for teachers training that could be realizaed in achieving following objectives:

- Development of nation al ppolitics for training of non – university teachers,
- Development of taining infrastructure,
- Development of ICT support.

The key milestones in this process are:

- Redefinition of national politics for training of non-university teachers.
- Development of training courses in order to improve pedacogic, communicative and profesional (subject skills)
- Development of infrastructure for teachers training (networking all regional centers)
- Deolpment of training courses that will improve the most important teachers' competences
- Training of non-university teachers.
- Developent of ICT support for teachers training. Learning management system for teachers' training and system for eTeaching and exchange of teaching material.

Suggested approach should result with development of infrastructure that will improve quality of competences, skills and knowledge for non –university teachers.

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