

## WEB ACADEMY FOR PROFESSIONAL DEVELOPMENT OF TEACHERS IN ELEMENTARY AND HIGH SCHOOL IN MACEDONIA

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### ABSTRACT

Living in the world where technology is important for advancement for one country and the sub-systems on that country is very important to keep up with the dynamics of that technology. Education is one of the important sub-systems that the country needs to invest continuously and keep up with the modern educational systems like E-Learning. E-Learning is a social phenomenon that needs implementation also in Macedonia. E-Learning is the future of educational system in one country. Today our country is facing numerous problems in the educational system such as: lack of information's, lack of periods and locations to implement those requirement and criteria. These are the main problems for effective and efficient professional development of the teachers in elementary and high schools in Macedonia. Web Academy is the perfect solution for all those problems that Macedonian education system have. Web academy is web based getaway to better education, is entrance to whole new modern era of education, with her modular structure, it will leave the old problems behind and will import new possibilities for more effective and efficient educational system and development in the working skills of the teachers.

Key words: technology; education; E-learning; Web academy; schools; Macedonia;

### I. INTRODUCTION

Web academy is a website based project which includes e-learning and a variety of forms that provide on-line educational materials. E-learning is essentially the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.[1] The idea of creating a virtual education world is since 1840, the idea of more efficient education that will override the problems was at first designed and called a distance learning. The flexibility and the scalability of this system is the great side of this kind of projects, because they directly rely on the improvements of the technology in this digital era. Over the past few years the new generations start the learning process by studying about technology. The focus of this report is online education and the structure of the web academy. Depending on the purpose the academy can be:

- Web educational portal, web site where the content is filled with data relevant to conduct the educational

process. The teachers can enter the portal and use all the possibilities offered by such gateway. Basically Web Academy is an educational portal for distance learning which can educate students regardless of their geographical position.

- Web Informational gateway which content is filled with data relevant with the newest information's about the educational system in Macedonia
- Web entertainment portal filled with content whose main task will be on-line education through the multimedia, video conferences and educational games that will improve the development of the clients of the system.

This paper is organized as follows. In section II we discuss about the significance of this research. Section III presents statistics and research implemented in the region of Bitola. In Section IV we display statistics of the research in more details. Section V is the modular structure of the web academy. In Section VI is the conclusion of the paper.

### II. SIGNIFICANCE OF THE RESEARCH

The development of information industry, especially computer science and technology is coming on a large scale and prompting information's literacy as one of the key concepts that need to have the population in Republic of Macedonia. The development increases the daily necessity of using computer in the teaching process and requires a criterion for literacy to be the ability of teachers to work with computers. Educating the teachers to use the information technology means achieving high standards in education that will contribute to the development of knowledge, innovation and development as a foundation of that society [2].

There is no doubt that education is one of the key segments in encouraging and supporting the development of information society from two aspects.

First, this segment should be a leader in promoting the information society and creating professional's and competent staff who can meet the challenges of information society and the need of economy based knowledge. There is no development of information society and economy knowledge without appropriate qualifications of the people so they can use and participate in the benefits that computer are offering.

Second the quality of the educational system and the educational process depends directly from the benefits of computer based technologies.

Today we live in a very complex social-economic environment and the so-called transition, affects the social and economic relations through which runs our country. And only a good educational system could lead the country closer to the more advanced countries worldwide.

Education as a social phenomenon or as a subsystem of a country in transition is the challenge of reform and adjustment, especially to the standards and processes of industrialized countries in the world, which is directed towards our country, but also demands caused as a result of intense changes that should be followed up.

Republic Macedonia is engaged and always ready to invest in its educational system, as an example there are important documents from the 1994 during the war in Macedonia: one of the main goals is the freedom of teachers, so that the learning process can be provided regularly and continuously.

- Request to HQ II cabinets are to relieve teachers so that they can normally operate in schools in the area [3].

Moving Macedonia's economy based on knowledge based on the development of information society. According to the vision and the statistics that are implemented by USAID in Republic of Macedonia se out a few basic facts [4]:

- Till 2010 the majority of teachers must be digitally literate
- All teaching staff in 2015 must use Communication Technology (ICT) in the teaching process
- Every student from grade IV to begin digitally literate by the end of 2007
- All schools must poses fast Internet connection
- The classrooms must be connected with local are internet networks at the end of 2010

The initiative of e-learning puts emphasis on creating appropriate conditions for development of content, services and environment for learning that are very developed and relevant for education in the market and public sphere.[5] The attainment of standards is of particular importance, as is the establishment of conditions for execution of changes and adaption to the ways that education system will be organized.

It is this data led to the conclusion that now is the best time for implementation and keeping up with our country in an initiative to improve its educational system. Initiative to strengthen the cooperation and dialogue between all sectors in education and maximum use of resources offered by Republic of Macedonia is the major reason for developing Web Educational System in the Primary and High Schools in Republic of Macedonia.

### III. STATISTICS AND RESEARCH IMPLEMENTED IN BITOLA REGION

The main goal of this research is to examine the usage of the e-learning system like a major tool to upgrade the professional record of the teachers and contribute with archiving the academic goals. Conditions for implementation of such research came with the results of implementation of long-term strategic goals of the government of Republic of Macedonia aimed at modernizing the educational system and strengthening the inclusiveness of the same system.

The survey covered six schools and over fifty teachers from the region of Bitola Republic of Macedonia throw the method of research. It provides an excellent representation of the covered samples. In report presents key findings,

conclusions and recommendations in certain sectors. For easy monitoring, the findings are grouped according to certain comparative variables through which alone is easier to highlight the desired results and easy separate the differences. The objectives of the research were: (1) to document the current situation in the selected primary schools in terms of application of computers in those institutions as a tool for attending some kind of e-learning as a kind of education that will improve the quality of the teachers and there professional records, (2) to identify the needs and opportunities that should be the fundamental and starting point for building such web internal system in the future, (3) level of acceptance for implementing this kind of education in this schools and at last (4) the financial impact of this system in that schools and teachers that were in this research.

The survey was conducted in two phases: a survey for teachers and a survey for principals. The main thesis of focus of this research was on the following variables (questions) which are relevant for the assessment of current need and consists of teachers in secondary and primary schools from the application of e-learning in the classroom:

- The degree of attendance of e-learning
- Percentage of available internet connections in those schools
- Acceptance by the teachers and the principles to implement this kind of education
- Financial impact on the teachers and the institutions with implementing the e-learning

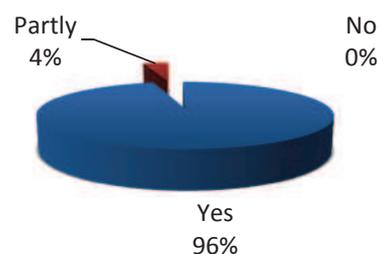
The answers were quantitatively and qualitatively processed and analyzed in order to get clean picture about those theses.

In the next section of the paper follows the detailed processing and displaying the results and their explanation and adding further instructions for implementing e-learning in Republic of Macedonia.

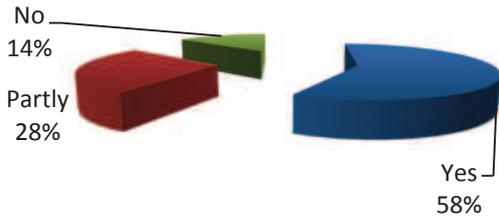
### IV. STATISTICS FROM THE RESEARCH

The questionnaire was sent to six primary and secondary schools in the Bitola region. The survey contains questions that directly affect the status of e-learning in those schools. Whether it is a municipal, state or private educational institution mainly results from the walkthrough are pointing in the positive direction of implementing this kind of education in those institutions. It's shown in the results that acceptance is on high level from the institutions and also from the teachers. **Questions for the teachers:**

- **Do you have a stable internet connection in your home?**



- **Do you have stable internet connection in your organization?**



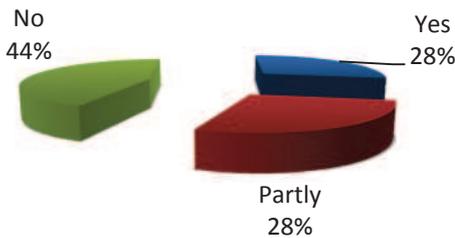
More than half of the teachers have internet connection, 96% answer with yes they have internet connection at home and 58% they have internet connection in their institutions. With this numbers we can make a conclusion that one of the most important conditions is fulfilled and the problem (finding place for seminars) will no longer exist.

The research noted difference in distribution of the answers of the teachers in schools on the type of settlement (rural or urban) where they are located: Significantly more schools from rural settlement answer with **Partly**.

The research did not determine significant differences among other factors (age differences and education field) of the teachers.

These two next questions give us the answer for: is this the right time to implement this kind of education in Republic of Macedonia.

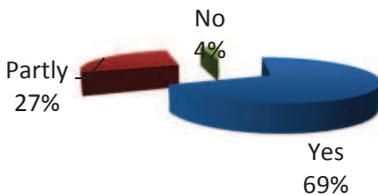
**- Have you ever visited a on-line course , web seminar or any kind of e-learning ?**



Almost half 44% answer with **NO** this is the number that proves that now is the right time to implement e-learning in the primary and secondary schools in Republic of Macedonia. Significantly less 28% answer with **YES**.

The research did not determine significant differences among the observed factor type of settlement of the school (urban rural), but the research did noted difference in distribution of the answers of the teachers on the factor (age differences), more older teachers will stick to the traditional education, and they don't believe that e-learning is the right choice for the future of the Macedonian educational system.

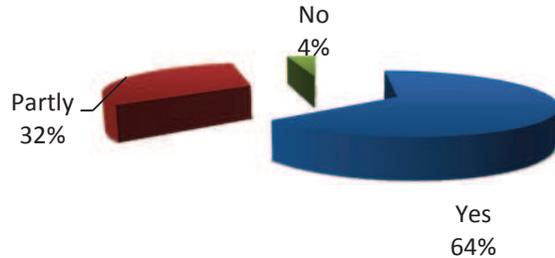
**- Would you agree to participate in the implementation of e-learning as a new way of educating ?**



More than a half of the teachers 69% answer with **YES**. This show that despite the differences in ages they believe

that the future for the Macedonian education system is in the e-learning. Again 27% of them answer with partly, this number is also connected with the factor (age difference), and only 4% answer with **NO**.

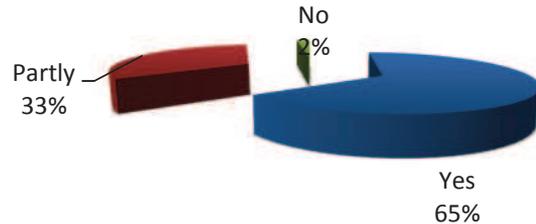
**- Do you think such a system of educational courses, trainings, and web seminars would contribute to more successful organization, implementation and planning in the teaching plan?**



1/3 of the teachers answered with yes 64%, partly 32% and with no only 4%. This numbers also pointing to the answer of the question: is this the right time? - And the answer of this question is **YES**.

The research did not determine significant differences among the teachers' answers in relation with the observed factors (age differences and teaching area)

**- Do you think this educational system will bring positive financial savings, saving time, etc.?**

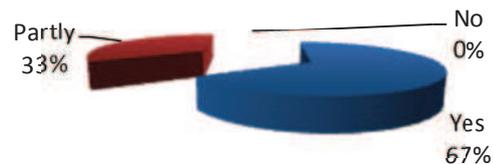


Teachers in more than 65% believe that this kind of educational system will have positive impact on the financial savings, either they are related with the place, fuel, time and other financial savings.

The research did not determine significant differences among the observed factor type of settlement of the school (urban rural also in the age differences).

**Questions for principles:**

**- Would you agree to implement e-learning in your school as a new way of education teachers?**

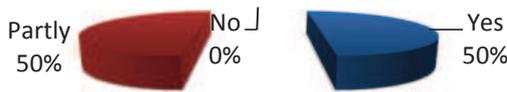


Four of six schools agree to implement e-learning like a new method for education teachers in their schools. Generally taken the overall results are good and promise positive future

for the e-learning system like a new kind of education in Republic of Macedonia.

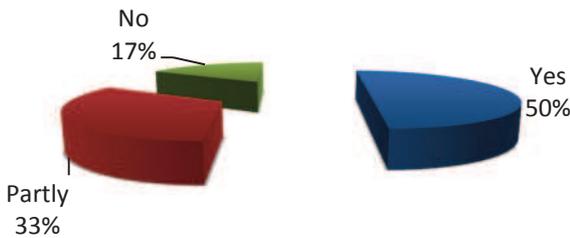
The research did not determine significant differences among the observed factor type of settlement of the school (urban rural).

**- Do you think that this educational system with on-line courses, trainings, web seminars would contribute to a more successful organization, implementation and planning of the teaching process ?**



50% answered with Yes an 50% answered with Partly. This is result that is showing that the conciseness for including the computers in the teaching process is "must" condition, and the system like the e-learning are one of the most important systems that one school must implement in their future plans.

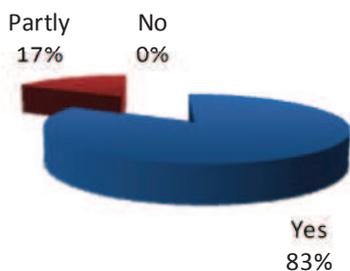
**- Do you think that this system will bring positive financial savings in your institution?**



Also taking the partly answers the percentage of acceptance for this project is over 83%. This number is so high of the financial condition that Republic of Macedonia is in, very high fuel cost, very high living expenses. This web academy with the scalability and the flexibility that is offering will solve ore of this problems and will bring positive financial saving in the institutions, and the new finance will be easily adoptable in the new e-learning system

And the last question that is included in this report is connected with the decision of implementing e-learning in their schools.

**- Would you include this system in your long term planning?**



There are few questions that are included in the complete research, we introduce only these few because of their importance for creating the major image about the e-learning in Republic of Macedonia and the need of implementing the Web Academy for professional development of the teachers in the primary and high schools in Macedonia.

### V. THE SOLUTION - WEB ACADEMY

The solution is the web academy for professional development for the teachers. Web academy is web based site or portal that have educational purposes.

Web academy is entry pint of a web site that contains a combination of information and services aimed at the visitor to provide him easily guided educational process and services like: we seminars, educational classrooms, web library, and multimedia classroom with or without instructor in them.

The teachers can enter the web site and use all possibilities offered by such a site. Basically the web academy is educational portal for distance learning in which members can participate in the educational process regardless of their geographical placement.

This web academy has a modular structure, every module has his own propose but all together they create the final picture for the solution that web academy will implement in the Macedonian educational system. Modular structure is allows the flexibility to upgrade the portal connecting to new modules.

**Module Login** – this module is used for login and registering new users to enter the web academy, also prevent unauthorized user to get into the web academy and take advantage of the possibilities that the web academy is offering.

**Module Latest News** – this module would be directly connected to the Ministry of Education and the Bureau for developing the education progress in Republic of Macedonia. This module will pull the latest news about the educational progress and the news that will be published including important dates, dates for web seminars, web conferences and other important news for the teachers.

**Module e-learning/teaching** – this is the most important module in the structure of the Web Academy. This module has a sub structure that is creating the e-learning process and the professional development for the teachers. In this module are the "multimedia classrooms, web seminars, web library. This module is the module that is offering variety of distance learning ways that will improve the educational system in Republic of Macedonia. Major clients in this module are the teachers and the instructors; here the educational process is taking place. The users update their knowledge and attend the required classes regardless of their geographical place.

**Module Professional File** – in this module are kept detailed records of each teacher. This module presents overall picture of the teacher, all his advances, all his achievements, advancements, certifications and directly can be performed control at any time at any teacher concerned at his qualifications.

The entire system is also designed to Walkthrough easily expended and upgraded.

## VI. CONCLUSION

Making this report gave us results that are directly connected with the actual picture of e-learning in Republic of Macedonia. From the above we can see that Republic of Macedonia is a country that is investing a lot in her educational system. We retrieve valid and reliable data on the actual state of this plan on in a specific area in the educational system, and prove that is a variety of numerous instruments and methods that can be applied for making the educational system more scalable and flexible for the new digital era. Web Academy as a way of e-learning is the beginning of the new digital era that need to be implemented in the Macedonian educational system if we want to keep up with the countries that are far more advanced in this section of the educational system. The numbers from the report prove that now is the perfect time to implements such system. The overall picture is helpful for further work and development of these systems, also early detected thee need to improve this solution is welcome, because now is a great moment for such fundamental research that can contribute a lot in our educational system. Macedonia is a country that offers huge potential and quality in terms of advanced technologies. The implementation of these technologies will provide us entrance in the elite of those who want to advance.

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