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USE OF E-LEARNING BY PUBLIC SECONDARY SCHOOLS IN THE REPUBLIC OF MACEDONIA

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Abstract: With the rapid technology development, today's educational systems are obliged to include ICT in the educational processes. Sangra et al (2012) states e-learning represents a broad combination of processes, content, and infrastructure to use computers and networks to improve necessary parts of the learning value chain. In that regard, during the last two decades in the Republic of Macedonia there has been a constant engagement and resource allocation related to the introduction of ICT in the education process. For this purpose, various projects have been implemented at all levels of learning and teaching. Some of the projects were boosted with international support but many other were supported by national relevant institutions aiming to become a digitalized society and entirely introduce ICT in the education sector. This way all necessary legal provisions were adopted, which is the case of adoption of the needed laws and national strategies to introduce this new concept and thus establish the path towards digital education. Moreover, all primary and secondary public schools in the country were equipped with computers, provided software tools for school subjects, organized trainings for teachers and offered interactive on-line teaching and interactive teaching and assessment methods. The idea of this study is to assess and see the overall situation of e-learning in the secondary education in the country, evaluate its use and reflect the actual situation of e-learning use by looking at different demographic categories.
Keywords: E-learning, E-learning contents, secondary schools, Republic of Macedonia

INTRODUCTION

With the rapid technology development, nowadays students have the opportunity to study online or use various technology tools in the education process. As Sangra et al (2012) states e-learning represents a broad combination of processes, content, and infrastructure to use computers and networks to improve necessary parts of the learning value chain. Many agree that e-learning contributes to the increase of the quality of learning experiences (Garrison, 2002). In this regard, relevant institutions of the Republic of Macedonia have put significant efforts to incorporate new technologies in the educational systems. During the past decade, all primary and secondary public schools in the country were equipped with computers, provided software tools for school subjects, organized trainings for teachers and offered interactive on-line teaching and interactive teaching and assessment methods. Bates (2005) considers that e-learning removes situational barriers whereas Kiget et al. (2014) consider that with the incorporation of e-learning, the cost and time of learning and regular delivery of knowledge and feedback is reduced.

E- LEARNING IN THE REPUBLIC OF MACEDONIA

Since 2002 many projects related to the digitalization of education system have been implemented. First, the legal provisions were adopted, like the adoption of necessary laws and national strategies to introduce the new concept. The Strategy for e-content development 2010-2015, the Strategy on education (2015-2020) and the overall strategy on education (2018-2025) are the most important national documents that establish the path towards digital education. Through many projects ("Computer for every child" provided 180,000 computers, the project for every student in RM to use Ubuntu desktops, Ubuntu OP in 160,000 virtual PC terminals and 20,000 PCs, 2007…) all schools in the country received ICT equipment, software and interactive on-line teaching methods and have ensured the conditions for efficient maintenance of computer equipment and computer networks. As Jovevski et al. (2016) state, the use of ICT in Macedonia is no longer a choice and represents a need for communicating, researching and changing the habits. MoISA converted almost all textbooks (expect those without copyrights) into the digital portal that can be of use for all relevant parties (Metamorphosis, 2011). Since 2007 the BDE has mapped the digital content into the curriculum by subject and level departments. This resulted in 513 subjects in 2009 prepared by the company Intel mostly related to science, however, this number is not considered sufficient and there is a need to augment the number and the quality of such contents (BDE, 2018).

METHODOLOGY

This study aimed to assess the situation of e-learning contents in all public secondary schools in RM. Specifically, out of 108 secondary schools included in the survey, 551 individuals responded positively. The target population for

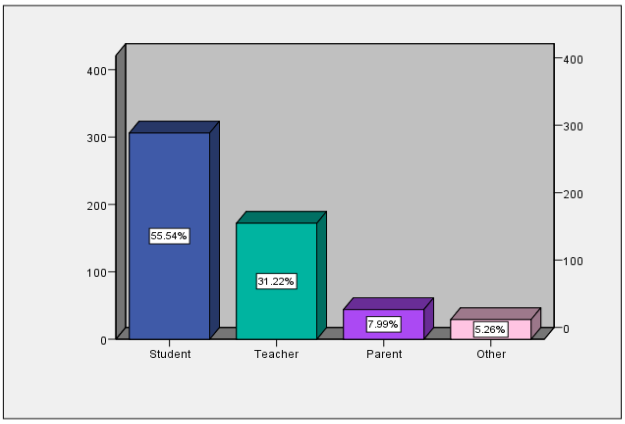
the survey included students of 1 to 4 grade of public secondary schools; professors, parents and others (ICT school administrators, employees of the schools). The target group was represented with 55.5%, teachers with 31.2%, parents with 8% and others with 4.9% of the total number.

RESULTS OF THE SURVEY PROCESS

User Profile

Target group included the following categories: students, teachers, parents and others like school administrators or persons somehow involved in e-learning in public secondary schools in the RM. Such a selection aimed to provide more accurate and comprehensive information about the subject. According to the data obtained and as presented in Figure 1, the number of teachers included in the survey was 172 (or 31.2% of the total number), students 306 (or 55.5% of the total number), parents 44 (or 8% of the total number), other 27 (or 4.9% of the total number).

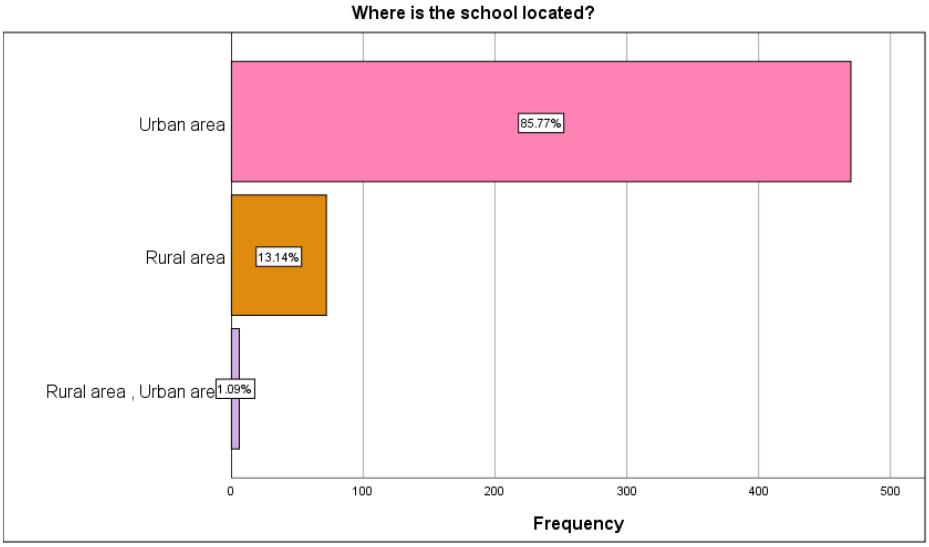
Figure 1: profile of users



Demographic Data

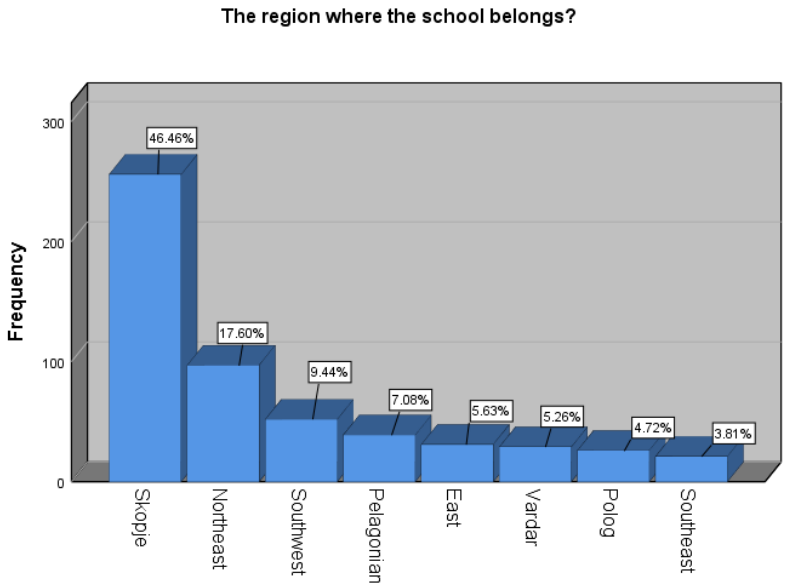
Obtained results from the survey demonstrated that the number of positive responses came from schools located in the cities with 473 (or 85.8% of the total number) while the representation of schools located in rural areas was 72 (or 13% of the total number), as illustrated in Figure 2. The results are not surprising, having in mind that schools located in rural areas are the ones mostly facing infrastructure problems and other existing challenges.

Figure 2: school location



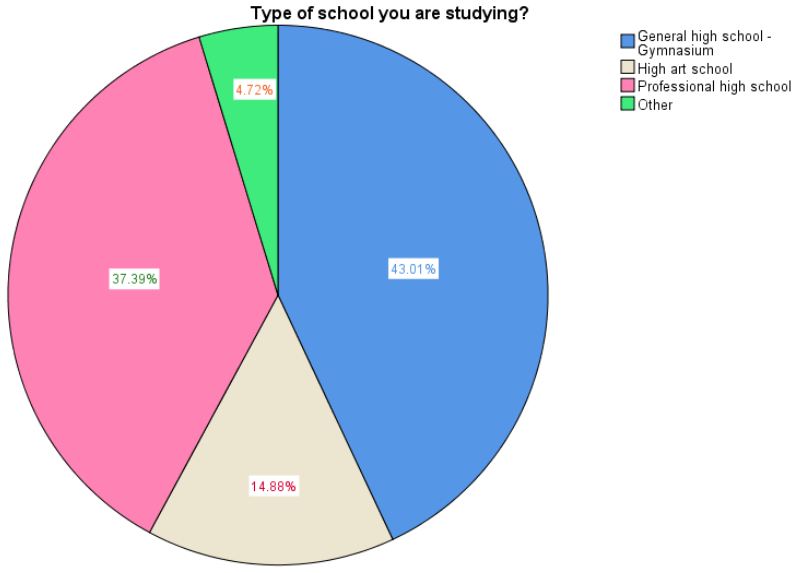
Official data of the State Statistical Office confirm that the number of secondary school's students in the Skopje region is more than double compared to other regions. As a consequence of that, the results as seen in Figure 3, showed that the Skopje region is the leading region with replies, with 256 (46.5%) replies, followed by the northeast with 97 (17.6%), then by the southwest with 52 replies (9.4%) and the southeast region is least represented with 21 replies (3.8%) according to administrative regions of the RM.

Figure 3: school representation by regions



Moreover, the results showed in Figure 4 demonstrated that the division of schools per type according to the Law on Education of the RM is presented in this research in the following order: general secondary schools- gymnasiums with 43.01%, technical secondary schools with 37.39%, and secondary art schools with 14.88% and vocational secondary school with 4.72%.

Figure 4: representation of type of secondary schools



CONCLUSIONS

Like in the rest of the world the introduction of e-learning became a reality in the RM. In line with the definitions of e-learning (Pain and Heron, 2003; Wagner et al. 2008; Jevremovic, 2009; Sangra et al, 2012…) which include a

broad combination of processes, content and infrastructure by using computers and networks to improve the learning process, management and delivery, in the last decade relevant institutions in RM have invested lots of efforts in transforming the education into a digital one. Consequently, many projects and initiatives, supported by various donor organisations and the government, were implemented throughout the country.

As pointed out by Lubis (2009) in developing countries, including the RM, education institutions are not able to decide on how to proceed with educational policies and trends, or more precisely, whether and how to introduce new trends of learning. The decisions mostly depend on government policies and decisions to facilitate the process of e-learning and their incorporation in the education sector. The government's decision to support projects related to e-learning resulted in equipment of schools with computers, followed by some interconnected investments in infrastructure and internet connection, as well as development of strategies related to e-learning, including different platforms and e-learning contents. This type of investments resulted positively in the initial introduction of e-learning concepts in the education sector in RM.

Speaking about school representation by location, the results demonstrated that secondary schools in the Republic of Macedonia that are located in urban areas are the most responsive ones, compared to schools located in rural areas. This could be due to the fact that schools located in urban areas are normally better equipped and prepared for e-learning, compared to rural areas which are believed to face various challenges in that regard. Moreover, most of projects implemented in regard to e-learning are usually concentrated in urban areas as urban schools normally possess better conditions, are better accessible, and probably have better infrastructure in place. Additionally, the region of Skopje is the one with larger outcomes which is expected as according to the data of State Statistical Office Skopje region counts more than double number of students compared to the other six administrative regions of the RM. Whereas use of e-learning in different type of schools corresponds to the number of students registered in different type of schools.

Therefore, from all of the above, it can be concluded that the obtained results have demonstrated the following: there is a presence of e-learning in secondary education in RM, however, the level of presence is not satisfactory despite the efforts made by policymakers in that regard. The presence of e-learning is not equally distributed among administrative regions, school location (urban/rural), type of schools and so on.

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