

THE PROFESSIONAL ADVANCED TRAINING OF EDUCATIONAL WORKERS BY MEANS OF E-LEARNING AND LIFELONG LEARNING

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Abstract: Modern technologies have been making progress in all socially significant domains, thus it is necessary for an individual to be computer-literate so that he can be in touch with novelties and innovations in his professional field. Beside the acquisition of knowledge and information important for professional competences, the use of modern technologies contributes to the better time organization of individuals. This is especially important for educational workers who are frequently exposed to stress due to the lack of time. In order to follow contemporary events related to their profession in the first place, educational workers have to receive advanced trainings throughout their lives. Lifelong learning has become the imperative of educational professions. The organization of accredited seminars, approved by the Bureau for Education improvement in Serbia, represents the aspects of professional advanced trainings where educational workers acquire new knowledge and competences. The largest number of trainings in Serbia has been performed in a traditional way, "Ex - cathedra", however, there is also a tendency for the organization of e-learning trainings by means of modern technologies. The goal of this research is to be determined whether kindergarten teachers, teachers and the teachers of subject teaching have accepted remote learning, which would strengthen their professional competences in a faster and simpler way. The sample has included 300 educational workers employed in preschool institutions and primary schools. The instrument which we have used to respond to the goals of this research was constructed. The research findings point to significant differences in educational workers' responses in regards to the gender, chronological age and working experience of respondents.

Key words: educational workers; e-learning; competences; lifelong learning and accredited trainings;

I. INTRODUCTORY CONSIDERATIONS

Distance learning is a customary form of knowledge acquisition in almost every field of social activities. Distance learning is a usual type of knowledge acquisition in almost every field of social activities. This type of learning has the wide diapason of possibilities. Some of the advantages are the costs reduction of schooling and traveling as well as the possibilities for an individual to learn at time and at pace that suits him. Additionally, this type of learning realizes the potentiality for respect and support of various styles of learning with every individual separately etc. (Petrović, 2009). In this context, besides economic benefits, the human aspect that relates to individual differences of separate persons with the respect of their right to lifelong education would also come to the fore. Lifelong learning expands the concept of education from the schooling of young people and adults to the informal education of adults, also including the experiential learning of young people and adults (Paustović, 2008). Educational workers in Serbia are offered the wide range of accredited training courses by the Institute for education improvement for the purpose of their lifelong education. These training courses aim to enable educational workers the acquisition of knowledge from various fields that is directly related to the novelties and innovations necessary for the realization of contemporary teaching, that is, of educational process (the ZUOV Catalogue,

2014) with priority fields and defined competencies which are acquired by the seminars participants. The accreditation of training courses for the lifelong learning of educational workers lasts for two years. After that period the training courses effects are reviewed and the ZUOV makes a decision on the accreditation of already existent seminars supplemented with new ones which meet the criteria of contemporary methods, forms and approaches in the realization of teaching and aimed activities in schools and kindergartens. Researches show that students – future educators, use contemporary learning methods and the preparation of pre-exam obligations (Janjić, Petković & Grujić, 2014; Vasiljević-Prodanović, Jeremić & Markov, 20117) which supports the importance of a modern technologies using in a significant social activity – higher education.

E-learning has proved the advantages in the sense of the learning access at time when it suits to an individual, although the cost savings achieved in that way are not negligible. By e-learning, the absence of employees with the aim of additional education, per diem expenses, material printing expenses, seminars organization expenses are discontinued or reduced to a minimum (Mikšin, 2002). This is significant for many reasons. First, a teacher finds it hard to set aside the funds for lifelong learning in accordance to financial income. In addition to this, the fact that teachers are able to plan their time in the way that they can use it for what they will be able to implement in practice and for what is in the sphere of their interest, is also important. Certain researchers believe that e-learning presents the combination of high-quality and progressive achievements of pedagogical technology. It is based on the principles of free learning using a computer in educational programs and of modern telecommunication. New internet technologies enable the use of various records which are combined in multimedia content and presented to students. The description of a technology development process that accompanied this form of learning is given in this work (Stojanović, Ilić & Mihajlović, 2012).

Distance learning is both a challenge and a means for the improvement and promotion of educational processes as well as one of the fundament for the new and better ways of knowledge managing. The intensive introduction of information technologies into educational processes has become the priority of modern institutions of higher education worldwide (Pokorni, 2009). Contemporary teaching can hardly be imagined without technological support today. It is common for preschool and school teachers to be educated throughout their lives and to give advantage to some aspects of e-learning compared to traditional learning since they are more accessible among other things. It must be noted that the enhancement of availability, the important characteristic of e-learning, is ethical by itself. However, it brings certain ethical risks and weaknesses. Taking into account that the expansion of e-education in recent years insinuates to an even higher share in the future, we realize that these issues must be identified. There are also following ethical dilemmas: the dilemma of a digital gap, the one of multiculturalism, the obligations of automation process learning, the dilemma of psychological distance, of identity, confidentiality and anonymity; of supervision and privacy; of academic fraud and the quality of education (Arsenijević & Pražić, 2012). In any case, new technologies and digital literacy can provide professional competencies to an individual since information exchange is becoming bigger every day so it is necessary that every individual be computer literate (Mikanović & Oljača 2010; Andevski & Arsenijević 2013; Arsenijević & Andevski 2016) Today it is almost impossible to imagine contemporary teaching without technological support. It is common for preschool teachers and professors to educate themselves during their lifetime and to give advantage to some aspects of e-learning, being more accessible among other things, comparing to traditional ones.

Some authors believe that teaching should also be adjusted to a distance learning concept and in that context, distance studies should be accredited. A small number of

academic programs from socio-humanistic and technical and technological science fields have been adjusted to distance learning until now (Matijašević-Obradović & Joksić, 2014). The reasons for this may be various. The traditional way of learning is still given advantage. However, we should bear in mind that in the world, distance learning has been used as compatible to the traditional one. However, many authors believe that the fast development of modern technologies leads to significant novelties on a global social level in all spheres, thus information should be reached quickly so that experts of various professions could be up to date with the latest achievements (Arsenijević & Pražić, 2012; Andevski & Arsenijević, 2013; Noe, 2010; Simpson, 2004). Considering that lifelong learning has been recognized as crucial one for knowledge society (Anđelković, Labrović & Milosavljević, 2015) thus in this context, personal learning environments should be considered as permanent, adaptive and developing, adjustable to various learning styles in different contexts and different periods of life. Thitherto, distance learning is becoming a possibility to find a way to include distance learning in everyday practice, to evaluate acquired knowledge in this manner and to acknowledge its contribution to a personal and professional development.

Work method

Sample

The sample included 300 kindergarten teachers, teachers and the teachers of subject teaching employed in preschool institutions, primary and secondary schools in Serbia (in towns: Kikinda, Belgrade, Novi Bečej and Zrenjanin). There are 163 respondents of female gender and 137 respondents of male gender. The value of Hy square test $\chi^2 = 2.253(p = 0.133)$ indicates that the sample is equable according to a gender parameter. Out of the total number of respondents, 162 respondents are younger than 40 years of life, while 138 respondents are older than 40 years of life. The value of Hi test square

$\chi^2 = 1.92(p = 0.165)$ indicates that the sample is equable according to the parameter of the chronological age of respondents. From the total number of 300 respondents, 159 respondents have less than 10 years of working experience in the profession, while 141 respondents have more than 10 years of working experience. The value of Hy square test $\chi^2 = 1.08 (p = 0.298)$ Points out that the sample is euable according to the length of working experience parameter. The total number of respondents according to the type of employment is following: 111 respondents are employed in preschool institutions as kindergarten teachers, 98 respondents are employed as teachers in primary schools, while 91 respondents are employed as the teachers of subject teaching in primary and secondary schools. We have not determined significant statistical differences according to the type of the respondents' ($\chi^2 = 2.06; df=2; p=0.357$).

Instruments and procedure

The research was conducted during May and June in 2016. The sample consisted of 300 preschool teachers, teachers and professors employed in preschool institutions, elementary and high schools (Kikinda, Belgrade, Novi Bečej and Zrenjanin). The questionnaire for the evaluation of preschool teachers' and professors' readiness to educate them via distance learning was constructed. The examinees had the possibility to encircle one of three offered answers: "yes", "sometimes" and "no". Respondents were offered the possibility to leave a comment with each assertion. These comments were analyzed in the results interpretation and used as the content of a statement and the degree and quality of an elaboration. A survey technique was used. The respondents sample is random. Educative workers were asked to answer the questionnaire constructed for the purpose of this work. Theoretical e-learning considerations constituted the basis for the development of the questionnaire, but a pilot research had previously been conducted in which basic questions

and possible answers were defined through interviews with 10 kindergarten teachers and 10 teachers. The questionnaire consisted from 5 questions of a general character – a gender, profession, the years of life, working experience in the profession, the place of residence. The second part of the questionnaire consisted of 15 clearly defined questions the purpose of which was to answer the research objective. Respondents had the opportunity to leave a short comment with each assertion.

II RESEARCH RESULTS AND DISCUSSION

This research was realized so that we could determine whether preschool teachers and professors familiar with the advantages of distance learning regarding lifelong learning. Solesa spoke on the potentialities of e-learning in the context of online courses in the function of teachers education improvement (Soleša, 2014), while some authors think that an educational process will not be successful if teaching and online courses attendants only receive information from available literature and electronic sources, but also the communication with a lecturer as well as the feedback on a student and the way of a work present the help and support in the mastering of educational contents (Pećanac, Sakač & Cvetićanin, 2013; Andevski, Vidaković, & Arsenijević, 2014). Therefore, the compatibility and combination of e-learning and a traditional way of learning help teachers to gather necessary information in order to concretize them in practice and also to have a critical reflection in relation to them. In that sense, the communication with information sources – knowledge and finding ideas so that teachers could concretize their creativity in pedagogical and educational process is necessary. The essence of lifelong learning is in the professional advanced training of a teacher and, above all, in teaching children and students with the aim of functional knowledge acquisition. Due to the fact that the number of users and media consumers frequently increases, we can expect changes from all competent authorities at the state level as well as from educational institutions concerning the purposeful, functional acquisition of media competencies and media literacy of young people and adults (Arsenijević & Andevski, 2013). Particularly, when it comes to distance learning, it is concluded that e-learning becomes a possibility for additional mandatory training courses concerning children with disabilities owing to various advantages for educational workers (Kojić, Kojić-Grandić & Markov, 2017). However, the results of this and similar researches should be also considered as a good base and guideline for the reconsideration of our own competencies, good and bad sides on an individual level.

Table 1. The respondents' answers on the advantages of distance training courses realization in regards to the respondents' profession

Profession type	f1	%	f2	%	f3	%	total			C
Kindergarten teachers	37	33.30%	33	29.70%	41	37%	111			
Teachers	55	56.12%	29	29.60%	14	14.28	98	27.804	0.000	0.29
Subject teachers	59	64.83	17	18.68%	15	16.49%	91			

By the insight in the Table 1., we conclude that the question *I am familiar with the advantages of a distance seminar realization* was answered by 37 (33.33%) kindergarten teachers with yes, 33 (29.70%) kindergarten teachers answered that they were partially familiar with the advantages of a distance seminar realization, while even 41 (37%) respondents answered that they were not familiar with the advantages of a distance seminar realization. Out of the total number of respondents, 55 (56.12%) respondents gave a positive answer, 29 (29.60%) respondents answered that they were partially familiar and 14 (14.28%)

respondents answered that they were not familiar with the advantages of a distance seminar realization. A positive answer was given by 59 (56.12%) subject teachers out of total, stressing that they were familiar with the advantages of a distance seminar realization in their comments, 17 (18.68%) subject teachers did not have a clear insight into the advantages and disadvantages of e-learning, while 15 (16.49%) subject teachers believed that they did not possess sufficient knowledge in this field and they were not aware of the advantages and disadvantages of e-learning. There is a significant statistical divergence in the respondents' answers ($\chi^2_{\text{test}} = 27.804$; $df=2$; $p=0.000$). The value of a contingency coefficient of $C=0.29$ indicates that the connection between observed phenomena is of low intensity. In their comments, the respondents stated that the concept of distance learning was not understandable enough and that they advocated the traditional way of training courses. Numerous authors have spoken about the advantages of distance training courses organization. They believe that the designers of these courses should introduce group activities that encourage the active participation of seminars attendants, since the activities will get their attention so that learning will be more effective and applicable in practice (Soleša, 2004) where online mentors should be capable of establishing the positive climate of support among participants.

Table 2. The respondents' answers to the compatibility of traditional and distance learning in regards to their profession.

Profession type	f1	%	f2	%	f3	%	total	χ^2_{test}	p	C
Kindergarten teachers	27	24.32%	35	31.53%	49	44.15%	111			
Teachers	36	36.73%	45	45.92%	17	17.35%	98	32.938	0.000	0.31
Subject teachers	46	50.55%	31	34.06%	14	16.49%	91			

By the insight in the Table 2., we ascertain that concerning the statement *I consider traditional and distance learning compatible*, 27 (24.32%) respondents think that traditional and distance learning are compatible, 35 (31.53%) respondents believe that they are sometimes compatible, while 49 (44.15%) think that they are not compatible and they give advantages to traditional way of learning and knowledge acquisition in comments. From the total number of teachers, 36 (36,73%) of them consider these learnings compatible, 45 (45.92%) teachers think that it is sometimes so, while 17 (17.35%) teachers give advantage to traditional learning. More than a half of the teachers of subject teaching, the total of 46 (50.55%), think that these two learnings permeate and that a contemporary educator needs to constantly upgrade and that distance learning offers such a possibility, 31 (34.06%) subject teachers think that these two types of learning complement each other, and 14 (15.39%) subject teachers believe that they are not compatible and they give advantage to traditional learning in comments. The value of Hi test square 32.938 ($p=0.000$; $df=4$) indicates to divergences in the respondents' answers, while the contingency coefficient of 0.31 points to the moderate connectivity amongst variables. The value of a contingency coefficient of $C=0.31$ indicates that the connection between observed phenomena is of low intensity. The research findings show that the awareness of subject teachers is about the significance of distance learning since with the development of knowledge technology, information increases daily, thus there is a need for distance learning so that educational workers could be competent for their profession. Many authors also speak of the need for lifelong learning in this context (Mikanović & Oljača, 2010) since informal education contributes to the development of an individual and the possibility to stay competitive in his work.

Some other researches that had been carried out within the Ministry of education of the Republic of Serbia projects (Mikšin, 2012) showed that e-learning had its advantages and disadvantages. The factors that have the most negative impact on the successfulness of e-

learning are: the deficiency of free time, fatigue and the ignorance of foreign languages. E-learning has proved the advantages in the terms of an approach to learning in time when it is convenient for an individual as well as the saving that is realized on that occasion. By means of e-learning, the absence of workers from work for the purpose of additional education, daily allowances costs, material printing costs, seminars organization costs etc. are abolished or minimized.

Table 3. The examinees' answers according to gender

items	yes		sometimes		no		χ^2_{test}	p
	f	m	f	m	f	m		
1.	72	38	63	50	28	49	15.596	0.000
2.	76	38	49	50	38	49	11.904	0.002

With an insight into the Table 3. we can state that 72 (24%) female examinees and 38 (12.66%) male examinees responded to the item *By attending the distance learning seminars I acquire professional competences that I apply in practice* with "yes". The total of 63 (21%) female examinees and 50 (16.66%) male examinees responded with "sometimes". The answer "no" was given by 28 (9.33%) female examinees and 49 (16.33%) examinees of a male gender.

The statement *I consider e-learning much more efficient in terms of knowledge acquisition at seminars in regards to traditional learning* was responded by 76 (25.33%) female examinees and 38 (12.66%) male examinees with "yes". "Sometimes" was responded by 49 (16.33%) female examinees and 50 (16.66%) male examinees. Negative answer was given by 38 (12.66%) female examinees and 49 (16.33%) male examinees.

By analyzing the results displayed in Table 1., we notice that there are differences in answers of male and female examinees at the question number one since the value of Hi test square is 11.904 ($p=0.002$).

From the total number of examinees, 162 are less than 40 years old, while 138 examinees are more than 40 years old. The value of Hi test square of $\chi^2 = 1.92$ ($p = 0.165$) indicates that the sample is equitable according to the chronological period.

Table 4. The examinees' answers according to chronological age

items	yes		sometimes		no		χ^2_{test}	p
	Up to 40	Above40	Up to 40	abv 40	Up to 40	abv 40		
1	66	45	54	37	42	56	7.272	0.002
2	67	46	57	34	38	58	12.04	0.002

With an insight into the Table 4., we notice that the statement *E-learning seminars enable teachers to significantly strengthen professional competences* 66 (22%) examinees below 40 years of life and 45 (15%) examinees older than 40 years of life, answered to the item with "yes". The total of 54 (18%) examinees below 40 years of life and 37 (12.33%) examinees above 40 years of life answered with "sometimes". The answer "no" was given by 42 (14%) examinees younger than 40 years and 56 (18.66%) examinees older than 40 years of life. The findings of the research carried out at the Faculty of Medicine in Nis show that age range did not have statistically important impact. A statistically important divergence in the taking of positive attitudes towards distance learning knowledge. A statistically significant divergence in the taking of positive attitudes towards distance learning among the medicine students of the first and sixth year of study was not found. (Stanković, Petrović & Milošević, 2015) thus we conclude that the results of this research are contrary to ours. However, we ascertain that the respondents of a younger chronological age better accept novelties, which, in this case is distance learning.

The statement *I am aware of e-learning advantages, because it enables me to follow novelties and innovative acts brought by fast technological development of the society and which are related to the development of my competences* was answered with “yes” by 67 (22.33%) examinees below 40 years of age and 46 (15.33%) examinees above 40 years of age. This question was answered with “sometimes” by 57 (19 %) examinees below 40 years of life and 34 (11.33%) examinees above 40 years of life. A negative answer was given by 38 (12.66%) examinees below 40 years of life and 58 (19.33%) examinees above 40 years of life. In their comments, the respondents specify that they are motivated to acquire new knowledge, since an educational system is being modernized and there is the need of daily novelties observing. The results comply with the findings (Miljković, Petojević & Žićović, 2015) where it is described the way motivation processes impact the course attendants from the standing point of knowledge absorbing, knowledge and skills transfer and usage in the distance learning system. The model of motivational processes is presented in the function of the learning goals of the course attendants. By the monitoring of a motivation factor influence on the execution of cognitive tasks and the way the course attendants’ reactions are formed, that is, how the motivation factor influences success or failure and the quality of a cognitive performance in a learning process, a methodical and didactical approach to teaching has been changed and modified. Implications in a practice and an intervention through the design of distance learning software system are directed to the correction of educational process to the noted incompatibility of motivational processes in learning environment or a professional training, following two forms of prior knowledge throughout the research.

Analyzing the results displayed in the Table 4., we notice that there are differences in the examinees’ answers to the first question regarding chronological age, since the value of the Hi test square is 12.04 ($p=0.002$) and to the second question because the value of the Hi test square is 11.904 ($p=0.002$). The results of the research that were carried out on the sample of 271 respondents showed that a gender did not have a statistically significant impact on the knowledge of distance learning. A statistically significant divergence in the taking of positive attitudes towards distance learning among the medicine students of the first and sixth year of study was not found. The impact of a gender on the taking a certain attitude was statistically significant. E-learning does not eliminate the existing learning methods, but it complements them and helps in the overcoming of curriculums (Al-Zoube & El-Seoud, 2009; Stanković, Petrović & Milošević, 2015), which is contrary to the results obtained in our research.

From the total number of 300 examinees, 159 examinees have less than 10 years working experience in the profession, while 141 examinees have more than 10 years in the profession. The value of the Hi test square of $\chi^2 = 1.08$ ($p = 0.298$) indicates that the sample according to the chronological age of examinees is equitable.

Table 5. The examinees’ answers according to the years of the working experience in profession

items	yes		sometimes		no		χ^2 test	p
	Up to 10	above 10	Up to 10	above 10	Up t 10	Abv 10		
1.	67	46	55	36	37	59	11.874	0.002

With an insight into the Table 5. We can ascertain that the statement *I consider e-learning to be much more efficient regarding the acquisition of new knowledge at seminars compared to traditional learning* was responded to by 67 (22.33%) examinees with less than 10 years of working experience in the profession and 46 (15.33%) examinees with more than 10 years of working experience with “yes”. The total number of 55 (18.33%) examinees with

less than 10 years of working experience in the profession and 36 (12 %) examinees with more than 10 years of working experience in the profession responded with “sometimes”. The answer “no” was given by 37 (12.33%) examinees with less than 10 years of experience in the profession and 59 (19.66%) examinees with more than 10 years of working experience in the profession. Analyzing the results displayed in the Table 3. We notice that there are differences in the answers to the question number 1 of the examinees with more and less than 10 years of working experience in the profession since the value of the Hi test square is 11.874 ($p=0.002$).

Authors also speak about the potentialities of distance training courses when they consider the trainings connected to children with disabilities (Kojić, Kojić-Grandić & Markov, 2017), as an inclusive process demands educational workers who are competent for inclusion, so that distance learning is considered to be able to provide the knowledge which will help educational workers to realize educational work with children with disabilities.

III. CONCLUSION

According to the research results we can state that differences in the examinees' answers appeared with 5 items in total. When it comes to a gender, the questions were: *By attending distance learning seminars, the professional competences that I apply in practice are acquired and I find e-learning much more effective considering knowledge acquisition comparing to traditional learning.*

Additionally, a larger number of female examinees believe that e-learning is more effective when it comes to seminars than traditional learning. The examinees of younger chronological age mostly answered the question: *E-learning seminars enable teachers to significantly strengthen professional competences and I am aware of the advantages of e-learning since they allow me to follow novelties and innovative activities brought by the fast technological development of society and which are related to my competences development.*

When it comes to working experience in the profession, the higher percentage of examinees with less working experience in practice responded with “yes” to the statement *I find e-learning much more efficient considering new knowledge acquisition at seminars comparing to traditional learning*, in comparison to the examinees with more working experience. By the insight in the site of the Institute for Education improvement of the Republic of Serbia, we can state that there are accredited online seminars; however, they are less present in comparison to traditional ones (The Institute for Education improvement of the Republic of Serbia catalogue <http://www.zuov.rs>).

This research encourages and gives the impetus for further researches that could indicate the advantages of e-learning concerning lifelong education. The idea of the introduction of novelties concerning accredited online seminars in the Rule book on professional advanced training of preschool teachers, teachers and associates may be born. *The rule book on constant professional specialization of subject teachers, kindergarten teachers and professional associates* (“The Official gazette of the RS”, no. 86/2015), since professional distance education is becoming a need so that an individual could be up to date when it comes to his competencies (Milosavljević & Vukanović 2000), as lifelong learning include all the formal and informal activities the goal of which is knowledge advancement and the development of various competencies (Mikanović & Oljača, 2010), thus when it comes to accredited training courses, lifelong and distance learning can be used for the improvement of educational workers competencies. After formal education, learning is continued through various aspects. Insufficient awareness must not be an excuse for educational workers concerning lifelong education and the possibility for education via modern technologies after completed studies. Electronic learning is a young phenomenon, actual in the world and in our country for the last twenty years. This phenomena has been

conditioned by the amazingly fast and great development of computers and internet technologies that influence the change of learning and teaching concepts, changing a view to a contemporary educational technology. Their acting transfers the learning from a school system to lifelong learning (Petrović, 2009:263). Therefore, by the synergy of an active participation in accredited seminars, knowledge acquisition via informal approaches, using modern technologies etc as the aspects of lifelong learning, educational workers can follow contemporary happenings in the 21st century and to satisfy all the competences needed for the high-quality teaching of the youth from preschool to adolescent age. We believe that all researches which awake awareness to students – future educational workers of the necessity of lifelong learning have positive effects on the professional responsibility of future educational workers because they are aware that by the establishment of employment they just start the upgrade of the base they achieved by the basic studies completion. That is the reason why students – future kindergarten teachers should be encouraged from the first year of studies to lifelong learning aspect and the attendance of accredited seminars and other forms of training courses. Educational workers need to react quickly in certain pedagogical situations and that is where the management of knowledge, skills and information can help them. One should bear in mind that operating takes place at the speed of the thought (Gates & Hemingway, 2001) so that educational workers have to be up to date in order to be able to answer contemporary pedagogical tendencies requirements. In this sense, there is a need to clarify a fact to educational workers that traditional learning and the learning via modern technologies are compatible and that information is important for the quality of their profession much easier and more accessible to contemporary technologies. This research presents an inducement for investigators. How and in which way can stereotypes with educational workers who give advantage to traditional way and the knowledge acquisition in classical way, be repressed.

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