Edu World 2016
7th International Conference

THE IDENTIFICATION OF THE NEEDS OF TEACHERS` TRAINING FOR ICT

Aida Cornelia Stoian (a)*

* Corresponding author

(a) University of Craiova, Craiova, Romania, aidda1977@yahoo.com

Abstract

It requires major changes in the processes of learning and assessment of pupils' achievements in order to meet the requirements of contemporary society. In this research study we presented the current approaches of the learning and evaluative issue in its transition from the face-to-face organizing to the utilization of the informatics technology in blended learning activities. We also have in mind: the identification of the teachers' training needs in secondary education in order to develop their skills to use digital materials, promoting the mobile learning, as well as the individualization of the forming sources, beneficial to the development of the teachers' skills related to the length of activity. The research was applied to a sample of teachers in urban and rural teaching areas. They answered to the applied questionnaire items in order to study the relationship between variables. The research results have shown teachers' adherence to participate to various activities of training in order to develop the skills to use the information technology in teaching activities, as well as the identifying of training sources beneficial to the development of these skills.

Keywords: Information technology; mobile learning; blended learning; teachers` forming sources.

1. Introduction

The idea of this study is to analyze the influence of the environmental factor and of the one of seniority in teaching activity on the training needs of teachers in order to use digital materials in the educational activity.

In this research study we have proposed to demonstrate that the teachers' training is very important in its passing from non - digital to digital learning and adopting new learning methods which

are complementary to the traditional ones, which can improve the aspect quality of the educational process.

It's important to regard the teachers' training as part of European curriculum's field, having the purpose of creating a methodological framework of reference, in order to generate quality training programs, and to eventually generate good educational practices as part of European curriculum's activities of planning and implementation (Bunăiaşu, 2014).

2. Problem Statement

Many schools from different countries has adopted communication and technological computerization implementing various ideas which have determined the intensification of learning process, while pupils, teachers and parents are agree that ICT has generated a positive impact in learning.

Many research studies has analyzed the learning process in web environment, individualization of learning (Papanikolaou et al., 2003) improving the educational environment in order to answer the different needs of learning or collaborative learning (Rosatelli, & Self, 2004).

Proposing various dialogues and actions, facilitating students' learning, supporting learning in communication and collaboration activities or assessment (Conejo et al., 2004; Sung et al., 2005) offer opportunities for pupils to identify what they have already learnt or they will learn and also for the teachers to manage the assessment process.

Mobile learning refers to using mobile services and wireless to produce learning on the move. As instruments of mobile learning we can mention: mobile phone, smart phone, palmtops, portable PC, PC tablets, personal laptops and media players used for this purpose (Kukulska-Hulme, & Traxler, 2005). With the help of all these instruments a new culture is formed in the educational process.

"One that can offer the possibility of instant access to information regarding almost any topic, that is connecting the people across the planet, bringing, in the same time, education closer to home. For the first time in the history of humanity, every act of communication has the potential of developing into an activity of education" (Strungă, 2015, p. 466).

"Blended learning"- term represents a combination between internet – based learning and face-to-face learning (Bonk, & Graham, 2006; Kerres, & Witt, 2003; Rooney, 2003). In this learning environment there are developed some abilities for: messenger, tele-video conferencing, debate rooms, forums, e-mails, web abilities, which are very necessary in teaching career (Cuhadar, 2008).

3. Research Questions

General hypothesis

If we analyze the influence of environmental factor on training needs of teachers in school education and they relate to the length in their activity, then we can identify the training opportunities for teachers to use appropriate computer technology in teaching.

Special hypothesis:

1. If we analyze the impact of environmental factor on different sources of training, then we can identify which are the needs for teachers' training in order to develop their competences of using ITC in teaching.

2. If we study the relation between different sources of training with the length in activity, we can emphasize which are the training opportunities in using information technology in teaching for each segment of the investigated population.

4. Purpose of The Study

In this research project we have proposed the following objectives:

- Analysis the influence of environmental factors on training opportunities for teachers in order to use computer technology in teaching;
- Identifying the needs of teachers' training in school education in order to use computer technology in accordance with the length in activity.

5. Research Methods

5.1. The Sample

The sampling was stratified, including 328 teachers. The stratify has got as coordinates: the educational environment and the length in teaching.

The group of subjects is dispersed nationwide in 19 schools from different localities/places: Craiova, Bucharest, Alexandria, Bistreţ, Filiaşi, Dăbuleni, Bechet and Calafat.

The choice of schools and places/localities was balancing a balance between rural schools and urban ones.

5.2. Methods

Using the questionnaire survey method, we proposed to capture which are the teachers' training interests in state school education, both in urban and rural schools, in relation to their length in teaching, to develop the competences of using information technology in teaching.

5.3. Instruments

The questionnaire being the main instrument of our research, it determined the statistical analysis of data processing and interpretation provided during the entire study.

In order to process data from the research, we chose for sample program, IBM.SPS, version 21.

6. Findings

In order to study the relationship between teachers' option to participate in various forms of training for developing their digital competences and also the educational environment, we analyze in a comparative way the variables which represent training sources with the school environment variable.

The 81% urban and 66% rural teachers consider that training and specialization contribute to improve the use of information technology practices, allocating important values to the „exchange experience" variable, 72% urban teachers, 62% rural teachers.

We have also identified a significant relation between the „environment" variable and „literature" variable. Our intention is to demonstrate which environmental category (urban or rural) influences the teachers' option for this source of training.

We notice that the respondents in urban areas, 98%, consider that literature can improve training for effective use of information technology in teaching. They stand in opposition to this part of respondents in rural areas, who consider that this source of training doesn't improve at all the activity of teachers, 50% consider that literature can improve training.

Studying the relationship between teachers' option to participate in various forms of training to develop their digital competences and the length in teaching we can notice that trainings, specializations can improve in a large measure teachers' competences for: 50% (30-40 years), 52, 3% (15-20 years), 35,3% (6-10 years); largely for: 40% (10-15 years), 43,5% (20-30 years); in a moderate measure for: 53,8% (3-6 years).

Analysing the correspondence relation between literature and the length in teaching, we can notice that this source of training can improve the teachers' competences of using computer equipment and conducting mobile learning activities or communication in web technological environment very much/ in a large measure for: 65,8% (15-20 years), 58,3% (30- 40 years), 36,5% (20-30 years); largely for: 53,8% (6-10 years); in a moderate measure for: 71,1% (10-15 years), 47,1%(3-6 years).

Analysing the correspondence relation between exchange experience and the length in teaching, we can notice that this source of training can improve teachers' competences to use computer equipments and to conduct mobile learning or communication in web technological environment in a large measure for: 59,5% (15-20 years), 58,3% (30-40 years), 35,3% (6-10 years); largely for:100%(3-6 years), 53,3% (10-15 years), 42,4% (20-30 years).

Through the present study we analyzed in the first place the relationship between the opportunity to access various sources of training in order to improve the digital skills of teachers and the educational environment.

We found out that between school environment variable and literature variable, it establishes a significant correlation, the correlation coefficient „r" (Bravis Pearson) = 0,222 being at a threshold of significance of 0,000%, but between the same „environment" variable and „training" variable, that the exchange of experience, it is established an insignificant correlation „r" coefficient being of -0,005 at a threshold of significance of 0,925%, r= 0.032 at a threshold of 0,569%.

The correlation is significant between the „environment" and „literature" variables, with a coefficient located at a lower threshold of 0, 01%. We draw the conclusion that teachers' option to use literature as a source of information in the field of information technology in teaching is influenced by school environment where they are doing their activity.

The insignificant correlation which is established between the school environment variable and training variables, specializations, national and international conferences, exchange experience with colleagues, it is determined by the correlation threshold value bigger than 0, 01%. This fact shows that teachers' option to participate in training and exchange experiences with other colleagues it is not influenced by the environmental factor.

At this moment we are interested in finding out if our urban and rural respondents from urban and rural areas need training and exchange experience.

The scores recorded by respondents about the role of trainings and specializations (81% urban and 66% rural) point out that the exchange of experience is an important variable value (72% urban teachers, rural teachers 62%).

Both respondents in urban and rural areas are agree that the exchange experience contribute very much to the training and development of teachers.

As a conclusion, we can say that the respondents from urban and rural areas need trainings, specialization, conferences but also exchange experiences.

We have also analyzed the relationship between the "environment" variable and "literature" in order to demonstrate the influence of environmental educational class on teachers' training options.

The recorded scores show that 98% of the study respondents in urban areas are interested in the study of the specialty literature on digital teaching methodology. Unlike them, 50% of teachers in rural areas believe that literature can improve their training.

We have also identified that some teachers both in urban and rural areas weren't interested at all in the role of formative trainings, specializations and conferences. Other teachers weren't interested at all in exchange experience and other part of respondents in rural areas weren't interested in literature.

I considered that the motivation of teachers to participate in different trainings has a decisive role in the efficient use of information technology. So, I extended our research directing it to identify if teachers aren't interested in any form of professional development or they prefer other training sources to improve their competences in this field.

Therefore we looked at the relationship variable „ literature on training in using ICT in teaching" and the two variables „trainings, specializations" and „ exchange experience".

In the relationship between „literature" variable and „trainings" variable it is established a correlation coefficient „r"=0,584% found on a threshold of significance of 0,000%, which means that respondents who didn't prefer training by studying literature, they opted to source training through specializations, conferences and the respondents who didn't choose the second presented variable were the followers of the first variable.

In the relationship between „literature" and „exchange experience" it is established a correlation coefficient „r"=0,352%, found out on a threshold of significance of 0,000%, which means that respondents who didn't prefer training by studying literature, they opted to training through exchange experience, and the respondents who didn't choose the second presented variable, they were the followers of the first variable.
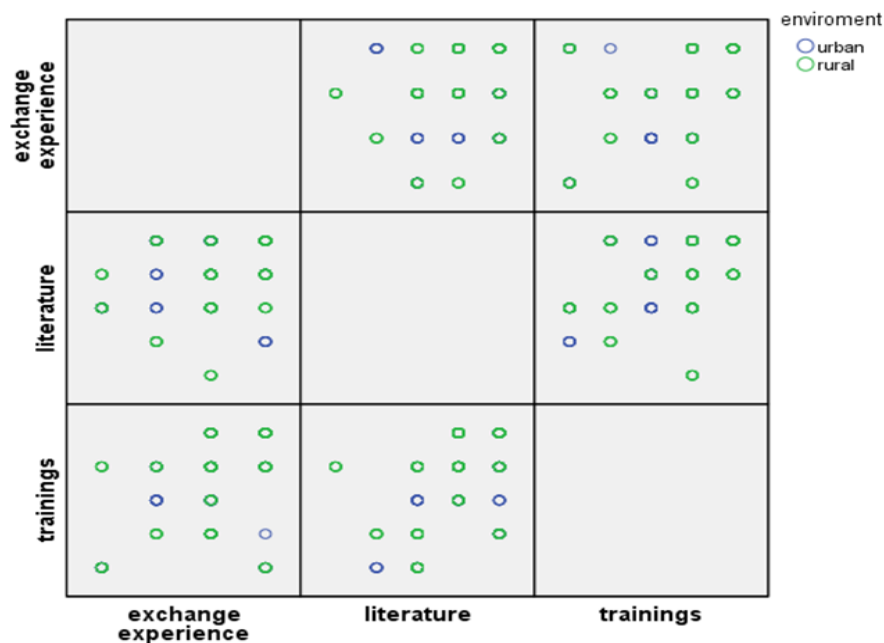
Fig. 1. Corespondent graphic between the training variables and the environmental variable

As a conclusion, we can say that both teachers in urban areas and teachers in rural areas need trainings, specializations and literature but also they need exchange experience to improve using the practice of information technology in teaching. We appreciate the teachers' interest from rural areas in all the three forms of training, but also variation option of those from the urban areas.

Another important analyse of our study is the relationship between teachers' option to participate in various forms of training to develop their digital competences and the length in teaching.

We propose to test if the length in teaching had an important role in teachers' option to participate in trainings in order to develop their competences of using computer equipments and conducting mobile learning activities or communication in web technological environment.

We can notice that this form of training is preferred most by those who had a vast experience in teaching, those with a length in teaching between 3-6 years, as recent graduates, are better informed about the new technologies in the working field.

We have noticed that this form of training (literature) is preferred by all the categories of age in teaching. Extreme scores were recorded to those with a length between 30-40 years. These, in a small percentage of 8,3% were the only ones who considered that literature doesn't contribute to their training.

Respondents represented teachers who were having a huge experience in teaching. This sample with a length in teaching of 30-40 years consider that they could better improve practices to use computer equipment and to conduct mobile learning activities or communication in web technological environment as a consequence of their participation in trainings, specializations, conferences.

The only respondents who considered that literature contributes in a small extent to training, are those with a length between 20-30 years.

We notice that all the categories of age consider exchange experience as being an important source of training in order to develop their digital competences: 59,5% (15-20 years), 58,3% (30-40 years), 35,3% (6-10 years); largely for:100%(3-6 years), 53,3% (10-15 years), 42,4% (20-30 years).

The exchange of experience is a source of training that aims the development and enhancement of human resources involved in the instructional - educational process to develop skills of teachers to use digital equipment.

7. Conclusions

The results of the research have shown the teachers' adherence to participate in training activities for the effective use of information technology in teaching.

The study has also initiated teachers to identify sources of training adapted to the needs of the individual and similar categories determined by the environmental factor and the length in teaching.

This study represents an important mark for the development of training programs to form and develop teachers' competences to use digital materials and to promote mobile learning and also internationalization learning.

The present study can be improved in the context of developing training programs based on sharing experience. To these we can identify the following needs:

- formation of teachers in order to ensure the transfer of non-digital to digital;

- increasing the efficiency and effectiveness instructive - educational process, following the development of digital skills;

- increasing of the European dimensions: cooperation, mobility, multilingualism, European information that restructures the profile of professional skills of teachers. They have in consideration to develop teaching career by adapting examples of good educational practices, offered by various training programs, to the level of their own organizational processes.

Also the development of digital skills training programs for teachers is a support for integration of digital technologies in the instructional - educational process by providing relevant benchmarks. Thus, it can run some workshops with teachers and students that will provide concrete examples of digital learning. In this respect, it can perform the following tasks: creating internet profiles, group and institutional email addresses, both for teachers and students; giving teachers access to international research platforms as EBSCO, Thomson-Reuters Web of Science, Science Direct; creating virtual communities as Mendeley for teachers; implementation of some networks to develop the learning management such as: Schoology, Canvas, Openclass or Edmodo.

References

Bonk, C. J. & Graham, C. R. (2006). *Handbook of blended learning: global perspectives, local designs*. San
Francisco: Pfeiffer Publishing.
Bunăiaşu, C. M. (2014). Strategic directions regarding trainers' instruction in the field of European
curriculum's planning and implementation. *Procedia - Social and Behavioral Sciences*, 116, 1121 – 1126.
Conejo, R.; Guzmán, E.; Millán, E.; Trella, M.; Pérez-De-La-Cruz, J., Ríos, A. (2004). SIETTE: A Web-Based
Tool for Adaptive Testing. *International Journal of Artificial Intelligence in Education*, 14, 29-61.

Cuhadar, C. (2008). *Improving interaction through blogs in a constructivist learning environment*. (Doctoral

Dissertation). Anadolu University. Graduate School of Educational Sciences.

Kerres, M. & C. De Witt. (2003). A didactical framework for the design of blended learning arrangements.

Journal of Education Media, 28 (2-3), 101-113.

Kukulska-Hulme, A. & Traxler, J. (2005). *Mobile Learning: A Handbook for Educators and Trainers*. London:

Routledge.

Papanikolaou, K.; Grigoriadou, M.; Kornilakis, H., Magoulas, G. (2003). Personalizing the interaction in a

webbased educational hypermedia system: the case of INSPIRE. *User-Modeling and User-Adapted Interaction.* 13 (3), 213-267.

Rooney, J. E. (2003). Blending learning opportunities to enhance educational programming and meetings. *Association Management*, 55(5), 26-32.

Rosatelli, M., Self, J. (2004). A collaborative case study system for distance learning. *International Journal*

of Artificial Intelligence in Education, 14, 97-125.

Strungă, A. (2015). Using virtual learning communities in shaping the professional identity of primary and

preschool pedagogy specialization students: a knowledge management approach. *Procedia - Social and Behavioral Sciences*, 180, 460 – 467.

Sung, Y-T.; Chang, K-E.; Chiou, S-K., Hou, H-T. (2005). The design and application of a web-based self- and

peer-assessment system. *Computers & Education*, 45, 187-202.