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ZBORNIK PRISPEVKOV
CONFERENCE PROCEEDINGS

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The Readiness of Teachers to Use ICT in Own Professional Development

POVZETEK - U ovom radu se raspravlja o spremnosti učitelja da koriste informaciono-komunikacionu tehnologiju (IKT) u sopstvenom profesionalnom razvoju na osnovu podataka kvalitativnog istraživanja dobijenih od pedeset osam učitelja zaposlenih u osnovnim školama na teritoriji Republike Srbije. Njihova spremnost da koriste IKT u sopstvenom profesionalnom razvoju razmatrana je kroz prizmu dva modela profesionalnog razvoja – modela zasnovanog na tradicionalnom korišćenju informaciono-komunikacione tehnologije i "modela umreženog profesionalnog razvoja". Nalazi ukazuju na potrebu promene paradigme u profesionalnom razvoju s obzirom da spremnost učitelja da koriste IKT u sopstvenom profesionalnom razvoju značajno varira s obzirom na: adekvatnu pripremljenost učitelja da koriste "model umreženog profesionalnog razvoja", kao i s obzirom na prepreke povezane sa materijalnom i tehničkom opremljenošću, nedostatkom vremena, kao i sa diskontinuiranim programima profesionalnog razvoja koji nisu zasnovani na potrebama za učenjem u savremenom društvu.

KEYWORDS: readiness of teachers to use ICT, professional development of teachers, networked professional development of teachers

ABSTRACT - This paper discusses teachers' readiness to use information and communication technology (ICT) in their own professional development, based on qualitative survey data obtained from fifty-eight elementary school teachers from the territory of the Republic of Serbia. Their readiness to use ICT in their own professional development was considered through the prism of two models of professional development – a model based on the traditional use of information and communication technology and a model of "networked professional development". The findings indicated the need to change the paradigm of teacher professional development for the reason that teachers' willingness to use ICT in their own professional development significantly varied with: teachers' adequate preparedness to use the model of "networked professional development", as well as with barriers related to material and technical equipment, lack of time, and with the discontinuous professional development programs that are not drawn up on the basis of the modern society learning needs.

1 Problem statement

Teachers' readiness for professional development can be viewed from a number of perspectives: in general, as a set of personality traits related to education and learning activities that can form the basis for professional development, that spans multiple levels (passive, elementary, conscious, and the active levels) and components (motivational, cognitive, technological, and the reflective components) (Semenikhina, & Yurchenko, 2016) as a psychological-andragogical phenomenon (Biktagirova, & Khitryuk, 2016; Hung, 2016; Knowles, Holton & Swanson, 2015; Terehoff, 2002), and specifically as a set of characteristics:

☐ that includes professional preparation, ICT training, and the context in which they are employed (Jones, 2001),

- ☐ integrated around cognitive components (technological, pedagogical, subject-related, and learning experience) that has multiple dimensions - psychological, sociological, environmental, human resource, financial, technological, equipment, content (Bonanno, 2011),
- ☐ integrated around different components - expertise, knowledge, and technical support (Tella, Tella, Toyobo et al., 2007).

Because its level is in accordance with the desire of adult person to learn and to became knowledgeable, readiness can be developed. "Adults have a readiness to learn those things that they need to know in order to cope effectively with real-life situations" (Knowles et al., 2015, p. 52), while the readiness of adult person to learn/ to develop themselves varies with his/her stage of lifespan development.

Teacher professional development is a dynamic developmental process of the active construction of knowledge in the educational context, which, if realized in a modern, global environment, requires the use of ICT (Hanraets, Hulsebosch & De Laat, 2011; Ovesni, Stanojević & Radović, 2019; Pettersson & Olofsson in Littlejohn et al., 2019). Two basic models of teacher's professional development that employ ICT are represented in literature – a model based on traditional use of ICT and a model of networked professional development.

A model of teacher's professional development based on traditional use of ICT was created for individual learning with reduced opportunities for interaction with other participants (information sharing by email, learning by using interactive platforms and discussion forums developed within them, webinars, etc.) and rarely involves structured forms.

The networked professional development model relies on a personal learning environment and personal educational networks. In this model, interaction between teachers is emphasized through collaboration during the learning process. The model can be labeled as andragogical because it emphasizes learner's participation in decision-making about content choice and speed of learning, synchronization / asynchronous access to learning content, and especially their self-directedness as an adult student. In that extensively structured model, attention is given to the critical thinking, self-regulatory strategies, to full involvement in the learning process, intrinsic motivation for engagement in the process of professional development, adaptation of activities to the teacher's needs, etc.

2 Methodology

The descriptive, qualitative research presented in this paper was focused on teachers' readiness to use information and communication technology in their own professional development, with main purpose to research teachers' readiness to use ICT in their own professional development. Therefore, we posed two basic questions: How

teachers express their readiness to use ICT in their own professional development? Which elements of the context of their professional engagement have major influence on their readiness to use ICT in their own professional development?

A structured interview was used in the process of data collection. Interviews lasted between 20 and 30 minutes, they b conducted in the school where teachers are employed or in a nearby convenient place. All interviews were audio recorded, and subsequently transcribed. Anonymity was guaranteed to interviewed teachers, so their full names are replaced by a random selection of names (from the list published on the website http://roditelji.edukacija.rs/imena-za-decu/). All transcribed interviews were independently reviewed by two researchers (RV and OK). Among them, there was agreement that all transcript should be included into the further analysis, and the key themes were identified.

Interview transcripts were subjected to thematic analysis and thematic grouping of data. Data encoding was performed in two cycles, while data collected in the first cycle were grouped into few subcategories: teacher's readiness to use ICT in their own professional development, teacher's preparedness to use ICT in their own professional development, and possession of ICT devices. In the second coding cycle, the findings were classified and then prioritized, integrated, synthesized, abstracted, and conceptualized.

Fifty-eight (55 female and three male) teachers from the territory of the Republic of Serbia participated in the interview. Twenty-four teachers work in Belgrade, twenty-four teachers work in the smaller towns, while ten teachers work in the villages. Age of 14 of them ranged from 31 to 40 years, for 31 teachers age ranged from 41 to 50 years, while for 13 of them age ranged from 51 to 60 years. Four of them have tenure less than 10 years, 20 teachers have tenure that ranged from 11 to 20 years, 30 teachers have tenure that ranged from 21 to 30 years, while four teachers have tenure longer than 30 years.

3 Results and Discussion

Within the first topic, which refers to the teacher's readiness to use ICT in their own professional development we identified four types of narratives. In the first group of narratives, based on their previous experience, teachers emphasized a strong willingness and readiness to use ICT in their own professional development (represented in the narratives of 39 teachers). Their narratives indicateS that teachers would be very pleased to participate in ICT training in their own professional development because of the knowledge that is based on their own experience, on conversations with colleagues who have such experience or because of knowledge that they acquired from other sources (e.g. professional literature) and point to the importance of the cognitive component of readiness to use ICT in their own professional development:

Marko: I have spent five days on professional training in Barcelona on the Erasmus project about the usage of ICT in professional teacher's training. Now, I try to transfer the acquired knowledge to colleagues both in my and in the other schools.

In the second types of narratives (n=30), teachers explain in more detail the cognitive component of readiness to use ICT in their own professional development. They emphasized:

□   diversity of methods and approaches (n=13):
Danijela: I am absolutely one of those who is for it because of the diversity of approaches, the diversity of methods, I am absolutely for it.

□   the necessity of using ICT in the modern world (n=12):
Magdalena: Nowadays it is necessary to apply ICT at every stage of learning. I mean it is not a question of whether you are ready or not, it is just that the system forces you to do such professional development and that is great.

□   interestingness (n=12)
Ljubica: I think I am very ready because the new technology helps job performance and makes work more dynamic and interesting.

□   progressiveness (n=11)
Zorica: I think that the usage of ICT in both professional development and teaching is good, it modernizes the traditional concept and support closer interaction between learner and content that is learned.

The third group of narratives indicates the saving of resources by using ICT in professional development of teachers (time and material resources that are necessary for participation in traditional professional development) (n=9).

Marica: Sure I am ready, even rather than having to go to attend seminars in person, because the new technology helps me in my work and makes it more dynamic and interesting. Great source of information in one place, that also saves a lot of time.

The fourth types of narratives is characterized by significantly smaller number of teachers who express unwillingness to use ICT in their own professional development (n=10), explaining it by unpreparedness due to their age or due to lack of resources (e.g. time, equipment) or family support.

Olivera: I am not well informed about the application of ICT in professional development of teachers, this is for younger colleagues, who are more knowledgeable.

Svetlana: For such training, a lot of time should be set aside after the end of the working day and outside the workplace, and that does not suit me. It all burdens my family.

Regarding the second topic, preparedness to use ICT in their own professional development, we identified three types of narratives. In the first group of narratives (n=30), teachers (14 of them work in Belgrade, 12 in smaller towns, and 4 in villages) assert that they are prepared to use ICT in their own professional develo-

pment, particularly for usage of networked professional development model. Within the second types of narratives (n=21), teachers (10 of them work in Belgrade, 9 in smaller towns, and 2 in villages) states that they are prepared to use ICT in their own professional development, but not for usage of personal learning environment and personal educational networks, that imply model of teacher's professional development based on traditional use of ICT. In the third types of narratives (n=30), teachers (3 of them work in smaller towns, and 4 in villages) state that they are not prepared to use ICT in their own professional development.

Considering the third topic, possession of ICT devices, we identified three types of narratives. The first type of narratives (n=30) is characterized by teacher's statements about full equipment with ICT (15 of them work in Belgrade, 13 in smaller towns, and 2 in villages). In the second group of narratives (n=8), teachers (5 of them work in Belgrade, 3 in smaller towns) assert that they have some equipment, but with certain weaknesses:

Danijela: Every start is wonderful, full of some big plans and ideas, but then of course comes reality, which brings breakdowns and then we have laptops, but we don't have chargers, we have notebooks that don't run on empty batteries, or we have slow internet.

Within the third types of narratives (n=20), teachers (4 of them work in Belgrade, 8 in smaller towns, and 8 in villages) states that they do not have necessary devices.

4 Conclusion

The findings indicated that in general, the teacher's readiness to use ICT in their own professional development is especially related to cognitive components (diversity of methods and approaches, the necessity of using ICT in the modern world, interestingness, progressiveness), but also, to some extent, with certain social and economic aspects (saving of resources), as well as with relevant andragogical aspects (professional preparation, ICT related training). High level of teacher's preparedness to use ICT in their own professional development (networked professional development model) is more prevalent in urban areas, while teacher's preparedness in rural and smaller urban communities rely merely on traditional forms and contents of professional development programs. In accordance with the teacher's preparedness to use ICT in their own professional development is also the possession of ICT devices, that in urban areas includes a wide range of devices and high-speed internet, while in rural areas teachers have, if any, very limited scope of such devices. It is also interesting that in some cases teachers have limited access to ICT devices, even though the school has them.

Obtained results open space for further methodologically more complex studies of the problem of teacher's readiness to use ICT in their own professional develo-

pment, and point out the need for more intensive investment in material / technical equipment of schools, more carefully pedagogically and andragogically designed extensive forms of teacher training for usage of the networked professional development model, and also, carefully targeted forms of informing school administration about the necessity of availability of ICT devices to all employees. Enhancing teacher's readiness to use ICT in their own professional development, especially networked professional development model, involves open access to ICT devices, provision of adequate professional development programs, as well as enhancement of teacher's cooperation through networked learning.

ACKNWLEDGEMENT

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