



# PROBLEMS AND PERSPECTIVES OF CONTEMPORARY EDUCATION

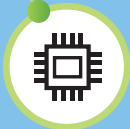
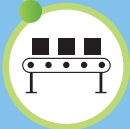


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Series  
„PEDAGOGICAL THEORY AND PRACTICE”

52



PROBLEMS AND PERSPECTIVES OF CONTEMPORARY EDUCATION

*Publisher*

Institute for Educational Research, Belgrade, Serbia

*Co-publishers*

Faculty of Philology, Peoples` Friendship University of Russia (RUDN University),  
Moscow, Russia

Faculty of Teacher Education, University of Belgrade, Belgrade, Serbia

*For publisher*

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*Cover design*

Branko CVETIĆ

*Typeset and printed by*

Kuća štampe plus

[www.stampanje.com](http://www.stampanje.com)

ISBN 978-86-7447-157-9

*Copies*

300

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# **PROBLEMS AND PERSPECTIVES OF CONTEMPORARY EDUCATION**

Editors

Nikoleta GUTVAJN

Jelena STANIŠIĆ

Vera RADOVIĆ

Belgrade  
2021.

INSTITUTE FOR EDUCATIONAL RESEARCH  
BELGRADE, SERBIA

FACULTY OF PHILOLOGY, PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
(RUDN UNIVERSITY), MOSCOW, RUSSIA

FACULTY OF TEACHER EDUCATION, UNIVERSITY OF BELGRADE  
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*Note. This book was funded by the Ministry of Education, Science and Technological Development  
of the Republic of Serbia (Contract No. 451-03-9/2021-14/200018).*

# THE PROBLEMS OF TEACHER'S PROFESSIONAL DEVELOPMENT IN ICT CONTEXT: AN ANDRAGOGICAL VIEW<sup>1</sup>

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Kristinka OVESNI

Faculty of Philosophy, University of Belgrade, Belgrade, Serbia

Vera RADOVIĆ

Teacher Education Faculty, University of Belgrade, Belgrade, Serbia

## INTRODUCTION

Teachers' professional development (TPD) is a continuous process, not an isolated, accidental act. While traditional TPD is fragmented, focused on unchangeable, existing circumstances, TPD in information communication technology (ICT) context is a complex set of activities, based on different strategies for building teachers' capacities related to changing professional environment (Borko, Jacobs, & Koellner, 2010; Churchill, King, & Fox, 2013; Radlović-Čubrilo, Lozanov-Crvenković, Obadović, & Segedinac, 2014). The ICT context, particularly through complex activities such as participation in collaborative webinars or web conferences, the usage of interactive platforms, open and massive open educational resources, or the creation and usage of a personal learning environment or personal educational networks provides stable support for such a complex, long-term process (Ovesni, Stanojević, & Radović, 2019). Several empirical research findings indicates that ICT context for professional development of teachers is valid, important source, complementary to traditional teacher's professional development context (Dede, Jass Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Powell & Bodur, 2019). TPD in ICT context overcomes issues that could be addressed in traditional activities of teachers' professional development i.e., time and cost efficiency, availability of

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<sup>1</sup> This research is part of the project "Models of evaluation and strategies for improvement of education quality in Serbia", No 179060 (2011–2021), financially supported by the Ministry of Education, Science and Technological Development, Republic of Serbia.

different resources, continuing support, and guidance (Dede et al., 2009; Park, Johnson, Vath, Kubitskey, & Fishman, 2013).

Recent studies highlighted differentiation of features and issues in TPD in traditional and ICT context related to: structure and orientation of developmental/learning activities, content, formats, curation, locus of control, motivation, undesirable behavior, and convenience for period of crisis and uncertainty. Mainly grounded in pedagogy, TPD performed in traditional context is, in general, focused on structured, just-in-case learning activities which address teachers to the learning content that they could need in the future. As an alternative, TPD in ICT context, based on andragogy, considers teachers as adult, self-directed learners, while regarding TPD activities in the same context, it may be assumed that they could be structured or unstructured, focused on both, just-in-case and/or just-in-time learning, with possibilities for transformative learning and critical reflection (Beavers, 2009; Borko, Jacobs, & Koellner, 2010; DuBois, Krasny, & Russ, 2019; Dede et al., 2009; Louws, Meirink, Van Veen, & Van Driel, 2017; Schugurensky, 2000). Correspondingly, ICT context provides intertwined space for individual and group learning based on actual or future needs (Lay, Allman, Cutri, & Kimmons, 2020). Some studies revealed that during developmental/learning activities in ICT context teachers incidentally learn about ICT tools, develop skills related to digital literacy, or develop closer and more intensive engagement with the format, content, and tools used in ICT context (Erickson, Noonan, & McCall, 2012; Lay et al., 2020). Moreover, the commitment to professional development in the ICT context for teachers is both a reflection and a means of shaping their professional reality (Torphy, Liu, Hu, & Chen, 2020) that makes them familiar with new technologies and comfortable enough for free participation in different TPD activities in the online environment (Park et al., 2013). In periods of crisis and uncertainty ICT context for TPD provide more opportunity than context for traditional professional development (Lay et al., 2020).

Instructional effectiveness of teachers' professional development activities in traditional and in ICT context is same (Dede et al., 2009; Powell & Bodur, 2019; Sujo de Montes & Gonzales, 2000; Torphy, et al., 2020). When comparing ICT contextualized or traditional learning outcomes of teacher professional development activities no significant differences were found (Sujo de Montes & Gonzales, 2000; Torphy, et al., 2020). Teachers report that professional developmental activities in



ICT context are valid, relevant, useful, authentic and that they provide collaboration and interaction like traditional ones (Powell & Bodur, 2019).

Teachers, as self-directed adult learners, prefer different learning contents and formats. The main characteristic of TPD content in both, traditional and ICT context are that it should be situated in practice and subject-focused (Borko, Jacobs, & Koellner, 2010). Although similar to traditional environment regarding learning content (DuBois, Krasny, & Russ, 2019), in which content is regulated by authorities, TPD in ICT context, where content is regulated by teachers and/or by persons with an intellectual property license, gives more room to the teachers to perform the role of content creators, not only the role of content consumers (Bonsignore, Hansen, Galyardt, Aleahmad, & Hargadon, 2011; Fischer, Fishman, & Schoenebeck, 2019; Philipsen, Tondeur, & Zhu, 2016). Aware that in traditional forms of professional development they do not receive the most current, relevant, and diverse content for them, teachers often decide to independently search for appropriate sources using ICT, and to participate in different online learning formats. Many of them notice that by using ICT they learn more than in traditional forms of professional development and prevent the obsolescence of the knowledge they already possess. Besides, teachers report that by using ICT they can freely and accurately choose the content they want to learn about. While many researchers agree that most of traditional TPD programs are not of high quality, because they offer "fragmented, intellectually superficial" seminars, courses, and workshops (Borko, 2004; Shaha, Glassett, Copas, & Huddleston, 2016), some of them report that a high percentage of teachers anticipate with enthusiasm the wide array of TPD offers in ICT context, which include: digital libraries, web-based virtual learning environments, and online and electronic conferencing features (Borko, Jacobs, & Koellner, 2010). Among the most popular formats of TPD in ICT context are online discussion forums, chat rooms, bulletin boards, online courses, web-meetings, web-workshops, (collaborative) webinars, interactive platforms, personal educational networks, open educational resources, and massive open educational resources (Borko, Jacobs, & Koellner, 2010; Ovesni, Stanojević, & Radović, 2019; Park et al., 2013).

Besides supporting improvement of teaching practices, TPD in ICT context facilitates the diffusion of instructional resources, information, and advice (Carpenter & Krutka, 2014; Wang, Liu, & Parker, 2020), encourages social collegial ties, peer-to-peer or professional curation, and serves as a venue to bring teachers to each

other (Torphy, et al., 2020). In traditional TPD context, the curation is grounded on cognitive, social, and teaching roles, applied in professional development activities through categories of design and organization, facilitation of discourses, and information exchange (Park et al., 2013; Powell & Bodur, 2019). The curation in traditional TPD context is, in general, formal, assertive, individually oriented, and professionally based; at the other hand curation in ICT context for TPD is informal, supportive, individually, group-oriented, peer-to-peer, or professionally based (Kelly & Antonio, 2016; Park et al., 2013; Philipsen, Tondeur, & Zhu, 2016; Powell & Bodur, 2019). Along with the potential for engaging teachers in rich and ongoing reflections on their practice, online formats of TPD offer possibilities for complex, individualized guidance, challenge, and support within online communities (Borko, Jacobs, & Koellner, 2010; Dede et al., 2009; Park et al., 2013). By using ICT in their own professional development, teachers develop intensive communication and cooperation with colleagues and believe that usage of ICT helps them to learn to share knowledge with other colleagues without fear that they will lose some potential benefits. Furthermore, based on analysis of findings from several studies, Fischer and associates (2019) indicate that “online communities have potential to provide positive and supportive learning environment that promote collaboration, foster the development of professional identities, and potentially reduce isolation” (pp. 4). In addition, DuBois and associates (2019) report that throughout TPD in ICT context, teachers use open communication and share resources to build knowledge and to support each other, that that is clarified by the participatory nature of online TPD (Liu, Miller, & Jahng, 2016; Louws et al., 2017). Particularly, in the period of crisis and uncertainty i.e., in the circumstances of the COVID-19 pandemic, TPD in ICT context revealed that related support is crucial (Lay et al., 2020).

While in traditional TPD locus of control is external, related to authorities, in TPD in ICT context locus of control is internal, related to teachers' community or to the teachers themselves. Powell and Bodur (2019) asserted that such learning context “addressing teachers' individual professional learning needs” (pp. 21), because without any transformation it transfers traditional didactics and learning content into the new ICT environment, that is designed to be useful and user friendly, that is designed to ensure authenticity, to promote collaboration, and to enhance different forms of reflection. Teachers, therefore, perceive online TPD as a convenient, flexible learning space that gives them a sense of control (Powell

& Bodur, 2019). Taking control over goals, purposes, personal autonomy, and self-directedness in learning are significant characteristics of TPD in ICT context that imply necessity for an andragogical perspective regarding teachers' online learning for the purpose of their professional development (Louws et al., 2017; Ovesni, Stanojević, & Radović, 2019).

Another interesting, distinctive aspect of TPD in ICT context is motivation, that could depend on format, content, learning climate, and different incentives (Carpenter & Krutka, 2014; Ovesni, Hebib, & Radović, 2019). Some authors (Philipsen, Tondeur, & Zhu, 2016; Powell & Bodur, 2019; Torphy et al., 2020; Wang, Liu, & Parker, 2020) consider that motivation for participation in TPD in ICT context is intrinsic, while teachers' motivation in traditional learning environment is merely extrinsic. Otherwise, Louws and associates (2017), grounding their research on theory of self-determination, distinguished controlled and autonomous motivation for participation in TPD and found that teachers prefer ICT-specific programs due to the "current emphasis on learning through digital devices and multimedia" (pp. 179).

In brief, a literature review also summarizes that when they use ICT for professional development, teachers perform it at a pace and at a time that suits them (Borko, Jacobs, & Koellner, 2010; DuBois, Krasny, & Russ, 2019; Park et al., 2013; Philipsen, Tondeur, & Zhu, 2016). Some of authors (DuBois, Krasny, & Russ, 2019; Park et al., 2013; Wang, Liu, & Parker, 2020) consider that during this process, the spatial constraints between participants disappear, that gives them opportunity to socially interact and to learn a lot about colleagues from abroad, with whom they would probably not come into contact in traditional forms of training, as well as about their professional practice. Teacher usage of ICT in professional development shows many benefits: higher discretion, autonomy, independence, easier deductive reasoning, better understanding of pupils, timesaving, simultaneous performance of multiple tasks, relaxing and resting from routine activities, mutual assistance, and supportiveness.

However, certain limitations of teachers' usage of ICT in professional development (lack of direct communication, alienation, experience of some forms of cyber-bullying, aggressive behavior, incivility, etc.) were reported by researchers (Wang, Liu, & Parker, 2020). Several studies indices the more undesirable behavior of participants in the TPD in ICT environment (Carpenter, Willet, Koehler, & Greenhalgh, 2020). Park and associates (2013) referred to limitations related to

the learning climate, digital literacy, communication, and feedback. The foremost condition for teachers to join TPD in ICT context should be preparedness to use different formats of online learning. While in TPD in traditional contexts, facilitators spent a great amount of time to establish climate that support learning, in TPD activities realized in ICT context, the learning climate is pre-settled in the design of activities, but more inconsistent because it depends on many different factors (format, content, media, etc.). The lack of direct face-to-face communication during the process of learning in synchronous learning activities in ICT context could decrease the readiness of teachers to pose questions, to ask for more examples or clarifications, while in asynchronous learning activities, teachers could experience lack of detailed, explanatory feedback, or summarization of discussions.

## METHOD

The subject of the research is teachers' professional development in the information communication technology context. The research was aimed to explore teachers' perceptions of some features and to identify potential issues *related to usage/participation in different professional development activities* in ICT context. The null hypothesis, based on presented theoretical framework was: when performed in ICT context, TPD shows several distinctive features and issues.

*Sample and collection of data.* The data for quantitative analyses were collected online, from August to October 2020, on the population of teachers employed in primary schools in the Republic of Serbia. For this purpose, we used the Kwiksurveys application on the random sample of teachers (N=354) employed in several primary schools. Participation in the study was voluntary and anonymous in accordance with the ethical approval given by both researchers (KO and VR). The on-line questionnaires were distributed to 630 respondents. We received a total of 354 completed surveys, with a response rate of 56.2%.

*Independent variables.* The independent variables in this research are demographic variables and teachers' preparedness for usage of different formats of online learning. The demographic variables included age, gender, length of tenure, and place of residence (Table 1). Gender was measured and coded with women as 1, men as 2, and other as 3. We measured age by asking respondents

to indicate one of three response options ranging from 1 (18 to 30 years) to 4 (51 to 60 years). Length of tenure was measured by asking respondents to indicate one of five response options ranging from 1 (0 to 5 years) to 5 (more than 35 years). Place of residence was measured and coded with city as 1, town as 2, township as 3, and village as 4. Most subjects were female teachers (92.7%), from cities, with average age from 41 to 60 years, with average length of tenure from 26 to 35 years.

**Table 1.** Overview of the sample structure with respect to demographic variables

<b>gender</b>	<b>frequencies</b>	<b>Pct.</b>
women	328	92.7
men	26	7.3
other	0	0.0
Total	N=354	100.0%
<b>age</b>	<b>frequencies</b>	<b>Pct.</b>
18 to 30 years	84	23.7
31 to 40 years	76	21.5
41 to 50 years	75	21.2
51 to 60 years	119	33.6
Total	N=354	100.0%
<b>length of tenure</b>	<b>frequencies</b>	<b>Pct.</b>
0 to 5 years	83	23.4
6 to 15 years	97	27.4
16 to 25 years	49	13.8
26 to 35 years	104	29.4
more than 35 years	21	5.9
Total	N=354	100.0%
<b>place of residence</b>	<b>frequencies</b>	<b>Pct.</b>
city	239	67.5
town	60	16.9
township	27	7.6
village	28	7.9
Total	N=354	100.0%

A “yes–no” question was posed to obtain data about preparedness to use different formats of online learning. Answers distribution showed that preparedness

to use different formats of TPD in ICT context varies in the sample of teachers (Table 2). All teachers stated that they are familiar with usage of e-mail. Over 90 percent of teachers reported that they were prepared to use a personal learning environment and massive open educational resources, while over four-fifths of them were prepared to use open educational resources. A slightly lower percentage of teachers indicated that they were prepared to use personal learning networks to participate in collaborative webinars and web conferences, while only one third consider themselves prepared to use interactive platforms.

*Instruments.* A five-point modified Likert type scale with anchors ranging from 1 ("strongly disagree") to 5 ("strongly agree") was used for all measurement scales. Usage/participation in different professional development activities in ICT context was measured on a scale with seven items (Cronbach's  $\alpha = 0.63$ , Average Inter-Item Correlation:  $0.3 \leq 0.301 \leq 0.7$ ) related to the formats of online learning (collaborative webinars, interactive platforms, massive open educational resources, open educational resources, personal learning environment, personal learning networks, and web conferences). The presented theoretical framework provided a lens for examination of features and issues in TPD in ICT context and for development of a research instrument for the collection of data about relations to different features and issues of TPD in ICT context. The items in 33-items instrument (Cronbach's  $\alpha = 0.95$ , Average Inter-Item Correlation:  $0.3 \leq 0.380 \leq 0.7$ ) related to several characteristics (concerned learning – content, availability, time-saving, novelty of information, reduction of spatial limitation, etc.; social interaction with colleagues; private life constraints) and limitations of online TPD (cyber-bulling, different forms of unappropriated behavior, alienation). Both instruments had acceptable internal reliability coefficients, while the nominal values of item-total correlation were above 0.3 and below 0.7, which implies that all items correlate very well with the scale overall.

*Data Analyses Techniques and Procedures.* The data were analyzed using relevant statistical techniques and procedures. To obtain results for frequencies, percentage, means, standard deviations, intercorrelations, Cronbachs alpha, Average Inter-Item Correlation, and Canonical Correlation Analysis we used StatSoft Statistica 12 software.

**Table 2.** Distribution on the answers about preparedness for usage/participation in different professional development activities in ICT context

<b>e-mail</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	354	100.0%
not prepared for usage	0	0.0%
Total	N=354	100.0%
<b>collaborative webinars</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for participation	218	61.6%
not prepared for participation	136	38.4%
Total	N=354	100.0%
<b>web conferences</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for participation	211	59.6%
not prepared for participation	143	40.4%
Total	N=354	100.0%
<b>interactive platforms</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	119	33.6%
not prepared for usage	235	66.4%
Total	N=354	100.0%
<b>open educational resources</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	310	87.6%
not prepared for usage	44	12.4%
Total	N=354	100.0%
<b>massive open educational resources</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	328	92.7%
not prepared for usage	26	7.3%
Total	N=354	100.0%
<b>personal learning environment</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	347	98.0%
not prepared for usage	7	2.0%
Total	N=354	100.0%
<b>personal learning networks</b>	<b>frequencies</b>	<b>Pct.</b>
prepared for usage	256	72.3%
not prepared for usage	98	27.7%
Total	N=354	100.0%

## RESULTS

A canonical correlation test for features and issues related to usage/participation in different professional development activities in ICT context revealed that seven canonical correlations are significant (Table 3).

**Table 3.** Summary of canonical correlation analysis for features and issues related to usage/participation in different professional development activities in ICT context

Chi-Square Tests with Successive Roots Removed					
Cncl R	Cncl R2	$\chi^2$	df	p	$\Lambda$
0.684	0.468	929.562	264	0.000	0.061
0.645	0.416	720.297	224	0.000	0.114
0.629	0.396	541.867	186	0.000	0.196
0.550	0.302	374.695	150	0.000	0.323
0.533	0.284	255.308	116	0.000	0.463
0.398	0.158	144.521	84	0.000	0.647
0.381	0.145	87.365	54	0.003	0.769
0.318	0.101	35.422	26	0.103	0.899
<b>1<sup>st</sup> Cncl. variate (broadening knowledge)</b>					
	interactive platforms	0.667			
	web-meetings	0.551			
	personal educational networks	0.441			
<b>2<sup>nd</sup> Cncl. variate (experience of alienation and cyber-bulling)</b>					
	personal educational networks	0.766			
	personal learning environment	0.493			
	collaborative webinars	0.452			
<b>3<sup>rd</sup> Cncl. variate (no cyber-bulling experience)</b>					
	web-meetings	0.357			
<b>4<sup>th</sup> Cncl. variate (peer support)</b>					
	open educational resources	0.459			
<b>5<sup>th</sup> Cncl. variate (different advantages of ICT based TPD)</b>					
	massive open educational resources	0.704			
	open educational resources	0.673			
	personal learning environment	0.627			



collaborative webinars	0.378
interactive platforms	0.358
web-meetings	0.342
<b>6<sup>th</sup> Cncl. variate (lack of direct communication with moderators)</b>	
collaborative webinars	0.343
open educational resources	0.306
<b>7<sup>th</sup> Cncl. variate (enjoyment in activities)</b>	
massive open educational resources	-0.453
web-meetings	0.384
collaborative webinars	0.383
personal educational networks	-0.347
open educational resources	-0.313

By using the cutoff correlation of 0.3 to select variables for each variable set, we found that usage of interactive platforms, web-meetings, and personal educational networks in professional development correlated with teacher's perception about broadening knowledge through participation in TPD in ICT context, i.e., with their perception that everything they know about usage of ICT they learned alone, with the support of their colleagues, especially from abroad; that in ICT context they can learn more than in traditional learning/developmental activities, at a pace and at a time that suits them, while they perceive that spatial distance between participants in the process of learning fades away. The second canonical variate included teacher's usage of personal educational networks, personal learning environment, participation in collaborative webinars, and experience of alienation and cyber-bulling. This pair of canonical variates reveal that participation in complex activities of TPD in ICT context correlates with experience of cyber-bulling, uncivil or aggressive behavior of other participants in activity, absence of direct communication among participants, and between participants and the moderator of an activity. The third canonical variate included teachers' participation in web-meetings, and an absence of cyber-bulling experience; this canonical pair showed that teachers perceive that most web-meetings are without cyber-bulling.

The fourth canonical variate included usage of open educational resources in professional development and teachers' perception of peer support during these activities. The fifth canonical variate included usage of complex activities of TPD

in ICT context and their different advantages. This pair of canonical variates reveal that usage of massive open educational resources, open educational resources, personal learning environment, interactive platforms, and web-meetings supports the continuous professional development of teachers, helps them to save time, to feel independent, to choose contents of learning, makes learning easier and more accessible, enables teachers to gain insight into different practice, to be engaged into some other activities while they participate in activities of TPD in ICT context; also, this pair of canonical variates reveal that teachers perceive that participation in complex activities of TPD in ICT context could “overwhelmed” them with various information. The sixth canonical variate included the perception of teachers that participation in collaborative webinars and usage of open educational resources shows lack of direct communication with moderators of these activities. Finally, the seventh canonical variate included avoidance of some complex (massive open educational resources, open educational resources, personal educational networks) with simultaneous usage of common activities of TPD in ICT context (participation in web-meetings, and collaborative webinars) and the enjoyment associated with them.

## DISCUSSION

Based on obtained results, although the main features (broadening of knowledge, peer support, enjoyment in activities, different advantages of TPD) related to usage/participation in different professional development activities in ICT context seem like those that related to traditional TPD activities, they differ substantially. Interactive platforms, web-meetings, and personal educational networks for TPD are the joint space for co-creation of teaching-relevant knowledge between colleagues. Through critical reflection of new information, as creators and consumers of knowledge, teachers along with learning about their subject or pedagogy-related content, or about information communication technology (cognitive aspect), obtain relevant insight into different features of ICT context (social and emotional aspect), thus making their own interpretations, changing their own referential framework, and transforming themselves. Such complex transformation, e.g., changes in teachers' image about their colleagues, especially from abroad, who are ready to give them support to learn more than in traditional

learning/developmental activities, engages transformations in teacher's feelings, personality, and relationships to others. Besides, possibility to learn at a pace and in time that suits them intertwined with impression that spatial distance between participants in the process of online learning fade away add new dimension of a change in the locus of control (from external to internal) and self-directedness into TPD in ICT context.

Open educational resources for teachers, as a dynamic digital library and network with free access, is a community of teachers that are eager to create, use, adapt and disseminate teaching-relevant knowledge among colleagues, hence the obtained result that teachers who experienced the compassion of those who are creating and enriching this TPD online resource perceive intensive peer support is not surprising.

All formats of TPD in ICT context, as teachers noticed, promote self-directedness in teacher's online learning. Digital learning formats helps them to save time, to feel independent, to choose the content of learning, to make learning easier and more accessible, to enable them to gain insight into different practices, and also to perform multitasking, i.e. to be engaged simultaneously into some other activities, while they participate into activities of TPD in ICT context and to fully enjoy the learning experience.

Related to issues during TPD in ICT context, the finding on cyber-bullying is particularly interesting and complex. Teachers informed us that such a way of aggressive behavior occurs intensively during collaborative webinars, although it was not noticed during web-meetings.

The collaborative webinars are formats dominantly controlled moderator(s), with different levels of engagement of other participants. Due to the different factors (lack of skills, lack of knowledge from domains of andragogy, pedagogy, didactics, psychology, or because of some personal reasons, etc.) moderators are not capable to fully engage all participants of the webinar, or to prevent some of them to express aggressive behavior (to send insulting instant messages, to exclude someone from communication, to cyber-harass, or to cyberstalk someone). On the other hand, during web-meetings, rules are more precise, moderator makes decisions about the order of presentations, or about arrangements of speech (it is almost impossible for more than one person to speak at the same time), narratives could be regulated externally, therefore, it is not surprising that involvement in such online formats is not accompanied by cyber-bullying.

Another issue, that is also related to the format of online TPD is experience of alienation, especially in personal educational networks and personal learning environment, as mostly static online learning environment. The absence of guidance, full peer support, or possibility for interactive approach to learning materials and tools is a possible reason for partial engagement in learning activity, that could trigger experience of alienation. Alienation, in combination with feeling of being “overwhelmed” with various information that teachers expressed, and lack of direct communication with moderators could spark insecurity and drive teachers to leave or to avoid the learning activity.

## CONCLUSION

This research provided an insight into alternative to the traditional process of TPD by exploring some features and issues in teachers’ usage of/participation in different professional development activities in online context. Findings suggest that TPD in ICT context has the potential to fulfill some gaps in traditional TPD, and to intensively engage teachers in the process of learning and development related to their professional practice. The extensive, transformative potential of online learning and the development of teachers is of importance to pedagogists, andragogists, psychologists and all other experts involved in the creation, design, organization, and realization of the TPD process. In terms of practical implications, online TPD drives teachers to self-directed learning activities and opens space for them to learn more, and not only about subjects they teach, about pupils, didactics, their roles, or methods. From an andragogical and didactics standpoint, those activities make room for teachers and moderators to develop, and to nurture learning needs related to the planning and designing activities, along with needs to improve their knowledge about information communication technology, about society and teachers’ from abroad, about the possible impact of new knowledge, and about themselves as adult learners. Also, online TPD has potential to provoke teachers to learn more about assertive communication in ICT context, about Internet security and protection.

The main limitation of this research is methodological. Descriptive, quantitative design gave us insights into the problem. More complex approach that mix quantitative and qualitative design would lead researchers to a broader,

deeper understanding of the complex problem of TPD in ICT context. Albeit this research contributes to the sum of knowledge about TPD in ICT context that arise in the previous decade, it opens several streams of research questions: a set related to the nature of online learning, and especially of TPD; a set about different aspects of transformative and self-directed learning of teachers; a set tied to methods of knowledge creation and dissemination in online context; a set of research questions about Internet security and protection during TPD process. More insights into these problems, from different standpoints, besides andragogical and didactics perspective – pedagogical, psychological, sociological – would contribute.

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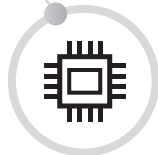
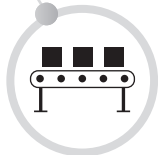
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# AUTHORS' BIOGRAPHIES

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### **Karina AVAGYAN**

PhD, is a linguist, Russian language teacher and translator, Center for Russian Studies, Faculty of Political Science, Belgrade, Serbia. Her fields of research are: cognitive linguistics, ethnic stereotype, contrastive analysis, conceptualisation, associative experiment.

E-mail: karinka2576@mail.ru

### **Sanja BLAGDANIĆ**

PhD, associate Professor of natural and social sciences teaching methodology and vice-dean for Scientific research at the Teacher Education Faculty, University of Belgrade. Her fields of research are: science and history teaching in primary education, pupils' misconceptions, and science literacy.

E-mail: sanja.blagdanic@uf.bg.ac.rs.

### **Marija BOŠNJAK STEPANOVIĆ**

PhD in early science education, associate professor at the Faculty of Education in Sombor, Serbia. Her fields of research are: inquiry-based learning, project-based learning, and science concept development.

E-mail: 96marija.bosnjak@gmail.com

### **Lidija BUKVIĆ BRANKOVIĆ**

MA, is a defectologist, PhD student at the University of Belgrade – Faculty of Special Education and Rehabilitation, Serbia. Her fields of research are: problem behaviour prevention, positive youth development, protective and risk factors in schools.

E-mail: lidija\_bukvic@yahoo.com

### **Ariunsanaa BYAMBAA**

PhD, is a microbiologist and a pedagogist, professor of the Department of Microbiology, School of Bio-Medicine, Mongolian National University of Medical Sciences, Ulaanbaatarm Mongolia. Her field of research is qualitative methodology in educational research.

E-mail: ariunsanaa.b@mnums.edu.mn.

### **Sonja ČOTAR KONRAD**

PhD, is a psychologist, associate professor of Psychology at the University of Primorska, Faculty of Education, Koper, Slovenia. Her fields of research are ICT in education, university teaching, teacher competence, and development of preschool children.

E-mail: sonja.cotarkonrad@upr.si

### **Ivana ĐERIĆ**

PhD, is a pedagogist, research associate at the Institute for Educational Research, Belgrade, Serbia. Her research interests are: reflexive practice in professional learning, project-based learning, student motivation and autonomy, and qualitative methodology in educational research.

E-mail: ivana.brestiv@gmail.com

### **Jelena ĐERMANOV**

PhD, associate professor of pedagogy, University of Novi Sad, Faculty of Philosophy, Department of Pedagogy, Serbia. Her fields of research are General and School pedagogy, Pedagogical Axiology (evaluation in education, interactions, communication and interpersonal relations in education, hidden curriculum, class and school climate, school culture).

E-mail: jdjer@ff.uns.ac.rs

### **Rajka ĐEVIĆ**

PhD, is a pedagogist, research associate at the Institute for Educational Research, Belgrade, Serbia. Her fields of research are: inclusive education, social relationships of students with developmental disabilities, teacher professional development, teaching methods.

E-mail: rajkadjevic@gmail.com

### **Maia GELASHVILI**

is a PhD student and research assistant at the Centre for International Higher Education, Boston College, USA. Her fields of research are quality assurance of higher education, international and comparative education, college teaching and assessment.

E-mail: gelashvi@bc.edu

### **Batbaatar GUNCHIN**

Academician Member of Mongolian Academy of Medical Sciences, Doctor of Philosophy Degree in Medicine; Vice president for Academic Affairs at the Mongolian National University of Medical Sciences; President of Mongolian National University of Medical Sciences, Ulaanbaatar, Mongolia. His fields of research are: education development, reference value of physiology, biochemistry, immunology in Mongols, improving medical service by advancing pre-graduate study for fundamental and medical microbiology for medical students and by updating residents and medical doctors in Mongolia.

E-mail: batbaatar@mnums.edu.mn

### **Nikoleta GUTVAJN**

PhD, senior research associate and director of the Institute for Educational Research, Belgrade, Serbia. Her fields of research are: identity, school underachievement, and qualitative methodology in educational research.

E-mail: gutvajnnikoleta@gmail.com

### **Ljeposava ILIJIC**

PhD, is a special education teacher, research fellow at the Institute of Criminological and Sociological research. Her fields of interest are a focus on criminological and penological issues, the problems of execution of the prison sentence, treatment and convicts, education and professional training of prisoners, and social reintegration of ex-offenders.

Email: lelalela\_bgd@yahoo.com

### **Tijana JOKIC ZORKIC**

psychologist, is a PhD student and a researcher at the Centre for Education Policy, Belgrade, Serbia. Her fields of research are inclusion and diversity in education, appropriation of education policy, qualitative methodology in educational research.

E-mail: tijana.z.jokic@gmail.com

### **Sergey KOKHAN**

Candidate of Medical Sciences, Associate Professor, director of the Regional Center for Inclusive Education, Transbaikal State University, Chita, Russia. His

fields of research are: inclusive education, psychological and pedagogical support of students with disabilities, the development of socio-cultural capabilities and adaptive sports, modern aspects of medical and social rehabilitation.

E-mail: ispsmed@mail.ru

### **Isidora KORAC**

PhD in Pedagogy and PhD in Teaching Methodology. Professor in the scientific field: Pedagogical and Didactic group of subjects at Preschool Teacher Training and Business Informatics College of Applied Studies Sirmium, Sremska Mitrovica, Serbia. Her fields of research are: school and preschool teacher's professional development, class/school and preschool climate, and aesthetic education.

E-mail: oisidora@gmail.com

### **Marina KOVAČEVIĆ LEPOJEVIĆ**

PhD, is a special education teacher, research associate at the Institute for Educational Research, Belgrade, Serbia. She participates in research projects related to students' behavioral problems, positive youth development, socioemotional learning, school, and family climate.

Email: marina.lepojevic@gmail.com

### **Witold KOWALSKI**

Professor WSG: The University of Economics in Bydgoszcz. The fields of his research are: the introduction of health-saving technologies among the younger generation and student youth, especially recreational opportunities that contribute to human longevity.

E-mail: wiciukow@interia.pl

### **Jason LAKER**

PhD, is a professor of counselor education at San José State University, California, USA; and Affiliated Research Faculty with the Center for Research and Education on Gender and Sexuality at San Francisco State University. His fields of research are: international and comparative higher education studies, counseling, student psychosocial development and support programs, and gender studies.

E-mail: jlaker.sjsu@gmail.com

### **Emilija LAZAREVIĆ**

PhD, is a defectologist speech therapist and defectologist for Education and Rehabilitation Hearing Disability Persons, Principal Research Fellow, Institute for Educational Research, Belgrade, Serbia. Her fields of research are: speech-language development, speech-language disorders, early literacy development, reading and writing disorders, specific learning disabilities.

E-mail: elazarevic@ipi.ac.rs

### **Dušica MALINIĆ**

is a research associate at the Institute for Educational Research, Belgrade, Serbia. She has a PhD in education from the University of Belgrade. Her research focus is the causes of students' academic failure, teachers' pedagogical and methodical competence, and leadership in education.

E-mail: malinic.dusica@gmail.com

### **Marija MALJKOVIĆ**

PhD, is a special education teacher, Assistant professor at the University of Belgrade – Faculty of Special Education and Rehabilitation. Her interests are focused on the fields of special education and rehabilitation, treatment of juvenile delinquents, systemic family therapy, addiction, and behavioral disorders.

Email: mara.maljkovic@gmail.com

### **Milica MARUŠIĆ JABLANOVIĆ**

is a psychologist and doctor of andragogy, senior research associate employed at the Institute of Educational Research in Belgrade, Serbia. Her fields of research interest are teacher education and career development, personal values, scientific and environmental education and literacy.

E-mail millica13@yahoo.com, milica.m.jablanovic@gmail.com

### **Olga MIKHAILOVA**

PhD, Assistant Professor of the Department of Psychology and Pedagogy, Faculty of Philology, Peoples' Friendship University of Russia (RUDN University), Moscow, Russia. Her fields of research are: personality development psychology, psychology of innovation, acmeology and adragogy.

E-mail: olga00241@yandex.ru; mikhaylova-ob@rudn.ru

### **Mihaylo MILOVANOVITCH**

is senior policy specialist for system change and lifelong learning with the European Training Foundation, Italy, and a pro-bono affiliate and education integrity expert for the Center for Applied Policy and Integrity, Bulgaria. His current work and publications focus on policy appropriation experiences in education, integrity of education policy and practice, and stakeholder-driven education policy improvement in countries of Eastern Europe, Central Asia and Northern Africa.

Email: mihaylo@policycenters.org

### **Snežana MIRKOV**

PhD, is a pedagogist, research associate at the Institute for Educational Research, Belgrade, Serbia. Her fields of interest are: different aspects of the learning process in academic settings (learning goals, learning strategies, self-regulation, epistemological beliefs), and their relations with the learning effects achieved in the teaching process.

E-mail: smirkov@ipi.ac.rs

### **Gordana MIŠČEVIĆ**

PhD, is a full professor in the field of social, environmental and scientific education (SESE) teaching methodology at the Teacher Education Faculty, University of Belgrade, Serbia. Her fields of research are: environmental education methodology, primary school teacher education (elementary science), preschool teacher education (elementary science), innovative models of work with children in the field of in elementary science, development of pupils' metacognition.

E-mail: gordana.miscevic@uf.bg.ac.rs

### **Kornelija MRNJAUS**

PhD, is associate professor at the University of Rijeka, Faculty of Humanities and Social Sciences, Department of Education, Rijeka, Croatia. Her fields of research are: vocational education and training, career counseling, values education, and intercultural education.

E-mail: kornelija.mrnjaus@uniri.hr

### **Andreas OIKONOMOU**

PhD, is a psychologist, associate professor of the Department of Education at the School of Pedagogical and Technological Education, Thessaloniki, Greece. His fields of research are: educational psychology, developmental psychology, teacher education, environmental education.

E-mail: aoikonomou@aspete.gr

### **Kristinka OVESNI**

PhD, is an andragogist, full-time professor at the Department for Pedagogy and Andragogy, Faculty of Philosophy, University of Belgrade, Serbia. Her fields of research are: human resource development, theories of adult learning, professional development, adult education planning.

E-mail: kovesni@gmail.com; kovesni@f.bg.ac.rs

### **Jelena PAVLOVIĆ**

assistant professor at the Department of Psychology, Faculty of Philosophy, University of Belgrade. Research interests: learning and development in organizations, coaching psychology, qualitative research methods.

Email: jelena.pavlovic@f.bg.ac.rs

### **Branislava POPOVIĆ-ĆITIĆ**

PhD, is a special pedagogist, full professor at the University of Belgrade – Faculty of Special Education and Rehabilitation, Serbia. Her fields of research are: prevention science, positive youth development and school-based prevention programs.

E-mail: popovb@eunet.rs

### **Vera RADOVIĆ**

PhD, is a pedagogist, associate professor at the Teacher Education Faculty, University of Belgrade, Serbia. Her fields of research are: general didactics, professional education, and development of teachers.

E-mail: vera.radovic@uf.bg.ac.rs

### **Elena ROMANOVA**

PhD, Associate professor in the Department of Physical Education, Altai State University, Russian Federation. Her fields of research are: Motivation of young people to engage in physical culture and sports, physical culture and sports at university, inclusive education, modern aspects of medical and social rehabilitation.

E-mail: romanovaev.2007@mail.ru

### **Mile SRBINOVSKI**

PhD, Associate Professor, Faculty of Technical Sciences, Mother Teresa University, Skopje, Republic of North Macedonia. His fields of research are: environmental education, education for sustainability, ecology, environmental protection, biology education.

E-mail: mile.srbinovski@unt.edu.mk

### **Jelena STANIŠIĆ**

PhD, is a pedagogist, research associate at the Institute for Educational Research, Belgrade, Serbia. The fields of her research are: environmental education, science study, teaching methods, and learning strategies.

E-mail: jstanisic@ipi.ac.rs

### **Jelena STEVANOVIĆ**

PhD, is a philologist, senior research associate in the Institute for Educational Research, Belgrade, Serbia. Her fields of research are: language culture/ language competence and functional literacy, Serbian language in primary and high school level, stylistics and orthography of Serbian language, critical literacy and theoretical and empirical research into textbooks.

E-mail: jelena.stevanovic.jelena@gmail.com

### **Danijela ŠĆEPANOVIĆ**

PhD, is Education Policy Analyst and Education Technologist working on research and developmental projects in the area of digital education. She works at the Ministry of Education, Science and Technological Development in Serbia. She is an evaluation expert for the H2020 research program and member of the European Commission ET 2020 Working Groups



related to Digital Education development since 2014 - Digital and Online Learning (2013-2015), Digital Skills and Competences (2015-2017), Digital Education, Learning, Teaching and Assessment (2018-2020).

E-mail: danijela.scepanovic@mpn.gov.rs

### **Tina ŠTEMBERGER**

PhD, is a pedagogist, associate professor of Educational Research and a vice dean research at the University of Primorska, Faculty of Education, Koper, Slovenia. Her fields of research are educational research, alternative research methods, teacher competence, and inclusion.

E-mail: tina.stemberger@upr.si

### **Milja VUJAČIĆ**

PhD, is a pedagogist, senior research associate at the Institute for Educational Research. Her fields of research are: inclusive education, teacher professional development, cooperative learning, school effectiveness.

E-mail: mvujacic@ipi.ac.rs

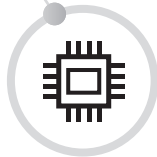
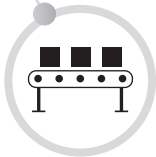
### **Janja ŽMAVC**

PhD, is a linguist, research associate, and the head of the Centre for discourse studies in education at the Educational Research Institute, Ljubljana, Slovenia. Her fields of research are: rhetoric, argumentation, classics, multilingualism, curriculum design, didactics, discourse in education.

E-mail: janja.zmavc@gmail.com

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CIP - Каталогизација у публикацији  
Народна библиотека Србије, Београд

37.014.3(100)(082)

37.091.33(082)

37.018.43:077]:37.091.12(082)

37.015:159.953.5(082)

316.624(082)

**PROBLEMS and perspectives of contemporary education** / editors Nikoleta Gutvajn, Jelena Stanišić, Vera Radović. - Beograd : Institute for Educational Research : Faculty of Teacher Education ; Moscow : Faculty of Philology, Peoples' Friendship University of Russia, 2021 (Beograd : Kuća štampe plus). - 445 str. : graf. prikazi ; 30 cm. - (Series Pedagogical theory and practice ; 52)

Tiraž 300. - Str. 9-20: Foreword / Nikoleta Gutvajn, Jelena Stanišić, Vera Radović.  
- Authors' biographies: str. 417-426. - Napomene i bibliografske reference uz tekst.  
- Bibliografija uz svaki rad. - Registar.

ISBN 978-86-7447-157-9 (IPI;)

1. Gutvajn, Nikoleta, 1974- [приређивач, сакупљач] [аутор додатног текста]
  2. Stanišić, Jelena, 1981- [приређивач, сакупљач] [аутор додатног текста]
  3. Radović, Vera Ž., 1972- [приређивач, сакупљач] [аутор додатног текста]
- а) Образовна политика -- У свету -- Зборници б) Настава -- Иновације -  
- Зборници в) Информациона технологија -- образовање на даљину -  
- Зборници г) Учење учења -- Зборници д) Дивијантно понашање -- Зборници

COBISS.SR-ID 46560777



## FROM REVIEWS

Main aim of the monograph titled *Problems and perspectives of contemporary education*, is to thorough explore, critically analyze and elaborate complex, dynamic, multilayers and reciprocal relationship between significant changes in educational social environment and readiness, of educational system to anticipate, recognize, understand and adequately respond to those challenges. All contributing authors enthusiastically embraced the notion that education presents an important and proactive agent of social changes and consequently accepted all challenges as an opportunity for improvement and development of both society and educational system.

**Professor Emeritus Djuradj Stakic**  
**Pennsylvania State University, USA**

The monograph is dedicated to looking into extremely significant and current concerns within educational policy and educational practice. The selected topic is viewed from the perspectives of contemporary theoretical approaches, but it is also empirically researched. A very large and relevant literature was used both for explaining the selected research subject and discussing the obtained results. A diverse, contemporary methodology was applied in researches, and the authors of works, starting from the existing results, analysed issues at a deeper level and illuminated some aspects that had not been studied thus far.

**Professor Marina Mikhailovna Mishina**  
**Russian State University for the Humanities, Russia**

The main topics covered by the monograph can be classified as traditional to some extent — related to approaches to learning, language culture etc., and modern — connected with the andragogical view, coaching in teacher training, also the problem of distance learning during the covid pandemic, and models for preventing problem behaviors...The main leitmotif that permeates the content of all presented articles is the topic of the development of key skills, attitudes, experience, creativity — by both subjects in the educational process, and it gives semantic integrity to the monograph.... In view of the new social realities, a reasonable emphasis is placed on the continuing education and development of the teachers themselves, dictated by the accelerated pace of social change.

**Professor Teodora Stoytcheva Stoeva**  
**University of Sofia „St. Kliment Ohridsky“, Bulgaria**

ISBN 978-86-7447-157-9

