University of Niš, Faculty of Education, Vranje, Serbia
University of Kragujevac, Faculty of Education, Jagodina, Serbia

Editors
Emina Kopas-Vukašinović and Aleksandar Stojadinović

THE STRATEGIC DIRECTIONS OF THE DEVELOPMENT AND IMPROVEMENT OF HIGHER EDUCATION QUALITY: CHALLENGES AND DILEMMAS

Proceedings of the International Conference
Vranje – Jagodina, November 6, 2020

MINISTRY OF EDUCATION, SCIENCE
AND TECHNOLOGICAL DEVELOPMENT
OF THE REPUBLIC OF SERBIA

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CONTENT

FOREWORD

The quality of higher education is determined by the strategic directions of its development within the system of institutional education in the Republic of Serbia. As specified by the *Strategy for the Development of Education in Serbia until 2020*, our higher education is viewed in the context of educational, scientific and artistic situation internationally. The quality of higher education determines the creation and transfer of scientific knowledge, as well as the development of scientific and professional competencies of those who teach and those who learn. Therefore, the quality of higher education is a continuous and current issue facing all its participants, in accordance with the needs of the economy and society, and with the aim of their overall progress in the Republic of Serbia.

Conference Proceeding entitled *The Strategic Directions of the Development and Improvement of Higher Education Quality: Challenges and Dilemmas,* presents the papers of the participants of the international scientific conference, which was supposed to be held in Vranje, on November 6, 2020.

Due to the specific situation we found ourselves in due to the Covid-19 pandemic, an online conference was organized on that day. The co-organizers of this conference are the Faculty of Education in Vranje, the University of Nis and the Faculty of Education in Jagodina, University of Kragujevac.

The conference was organized with the financial support of the Ministry of Education, Science and Technological Development of the Republic of Serbia. The goal of this conference was to provide modest contribution to the scientific understanding of the needs and possibilities for improving the quality of higher education. The authors of the published papers view the quality of higher education in the context of academic and professional work. These papers also partly present research that is the result of working on projects funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

The conference program committee of brought together university teachers and researchers from Canada, United Arab Emirates, Great Britain, Germany, Poland, Hungary, Slovenia, Croatia, Bulgaria, Greece, North Macedonia and the Republic of Serbia. Five plenary sessions and one experimental lecture were presented at the conference. Other authors and co-authors presented their papers in 2 sections:

1. Quality of higher education in the context of psychological and pedagogical theories on learning and development of preschool and school age children, as well as special education and rehabilitation;
2. Didactic and methodological aspects and digital technologies in the context of improving the quality of higher education.

A total of 40 authors and co-authors presented their papers at the conference. After the plenary sessions were completed, the papers, research activities and research results of other conference participants were presented in sections. After joint consideration of the presented results and discussion, in the final part of the conference, conclusions were determined and measures for improving the quality of higher education were proposed.

After mutual analysis of the presented results and discussion, in the final part of the conference, conclusions were drawn and measures for improving the quality of higher education were proposed. These measures include: 1. Finding opportunities to improve the teaching process and teacher competencies, by introducing new methods and information technology; 2. Curricula have to be improved with elements of research, content that improve the practical skills of graduates and encourage their initiative, innovation and entrepreneurship; 3. Encourage and support teachers, associates and students who are part of the system of university education to plan and implement practical research, which are the extension of the basic research, and which are the foundation for innovation in science and profession; 4. Finding opportunities for intra-university and inter-university connection and collaboration in order to improve the quality of higher education in the Republic of Serbia.

We would like to thank the Ministry of Education, Science and Technological Development of the Republic of Serbia, for the financial support to organize this conference. We would also like to thank the reviewers, who with their good will, and with a constructive and knowledgeable approach checked and reviewed the submitted papers, and then wrote reviews. We also wish to thank the members of the Program Committee and the Organizing Committee for their support and cooperation in the preparation of this international scientific conference. We would also like to thank all the other collaborators who, with their activities including proofreading and editing, technical preparation and publication cataloguing, holding the conference and technical support in its organization, made a significant contribution to the organization of the conference and preparation of this Conference Proceeding.

Editors

PLENARY SESSIONS

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PERCEPTIONS OF MATHEMATICS AND POSITIONING TOWARDS THE DISCIPLINE – PRE-SERVICE PRIMARY TEACHERS' ATTITUDES IN SERBIA

Snežana M. Lawrence*
Middlesex University, London, UK

Aleksandra M. Mihajlović
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Abstract: Teachers' attitudes and beliefs towards mathematics and mathematics teaching might have a significant influence on their instructional practices, the quality of teaching, but also pupils' achievement and attitudes towards the subject. Research indicates that entrants to primary teacher education programmes worldwide often have a negative attitude towards mathematics as a discipline and the teaching of mathematics as their future task. Extant studies point out that poor attitudes towards mathematics were found to be more dominant in pre-service teachers before their teacher training, but improve during the training. This paper aims to examine such attitudes and beliefs towards mathematics of pre-service primary teachers in Serbia, and give some pointers for the improvement based on the work done with Serbian teachers. We then compare our findings with those of the work done over the past decade with teachers in England. In order to investigate the pre-service teachers' attitudes towards mathematics a quantitative research method is applied, using a scale as a measure of attitude. The findings of the study give us a basis for some recommendations for possible further improvements of the teacher training programmes in both countries. Among these, a possibility of an introduction of mathematics appreciation programme in earlier years of education is discussed, having in mind that mathematics teachers have themselves gone through educational experiences during which their attitudes towards mathematics were formed.
Key words: Pre-service primary teachers, attitudes towards mathematics, teacher education programmes.

INTRODUCTION

The first stage in teacher's life course begins before entering teacher education programmes (Ponte & Chapman, 2008). Research suggest that teachers'

*E-mail: snezana@mathsisgoodforyou.com

personal histories, such as those of being a learner of mathematics, shape and become part of their teacher identity (Lutovac & Kaasila. 2014). An important point to remember is that students at early stages of education begin to build their own internal dialogues related to mathematics (Lawrence, 2016a). These are of multiple natures and purposes, e.g. a learner may tell herself:

- that what she is doing is a right or a wrong thing in working on a mathematical problem
- that she likes / does not like what she is doing
- how to proceed
- whether the effort led to success
- whether there is another way of dealing with the problem, etc.

Such dialogues sometimes become entrenched, and with them reactions to various situations learners face, and subsequently beliefs whether the doing of mathematics is an enjoyable or stressful activity, or anything in between. Additionally, the attitudes towards mathematics, and the view of mathematical concepts are also determined by the experience of learning them, which is why it is important for teachers to be able to see mathematical problems and concepts from different angles and in different context, in order that they present them to students in diverse ways (Furinghetti, 2007).

Thus, primary and early year teachers, (i.e. those who did not complete a mathematics or mathematics related degree) begin their initial teacher education programmes with an array of different images of teaching mathematics and themselves as teachers of mathematics (Chong, Low, & Goh, 2011). These initial images are mostly developed during their prior experience as students, and are defined to different degrees, but are all essential in determining their attitudes towards teaching, their understanding of teaching, their professional beliefs and their instructional practices. The impact of these early schooling experiences as well as other factors on teachers' professional identity and teaching practice depends on their view of themselves as teachers before they begin teaching, and whether or not this is challenged by the context of their preparation. Many studies therefore point to the need to pay attention to reflections on teacher identity construction in teacher preparation programmes (Ponte et al. 2002; Goos & Bennison 2008).

Hodgen and Askew (2007) discuss the difficulties mathematics teachers face in their professional development and learning. They indicate that the problem of negative attitudes towards mathematics is especially acute amongst primary teachers. The authors further suggest that these might be explained by the fact that for many primary teachers their relationship with mathematics is full of anxiety and emotions related to negative experience

during their earlier educational journeys. On the other hand, we know that a strong disciplinary bond is central to the positive and productive development of the teaching of mathematics practice, and pre-service mathematics teacher identity. To summarise briefly, mathematics teacher identity includes the individual's beliefs and views regarding mathematics as a bond between a teacher and mathematics. Mathematics teacher identity therefore plays a mediating role in teaching and learning practices (Sun, 2017). Teachers' beliefs, views, and experiences with learning mathematics are interrelated and might have impact on their instructional practices (Brown & McNamara, 2011).

How can instruction of teachers during their training influence the teachers so that their beliefs bear most productive influence on their teaching (Lawrence & Ransom, 2011)? It has been argued, as seen above, that there are close relationships among professional identity, classroom practice, teacher knowledge, beliefs and attitudes. While we investigate this further, we should bear in mind that the professional teacher identity should be regarded not as a fixed or unitary but rather as an identity which may take multiple manifestations, is fragmented, and prone to change.

In addition to other important roles teachers' attitudes and beliefs toward mathematics have on learning that we have already discussed above, they might also have impact on attitudes and beliefs of students (Relich, Way & Martin, 1994). In other words, positive attitudes towards mathematics that teachers have contribute to developing the positive attitudes in their students.

Research aim

Our research aims to explore the beliefs, views and attitudes towards mathematics of pre-service primary and kindergarten teachers in Serbia. We recorded these at the beginning and end of training, and sought to find the interventions which may benefit prospective teachers to develop their identity as mathematics teachers before entering schools/kindergartens and helping them to become as effective as possible in the teaching of mathematics.

RESEARCH METHODOLOGY

The study was conducted at the Faculty of Education in Jagodina, University of Kragujevac. Since survey instruments were administered and numerical data collected, a quantitative method was used in analysing the data. Data were collected through questionnaires. The participants were pre-service

teachers (PST) enrolled in Preschool and Primary Teachers Education Programmes (Year 1, Year 2 and Year 3). All students are enrolled in Mathematics course at Year 1/Year 2, and in Methodology of Teaching Mathematics course at Year 3 of study.

Sample

The research sample involved 123 teacher students. The study was conducted at the end of the summer semester of academic year 2019/2020. All PST participated in the study on voluntary basis. Initially, the authors intended to survey teacher students both from Serbia and UK, which would allow the authors to make a comparative analysis but due to the COVID 19 situation, it was not possible to conduct a survey in the UK. The sample distribution in regard to the year of study is presented in Table 1.

Table 1. Sample distribution in regard to the year of study as follows.

	Year of the study		
	Year 1	Year 2	Year 3
f	64	31	28
%	52.03	25.20	22.77

Instrument

The used instrument was a questionnaire that had two parts. In the first part, background information about PST was collected (gender and a year of study). The second part of the instrument contained Mathematics Attitudes and Beliefs Scale (MAB) developed by Vlahović – Štetić, Rovan, and Arambašić (2005). The MAB scale consisted of three subscales: Attitudes towards Mathematics - ATM (28 items); Beliefs of Mathematics as Predominantly Male Discipline – BMMD (6 items) and Beliefs that Mathematics Ability is Inborn – BMI (6 items). Each of the items was rated on a Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). Some items were reverse coded as suggested by authors of the scale (items: 1, 2, 6, 10, 12, 13, 14, 15, 16, 18, 19, 20, 25, 27, 28, 29, 30, 34, 35, 38, 40).

In order to investigate the attitudes and beliefs of PST, we decided to use the MAB scale for the reason that it was developed and used in a country (Croatia) with a historically common educational background as that of Serbia. Therefore, no translation was needed, and we obtained permission

to use the scale in our research. The Cronbach's alpha reliability coefficient indicated acceptable reliability (α=0.875). The Cronbach's alpha reliability coefficient for each of the subscales also revealed acceptable reliability: ATM (α=0.945), BMMD (α=0.786), BMI (α=0.848). We present some examples of research items in Table 2.

Table 2. Examples of some items of Mathematics attitudes and beliefs scale (Pavlin-Bernardić, Vlahović-Štetić, & Mišurac Zorica, 2010)

Subscale	Example of items
Attitudes towards Mathematics (ATM)	"Learning Mathematics is boring." "Whatever we do in our lives, we might need mathematics."
Beliefs of Mathematics as Predominantly Male Discipline (BMMD)	"Boys understand mathematical problems better than girls." "Mathematics is a subject more for boys."
Beliefs that Mathematics Ability is Inborn (BMI)	"If you do not posses inborn mathematics ability, you can never learn it well" "Mathematical practice can be improved."

The statistical analyses were conducted using SPSS for Windows, version 19.0. For statistical analysis, p values lower than 0.05 were considered statistically significant. The normality of data was evaluated with the use of the Shapiro-Wilk test of normality. For the quantitative analyses of data methods of descriptive statistics were used (frequency, percentage, mean, standard deviation, mean ranks), Welch ANOVA with Games-Howel post hoc for parametric variables and Kruskal-Wallis H test with Dunn post hoc for non-parametric variables. The effect size was estimated by using Cohen's d. The independent variable in the data analysis was the year of study.

RESULTS AND DISCUSSION

In order to investigate PST attitudes and beliefs, the participants were asked to rate the level of agreement/disagreement with items in three subscales. Table 3 displays the descriptive statistics (Means and Std. deviations) of the questionnaire scales. The mean score is the sum of the subscale scores divided by the total number of the items of the subscale used.

Table 3. Descriptive statistics for each subscale

Subscale		Students N=123
ATM	M	3.15
	SD	0.78
BMMD	M	2.06
	SD	0.72
BMI	M	1.56
	SD	0.74

Narli (2010) indicates that the interval width of five point Likert scale should be computed in order to set up the group boundary value which will help discuss results (Table 4).

Interval Width = (Upper value – Lower value)/n = (5 – 1)/5 = 0.8

Table 4. Group boundary values of five point Likert scale

1.00 – 1.80	1.81 – 2.60	2.61 – 3.40	3.41 – 4.20	4.21 – 5.00
strongly disagree	disagree	undecided	agree	strongly agree

The overall results, presented in Table 3, show that PST, in general, expressed neutral attitudes towards Mathematics. On the other hand, PST demonstrated disagreement with beliefs that Mathematics is predominantly a male discipline and a strong disagreement with beliefs that mathematical abilities are inborn. Arithmetical means and standard deviation for each subscale are presented in the Table 5.

Table 5. Descriptive analysis results for each subscale

					Shapiro-Wilk test	
Scale	Year of study	N	M	SD	W	Sig.
ATM	Year 1	64	2.83	0.77	0.977	0.264
	Year 2	31	3.12	0.55	0.982	0.874
	Year 3	28	3.91	0.44	0.966	0.479
BMMD	Year 1	64	2.27	0.81	0.942	0.005
	Year 2	31	1.85	0.55	0.932	0.051
	Year 3	28	1.79	0.48	0.947	0.165
BMI	Year 1	64	1.75	0.82	0.821	0.000
	Year 2	31	1.49	0.67	0.759	0.000
	Year 3	28	1.22	0.44	0.583	0.000

The data obtained from the scales demonstrate that Year 3 students have more positive attitudes toward Mathematics compared to Year 1 and Year 2 students. Similarly, Year 3 students express stronger disagreement with beliefs that Mathematics is a male discipline and beliefs that mathematical ability is inborn comparing to Year 1 and Year 2 students.

In order to examine possible differences in attitudes and beliefs of PST in terms of the year of study, one-way ANOVA and Kruskal-Wallis test were performed at 0.05 significant level. Before performing one-way ANOVA and Kruskal-Wallis test, the necessary assumptions such as a level of measurement, independence of observations, normality and homogeneity of variance were checked (Pallant, 2007). The first two assumptions were met since the dependent variables (ATM, BMMD and BMI scores) were of a continuous level of measurement and there were no relationships between the observations in each group or between the groups. In order to use ANOVA, the data should be normally distributed and there needs to be homogeneity of variance (which means that the variance among the independent groups should be approximately equal). The Shapiro-Wilk test of normality revealed that the ATM scores were normally distributed in all groups, while BMMD and BMI scores were not normally distributed across the groups. Hence, we used Kruskal – Wallis test to examine the differences between groups of PST in BMMD and BMI scores, and Dunn's multiple comparison test to identify which groups were different. As for the ATM scores, since data failed the homogeneity of variance assumption as obtained by Levene's test of equality of variance, Welch ANOVA (which is not sensitive to unequal variance) was carried out instead of one-way ANOVA. The obtained Welch's adjusted F ratio (reported as Welch's F), which was significant at the 0.05 alpha level indicated that at least two groups differ significantly on their average ATM scores. To identify significant differences between specific groups in ATM scores Game-Howell post hoc was used.

Attitudes towards Mathematics

Levene's test indicated that the assumption of homogeneity of variance was violated, $F(2, 120) = 6.772$, $p=0.002$. Therefore, the Welch F ratio was reported. The results showed significant difference between at least two of the three groups of PST (Welch's $F(2, 70.99)=40.08$, $p<0.05$). A post-hoc analysis was conducted to determine where the differences were within the groups representing different years of study. Games-Howell post hoc analysis revealed a significant difference in ATM scores between Year 1 and Year 3 students, as well as between Year 2 and Year 3 students (Table 6).

An inspection of the mean scores indicated that PST who were at the Year 3 (M=3.91; SD=44) reported more positive attitudes toward Mathematics than PST at Year 1 (M=2.83; SD=0.77) and Year 2 (M=3.12; SD=0.55). In order to calculate the effect size for the comparison between two means, we used Cohen's d. The Cohen's d in the first case was 1.72 and in the second case was 1.59, which suggests large effect size. In other words, these findings suggest that the experience that PST gain through teacher training programmes has significant and positive impact on their attitudes and beliefs. These results were expected, if we take into account that PST do not start their teaching methodology courses in mathematics until Year 3 of their study. Year 2 students have general teaching methodology courses (Didactics), but subject-specific methodology courses represent the main part of Year 3 and Year 4 curricula. Another thing that must not be neglected is the obligatory practice in schools and kindergartens that PST have during the teacher preparation programmes. PST do not have teaching practice until Year 4. Year 1 and Year 2 students spent two and four weeks in primary schools/kindergarten observing lessons. Year 3 spent four weeks in primary school/kindergarten, and although they do not teach yet, they do perform some small teaching tasks and interact more with pupils during the lesson (i.e. teaching a micro teaching unit).

Table 6. The results of Games-Howell Post Hoc test for ATM

Year of Study_1	Year of Study_2	Mean difference	Std. Error	Sig.	95% Confidence Interval	
					Lower	Upper
1	2	-7.99143	3.84262	0.101	-17.1683	1.1855
	3	-30.26563	3.54838	0.000	-38.7329	-21.7984
2	1	7.99143	3.84262	0.101	-1.1855	17.1683
	3	-22.27419	3.59933	0.000	-30.9388	-13.6096
3	1	30.26563	3.54838	0.000	21.7984	38.7329
	2	22.27419	3.59933	0.000	13.6096	30.9388

Usefulness and Enjoyment of Mathematics

For the purpose of analysis we classified ATM items into two categories, the items which measured perceived usefulness and importance of mathematics (items 3, 6, 9, 10, 13, 18, 22, 26, 29, 30, 36, 38, 39 and 40) and liking/enjoyment of mathematics (items 2, 5, 8, 12, 15, 16, 19, 20, 23, 25, 28, 32,

33, 35). Therefore, we distinguished two dimensions: usefulness of mathematics (UM) and enjoyment of mathematics (EM). For each dimension, the total scores were calculated. The mean score represented the sum of the total scores divided by the total number of the items within each category. Table 7 displays the descriptive statistics (Means and Std. deviations) for these dimensions.

Table 7. Descriptive analysis results for UM and EM

					Shapiro-Wilk test	
	Year of study	N	M	SD	W	Sig.
UM	Year 1	64	3.01	0.69	0.961	0.042
	Year 2	31	3.42	0.52	0.973	0.614
	Year 3	28	4.05	0.42	0.953	0.241
EM	Year 1	64	2.65	0.95	0.967	0.085
	Year 2	31	2.81	0.75	0.950	0.160
	Year 3	28	3.77	0.55	0.973	0.672

Year 3 teacher students expressed more positive attitudes regarding both usefulness and enjoyment of mathematics in comparison to Year 1 and Year 2.

Since the homogeneity of variance was violated both for UM ($F(2, 120)=4.799$, $p=0.010$) and for EM ($F(2, 120) =6.345$, $p=0.002$), the Welch F ratio was reported. The findings indicated a significant difference between three groups of PST in UM scores (Welch's $F (2, 69.91)=40.27$, $p<0.05$) and in EM scores (Welch's $F (2, 69.83)=29.82$, $p<0.05$). A Games-Howell post hoc analysis was performed to determine which groups significantly differed in scores. It showed that there were significant difference in UM and EM scores between Year 1 and Year 3 students, as well as between Year 2 and Year 3 students (Table 8). Year 3 students perceive mathematics as more useful in everyday life and reported higher level of enjoyment in doing mathematics in comparison to Year 1 and Year 3 students.

Table 8. The results of Games-Howell Post Hoc test for UM and EM

	Year of Study_1	Year of Study_2	Mean difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
UM	1	2	-5.74798	1.78698	0.005	-10.0195	-1.4765
		3	-14.56250	1.63571	0.000	-18.4679	-10.6571
	2	1	5.74798	1.78698	0.005	1.4765	10.0195
		3	-8.81452	1.71591	0.000	-12.9454	-4.6837
	3	1	14.56250	1.63571	0.000	10,.6571	18.4679
		2	8.81452	1.71591	0.000	4.6837	12.9454
EM	1	2	-2.24345	2.51696	0.647	-8.2644	3.7775
		3	-15.70313	2.20323	0.000	-20.9608	-10.4454
	2	1	2.24345	2.51696	0.647	-3.7775	8.2644
		3	-13.45968	2.37993	0.000	-19.1935	-7.7259
	3	1	15.70313	2.20323	0.000	10.4454	20.9608
		2	13.45968	2.37993	0.000	7.7259	19.1935

Beliefs of Mathematics as Predominantly Male Discipline

The Kruskal-Wallis test was used to test the significance of the difference observed between the BMMD scores of the PST attending different years of study. The results point out that the BMMD scores were significantly different in regard to the groups representing different years of study, $\chi^2(2)=11.468$; $p=0.003$ (Table 9). In other words, these results point out that there are statistically significant differences in beliefs that mathematics is a predominantly male discipline between different groups of the PST.

Table 9. Comparison of the BMMD beliefs in terms of the year of study

Year of study	N	Mean Rank	χ^2	p	Significant
Year 1	64	72.32	11.468	0.003	1 – 3 1 – 2
Year 2	31	52.81			
Year 3	28	48.59			

To identify the difference among the groups the Dunn test was performed to reveal in which groups a significant difference in the BMMD scores occurred.

A significant difference was noticed between the students of Year 1 and Year 3 (p=0.010) and between the students of Year 1 and Year 2 (p=0.036). The results suggest that teacher education programmes might affect the beliefs of PST that Mathematics is a predominantly male discipline. Year 3 and Year 2 students express stronger disagreement with this belief, comparing to Year 1 students.

Beliefs that Mathematical Ability is Inborn

The Kruskal-Wallis test was conducted to determine if BMI scores were different for three groups in regard of the year of study. Findings showed that there was a statistically significant difference in BMI scores between different groups of PST, $\chi^2(2)=12.087$; p=0.002 (Table 10).

Table 10. Comparison of the BMI beliefs in terms of the year of study

Year of study	N	Mean Rank	χ^2	p	Significant
Year 1	64	70.74			
Year 2	31	60.03	12.087	0.002	1 – 3
Year 3	28	44.20			

We performed the Dunn's post hoc test for pairwise differences. A significant difference was noticed between the students of Year 1 and Year 3 (p=0.002). Year 3 students expressed stronger disagreement with beliefs that mathematical abilities are inborn than Year 1 students.

CONCLUSION

Pre-service primary and kindergarten teachers represent the first 'face' of mathematics young children see. This indicates that it is of extreme importance to educate future generations of teachers to be as effective as possible in teaching mathematics. The fact that Year 1 and Year 2 students have mostly neutral attitudes toward Mathematics suggests that more attention should be given to promoting positive views among this population. In general, a significant number of prospective primary and kindergarten teachers who study at the teacher education faculties in Serbia did not have enough mathematics classes throughout high school. Some authors point out that in order for a prospective teacher to be able to achieve positive learning experiences in Mathematics, they need to have studied it at a higher level (Hill &

Bilgin, 2018). This implies that teacher education faculties should consider increasing a number of classes in general Mathematics courses. Since there are some limitations due to the official accreditation standards, introduction of some elective mathematics appreciation courses might be considered.

The major issues we investigated here concern the perception of usefulness and enjoyment of mathematics, and we believe that introducing more topics such as episodes from the history of mathematics and STEM contents might be beneficial for developing more positive views of mathematics in pre-service teachers. As Dejić and Mihajlović (2014) indicate, a history of mathematics helps students "understand that mathematics from its foundation up to now has played one of the most significant roles in all areas of human life" (p.17). On the other hand, an emerging need for STEM careers requires primary teachers who will prepare their pupils and support them with relevant STEM opportunities of which mathematics represents an integral part.

The study findings cannot be generalized considering that it was conducted at only one university. Nevertheless, the value of this study can be recognized in the fact that there was no previous research about the beliefs and attitudes towards mathematics of future primary and kindergarten teachers in Serbia.

Similar studies from England (Lawrence, 2016a & 2016b; Lawrence, 2019; Lawrence & Ransom, 2011; Grattan-Guiness, 2004) suggest that the history of mathematics can bring lasting improvements to the teaching of mathematics in a school classroom. They show that the disengagement of teachers from the actual mathematical content is the most important reason for the disengagement of students. The reasons for this are given in the fact that teachers who are not specialist mathematics teachers (i.e. they do not have a first or higher degree in mathematics) are not introduced to mathematical culture which they are supposed to transfer and transform through their own practice, either by 'doing maths' in a research environment, or by the appreciation of the different ways of such 'doing' that manifest through different geographical and historical mathematical cultures. Subsequently, student teachers cannot induct their own students into such practices (Lawrence & Ransom, 2011). In fact, this happens whatever curriculum one follows – whether the one that is in place in Serbia, Croatia, or England. In other words, the studies show that whatever curriculum is in place, the teachers who are not specialist mathematics teachers at the start of their training follow the 'heritage' path – i.e. they teach and transfer their knowledge of mathematics in the same way or mimick the ways they learnt mathematics themselves when they were of the same age as their students (Grattan-Guiness, 2004). This means that:

a) they are rarely aware of the origin of concepts or their meaning and connections with other concepts in mathematics, and
b) they transfer the attitudes that they have formed in relation to that particular concept when they learnt it themselves as young children.

In order to overcome such unproductive teaching practices, the history of mathematics embedded in the practice of teacher instruction can offer teachers different techniques and methods that help their own development of a mathematics teacher identity. This is done as the teacher students become aware of their own mathematical cultural heritage, and acquire a set of skills in identifying such heritage, and at the same time the research skills that allow them to see mathematical concepts in different cultures and historical eras. Such practice of developing their own understanding of mathematics will give them opportunities to re-position themselves in relation to the topics they teach.

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E-LEARNING OPPORTUNITIES IN HIGHER EDUCATION IN THE REPUBLICS OF BULGARIA AND SERBIA / THE MODEL OF VELIKO TARNOVO UNIVERSITY "ST. ST. CYRIL AND METHODIUS" / THE "MODEL" OF FACULTY OF EDUCATION IN VRANJE UNIVERSITY IN NIŠ

Stoyanka Lazarova*
Director of "Distance Learning Center", VTU "St. St. Cyril and Methodius"

Daniela Yordanova
Deputy Director of "Department for Continuing Education and Qualification of Pedagogical specialist", VTU "St. St. Cyril and Methodius"

Danijela Zdravković
Faculty of Education in Vranje University in Niš

Abstract: The paper describes the potential of e-learning to improve the quality of higher education in the Republic of Bulgaria, emphasizing the model of the University of Veliko Tarnovo, which is based on good worldwide practices in the given field and complies with the State regulation and requirements for organizing distance learning in higher schools (2004) and with the requirements of the National Agency for Assessment and Accreditation (NEAA).

The aim of the discussion is to emphasize the justification of introducing a new study program at the graduate studies level. The program would be designed to improve the quality of education process by including electronic learning support in some forms of instruction processes, as a blended learning model at the Faculty of Education in Vranje, University in Nis.

Key words: Higher education, e-learning, study program

Main concepts

E-learning is a student-centered approach where modern multimedia technologies and the Internet are applied to improve the quality of learning by facilitating access to resources and services and remote exchange and cooperation (Peycheva-Forsayh, 2014 , p. 2).

*E-mail: s.lazarovalive.uni-vt.bg

Modern technology in e-learning comes down to:

- means for storing, extracting, processing and presenting educational information;
- means for communication (synchronous or asynchronous) between teachers and students;
- means to carry out main learning activities (in person or at a distance);
- tools for organization, administration and management of educational activities (ibid).

Conducted in a distance form, e-learning creates prerequisites for reaching learners at a time and place of their choice. E-learning can also be used as a complementary form to full-time and part-time education.

Distance learning is perceived as a multidisciplinary field in-between pedagogy, technology and learning design, where the main goal is to provide education for students who are not physically together in a traditional classroom at the university (TavukcuT. Etal., 2011).

For the purpose of the present study, we accept the definition as provided by the Ordinance on state requirements for organizing distance learning in higher education (2004) Art. 1 (2) "The distance form of learning is an organization of the educational process where the student and the teacher are separated in their location, but not necessarily by time, and the created distance is compensated by means of technology".

Main differences between face-to-face and distance (electronic) learning

The following basic differences between the two can be identified:

- educational content should be offered to students in the electronic format;
- pedagogical interaction can be realized (in the context of Article 7 of the Regulation) without teachers and students having to be physically in the same geographical location;
- e-learning design;
- e-learning is "visible".

3. The model of Veliko Tarnovo University "St. St. Cyril and Methodius"

From 2002 onwards, distance learning at the University of Veliko Tarnovo has been established as a high-quality educational product.

Regulatory base

The organization and verification of distance learning at the University of Veliko Tarnovo "St. St. Cyril and Methodius" (University of Veliko Tarnovo) has to fully comply with the two state regulations, namely:

- State regulation requirements for organizing distance learning in Higher Education (since 2004);
- The criteria for assessment of distance learning of NEAA, adopted by the Accreditation Council of NEAA on 09/03/2017.

The University has developed its own regulations, which are recommended to accompany the learning process in distance mode. They are as follows:

- Regulations for the organization and conduct of distance learning, adopted by the Decision of the Academic Council № 4 of 24/04/2017;
- Rules for the functioning of the Committee for monitoring the quality of distance learning at VTU "St. St. Cyril and Methodius", adopted by the Decision of the AC № 5 / 30/03/2020;
- Regulations for organization and conduct of electronic (remote access) training, exams and videoconference theses defenses at the University of Veliko Tarnovo "St. St. Cyril and Methodius", adopted by the Decision of the AC № 6 / 13/04/2020;

Research fundamentals

VTU teachers have the opportunity to put into practice the design of an e-course model for distance learning, developed especially for the needs of VTU (Lazarova, Lazarov, 2020, pp. 331-338). In building the model, good practices in this area from all over the world and government regulations are taken into account. The design is based on the principles of the constructivist approach. Structuring of the course content in the distance learning system is performed by the lecturer with the technological support of the Distance Learning Center and it goes through the following stages (ibid., Pp. 331-338):

- *First stage - selection of pedagogical approach*

In recent years, more and more teachers at VTU apply the blended learning approach.

- *Second stage - Building a training course*

This stage includes two mandatory elements - teaching materials and learning activities.

- *Third stage - evaluation*

In order for the training in the e-course to be successful, it is necessary to

acquire full information about the learning outcomes. This is achieved by designing an assessment system

– *Fourth stage - identification of face-to-face and distance learning spells*

The lecturer must carefully consider which components of the curriculum require long-term physical presence of students and which ones can be realized through distance learning and how exactly to implement those.

Copyright protection for teaching materials

There is always a risk of intellectual theft (plagiarism) when using e-learning materials for distance learning. To prevent this, teachers must know and comply with the Copyright and Related Rights Act, as well as the citation rules.

Quality of e-distance learning

One of the most important issues about e-learning is related to its quality. More precisely, the received quality of e-distance learning differs from that of traditional local learning, even when it is supported by technology. The quality assurance mechanisms applied to these two types of training should be different.

One of the modern approaches to ensuring the quality of distance learning in universities is the accreditation system. In Bulgaria, the National Agency for Evaluation and Accreditation ensures this process. Therefore, the criteria for assessment of distance learning can be the current Criteria for assessment of distance learning, adopted by the Accreditation Council of NEAA on March 9, 2017. One of the main criteria when applying the internal system for evaluation and maintenance of the quality of education of the academic staff of higher educational institutions is the application of student-centered learning and teaching which allows flexible models of education, use of technical means and modern information technologies during learning. The aim is to stimulate the motivation, self-analysis and involvement of students in the learning process.

How is the quality problem solved at the University of Veliko Tarnovo?

By written order of the Rector at the end of 2019, the Committee for monitoring the implementation of distance learning was appointed. The Committee is a specialized collective body of the Academic Council for the issues of the distance form of education at the University. Its members are: the director of the Distance Learning Center, a chairman of the Committee, representatives

of training units of the University offering distance learning programs - one representative from each faculty, university's branch or a college.

The functions of the Committee are control and monitoring. The Committee carries out the following main activities:

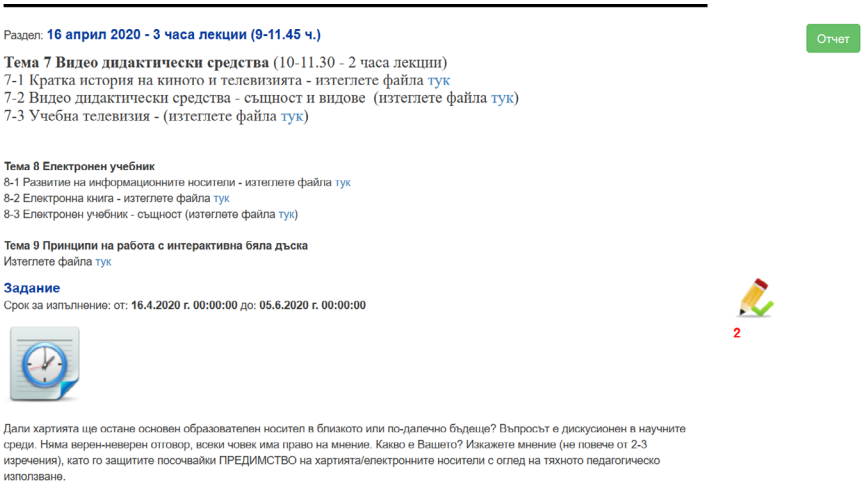
- Development of the tools to monitor the implementation of training courses in distance learning. As a result, the Rules for the work of the quality monitoring Committee for distance learning at VTU "St. St. Cyril and Methodius" were created and adopted by Decision of the AC № 5 / 30/03/2020;
- Carrying out periodic inspections to monitor and evaluate the quality of the created courses in line with the Accreditation Council of NEAA Criteria for evaluation of the distance form of education.

The process of education at the University of Veliko Tarnovo during a state of emergency

On March 13, 2020, a state of emergency was introduced in the Republic of Bulgaria, which imposed a lot of pressure on the entire educational system. In just a few days, the entire education process (both in schools and at universities) had to go from traditional (face-to-face) to remote. Only those schools and universities with a proper previous training managed to cope quickly and efficiently – they had available platforms, as well as teachers (lecturers) with the adequate skills to work on those platforms. The University of Veliko Tarnovo turned out to be one of those prepared universities in practice. The mode for working in an electronic distance environment, to which the learning process at VTU switched, has already been tested in the academic year 2016/2017 at the University of Veliko Tarnovo with students from master's programs in distance learning (Lazarova, Lazarov, 2019, p. 25).

The university has its own integrated information system (including the e-teacher and e-student subsystems) that has been actively used by teachers and students for years. Through the information system of VTU many administrative functions of this institution are automated. The E-teacher information system was established in 2014, integrated as a main part of the university-wide information system. Its main goal is to provide electronic forms in full-time and part-time student education. It offers opportunities for publishing and designing e-learning courses by the teachers who can design the required elements: learning resources (in different media formats) and learning activities (assignments). The integrated information system of VTU (besides the E-teacher and E-student systems, there are many other subsystems that support all activities at the university) was created and

maintained by the University Computer Information Center of VTU and is the result of over 20 years of constant efforts. Since 2018, teachers at VTU use the applications of Microsoft Office 365 (Outlook, OneDrive, Forms, Sway, Teams, etc.). The learning process for full-time and part-time students during the summer semester of 2019/2020 was facilitated by providing access to e-learning content (text files, presentations, audio and video lectures) and opportunities for interactive interplay (assignments, discussion forums, online lectures in virtual classrooms). All students also have access to Office 365. For each course, the study content is classified in sections by dates (according to the study schedule).



The teacher can sign in the workload accounting system (subsystems are integrated).

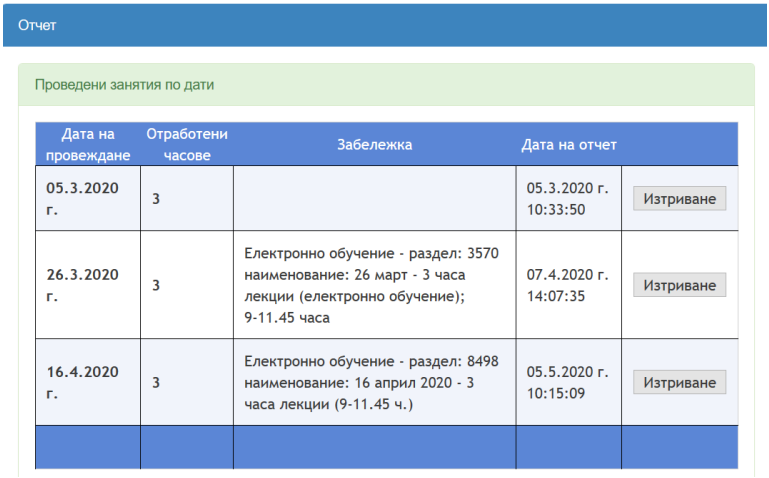


Figure №1. Graphic presentation of the number of participants in the six virtually organized defenses of the diploma theses at DAEQPS.

The university management has the opportunity to exercise control (as in the case of face-to-face training), which is a guarantee for the high quality of training, albeit in distance mode.

By the Rector's written order, the classes at VTU should be carried out electronically in accordance with the Regulations for organization and conduct of electronic (remote access) training, exams, and videoconference defense of diploma theses of VTU "St. St. Cyril and Methodius ", adopted by a Decision of the AC №6 / 13/04/2020.

The application of the Regulations related to the regulated forms of control and evaluation in the digital environment was set with defenses of diploma theses on professional and pedagogical specializations at DAEQPS.

Between April 25 and June 7, 2020, a connected space was built in a technological environment through the resources of Microsoft Teams, which allowed the application of remote sensing tools to evaluate trainees and ensured the efficient work of members of examination boards, supervisors and reviewers. During the six virtual procedures, 158 participants were involved, 105 of which were trainees.

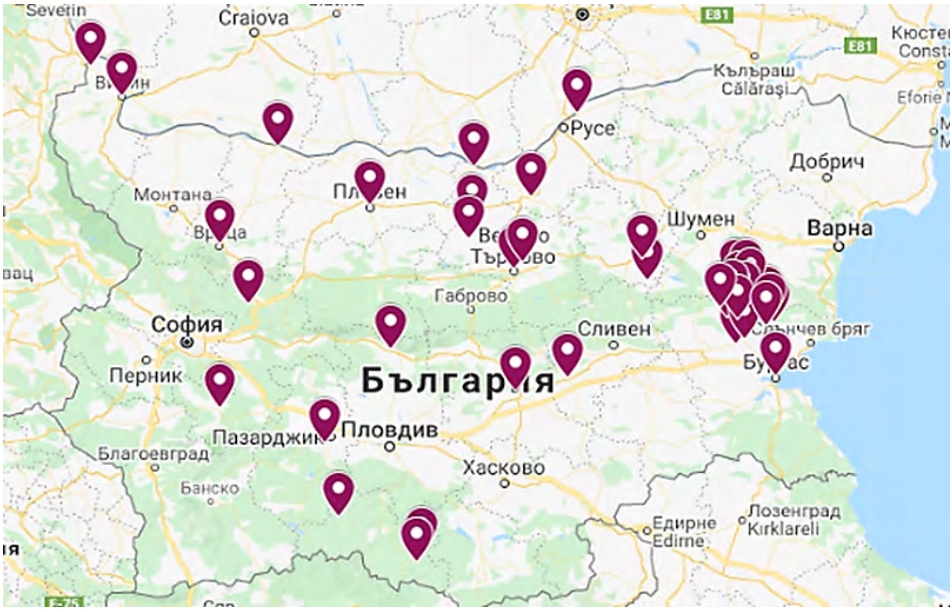


Figure №2. Map of the settlements, among which a virtual connection has been established through one of the Microsoft Teams resources in order to realize the defense of diploma theses procedures for DAEQPS graduates

The neutrality and impersonality of the statistical data "hide" the work of the team from the Department for Advanced Education and Qualification of Pedagogical Specialists (DAEQPS), which, together with the Center for Distance Learning and the University Computer Information Center, was responsible for the overall organization of virtual events, informing the participants (specialists and some of the lecturers) about the specifics related to the procedure for their graduation in an electronically based environment, holding test meetings during which technical and/or technological difficulties were eliminated, developing a system of evaluation criteria and coordinating the assessments by members of examination boards in real time through interactive summary Excel tables for Microsoft 365.

The geographical location of the academic lecturers and pedagogical specialists includes 45 settlements, connected with the settlement network of 11 administrative-municipal units (districts) in Bulgaria.

The location of some of the participants in mountain or border areas, where instability of the Internet coverage is registered, was among the main concerns of the organizers and specialists. The fact that 77.8% of the pedagogical specialists defending their theses were over 50 years old and with a relatively low level of digital competencies was also considered risky.

All these concerns turned out to be unfounded, because not only did we manage to cope, but also the management of the department and the university received institutional thanks for the quality, professional engagement and a positive environment in which each of the specialists had the opportunity to present the results of their studies.

The management decisions at VTU, conditioned by the circumstances of the state of emergency in Bulgaria, enabled continuing the application of the tested model during the state practical-applied exams for acquiring the professional qualification "teacher", term tests and candidate exams in the digital environment.

Parallel with the forms for ascertaining achievements, the supplementation of the virtual university database with author's digital resources continued. The statistical results are impressive. In just two months (March 13 - May 15, 2020), 5,154 new training courses have been activated; 58,328 independent training resources were created and implemented; 162,455 exam tasks and tasks for current control were set and sent, the number of student activities and visits reached 1,111,201.

A multi-component analysis is hardly necessary to recognize the obvious - the academic educational process cannot follow the time-tested models only. The pre-planned road has to be integrated with the targeted search for new opportunities, for "e-learning is a strategy that employs a significant set of didactic technologies, technical means and systems, thus supporting the formation of knowledge and improving skills in time and the context defined by the trainer and / or by the learners" (Sabeva, 2014, p. 63). In order for the process to be complete, an adequate state policy for technological modernization of higher schools in the country and an overall vision concerning the quality of the digital tools, through which scientific knowledge is adapted for academic purposes, are needed.

The following **conclusions** emerged as a result of the measures taken during the emergency situation:

– *workload of teachers in distance learning mode;*

The workload of teachers in the distance learning mode has its own specifics (i.e. different if compared to the face-to-face learning modes) and is huge in volume (i.e. conversion of traditional courses into electronic ones requires a lot of time and effort). By "specific workload" of teachers in distance learning we mean a set of the following learning activities, other than the activities that the teacher performs in full-time and part-time mode:

Learning activity 1. To create the learning content (learning materials and resources) that has specific (i.e. different from full-time and part-time) characteristics of distance learning, namely multimedia, nonlinearity, interactivity.

Learning activity 2. Planning online learning activities (specific for distance learning, i.e. different from full-time and part-time learning activities)

Distance learning activities implement the so-called "interactive student-teacher or student-student relationship" (in the context of the regulation) and ensure better understanding and mastery of the learning material.

Activity types:

- assignments, forums, wikis (group work), etc.;
- different activities (such as webinars, videoconferencing, virtual classrooms, lessons) that can compensate for the lack of face-to-face interaction between a teacher and a student during lectures and seminars in full-time or part-time forms.

Learning activity 3. Design/project/ an electronic course for distance learning.

The planning and design of an e-learning course (learning resources and activities) for distance learning is the result of both the creative work and the style of each teacher who skillfully applies the pedagogical approaches specific to distance learning.

The statement that the teaching load in distance learning is specific, has not only been clarified and proven by research, but also regulated by the state (for example: - Article 9. (1) of the ordinance: "The teaching materials and resources for self-preparation, used in the distance form of education in a given specialty, provide not less than 75 percent of the learning content of the curriculum and are developed according to a methodology that corresponds to the specifics of the given specialty "; from the NEAA criteria - Presentation of the used educational technologies and media (text, animation, sound, video, etc.) for conducting MST and for creating the educational e-materials and e-courses (item 24, page 10); and others.). In fact, the question of taking into account the specific workload of distance learning teachers remained unclear. It is no coincidence that in the criteria for assessment of distance learning (of NEAA) there is a requirement for the following: "a normative base and measures have been developed for the formation of academic workload and for stimulating the lecturers to participate in the MST, to design and develop virtual resources, etc. " (criterion 4.1, p. 3); "Normative document for reporting the specific workload of teachers in MST. Measures to stimulate and compete with teachers for the design and development of virtual resources. "(Vol. 31, p. 6); Reports on the specific workload of the teachers in MST (ibid., P. 25, p. 10). An unresolved question remains - how, i.e. what formula to use to measure (and accordingly reward) specific relevance of the teacher in distance learning mode? This problem is not resolved by a state document and each university has its own "interpretation". At VTU, the

specific workload is not reported at present. But as a result of the imposed transition to distance learning due to the emergency situations, the need to take into account the specific classroom employment of teachers is again on the agenda, not only because of the requirements of NEAA, but also to increase the motivation of teachers to work from distance.

– *Blended learning.*

The epidemic crisis is bound to end at some point and the society will return to its normal way of life. However, we can definitely say that the world will not be the same. In fact, for about 20 years, scientists and educators have been only partially successful in their efforts to convince schools and universities that technology has pedagogical potential. In the last two months, however, the circumstances have imposed conditions in which this potential was tested in practice, and *en masse*, regardless of the age of the trainees, regardless of the educational content, regardless of the readiness of the trainees and trainers. Analyses, research and conclusions are yet to be made. There is an abundant quantity of empirical material and it can be structured according to different criteria and viewed from different points of view. What can be said for sure, however, is that modern information and communication technologies create a tool-rich educational environment that can improve teaching and learning at all levels of the education system. Hardly anyone could question the benefits of live interpersonal communication between a student and a teacher. For many VTU teachers, e-learning will remain in their practice. For most of them probably, **blended learning** will become an optimal option for learning, regardless of the form (full-time, part-time or distance) of learning. The difference between the forms of education will be greatly reduced and will rather concern the proportions between present and absentee classes, as the present classes (face to face) and their quantity will depend solely on the specifics of the educational content.

The idea of blended learning seems to be an attractive one as it allows to preserve the traditional forms of learning obtained as a result of accumulated pedagogical experience for centuries, and at the same time allows for the rich educational functions of new technologies to be utilized.

On Project and Research Activities, Possibility of Introducing Learning Modules with Electronic Learning Support within the Study Programs and Potentials of E-learning at the Faculty of Education in Vranje, University of Niš

The future of e-learning potential for the purposes of improving the quality of instruction at the Faculty of Education in Vranje, University of Nis, partly depends on the gloomy demographic picture in the south of Serbia and the future of the profession and scientific disciplines that will prepare and educate adequate teaching and professional staff for e-learning support in order to maintain their positions in the labor market.

Previous experiences in simulation and practical solutions in educating experts for electronic learning support in working with the elderly were also reinforced by the successfully implemented project activities by the Faculty of Education in Vranje, co-financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia, within the program activity "Development of Higher Education" number 612-00-01968 / 2017-06 from 30/11/2017.

The first step in introducing a new learning module was the approved five-month project for co-financing by the relevant Ministry, entitled: *Development of electronic learning support for the accredited study program Graduate Studies for Teacher Education at the Faculty of Education, University of Nis, by introducing the elective module Educator for the Elderly* (2017-2018).

The main goals of the project were:

1. Developing a new module to work with the elderly with the use of e-learning and innovating the existing study program - Graduate Studies for Teacher Education, at the second level of studies at the Faculty of Education in Vranje, in the context of the emerging labor market needs and a problematic demographic picture in the Pčinja District;
2. Improving the quality of the education process at the Faculty in terms of developing electronic learning support for the instruction and student learning in the e-environment;
3. Developing entrepreneurial skills and creativity of students in the field of lifelong learning through the potentials of e-learning, by fostering tolerance and understanding of the problems of the old age and the elderly, by preserving their health and organizing the leisure time of the elderly.

All planned tasks and project activities have been mostly achieved:

1. Six new subjects were introduced within the study program "Graduate Studies for Teacher Education" with established and aligned course

specifications and online contents (alignment of specifications with subjects at related Faculties and study programs in the country and abroad);
2. New e-learning contents financed from the project budget were developed and selected;
3. The Support Centre for Distance Education within the new elective module was established;
4. Electronically accessible learning materials of good quality and in the mother-tongue were provided;
5. Promoting studying in the city of Vranje and mitigating brain drain from southern Serbia;
6. Improving the quality of instruction at the Faculty;
7. Procurement of the necessary equipment, and
8. Training the employees (teaching and non-teaching staff) for the new type of education process within the new elective module.

Specific distinctiveness of this issue as confirmed by the second step initiated by KONUS and the National Council for Higher Education at the session held on May 30, 2018. These institutions adopted the expansion of the List of professional and academic titles at the request of the Faculty of Pedagogy in Vranje, and included the study program Master educator of the elderly in the list, which practically provided the institutional opportunity for its practical implementation. This amendment to the List of professional and academic titles was published in the Official Gazette of the Republic of Serbia. Unfortunately, two years later, the conditions have still not been met to introduce this elective module with electronic learning support in accordance with legal regulations and start with the implementation of e-learning as a blended learning model at the Faculty of Education in Vranje, University of Nis. Therefore, the relevant Ministry approved the co-financing of the project *Development of electronic learning support for the accredited study program Graduate Studies for Teacher Education at the Faculty of Education, University of Nis, by introducing the elective module Educator for the Elderly* (2017-2018). We are left with hope that in the period that follows, the above-mentioned module will be accredited.

Creating such a study program would basically be the initiation of distance learning through an officially accredited study program which has met all scientific, professional and legal requirements. Such a program would be a product of cooperation with the community and a response to the challenges of old age and ageing in Vranje, the municipality that is in the far southeast of the Republic of Serbia, at the border with Macedonia, Bulgaria and Kosovo.

Current economic processes, the collapse of industry, underdeveloped entrepreneurship and increasing unemployment rates initiated population decline and aging in the municipality of Vranje, so today, almost half of the population in this area is aged 65 years and older. This process is better known as "The aging of the south of Serbia", and this is partly the reason why there was not a sufficient number of freshmen registered at the Faculty of Education in Vranje this year.

From another perspective, in contemporary digital environment conditions and on the crest of the wave of modernization combined with the legacy of higher education and the information society of the Western Balkans, there is an expansion of the form and content of services provided by the institutions coming from these fields.

We conclude that the Faculty of Education in Vranje needs to introduce new modules in its study programs, which would improve the quality of education with electronic learning support, the quality of teacher education, as well as the education of educators through more efficient exchange of ideas and information among related faculties in Serbia and abroad.

This year, the Faculty of Education in Vranje, University of Nis, is about to begin the process of re-accreditation with the National Entity for Accreditation and Quality Assurance in Higher Education of the Republic of Serbia. Given the above aggravating circumstances in terms of the demographic collapse that occurred in the Pčinja District, the Faculty has a difficult task to provide a sufficient number of students and good-quality instruction compared to e-potentials of other higher education institutions in the very competitive environment. The task is also to prepare future students to be educators of the citizens in this part of "poor Serbia", and competitive experts for the labor market of the National Employment Service of the Republic of Serbia.

Due to the COVID-19 virus pandemic, class teachers, preschool teachers and other subject teachers are increasingly using personalized learning through technology.

CONCLUSION

The University of Veliko Tarnovo "St. Cyril and Methodius" maintains a suitable environment for e-learning and has qualified staff potential, as well as technical support to create optimal conditions for its students to receive quality education in line with modern scientific theories and concepts of e-distance and distance university learning, which are in line with the quality standards assurance in the European Higher Education Area and with the national legislation of the Republic of Bulgaria.

Examples of good practice of implementing e-learning as a blended learning model in the higher education system in Bulgaria, as well as the fact that it is (not) possible to compare Veliko Tarnovo (Bulgaria) and Vranje (Serbia) from the demographic aspect, justify the attempt to compare the possibility of improving the quality of instruction at the Faculty of Education, University of Vranje, in accordance with state regulations and requirements for the organization of distance learning, by introducing new learning modules and study programs that would help to fully prepare experts during their higher education stage for the online work environment in preschool, primary school and lifelong learning.

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POSSIBLE WAYS OF ORGANIZING FOREIGN LANGUAGE TEACHING USING LANGUAGE TRANSFER

Ivana Ćirković-Miladinović*
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Marija Stanojević Veselinović
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Abstract: The main focus of this paper is to examine the role of English as the first foreign language (FL1) in learning German as a second foreign language (FL2) at the university level. The results will provide insight into the possibilities of improving foreign language teaching at tertiary level. More specifically, the aim of this research is to find out to what extent Serbian students, whose mother tongue is Serbian, rely on their knowledge of English as the FL1 while learning German as the FL2. The research was done with first year students (N=140) from the departments class teacher, pre-school teacher and boarding school teacher at the Faculty of Education in Jagodina. A comparative study of positive and negative transfer of English in the process of learning German will be presented in the paper. The paper will outline specific strategies that could be of great help in learning the foreign language, as well as the ideas for the higher education quality improvement. In addition, the authors will point out different issues of cross-linguistic influence in language learning and suggest some ideas for practice improvement in this area.

Key words: English, German, positive transfer, negative transfer.

INTRODUCTION

The focus of this study is on analysing how the knowledge of English as the first foreign language (FL1) affects learning German as a second foreign language (FL2)[1] at the university level. It is known that English and German are similar from the point of their origin, that is, both belong to the Germanic branch of the Indo-European language family. Since they are so closely related, they share many features. In addition, the English language is very present in both Serbian and German media as a major part of popular culture.

[1] We use the terms FL1 and FL2 because we want to make a distinction between the L2 (a foreign language that is learned in the country where that language is the official language) and FL1 and FL2 which are taught only at schools.

*E-mail: ivanajag@yahoo.co.uk

However, it is not known in which way we use the knowledge of English for learning German. There are a number of aspects of English that help or interfere with the correct production of German and these will be discussed in the paper.

THE DIFFERENCE BETWEEN ENGLISH AND GERMAN – RESEARCH BACKGROUND

Frankfurt International School (2017) points out some differences and similarities between English and German in terms of the alphabet, phonology, grammar and vocabulary. According to these authors, the German alphabet contains the same 26 letters as the English alphabet, plus the umlauted letters: ä, ö, ü, and the ß (*scharfes* S or double-s). German ESL students may have interference problems in class when the teacher spells out words. For example, beginners who learn German as FL2 (after learning English as FL1) commonly write /i/ or /e/ when the teacher says /ü/ or /ö/. In terms of phonology, we may say that the sounds of English and German are similar, as are stress and intonation patterns. However, the /ðə/ sound as in words like the /ðə/, and thing /θɪŋ/ does not exist in German, and many speakers have problems producing such words correctly. German words beginning with a /w/ are pronounced with a /v/. This explains the mispronunciation of English words we or wine as 've' and 'vine'. Further, if we consider the grammar patterns and verb tenses, we notice that there is a significant lack of correspondence between the tenses used in English to convey a particular meaning and those used in German (ibid.). For example, German does not have a continuous tense form, so it is common to hear sentences such as *I can't come now; I eat my dinner*; or conversely *He is riding his bike to school every day* (ibid.). Another example of the lack of correspondence is the use of the present simple in German where English uses the future with 'will'. This leads to mistakes such as: *I tell him when I see him*. In addition, learners of German as the FL2 face a common problem of choosing a correct tense to talk about the past. For example, German learners use the past simple tense (*das Perfekt*) to talk about past events: *Dann habe ich ein Bier getrunken*. The same tense, when used in English is produced in the following incorrect form: *Then I have drunk a beer* (ibid.). Further, if we look at the grammar features, we may notice that German has three features of word order that do not exist in English: firstly, the main verb must be the second element in the independent clause (ibid.). This often requires an inversion of the subject and a verb. For example: *Manchmal komme ich mit dem Bus in die Schule*. (*Sometimes I come to school by bus*.). Secondly, the past participle must always be the last element in the independent clause. For example, *Ich habe ihn night gesehen*.

(*I have not seen him*.). Thirdly, the main verb with its modal verb must constitute the last element in the dependent clause. For example, *Sie fragte mich, ob ich den Film schon gesehen hätte*. (*She asked me if I had already seen the film*.) (ibid.). Furthermore, similarities in vocabulary come from the same origin of the two languages – the Indo-European one. The similarities of lexis that can be mentioned here are given in the following way German/English: *Hand*/hand, *Wind*/wind, *Schwein*/swine, *hart*/hard, *helfen*/help, *Winter*/winter, *Haus*/house, *trinken*/drink etc. According to Mayer (2017), a basic word order is similar, e.g. *Ich trinke Tee*/I drink tea, or in case of modal verbs, *Sie muss lernen*/She must learn. Also, if we explore the declension of verbs (*singen-sang-gesungen* and sing-sang-sung), we may notice similarities here, too. However, many words do not have the same meaning, i.e. they are 'false friends'. For example, a German word 'also' means 'so' in English; a German word *aktuell* means 'current' not actual, a German word *bekommen* means 'get, receive' while in English we have 'become' meaning 'to start, to be', etc. Then again, nouns in German are capitalized, which often misleads students to write the English nouns with capital letters or write the German nouns without a capital letter at the beginning.

On the basis of the previously said, we intend to present the research that will give an outline of both positive and negative transfer in learning the FL1 and FL2 with adult learners. Therefore, the present paper is intended to give a contribution to a cross-linguistic influence in learning a second foreign language with the focus on Serbian students at the tertiary level, in such cases when their first foreign language is English (FL1) and their second foreign language is German (FL2).

METHODOLOGY

For the purpose of this research we have chosen a mixed-method research design in order to provide a better understanding of the problem of the positive and negative transfer from the FL1 to FL2. A mixed-method research provides more comprehensive evidence for studying a research problem and helps answer questions that cannot be answered by qualitative or quantitative approaches alone (Creswell, 2003). Qualitative data consists of open-ended information that the researcher gathers through questionnaires or interviews with the participants. In general, open-ended questions in the questionnaire allow the participants to supply answers in their own words.

The paper will focus more on the qualitative data because these can provide more in-depth answers such as why and how a student uses a certain learning strategy to solve a language task, not just on 'what', 'where' or

'when', as the data presented in numbers reveal. The analysis of the qualitative data were grouped into two major categories of positive and negative transfer for each specific language category: lexis, grammar and set phrases or idioms.

RESEARCH RESPONDENTS, INSTRUMENT AND PROCEDURE

A sample of 140 students were examined using the questions given in the questionnaire (see Appendix 1) designed specifically for this purpose. The sample included male (N=25) and female (N=115) first and second-year students at the Faculty of Education in Jagodina from the class teacher, preschool teacher and boarding school teacher departments. Students at the Faculty of Education in Jagodina are adult learners (between 19 and 21 years of age) who study English and German as foreign languages and their mother tongue is Serbian. All the participants started learning English from the first grade of primary school (at the age of 7) and started learning German as the second foreign language in the secondary school (at the age of 16). The questionnaire was completed in the presence of two researchers, who gave students a chance to ask questions and clarifications of the language tasks. Any comprehension problems were clarified with the help of an English and a German teacher – the authors of this paper.

The instrument (English version - see Appendix 1) that was used in the study was a questionnaire consisting of three parts. The questionnaire was originally given in Serbian (students' mother tongue) because we wanted to make sure that all the participants understood the questions.

The Questionnaire examined how students understand the set phrases and idioms which are similar in English and German, but very different when compared to the Serbian ones. Considering the fact that English and German are of Anglo-Saxon origin, which accounts for the numerous examples of phrases overlapping, students did this task very successfully.

Hence, these groups of questions were examined and the results of the usage of lexis, grammar and set phrases or idioms will be presented later in the paper having in mind both positive and negative transfer of English as the FL1 in the process of learning German as the FL2.

RESEARCH QUESTIONS AND HYPOTHESES

The main focus of this study is to show that there is more positive transfer influence in the process of learning German as the second foreign language (FL2).

A general research question we aimed to answer was - what was the level of positive and negative transfer of English as the FL1 in the process of learning German as FL2 in terms of vocabulary, grammar and set phrases or idioms. In the present paper, these were the two specific research questions the authors wanted to answer: 1) In which cases may we notice the positive transfer of the English language knowledge to the acquisition of German lexis, grammar and set phrases? 2) In which cases may we notice the negative transfer of the English language knowledge to the acquisition of German lexis, grammar and set phrases?

In addition, the purpose of this research was also to suggest possible ways of teaching/learning improvement for university learners who are less successful in learning the second foreign language (Cirkovic-Miladinovic, 2014a). In this way it would be possible to suggest some learning strategies for organizing and storing information, learning grammar and vocabulary, and to encourage students to consider which strategies work best for them in learning German as the FL2 (ibid.).

RESULTS AND DISCUSSION

We present the data obtained with the help of the questionnaires as follows: both positive and negative transfer of English to learning German are presented in terms of lexis, grammar and set phrases or idioms. The data are analysed qualitatively giving the percentage for both positive and negative transfer as well for the purpose of comparison and a confirmation or a disproval of the main hypothesis.

Results of the positive and negative transfer in terms of lexis

Positive transfer was noticed in the following examples: *Die Maus ist groß* - in case of words *die Maus* (German) and *mouse* (British English), the English word is pronounced in the same way but is spelled differently, so the difference is at the orthographic level. Students solved the task on the basis of phonological similarity of the mentioned words. Additionally, the third person singular of the English verb helped them infer the meaning of the German verb *ist*. The Mother-Tongue interference can be observed in the lack of the definite article *the* in students' translation of this sentence into English (for example in Serbian: *Miš je veliki*, literally translated into English it would be: Mouse is big). The question was answered 100% correctly.

The sentence *Er ist ein guter Koch* was solved by taking into account the similarities in pronouncing the German noun *der Koch* and the English noun

cook. There is an evident lack of voice change /h/ into /k/, which could be explained by the voice changes that happen in the group of Indo-European languages. If we look at the percentage of positive and negative transfer, we notice that 20% of students used the definite article 'the' before the noun book, 12% of students used the definite pronoun 'this' and only 8% of the participants used the indefinite article 'a'. The majority of students (60%) used zero article. The term zero article refers to noun phrases that contain no articles, definite or indefinite. English, like many other languages, does not require an article in plural noun phrases with a generic reference, a reference to a general class of things. There are a number of common fixed expressions used with certain prepositions involving everyday time and place nouns where zero article is required. In this case, students explained their choice for using a zero article with a noun book because of the rule "we use zero article with uncountable and plural nouns when we talk generally about people or things (such as: *Formal education in Britain begins when children reach the age of five*) or with objects when we want to talk about them in general (such as school and university in the following example: *At university I never bother with lunch, but always eat breakfast and supper. At school I always ate lunch and dinner, but never breakfast*.)"

In the example, '*Am Freitag spielen wir oft Fußball*' students translated the sentence based on the morphological and phonological similarity of the words in the sentence such as *frei + der Tag = der Freitag*...fri + day = Friday. All participants (N=140) solved the task successfully. The German uncountable noun *der Fußball* is orthographically similar to the English word *football*. In this task, students tended to pronounce these two words in the same way because of their similarity in spelling: 92 students (76.66%) pronounced these two words identically. Consequently, we may notice the negative transfer in this case.

In the next example '*Wir haben das Gift*' personal pronouns *wir* and *we* point out to the phonological similarity, so all the students (100%) recognized the meaning. On the other hand, the word *das Gift* and *the gift* are often mistaken for each other because they are phonologically the same, so this example represents the negative transfer commonly known as 'false friends'. 92% of students thought that *das Gift* (*the present*) means the same as the English word *the gift* (Longman dictionary of contemporary English 2005).

The next sentence '*Mein Job ist Kochen'*, was successfully translated by 95% of students. The determinatives *mein* and *my* mean the same and are pronounced similarly. In addition, the German noun *der Job* is borrowed from the English language and is the same in spelling and pronunciation. Positive transfer was also proved in this example in 100% of students' answers. Correspondingly, students noticed a similarity in meaning and form

of the German noun *das Kochen* and the English gerund *cooking* which is also considered a noun with the same form as the present participle of a verb *to cook*.

The positive transfer could be seen in the sentences 6, 7, 8, 9 and 12 (see the Appendix 1) in cases of cardinal numbers *sechs*-six, *vier*-four. The same was true for the adjectives *nett*-neat, *jung*-young, *fantastisch*-fantastic, verbs *trinken* – drink, nouns *der Raum*-room, *das Glas*-glas or in the case of adverbs *oft*-often. 100% of students solved the task in all of these examples and noticed a similarity in the meanings of the mentioned words. Modal verbs, German *kann* /kan/ and English can /kæn/, share the same meaning but there is a difference at the orthographical and phonological levels. This feature did not get in the way of students' successfully solving the task with 100% of accuracy.

Positive transfer occurred also in the sentence number 12, containing pairs of adjectives, German *sonnig* and English sunny. We may notice a similarity at the word formation level: both words are formed of the nouns *die Sonne* and the sun and generative endings –ig and -y for forming adjectives (*Sonn+ig=sonnig* and sun+y=sunny). Furthermore, students noticed phonological similarities and similarities in meaning in the following pairs of words: *Vater*-father, *Mutter*-mother, *Bruder*-brother, *Schwester*-sister. We also determined that students noticed a phonological similarity between the German verb *kommen* and the English verb *come* although there is not a possibility to use a continuous tense of verbs in German (92% of students used continuous tense *coming* while 8% of students used it as a bare infinitive *come*).

There were examples of the negative transfer in the questionnaire. In the sentence number 15, students (92%) thought that the German word *der Brand* (meaning *the fire*) means the same as the English word *brand*. Students explained this mistake by pointing out that these two words are spelled the same and their pronunciation is similar. Participants (95%) made a mistake in the example number 10 (*Der Tag ist Mist*) and thought that the German word which denotes rubbish has the same meaning as the English noun *mist/fog*. The next sentence, number 11 (*Wo bist du?*) also represents a negative transfer example. Namely, all students (100%) made a mistake and thought that the German interrogative pronoun *wo* (meaning *where*) is similar at the orthographical level with *who* which is the interrogative pronoun used to ask about a particular person.

The results have shown that students used their knowledge of English in the majority of examples and solved the tasks successfully. Students also used inductive and deductive ways of reasoning by solving the tasks, because

they were in the position to compare and analyse groups of words or just the words in three languages concluding the rules and patterns at the same time (Rubin 1981, cited in Cirkovic-Miladinovic, 2014b: 13). It is interesting to consider at this point that students were very successful in solving the tasks with German vocabulary using their English knowledge to guess the meaning of the given words and sentences. Based on the results from the questionnaire, we may conclude that positive transfer occurred in 9 out of 15 sentences, meaning that students successfully completed the task in 69.24% of examples while only in 4 sentences (30.76%) we encountered problems with the negative transfer.

Results of the positive and negative transfer in terms of grammar

In the next part (B) of the questionnaire, participants were given the sentences to translate them from Serbian into German and to explain what helped them to do that correctly.

In terms of adjective comparison, students recognized the similarity in comparing adjectives in German and English. The comparative is formed in both languages by adding –er to the positive form, for example, in German *lang + er = länger* whereas in English long + er = longer, *jung + er = jünger* vs. young + er = younger. In addition, it was noticed that students understood German quantifier *zu* in 50% of cases, because of the phonological similarity between the mentioned quantifiers and the English quantifier *too*. Students explained the usage of the German phrase *so gut* (22.5% of students used it properly in translation) relying on the familiar English phrase *so good*.

Since German sentences have a fixed word order, negative transfer was expected particularly in the sentences with modal verbs, for instance, *Ich kann eine Torte machen*, whereas in English the infinitive comes right after the modal (*I can make a cake*). Unexpectedly, all students (100%) put the infinitive in the German sentence in the proper place. As previously stated, when it comes to making questions and taking care of the word order in this task, students solved correctly (again 100% of students) the following task and put the auxiliary verb in the first place followed by a proper pronoun and then an adjective: *Ist es warm?* vs. Is it warm?

When it comes to the verbs, the results from the questionnaire have showed that the examined students (63%) had problems translating the Serbian sentence *Ja sam skuvala supu.* [transl. I have cooked the soup] into German and used past simple tense or Präteritum (*Ich kochte die Suppe*) instead of *Ich habe die Suppe gekocht* in German Perfect. This pointed out the negative transfer from the mother tongue and the FL1 to the knowledge of

verb tenses of the FL2. This could be explained by the fact that both English and German refer to past events using the simple past tense and the present perfect tense. The perfect past tense is called *Perfekt* in German, but it is important to understand that although the German *Perfekt* is considered the closest equivalent of the present perfect in English in terms of its structure, in fact, there are some notable differences in the ways each language uses this tense ("English Present Perfect," 2017). What the English Present Perfect and the German *Perfekt* have in common are compound tenses, formed with an auxiliary verb and the past participle (ibid.). This auxiliary verb is usually *to have* (*haben*) and sometimes, in German, *to be* (*sein*). The English Present Perfect refers to an action or a state that began in the past and continues into the present, whereas the German *Perfekt* is usually used to speak about completed states and actions (ibid.)

Prepositions and prepositional phrases showed that students made mistakes in using the German preposition *an* [English *on*] denoting the position of the surface on which something is placed, so they used German *auf* in the same way as they would use English *on* in the phrase 'on the wall', although the correct form should be *Das Bild ist an der Wand*. Students explained this by saying that in English when something is on a place, it has contact with a surface, i.e. there is no restriction concerning the position of a surface. It is evident here that negative transfer occurred and prevented students (45%) from solving the task correctly.

In terms of possessive pronouns, we could notice that students had problems with the German gender. Namely, 55% of students used the possessive article *dein* without the necessary change of the gender (students used the male gender for *dein Vater* and *dein Tanta* instead of the male *dein Vater* and the female gender for *deine Tante*). Students reported that this was difficult for them because in English they did not have to consider the gender of the possessive pronoun, e.g. when they say *my grandfather* or *my grandmother*.

In the sentence *Ich liebe ihn nicht*, if we take into account the usage of the negative verb forms and negations, it may be noticed that the negations in the German and in English languages come right after the verb (*I do not love him*). So the students were very successful in this task and only 4% of them made mistakes. Therefore, it could be said that 96% of students' knowledge of using the negations in German and English was well-founded.

To sum up, the obtained results revealed that in terms of grammar there is more negative than positive transfer in case of surveyed students. Negative transfer (in 75% of answers) occurred in cases where the students had to use the definite article. In such cases, students made mistakes in 63% of answers because they did not use the proper past tense in German (FL2)

because of the interference of the English (FL1) past tense form. There was also the issue of the noun gender, that is, 55% of students made a mistake using German possessive pronouns which should have been used in a proper gender, unlike the English pronouns. However, positive transfer was evident in the cases of the word order in sentences (100% of students solved this task). 55% of students used the preposition *on* properly and 96% of students were successful in using the negation of verb forms. Besides German articles, students reported that the grammar category of verb tenses was the most difficult for them in both their mother tongue and in English.

Results of the positive and negative transfer in terms of set phrases and idioms

The third part of the questionnaire was created for the purpose of testing students' abilities to use the knowledge of the English vocabulary and set phrases and to complete German sentences and German set phrases and idioms. Idioms represent a set of words that has a special meaning that is different from the ordinary meaning of each separate word (Longman Dictionary of Contemporary English, 2005) and because of this specific structure it is the category that students have to memorize. In terms of the set phrases, students were 100% successful and realised that the English idiom 'break the ice' (meaning to be afraid of something) is the same as German *Eis brechen,* then English *strong as a lion* (meaning a very strong person) is the same as German *stark wie ein Löwe,* and also English *to be on/off* (to turn on or to turn off some electrical device) is the same as German *sein an* or *sein aus.*

Besides the set phrases, we wanted to examine students' knowledge of collocations that are characterized by usual lexical connections but not as strong as in idioms (Bugarski, 2009:200). The data showed that students were aware of the collocations that were tested in the questionnaire and these were the following: He is 6 years old→*Er ist 6 Jahre alt*; Take a second street left please→*Nimm bitte die zweite Straße links;* Take a seat please→*Nimm bitte Platz;* How old are you? →*Wie alt bist du?* On the contrary, all students (100%) had problems in the example number 5 (*Du bist 21 und nächstes Jahr ____ ich 21 Jahre alt.*) because they used the future tense of the verb to be *(*I will be 21 next year*)* although in German it should be *Ich werde 21 nächstes Jahr,* where the verb *werden* is used in the present and not in the future tense.

According to the data from this part of the questionnaire, we may conclude that there were more positive than negative transfer occurrences and that students used their knowledge of the English set phrases and idioms

and successfully solved the tasks in 90% of examples (only one sentence out of 10 was problematic).

The above findings support the hypothesis that students at the university level were successful at recognising cross-linguistic similarities between English and German and were able to utilise this knowledge when discovering the meaning of less known German vocabulary items. This research proved that there was more positive than negative transfer in the case of the examined students.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS

The data obtained from the questionnaires and the interviews data (think-aloud students' answers) provides an optimistic picture – students reported that they became more aware of the similarities and the differences among the three languages, Serbian, English and German. In order to elucidate this finding, we may refer to Groseva's (1998) claim that it is the FL1, which is consciously learnt and analysed, rather than the L1, which serves as the basis for further comparisons when learning an additional language.

Using compensation strategies by the examined students was very successful and proved that university students were able to deal with the given tasks. In line with the previously said, it could be stated that learner strategy research in the language classroom seemed to be one of the important parts of the teacher's role. Thereupon, if teachers are willing to be researches in their own classroom then they will be in position to find out possible language learning problems of their learners and solutions for them (Cirkovic-Miladinovic, 2014b). The teacher's help would increase success in students' learning and learning outcomes will be of higher quality overall. Success in learning FL1 and FL2 will increase students' motivation for further foreign language learning. Motivation about the language is found to be of particular importance in predicting outcomes, along with fun activities and activities that promote language use in accordance with students' preferences and interests (Bernard, 2010). According to Fen Ng and Kiat Ng (2015: 104) motivation is a crucial factor in learning the second language and it is influenced by different variables like personality and attitudes of learners, their learning styles and the power of a relationship between two foreign languages. In other words, these variables are potential factors of enhancing learners' motivation in FL1 and FL2 learning.

Balla's (2013: 87) findings indicate that L3 German learners attribute greater facilitating roles to their FL1 English than to their L1 Hungarian. She believes that the facilitation can be enhanced with special instruction that

compares the learners' FL1 and FL2. The results of her study show that the comparative instruction has different roles at the various stages of instruction, and that it facilitates FL2 learning especially at an earlier stage of instruction. On the other hand, our research shows that examined students at the university level are more skilled to rely on their FL1 knowledge and that the longer study period means a better vocabulary and set phrases knowledge, proving that there was more of the positive than negative transfer in the examined process.

Further research into this subject is essential so that the positive influence of the FL1 English is maximised while the interference with the FL2 German is minimised. This research may contribute to the field of FL learning by providing an insight into the situation where two foreign languages are learned and also lead to developing special learning materials for this purpose. It would be of great importance if this research might initiate a discussion among both foreign language teachers and teacher trainers for the benefit of foreign language learners at university and all other levels.

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IMPROVING THE QUALITY OF HIGHER EDUCATION WITH THE INTERDISCIPLINARY APPROACH TO PRESCHOOL MUSIC EDUCATION

Blaženka Bačlija Sušić*
University of Zagreb, Faculty of Teacher Education, Croatia

Biljana Jeremić
University of Novi Sad, Faculty of Education in Sombor, Serbia

Aleksandar Stojadinović
University of Niš, Faculty of Education in Vranje, Serbia

Abstract: The goal of this paper is to present an alternative contemporary pedagogical approach that particularly contributes to creating interdisciplinary connections and integrating and connecting music with other artistic and subject areas, the concept known as the Connected Curriculum (Fung, 2017) with a purpose of improving the existing curriculum and ensuring a more extensive experience for students. Since it is important for the curriculum to be based on and consistent with the research from practice focused on research-based education, this paper emphasizes the importance of Research Based Learning (RBL). A descriptive method of educational research is used in this paper, and the main goal is to present different approaches to interdisciplinary education. The research problem is focused on the need for an interdisciplinary approach to music education in accordance with modern approaches and types of education based on curriculum integration. This type of curriculum integration and interdisciplinary approach to music education of future preschool teachers is in accordance with a holistic view of civilization and the world (Economidou Stavrou and Socratous, 2011), while it also preserves the integrity of musical experience and ensures a better understanding of children's need for complete musical expression for the purpose of their overall development.

Key words: integrative curriculum, multidisciplinary approach, research-based learning, holistic approach.

INTRODUCTION

In a modern society prone to numerous changes and challenges, it is necessary to look for new ideas and ways to educate young people in order for them to survive in the labor market. Educating children is the most

*E-mail: blazenka.baclijasusic@ufzg.hr

important investment of any society but is also an activity that is still not receiving enough attention. Preschool education is the first link in the education process and has the most important role in a child's development. Dictates of a modern way of life, including someone's level of education, their economic and social status (not necessarily related to the level of education) determine the fact that many parents are not able to provide their children with proper motivation and ensure their proper development. Therefore, early and preschool education institutions help many parents balance their work and family responsibilities. Both teachers and parents, therefore, have an important role in this period significant for children's cognitive and social development, and are responsible to provide children with an education suitable for their development stage. Teachers are also expected to cooperate with the experts from various fields within the institution for early and preschool education, as well as outside of it (Jeremić, 2012). Such a joint partner relationship significantly influences children's overall development and their ability to cope with the challenges of the modern society and the labor market and become a productive workforce in the future (Jenson, 2006).

Unlike the traditional way of learning and teaching, and presenting knowledge through independent isolated disciplines, the idea of curriculum integration as a part of the education movement emerged at the beginning of the twentieth century. When integrating different thematic areas, the dilemma arises which areas to include and how they can be combined in the best possible manner (Ellis and Fouts, 2001). The focus is on real-life topics and problems from several thematic areas (Etim 2005). Since this is a pedagogical approach that focuses on a child, a pupil or a student and not on a discipline, the crucial aspect in curriculum integration as a pedagogical approach is their school achievement when using this way of learning.

The interdisciplinary nature of art education is confirmed by its original syncretic form based on the connection between different art fields. In addition to the many benefits that artistic activities provide for a man, their value is also reflected in their affective power to create new or modified ways of observing, thinking, working, feeling (Atkinson, 2018). The need to integrate different art fields is indicated by the unity of music, movement and speech, which manifests itself as a unique, indivisible expressive whole within the original art (Bačlija Sušić, 2013; Stojadinović, 2017). Curriculum integration in the field of art leads to connecting different art forms, as well as integrating them with other disciplines. Besides many benefits of music for children's overall development, Way and McKerrel (2017) emphasize the power of music as a multimodal form of communication. Encouraging a syncretic and multimodal expression of children helps them spontaneously express their inherent creative potential, which also allows a teacher to get

to know children better and discover their many hidden potentials (Brebrić and Bačlija Sušić, 2019).

A modern way, type and approach to curriculum integration within the interdisciplinary approach is the so-called *Connected Curriculum* (Fung, 2017) which, in addition to sharing the existing practice, contributes to the design of new creative ideas in order to improve the curriculum and ensure a more extensive experience for students. Moreover, from the aspect of connecting and aligning a curriculum with research-based education, this paper emphasizes the importance of *Research Based Learning (RBL)*.

In accordance with the above-mentioned, and for the purpose of children's development and well-being, teachers are expected to be able to connect different areas and disciplines at this initial level of the education process. These values need to be developed during the process of education of future teachers in order for them to be able to find new ways of building the thorough knowledge that would be in line with the requirements of the 21st century. It is therefore necessary to plan and implement the *Cross-curricular approach* in educating future teachers and constantly encourage their active participation in discovering new ideas and ways of connecting different subject areas, which will also stimulate their creative potential. When educating future preschool teachers, music educators also face the issue of effectiveness of the interdisciplinary approach and the application of these modern ways of integrating the curriculum in their music education. Starting from the basic and most important goals of music education, which include music literacy and music performance, it is questionable whether these goals can be better met by curriculum integration or by dividing it into separate disciplines.

METHODOLOGY

Research Problem and Goal

The research problem is focused on the need for an interdisciplinary approach to music education in accordance with modern education approaches and types based on curriculum integration. There is relatively little literature on this issue, so the goal of this paper is to present different theoretical frameworks and pedagogical approaches concerning curriculum integration within the interdisciplinary approach to music education with a special focus on the education of future preschool teachers. The main intention of this paper is to use the review, synthesis and interpretation of the existing approaches and studies, as well as to suggest further improvement of the

higher education quality through an interdisciplinary approach to preschool music education. Since it is important for the curriculum to be based on and consistent with the research from practice focused on research-based education, this paper emphasizes the importance of *Research Based Learning (RBL)*.

CONNECTED CURRICULUM AS THE STARTING POINT FOR RESEARCH-BASED EDUCATION

As Fung points out (Fung, 2017), the pedagogical orientation within the connected curriculum approach, that is, learning through research and inquiry lies at the heart of the connected curriculum model. The argument is that the predominant, although not necessarily the only way of learning for students should be active inquiry and, where possible, reference to the current research showing what is already known in a particular field. The Connected Curriculum framework draws on the European tradition of Bildung, a German term defined by twentieth-century philosopher Hans-Georg Gadamer as "the properly human way of developing one's natural talents and capacities" (Gadamer 2004: 9). A connected curriculum framework promotes active engagement with students and student representatives not only at the program level but also at the level of their school or faculty and at the institutional level (Fung, 2016).

Fung (2017) presents six dimensions (models) of the connected curriculum. The first dimension refers to students getting connected with researchers and with the institution's research where they will themselves initiate research questions for solving certain problems. The second dimension suggests that each curriculum should include a framework for research activities. In other words, assessment activities and feedback should encourage students to connect different aspects of their learning process. Students making conceptual connections between their own subjects and other disciplines is the third dimension. The fourth dimension suggests that students connect academic learning with the skills necessary for the workplace. In the fifth dimension, students learn to produce outputs – assessments directed at an audience. The sixth dimension says that engaging oneself with research allows all of us to see how knowledge gaps are addressed, how new knowledge is created, and how one can communicate effectively with a diverse audience.

The basis of a connected curriculum is to encourage students to connect different aspects of their learning through research. Connectedness lies at the heart of this vision. There are no less than twelve dimensions of

connectedness, i.e. types of connections we will briefly present here, namely: 1) Connections between disciplines 2) Connections between the academy and the wider world 3) Connections between research and teaching 4) Connections between theory and practice 5) Connections between a student a teacher/lecturer/professor 6) Connections between a student in her/his interior being – and in his/her being in the wider world 7) Connections between a student and other students 8) Connections between a student and her/his disciplines – that is, being authentically and intimately connected epistemologically and ontologically 9) Connections between various components of the curriculum 10) Connections between student's own multiple understandings and perspectives on the world 11) Connections between different areas – or components – of the complex organization that constitutes the university 12) Connections between different aspects of the wider society, especially those associated with the society's learning processes (Fung, 2017: 5).

Therefore, research is at the core of a connected curriculum. It implies that the predominant mode of student learning based on contemporary degree programmes should reflect active, critical and analytic enquires undertaken by researchers. Where possible, both individually and in groups, students should engage in activities associated with research and thereby develop their abilities to think like researchers. These activities may include not only undertaking investigations and formulating related critical arguments and findings, but also peer review, dissemination of knowledge and public engagement. Such approaches can be applied at all levels of study, from the first undergraduate year. (Fung 2017: 20)

THE INTEGRATED CURRICULUM AS THE STARTING POINT FOR AN INTERDISCIPLINARY APPROACH TO ART EDUCATION

Due to the modern way of life and education necessary to live in the 21st century, any part of both the upbringing and the education process should be based on curriculum integration within the interdisciplinary approach to education. Unlike isolated, individual subjects, the interdisciplinary, i.e., integrated curriculum approaches education in a more flexible way, which primarily starts from a combination of different subjects, with an emphasis on projects. Flexibility implies and includes creativity, so such an approach utilizes and combines different sources of knowledge, not just textbooks. In addition to these features, interconnectedness is also emphasized, that is, relations between the concepts and the formation of thematic units as the organizing principles. All this further includes a need for more flexible schedules as well as flexible student groupings (Lake, 1994). This author

calls the integrated curriculum the "continuum of integration" (Lake, 1994: 3). Within the integrated curriculum, cooperation between subject teachers and teachers in primary and secondary schools is also implied, as well as cooperation between preschool teachers and external experts from certain fields in preschool institutions. There are different integration models depending on the levels cited by individual authors. For example, when describing the integration process within the teaching process, Banks and Banks (1997) mention a four-level model which includes the contributions approach, the additive approach, the transformation approach and the social action approach, which is the most important one and reflects the highest level of integration in which students explore content through related concepts, questions and problems, and then make decisions and act in accordance with their conclusions.

A more detailed description consisting of ten levels is given by Fogarty (1991), presenting a "*fully networked approach*" according to which a student cooperates with a network of experts and resources.

In order to demystify myths of art education, authors Winner and Heatland (2000a) reviewed empirical evidence, and sought to explore the connection between learning in the arts field and other forms of academic learning. They studied a connection between one or more art fields and their contribution to other, non-art fields such as verbal achievement, mathematical achievement, spatial reasoning, nonverbal reasoning, and visual and verbal creative thinking. Art studies can strengthen other learning areas due to work habits developed while dealing with the arts (for example, persistent practice when playing music), where students also acquire a perseverance skill, an ability to review things, close observation skills, etc. which can be transferred to other subjects and areas.

A longitudinal three-year study in Canada involving more than 6,000 students and their parents, teachers and principals found that students educated through the Learning Through the Arts (LTTA) program achieved significantly higher scores on computation tests compared to the control group of students (Smithrim & Upitis, 2005). Likewise, there are studies that connect the integrated curriculum with improving attitudes, attendance, motivation, work habits, and student achievement tests (Appel, 2006; Barry, Dell, Raiber, & Gunzenhauser, 2005; Catterall & Waldorf, 1999; Jacobs, 1989; MacIver , 1990; Smithrim & Upitis, 2005). Moreover, one study also indicates that primary and secondary school teachers (Edgerton, 1990; MacIver, 1990) master new teaching techniques and have a more positive and collaborative school environment associated with the integrated curriculum. By using a qualitative four-level study, Andrews (2006) analyzes the effectiveness of an art course in teacher education using integrated art. The conclusion was that

for artists who teach a certain skill, the role of art is critical for learning and self-confidence improvement.

THE INTERDISCIPLINARY APPROACH AND INTEGRATED CURRICULUM IN MUSIC EDUCATION

A fundamental question in music education is whether music should be taught as a separate discipline that has value in itself, or integrated with other subjects and disciplines. There is also a question of how to integrate, connect, or combine music with other art fields and different disciplines in the integrated curriculum. While a few years ago each art discipline was considered a separate field, today there is a growing need to interconnect different subjects and fields such as media, art and design, and performing arts and this is expected from teachers, pupils and students (May & Warr, 2011). This approach emphasizes a return to the syncretic unity of music and its natural connection with other fields of art. Some authors emphasize that connecting music with other fields of art as well as with other disciplines is a common occurrence within music education and has been an integral part of the music curriculum for more than a century (Abril and Gault, 2016). Therefore, connecting the music curriculum with modern ways of creating, performing and playing music remains an interesting topic (Tobias, 2013). These disciplines are often mutually related and therefore there is a need for teachers and students to build links between subjects (so-called interdisciplinary connection) that were considered separate subjects or areas until recently.

When integrating music with other subject areas, a one-way and a two-way model are observed. While the one-way model implies that music is used to reinforce the content of other academic areas, in the two-way model music and other subject areas are connected in a meaningful and suitable way thus providing students with a rich learning experience. Therefore, cultural boundaries and individual differences between pupils and students can be overcome, which further results in a productive and motivating experience for pupils and students and unique opportunities for teachers (Barry, 2008). Teachers are therefore expected not to be solely focused on their own field of work, but to also encourage students to connect the acquired music knowledge with other disciplines and areas, both art-related and beyond, that is, to meaningfully connect music with different life situations and dimensions of human experiences outside of music itself. The question is how to encourage such an approach in music teachers who are focused on the traditional education approach where music is a unique art discipline that has its own specifics with regard to the development of musical abilities and the acquisition

of special musical skills and knowledge. The way to recognize and further motivate the observed interest and curiosity of students to connect different, more or less related areas largely depends on the creativity, interest and competence of teachers. It is in this way that a holistic approach to music education and a better understanding of music activities by pupils and students happens. Pioneers such as Satis Coleman, Mabelle Glenn and James Mursell point out the need for a thorough, that is, a holistic music curriculum, which may include singing, playing, composing, movement, instrument making and listening to music (Coleman, 1922; Freer & Dansereau, 2007; Nelson, 2004). Some authors believe that their contribution through textbooks, articles and presentations should have a lasting impact on the development of a more detailed general music curriculum (Mark & Gary, 2007; Nelson, 2004). The role of teachers is particularly emphasized and they are considered to have an extremely important role and contribution to the type of music education based on connecting music, culture, history and other related art fields (Campbell, 2016 according to Byo, 1999). Unlike the usual approach to general music education, there are no professional organizations, magazines, teacher development courses that focus on the integrated approach to music education. Nevertheless, there are historical precedents, complementary movements, and contemporary justifications for interdisciplinarity both in music education and the arts (Barrett, 2016). In order to emphasize interdisciplinary relationships between musical elements and other elements, and between musical styles and other styles, teachers can study one or more musical works with pupils and students. Such an approach is seen as the foundation of interpretative and analytical understanding of music as a discipline (Barret, 2008). The interdisciplinary approach and integrated curriculum in music education of future preschool teachers is in line with a holistic view of civilization and the world (Economidou Stavrou and Socratous, 2011), and while preserving the integrity of musical experience, it opens up new possibilities for a thorough study and better understanding of children's need for a comprehensive musical expression for the purposes of children's full development.

CONCLUSION

In contemporary education, there is a growing need to connect different art fields as well as a growing need for teachers and students to appreciate the connection between different subjects that were considered separate, distinct areas until recently. Curriculum integration is crucial for achieving holistic education according to which students find their identity and purpose in life by exploring their interests and passions (Miller, 2007). This is

especially important in the education of future preschool and school teachers whose very nature of education requires knowledge of different areas, and thus provides the opportunity to connect them. Based on the acquired competencies in different disciplines, with adequate motivation, future preschool and school teachers can more easily connect different disciplines and areas during their studies, and in this way, later, after their studies, they will be able to apply the interdisciplinary approach in their teaching practice.

Allowing teachers more curriculum freedom and providing them with an appropriate structure for interdisciplinary collaboration are the key factors in achieving meaningful levels of integration (Bautista, Tan, Ponnusamy & Yau, 2016). When using the interdisciplinary approach to teach the arts, it is particularly important to emphasize the role of the teacher who has the crucial role in students' progress. The teacher's contribution is reflected in the assessment of how much the student understands, creates, responds to art, on the basis of which the teacher further guides students' future activities, with formative comments that highlight students' opinions (Eisner, 2002).

Numerous studies confirm the benefits of active involvement in music and its cognitive transfer to other areas. The interdisciplinary initiatives also highlight a possibility of a cognitive transfer of general cognitive capacities and dispositions such as creativity, self-discipline and motivation to learn from music to other subjects. The possibilities of the transfer going the other way around are rarely mentioned, but it stands to reason to ask about the benefits of and whether learning and involvement in other areas and disciplines affects music education and involvement in music. Music educators generally have the impression that interdisciplinary initiatives are one-sided and that music often beneficially affects study of other subjects. Art pedagogue Michael Persons interprets the essence of interdisciplinarity as follows: "integration occurs when students, based on different teachings and experiences, make sense of themselves, when they unite these experiences thus creating a view of the world and finding their place in it (Michael Persons, 2004, p. 776).

What is especially important to point out is that the work at the faculty that educates future preschool and school teachers offers the greatest opportunities for interdisciplinary cooperation. The very nature of preschool and school teacher education is interdisciplinary and requires knowledge of different areas. To get to know art through a connected curriculum means to return to its original syncretic form based on the use of inherently human capacities.

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THE ANALYSIS OF STUDENTS' ATTITUDES TOWARD DISTANCE LEARNING AT THE UNIVERSITY

Irena Golubović-Ilić*
Faculty of Education in Jagodina, University of Kragujevac

Slađana Stanković
Faculty of Education in Jagodina, University of Kragujevac

Aleksandra Aleksić-Veljković
Faculty of Sport and Physical Education, University of Niš, Niš

Abstract: The paper presents results of the research conducted at the FE in Jagodina upon the termination of the state of emergency over the coronavirus pandemic in the Republic of Serbia. The research aimed to determine the attitudes of students (N = 87) about the quality of university teaching using Google Classroom and Zoom applications. Students fulfilled their pre-exam obligations in the Methodology of Environmental Studies and Methodology of Physical Education using the above applications. The research was conducted by applying descriptive and survey methods, with special attention paid to students' competence to use Google Classroom and Zoom applications, student motivation and self-confidence, quality and understanding of materials from the aspect of applicability of acquired knowledge and the quality of pre-exam obligations (assignments) they had to fulfill during the state of emergency. The results show that the students recognized advantages of distance learning, that they did not have major difficulties using the applications, that such a mode of working has positively affected their motivation to participate in online teaching, and that they generally consider the given assignments interesting and useful for their future work with children. The research confirmed that the students' attitudes toward the possibilities of raising the quality of teaching by applying electronic materials and modes of communication are positive, except that the quality and understanding of materials processed during the state of emergency should be reviewed and examined in more detail.

Key words: university teaching, distance learning, student, attitudes

EMERGENCE AND DEVELOPMENT OF DISTANCE LEARNING

The old saying *Live and learn* gains even greater importance in the changing world of today. Learning never ends; there is always this inner need to learn

*E-mail: golubovic.ilic@gmail.com

and progress, there are situations that require new, 'fresh' knowledge. Faster and more intensive scientific and technological development leads to the accelerated penetration of information technology (IT) into the sphere of education, which results in numerous transformations of education at all levels and in all forms (Jorgić, 2014; Gilbert, 2015). Traditional ex-cathedra learning and contact teaching are losing the battle with e-Learning programs that offer immeasurable options and advantages.

Since some students could not attend classes every day, nor could they travel to faculties, universities, and other educational institutions, the mid-twentieth century saw the beginning of distance learning development. This form of education was created to enable students to learn regardless of geographical, social-economic, and other constraints, and its evolution, depending on the form of communication, organizational approach, and the technology used to realize it, has undergone several phases.

Distance learning was first applied in 1840 by Englishman Isaac Pitman, who taught shorthand (Stanković, 2006). He mailed his students short passages from the Bible to transcribe them and received transcriptions from *his students* in *return* for evaluation also by mail. That mode of working met the minimum basic features of distance learning - a physical distance of students and teachers, an organization that provides contents - as opposed to self-learning, a curriculum - learning must have a goal, and evaluation (assessment) of learning (Pokorni, 2009).

Distance learning has undergone 4 developmental phases: 1) correspondence systems; 2) educational television and radio systems; 3) multimedia systems and 4) Internet-based systems (Zenović et al., 2012, p. 128). Although laymen tend to equate distance learning with computer use, based on the above, we see that the application of the first forms of distance learning happened more than a century before the advent of the first computers. Today, different names and definitions of learning with the help of electronic media are used in the process of modernizing education in the world. The United States Distance Learning Association[1] defines distance learning as 'the acquisition of knowledge and skills through mediated information and instruction, encompassing *all technologies* and *other forms* of learning at a distance'. This definition unites all diversified names for e-learning: e-learning, web-based learning, distance learning, on-line learning, and others.

Distance learning is an 'instructional method of working with students that do not require students and lecturers to be present in the same room', i.e. 'takes place when the teacher and students are physically separated by a great distance and when technology (i.e. speech, video, data, and print) is

[1] www.usdla.org

used to bridge this the gap' (Mandić, 2009, p. 2). Apart from the spatial distance between teachers and students, distance learning is characterized by an indirect connection achieved through different technical means (Vilotijević & Vilotijević, 2008; Finch & Jacobs, 2012), and depending on that, there are different criteria for its classification.

THE ADVANTAGES AND SIGNIFICANCE OF DISTANCE EDUCATION

Massive application and availability of the Internet, electronic sources of knowledge (books, magazines, databases, encyclopedias ...), development of information and educational technology have caused changes in the organization of teaching at all levels. Under the pressure of technological progress, higher education institutions have lost the privilege of being the basic source of knowledge, so today students learn a lot more outside the faculty – through the Internet, films, media, and other means (Stanković & Golubović-Ilić, 2018). Nevertheless, in our country, there is a certain dose of resistance to the concept of distance learning and the use of the Internet for educational purposes, the inertia of the entire system, from primary school to university (especially with educators who have more than 30 years of work experience) and the trend of finding justifications for insufficient application of such a mode of working in inadequate equipment of educational institutions. Despite the advantages of applying electronic sources of knowledge and educational technology in teaching, the teaching staff at all educational levels slowly introduces innovations and are hesitant about changing the established working method. One of the reasons is the fact that applying distance learning mainly implies additional engagement, acquisition of knowledge, and professional development.

Although compared to the traditional, classical education, distance learning has 'been frequently controverted and rejected alternative' (Zenović et al., 2012, p. 133) the need for current and continuous updating of knowledge and skills in today's society has influenced the change of attitudes, and thus a more frequent use of new technologies for educational purposes. However, the development of online courses in higher education does not happen overnight (Sun & Chen 2016). One of the strongest advantages of distance learning[2] is flexibility in every sense: we set teaching (work) time, a teaching method and work pace ourselves. Apart from time flexibility, geographical independence is particularly significant (Adamov & Segedinac, 2006; Gilbert, 2015). In an e-classroom, students can learn from anywhere

[2] in the period March - May 2020 during the coronavirus pandemic in the Republic of Serbia and to fulfill work obligations - author's note

and in an environment that suits them best. This means learning is no longer physically restricted to school buildings, which also solves the problem of students overcrowding in small spaces. The education process can take place without significant reorganization of students' lives - traveling, moving, or leaving work, which greatly increases their motivation and efficiency of studying. On the other hand, teachers also do not have to spend time on coming and leaving the faculty or pay travel expenses, so benefits are multiple (Jevtić & Đorđevic, 2012, Finch & Jacobs, 2012). These benefits include: learning effectiveness, faculty satisfaction, student satisfaction, access, and cost-effectiveness (Swan, 2007).

Geographical independence also means that there are no delays in the distribution of materials, and information can be adapted to students' requests and comments. Online materials can be corrected and supplemented and students can notice changes immediately. There is no longer the need for the teacher and a large number of students to coordinate their schedules to meet in the same place at the same time, there is less reason for students (or teachers) to miss classes; both teachers and students have time to formulate questions and answers, to prepare for the next lecture/tutorial in detail, and the freedom to choose the appropriate time to learn increases students' sense of control over the process. The distance learning system is also characterized by the possibility of participating in the highest quality or the most prestigious programs - a student can attend some courses/study programs at high-quality institutions or those held by renowned experts without leaving home, as well as by unlimited working time and space in which teaching materials are accessed at the time and a pace that best suits individual student's personal characteristics (Radosav & Karuović, 2004; Mandic, 2009; Jorgić, 2014). Online media can provide multiple benefits for both staff and students in supporting students' learning experiences (Gillett-Swan, 2017), and, in our case, this was confirmed during the state of emergency.

The Internet allows students to communicate with each other, individually or as a group, and to send questions, hold discussions, oral or electronic, with their teachers, and they are much more relaxed in communicating via e-mail and chat programs than in face-to-face situations or when they should talk to the teacher in front of an entire study group during 'classical' lectures. In such communication, students can have anonymous communication with teachers - their identity remains unknown, which significantly reduces the fear of teacher reactions (Herold, 2009; Sun & Chen, 2016). Thanks to the Internet, students, and lecturers communicate by exchanging text messages and materials (as in a correspondence school), audio recordings (as in radio learning), video materials (as in educational television), but at a much higher level and incomparably faster, while in synchronous communication the

exchange takes place in real-time in all three cases. There are a large number of studies that find positive statistically significant effects for student learning outcomes in the online or hybrid format compared to the traditional face-to-face format, but even though there are positive findings for the effectiveness of online learning, it is still unclear that this generally holds across studies (Nguyen, 2015). Also, studies have indicated that it takes more time to teach online courses than traditional courses (Crawford-Ferre & Wiest, 2012; Gabriel & Kaufield, 2008).

A METHODOLOGICAL APPROACH TO THE PROBLEM

Context and procedure

The most prevalent form of teaching in higher education, not only in Serbia but also in more developed countries, are still traditional lectures. Most lecturers and students find equipment handling, different interaction, and a different way of communication compared to contact teaching intimidating, and distance learning also requires additional time and effort of participants (both lecturers and students) during preparation for classes. Nevertheless, due to the situation that arose in connection with the coronavirus pandemic in the Republic of Serbia, and upon the recommendation of the Ministry of Education, Science and Technological Development[3], the application of distance learning at the Faculty of Education, University of Kragujevac[4] started on March 23.

The realization of most study programs during the state of emergency declared on March 15, 2020 was continued with the use of electronic materials and electronic forms of communication. For our present research, two study programs have been particularly interesting - *Methodology of Environmental Studies and Methodology of Physical Education* taught in the third year of undergraduate studies (educational profile: preschool teacher). Apart from the usual communication with subject teachers via e-mail, during the national state of emergency students of this study group fulfilled their pre-exam obligations using Google Classroom, while lectures and consultations were organized using the Zoom Application. Students received the assignments they would otherwise fulfill in regular teaching activities through the Google Classroom, with detailed instructions, and by accomplishing them they earned certain points they would otherwise receive based on their engagement in the classroom. There were also those students who had

[3] Short: MESTD

[4] Hereinafter FE

not previously used these applications but participated in some forms of distance learning, and there were those who had not experienced any other form of teaching apart from contact teaching. Upon termination of the state of emergency, students (N = 87) expressed their attitudes about this working method by filling out the online questionnaire.[5]

Research methodology

Bearing in mind that 'attending' distance studies requires students to have a certain level knowledge and skills, the subject of interest of this paper was the quality of university distance learning observed from the student's point of view. The research we did used the survey technique aimed to determine students' views on the quality of university teaching using the Google Classroom and Zoom Application.

The objectives of the research were:

1. to determine the students' skill to use the Google Classroom and Zoom applications, their opinion regarding the use of these applications, and the impact of Google Classroom and Zoom on their motivation and sense of security (self-confidence);
2. to examine students' attitudes about the quality of pre-exam obligations (assignments) they had to accomplish during the state of emergency;
3. to determine the opinions of students about how much they understood the content (material) they processed using Google Classroom and Zoom, how applicable and efficient they consider thus acquired knowledge and distance learning, respectively.

The research was conducted using descriptive and survey methods in the last week of May 2020. We used the seven-point Likert scale of attitudes, i.e. a questionnaire with 13 closed-ended and 2 open-ended questions.

RESEARCH RESULTS AND DISCUSSION

Students expressed their ability to use Google Classroom and Zoom applications by circling the number on a scale from 1 to 7, with the first question referring to their experiences in using the Google Classroom application before, and the second and third ones referring to the difficulties and problems with Google Classroom and Zoom applications during the state of emergency. The results show that until the beginning of the state of emergency, a small number of students were unfamiliar with Google Classroom, that is, only

[5] Also online – author's note

25 of them (28.7%) stated that they had never used the application before. Accordingly, and contrary to our assumptions[6], a small number of students (2.3%) had problems and difficulties in using the application. Interestingly, 13 of them (14.9%) circled the number 2 for the 2nd question,[7] which means they had certain problems, but in the following question they did not state those problems and difficulties, that is, they did not supply the answer to the 3rd question. Although it was not our goal to consider the types problems and difficulties in more detail, as these could be of technical (lack of the Internet, weak signal, bad sound, etc.), but also personal nature (poor concentration, lack of motivation, concern about the spread of coronavirus infection, etc.), we have singled out some characteristic responses. The most common problems were *weak internet connection*[8]; *connection failure; video bugging and sound interruptions* (11 students); 4 students had a problem with sending assignments in the Google Classroom (*I had problems at the very beginning until I got used to it and learned to how to use it…; At first, I had a problem with how to send homework; I had difficulties until I fully understood how everything works, over time everything was easier*). Two students stated they had a problem because of power outages due to the bad weather during Zoom meetings, and 6 of them pointed out they had a problem to join Zoom meetings at scheduled times. One respondent stated the problem as '*I mostly did not understand tasks…it is still easier when the professor or a teaching assistant explains the task and its goal directly, i.e. live'*. He thus emphasized, on the one hand, the importance of teachers and contact teaching, but also the fact that in online teaching courses and tasks should be well organized from the very start, and that students should be provided with detailed instructions and expectations. Instructors should anticipate areas of potential misunderstanding and dismiss unclear directives before the start of the course (Gilbert, 2015). The data also show that most surveyed students (66 or 85.8%) found using Google Classroom and Zoom 'easy and simple', as only two and one respondent circled numbers 7 and 6, respectively.[9] When we analyze the answers to the first 4 questions, we conclude that students, although they had not used Google Classroom and Zoom before, quickly adapted to them and accepted the new way of working. At the same time, apart from the technical ones, they rarely had other problems, and considering that they

[6] Until the beginning of the state of emergency, the surveyed students did not have any training for the use of Google classroom and Zoom application in the regular classes at the faculty – authors' note

[7] I had difficulties (problems) when using the Google classroom and Zoom application: ... on a scale of 1 to 7

[8] Original students' answers from the questionnaire

[9] Number 7 meant 'difficult and complex'.

use different technical and technological gadgets in their everyday lives (tablet, iPod, iPad, iPhone, Notebook, Android, and other devices), working with these applications was simple and easy for them.

When it comes to the impact of Google Classroom and Zoom on student motivation, the position of the majority[10] of surveyed students is neutral (23 students or 26.4% opted for number 4). Neither the application through which they received teaching materials, instructions and homework assignments, nor the application through which they had their video lectures particularly affected student motivation. Bearing in mind that distance learning was 'attended' also by students who had not previously regularly come to tutorials and lectures, we believed that the distribution of their answers to this question would be different; so it can be inferred that the used applications influenced their interest and increased motivation, i.e. their regular attendance is the consequence of applying a 'new', different method of working. The fact is, however, that the majority students (90.8%) regularly attended distance learning,[11] that 73 of them (83.9%) regularly met their pre-exam obligations they received through the Google Classroom, and that the used the method of working was interesting to them (none of the surveyed students opted for 7- *not at all* - chart 1). We assume that objective and timely knowledge of one's own results stimulates further activity and makes students are more willing to learn and to acquire new knowledge more effectively (Kopas-Vukašinović et al., 2019).

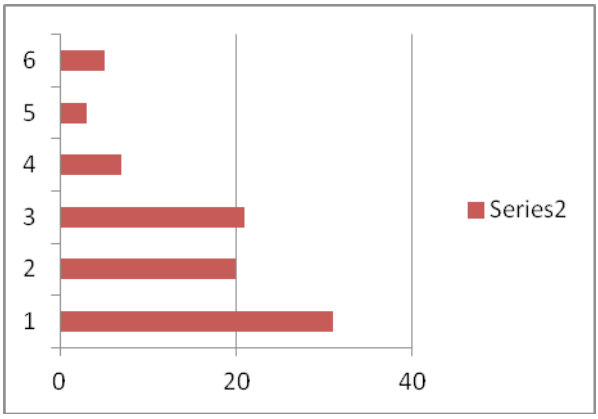

Chart 1. Distribution of respondents' attitudes to the question *I found distance learning using Google Classroom and Zoom interesting - fully (1) - not at all (7)*

[10] on a scale of 1-7, with 1 meaning "much" and 7 – 'not at all'

[11] We kept accurate records of the students who were 'present' at the Zoom meetings

When using Zoom and Google Classroom, a small number of students felt nervous, uncomfortable, insecure and experienced some kind of fear (3.4% opted for numbers 5 and 6, and 4 or 4.6% for number 7), so we assume that these were the respondents with no previous experience of such a working method. Most students felt confident, secure (27 of them chose no. 1; 26 no. 2, 11 no. 3), while 13 of them (14.9%) had a neutral attitude. An analysis of the above data leads us to the conclusion that class attendance during the state of emergency[12] was more regular than with 'contact teaching,' and students were more active both individually and as a group. Motivation and greater engagement, responsibility, commitment, and timeliness of students when it comes to fulfilling pre-exam obligations were influenced, however, by some other factors that should be examined and determined in more detail in some future research. We assume that such an attitude towards teaching was influenced, among other things, by the fact that students were at home (they were more relaxed, without obligations[13], did not have to think about anything other than learning and teaching; they had more time, they did not spend it on coming to and leaving the faculty; were financially somewhat relieved). On the other hand, during contact classes there is less time for discussions, teachers are limited in time, not all students have a chance to give their comment, opinion, example, while a number of them do not want to be 'publicly exposed' which does not mean that they do not know or are not motivated about the taught content. What we especially emphasize as a benefit of distance learning is the self-confidence of students, as they will be able to use gained experience not only for personal professional development but also in their future work with children. Students gained experience with e-learning, experience which may help them to be more effective using it in the future (Smart & Cappel, 2006) and were encouraged to investigate and practice online learning technologies with children in kindergarten and their parents.

By analyzing the degree of understanding of the material that was processed during the state of emergency and applicability of the acquired knowledge, we strived to consider the attitudes of students about the quality of distance learning at the university. On a scale of 1 to 7, number 1 meaning students fully understood the taught contents, only 8 respondents (9.2%) opted for number 6, and 2 respondents (2.3%) for number 5. There were no students who did not understand the processed material. The fact that 4 students (4.6%) had a neutral attitude speaks in favor of the fact that the

[12] When it comes to Methodology of Environmental Studies and Methodology of Physical Education

[13] Parents did the shopping, prepared food, paid bills etc. instead of them

material processed using Google Classroom and Zoom was clear to the majority of students. At the same time, 24 of them (27.6%) had positive, 31 (35.6%) had positive, and 18 (20.7) of the respondents had a partially positive attitude.

When it comes to the possibility of applying the knowledge acquired through these applications, students had even more positive attitudes (Chart 2) – there were no students with a negative attitude, and 42.5% of the respondents believed that the acquired knowledge was applicable.

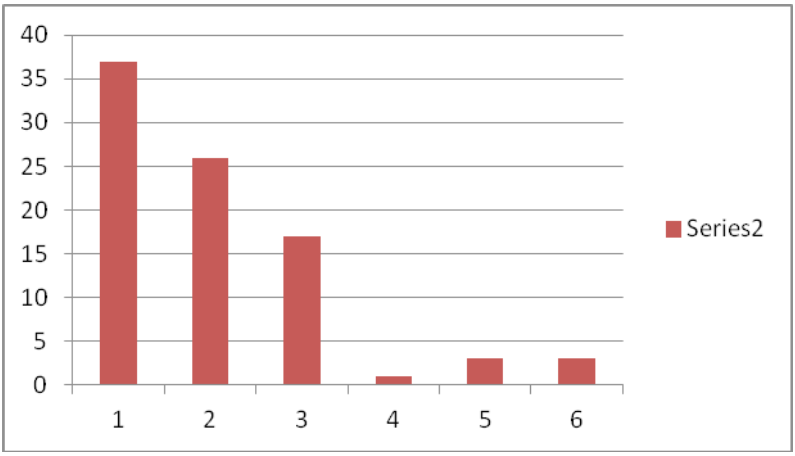

Chart 2. Distribution of respondents' attitudes to the question *The knowledge I gained during the state of emergency using Google Classroom and Zoom s: applicable (1) - not applicable (7)*

Students' attitudes regarding the efficiency of distance learning through a combination of Google Classroom and Zoom are in line with the above: 28 respondents (32.2%) consider such teaching fully efficient, for 22 of them (25.3%) it is efficient, and 10 students (11.5%) have a neutral attitude. Interestingly, 4 respondents (4.6%) have a negative attitude – they consider such teaching inefficient. We assume that these are the students who had technical problems, primarily a bad Internet signal, as a result of which they could not regularly and adequately follow the lectures, so this negatively influenced their attitudes.

When it comes to the pre-exam obligations and assignments students fulfilled during the state of emergency, we decided that students should evaluate them in terms of scope, difficulty, interestingness, and usefulness (functionality, practical applicability). We expected first that most students

would have objections[14] when it comes to the scope and number of pre-exam assignments, as they had assignments in all courses of the third year of studies.[15] The students, however, recognized our efforts not to give them too many tasks, but to assign them in a timely, systematic, and detailed manner, to practice the content processed via Zoom. Only 18 of them (20.7%) thought that the assignments were excessive, while the attitude of the greatest number of the respondents (20 or 23%) was neutral. A similar distribution of answers came regarding the difficulty of assignments – 27 respondents (31%) had a neutral attitude – they considered assignments neither difficult and demanding nor easy and simple. Most students (33 or 37.9%) found assignments interesting, while 60 of them (69%) thought that the assignments were useful and functional.

CONCLUDING REMARKS

Although they acquired part of the content of the *Methodology of Environmental Studies and Methodology of Physical Education* study courses at a distance, without prior training, FE students recognized the advantages of such a method of working. Their views on using Google Classroom and Zoom applications are positive, and the research shows that they actively and regularly participated in online teaching. They fulfilled the planned assignments regularly, and they consider such a method interesting and useful for their future work with children. During the research, we noticed that a significant advantage of distance learning is constant feedback, as students were informed of the achieved results after completing each assignment through the Google Classroom. Compared to direct teaching, it was an additional effort for teachers, as they regularly reviewed students' works, informed them if and where they made a mistake, and how to correct the mistake. That, however, positively affected students' motivation. Discussions about omissions, dilemmas, and ambiguities regarding the material were organized via Zoom meetings, so communication was more open and flexible all the time. Compared to direct teaching, this method of working contributed to students' success in pre-exam obligations and activities as they were evaluated in more detail and more objectively.

The fact that both students and teachers suddenly found themselves in a situation to use distance learning, but also successfully responded to the recommendations of MESTD confirms that state of emergency and distance

[14] even criticism – author's note

[15] from some even on a weekly basis – author's note

learning did not negatively affect the quality of university teaching. It turned out that the new situation has opened up some new views, pointed to the possibility of creating online courses, designing study programs that would be realized through a combination of direct and distance learning. In this context, we end the paper with the words of Tuan Nguyen: "Online learning is a story that is still being written… "

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EXPERIMENTAL SESSIONS

UDK 378.4.014.3

HIGHER EDUCATION QUALITY: FROM THE HISTORICAL CONTEXT TO SOCIAL DEVELOPMENT[1]

Emina M. Kopas-Vukašinović*
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Emilija D. Tasić
Willow Children's Nursery, Umm Suqeim, Dubai

Teach another, it will be your greatest leagacy.
(Dositej Obradović)

Abstract: Important indicators of higher education quality are teaching and learning environments, research reputation and projects, authors' citations, international recognition and collaboration, students' achievements, students' abilities and competencies for their future work. The best way for the university to achieve these goals include good knowledge about the historical context of the development of education and about the needs of a particular society. The aims of our research were to determine: 1) historical values of education as a starting point of its development, 2) how higher education quality is determined in relation to the needs of the society. We have confirmed that modernity and innovation are the basic starting points for the development of higher education. However, it is also necessary to recognize historical values of education as a starting point of its development. The quality of higher education and the best pedagogical practice can only be accomplished if the good sides of the system of traditional teaching are not neglected. These are the historical values of the social system of education and basic educational principles in contemporary higher learning and teaching.

Key words: education development, historical values, society needs, dynamic society changes, innovation

THEORETICAL APPROACH TO THE PROBLEM

The quality of higher education is a complex and relevant issue due to the increasing competition among higher education institutions and more complex needs of a modern society. It implies students' achievements, determined by

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*E-mail: emina.kopas@pefja.kg.ac.rs

modern concepts of teaching and learning, as well as developed professional competencies for the future occupation. This quality is also determined on the basis of the research and project activities of teachers, teaching associates and students. A special determinant of the quality of higher education is international institutional cooperation, with students' full engagement and activity. Higher education institutions are obliged to continuously evaluate quality, including the quality of teaching activities and teachers, communication between teachers and students, students' achievements, their satisfaction with the achieved results and acquired professional competencies.

Strategic directions of the education development in the Republic of Serbia clearly define the goals of development and improvement of higher education, possible directions and mechanisms of action for all the factors within this system. The starting points for such actions are the socio-historical and pedagogical contexts in which our higher education has developed and should continue to develop. These starting points are in line with the principles of higher education, on which the European Higher Education Area (EHEA) and the European Research Area (ERA) were formed. The principles imply respect for institutional autonomy, academic freedoms and flexibility within the system. They also envisage modernization of study programs, compliance of national with European standards and the implementation of the Bologna Process, through learning outcomes, knowledge, skills and competencies of students (Pekic-Quarrie, 2019). Adherence to these principles contributes to ensuring the quality of higher education. This quality implies wider availability of studies, curricula development, student and teacher mobility, pedagogical practice research, employment opportunities and lifelong learning. The above mentioned starting points include a long-term role of our higher education in domestic and international academic, scientific and artistic fields, with the aim of further economic and socio-cultural development of our community and its members.

The development of higher education in Europe implies its openness in the system of preparing an individual for a future profession. This development also contributes to the training of individuals for lifelong learning and improvement of their work. We should not ignore the request to act in order to raise the quality of education at all levels, transparency and competitiveness in the knowledge market (Kopas-Vukasinovic, Golubovic-Ilic and Cekic-Jovanovic, 2017; Strategija razoja obrazovanja ..., 2012* Education Development Strategy ..., 2012). Therefore, there has been an increase in the number of study programs, especially at the master's level and doctoral studies in the European educational area. International and multidisciplinary study programs in the field of education and management have been organized with the purposes of higher education research and professional

training improvement, promotion of entrepreneurial learning, development of entrepreneurial culture and cooperation with the economy (Kem, 2007; Maksimovic, 2013). These are significant reasons for the development of multidisciplinary study programs, achieving mobility, networking and exchanging examples of good practice and developing research strategies. They also contribute to fostering students' initiative, cooperation and creativity, students' partnership skills, business and innovation, cooperation with the economy. It is also necessary that stimulating, rewarding and training university teaching staff remains purposeful (Ivanovic and Radevic, 2013; Reilly, 2016).

Research confirms that the quality of higher education has three basic determinants: knowledge transfer, knowledge creation and the realization of individual social roles. This further implies that faculties prepare students for the labor market, where they will be competitive with their knowledge and abilities, which contributes to their personal and social development (Bracek Lalic, 2017). However, practice confirms that there are certain limitations to meeting these requirements. The question of the quality of higher education and the efficiency of studying arises. This efficiency is determined by non-systemic factors, such as individual characteristics, student potentials and their family conditions. These factors are often either impossible to influence or can be influenced only to a lesser extent. However, the efficiency of studying is also determined by intra-systemic, institutional factors, which are important for determining the quality of higher education. First of all, they refer to the organization of teaching and scientific work and its effectiveness. The question arises whether it is possible to achieve this effectiveness in a situation that students themselves recognize as problematic, and that is lowering the criteria and expectations that they must meet (Jaric and Vukasovic, 2009).

Research on the quality of higher education confirms the importance of developing modern teaching and learning strategies to develop an individual's ability to think, reason and connect, explore and learn through activities (Desinan, 2011; Stoicai, Morarui & Mironi, 2011). In addition, it is necessary to create conditions for the development of knowledge management systems, in which an individual will be ready to make his/her implicit knowledge explicit. This will contribute to the transfer of the acquired knowledge and its application in practice (Mirkov, 2013). In her research, Elizabeth Christopher (E. Christopher, 2018) deals with the quality of higher education. She identifies four basic components of this quality: 1) good organization, safety and order in the classroom, 2) relationships, outcomes and academic expectations (advanced academic work, changed roles of lecturers, course design, etc.), 3) leadership and development. Similarly, the research conducted by

Ukrainian researchers (Bezpalko, Klishevych, Liakh and Pavliuk, 2016) identified indicators of the quality of higher education, which are classified into four categories: 1) resources of educational activities; 2) organization of educational activities; 3) results of specialist trainings. The following indicators of the quality of higher education have been identified in the category of resources of educational activities: teachers, students, material conditions, methodological support. Indicators of the organization of educational activities are the application of educational technology and the presentation of educational achievements. In the category of results of specialist trainings, the following quality indicators were determined: competitiveness of graduate students on the labor market and their professional achievements.

When it comes to global trends in higher education, the OECD Directorate of Education has published a publication on the assessment of learning outcomes. The authors point out that more than 40-50 years ago, higher education meant a traditional research university, and today the image of modern universities is completely different. According to the needs of modern scientific and technological development, today the profiles and programs of higher education institutions are more diverse. Their internationalization and application of modern technology is also evident, with the strengthening of the responsibility of all participants. In this way, graduates will be competitive in the labor market and prepared for their future occupations according to the needs of employers (Tremblay, Lalancette and Roseveare, 2012).

Based on the presented results of the above foreign research on the quality of modern higher education, we note that the determinants of this quality are recognized in our current strategic directions. They include openness, internationalization, transparency, innovation, competitiveness and development. Efficiency of studies, quality, transfer and applicability of acquired knowledge, connecting theoretical and practical knowledge and skills are the expected outcomes in our higher education. However, we should not ignore the fact that most of these requirements have existed in our education system since the establishment of the first higher education institutions in Serbia. When it comes to higher and high-school education of future educators in preschool institutions, these goals were also realized in the previous periods by careful choice and combination of educational contents, by applying the acquired knowledge in the practical activities of students and by nurturing their creative potentials. In today's concept of university education, these goals are still relevant, with the application of modern technology, design of the teaching content and organization of innovative teaching models.

RESEARCH METHODOLOGY

Starting points for determining the subject and goal of our research are the strategic directions of the development of university education in the Republic of Serbia. The subject of this research is the quality of higher education of future educators in preschool institutions. As the goal of this research, we wanted to establish whether the expectations of the students are adjusted to the current strategic directions of its development when it comes to the quality of their university education and to which extent these expectations and contemporary directions of the development are determined by historical-pedagogical context in which our higher education developed.

In this review paper we will present the results of our research, which we conducted by examining students' attitudes about the quality of their university education, in the period from 2017 to 2019. These results can be a good starting point for establishing a system of measures to improve the quality of our university education.

INTERPRETATION AND ANALYSIS OF RESEARCH RESULTS

Before we present and analyze the results of our research, it is important to point out that the quality of education, the acquisition of applicable knowledge and the development of modern society have been the goals of higher education since the first higher education institutions in Serbia were established. Therefore, we will look back on the historical data about the tasks for institutions and requirements for teachers, which we recognize even today in current strategies for the development of education. The Great School of Ivan Jugovic was founded in Belgrade in 1808, following the example of the Hungarian Royal Academy, the first principal of which was Dositej Obradovic. This school is considered a forerunner of higher education in Serbia. The first high school in Serbia (Lyceum) was founded in 1838 in Kragujevac, by the decree of Prince Milos Obrenovic, and in 1863 the first Great School was founded in Belgrade. In 1905, this school officially grew into the first university in Serbia and became the center of scientific, educational and cultural life. The first rector, academician Sima Lozanic, on the occasion of the opening of the University of Belgrade, pointed out that education must be developed and nurtured, because it is a basic factor in the unification and progress of the Serbian people. This idea has remained relevant in Serbia ever since, which is confirmed by the current in-service teacher training programs at all levels. Therefore, it is indisputable that the issue of the quality of higher education is essential for the overall development of the social community

and its members. When it comes to the tasks of teachers, back in 1898, at the grand opening of the Men's Teachers' School in Jagodina, Sreten Adzic, its first director, confirmed that the educational progress of Serbian people is possible only if we teach students to apply the acquired knowledge in life along with the scientific knowledge, to encourage them to be practical, as science cannot be separated from life and from their future vocation. He also pointed out that a teacher must know how to present science to students in an understandable, obvious way, connecting it with examples from life and by its application in life. The connection between education and the economy must be one of the basic tasks of education, for the benefit of the homeland and its people (Djordjevic, Lazarevic and Nedeljkovic, 1998). In these few sentences we recognize the determinants of modern higher education: the quality of education, the acquisition of practical and applicable knowledge, the development of the modern society, the link between scientific knowledge and future occupation, intelligibility, obviousness and applicability as prerequisites for a good quality teaching process.

Starting from this historical context, in this paper we deal with the quality of higher education, connecting the strategic directions of its development with the attitudes of students about the determinants of that quality. We will present the results of three surveys that we conducted in the period from 2017 to 2019. The data we obtained confirm our assumption that students understand and clearly determine the quality of higher education. We find the starting points for their determination in the ideas of prominent professors and founders of the first higher education institutions in Serbia.

The first research was conducted in 2017, in cooperation with the teachers and students of the Faculty of Education, University of Primorska (Koper, Slovenia) and the Faculty of Education, University of Kragujevac (Jagodina, Serbia). With this research we wanted to determine how students (N=258) recognize teachers as a factor in improving the quality of university education. The scale of ranks examined the attitudes of students. They confirmed that the quality of university teaching is enhanced by the application of different methods and forms of teaching. Additionally, the quality of teachers' work implies clearly stated class aims, a careful selection of stimulating content for learning and a possibility for applying the acquired knowledge in practice. Students' interest in engaging in teaching activities is conditioned by the quality of teachers' preparation for the class and their ability to find ways to engage students. Students recognize the work responsibility of teachers in situations when the teacher regularly organizes classes, answers students' questions in a timely manner and is available to students during consultation hours (Kopas-Vukasinovic and Lepicnik-Vodopivec,

2018). Based on these results, we can conclude that students believe that the preparation of teachers for work, the organization of teaching activities and the responsibility of teachers are the most important determinants of the quality of higher education.

The second survey was conducted in 2018. With the scale of attitudes, we wanted to determine how students value teachers' work which encourages the development of their professional competencies for future careers. Students, future educators in preschool institutions, the Faculty of Education, University of Kragujevac, Jagodina (N = 104) participated in the research. Based on the scale of attitudes, they came up with their claims about the most important determinants of the quality of teachers' work, which contribute to the professional preparation of students for their future profession. The findings confirm that well-organized teaching practice plays a significant role in preparing future educators for their professional work. Furthermore, the applicability of the teaching content and the pedagogical influence of teachers as a model of behavior and actions contribute to the development of professional competencies of students. Improving and modernizing the teaching practice, applying and checking the effectiveness of new approaches in working with children contribute to the quality of the teaching process and determine students' achievement. In this research, students confirmed that university teachers should use more innovative approaches in teaching. They also expect to be involved in research and project activities with teachers during their studies (Kopas-Vukasinovic and Mihajlovic, 2019). These research results confirmed our assumption that students recognize and clearly determine the quality of teachers' work, which ensures the development of students' professional competencies for future careers.

The third research was also conducted in 2018, with students of the Faculty of Education, University of Kragujevac, Jagodina, in the teacher and preschool teacher departments (N = 174). Applying the scale of attitudes in this research we wanted to establish whether students recognize the possibility of organizing teaching activities that would encourage greater engagement, better learning and the acquisition of new, applicable knowledge, and if so, in which manner they do that. This research once again confirmed that students recognize the importance of joint activities with teachers, planning and implementation of research projects. They emphasized that this kind of work encourage them to expand their knowledge, enrich their experiences and develop their abilities. They believe that such activities contribute to their motivational readiness for more efficient learning and better acquisition of applicable knowledge. Teachers are expected to organize activities in which students will be able to master the teaching content gradually, step by step, because this kind of work contributes to better adoption of the content

and more permanent and functional knowledge. The quality of teachers' work was determined by the students as the basic factor of the quality of education. They expect teachers to encourage students' initiative and co-operation in the teaching process by applying modern teaching systems. Based on these research results, we can conclude that students expect teachers to encourage them to joint activities and research work. They have made clear recommendations to teachers on how to implement this.

CONCLUSION

The quality of higher education is determined by the quality of teaching and learning of students and joint research activities of teachers and students. The outcomes of such education are recognizable because the acquired knowledge and skills are applicable in practice and transparent, and the graduates are competitive on the market of knowledge and work.

With this research, we wanted to determine whether the expectations of students, when it comes to the quality of their university education, are in line with the current strategic directions of its development. At the same time, we wanted to check to which extent these expectations and modern directions of development are determined by the historical-pedagogical context in which our higher education developed. It was important to determine whether we recognize the importance of historical values, which are the starting points for the further development, in the modern higher education system.

If we compare current strategic directions of development with the historical context in which the ideas about the development of our higher education were born, we notice that the basic ideas of its development arose at the time of the opening of the first university institutions. They focused on, as is also the case today, the availability of education, comprehensibility and obviousness in teaching. These are the basic assumptions of a quality teaching process. The outcomes of such education are practical and applicable knowledge, directed towards developing a modern society, as well as the connection of scientific knowledge with future occupation. In relation to the requirements for the application of modern technology and innovative teaching models, as well as the internationalization of higher education, today we have made significant progress. The progress reflects in the discovery of new possibilities, their application and verification. The overall scientific and technological development of a modern society has created the conditions and provided an opportunity for university systems to improve the work and quality of that work.

In the next research cycle, the starting points for new research will be the results presented in this paper, with the aim of comparing formal determinants of higher education quality with the real situation in the knowledge market and labor market in order to determine the efficiency and effectiveness of university education.

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I

QUALITY OF HIGHER EDUCATION IN THE CONTEXT OF PSYCHOLOGICAL AND PEDAGOGICAL THEORIES ON LEARNING AND DEVELOPMENT OF CHILDREN OF PRESCHOOL AND SCHOOL AGE, AS WELL AS SPECIAL EDUCATION AND REHABILITATION

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HIGHER EDUCATION QUALITY IN LIGHT OF THE PSYCHOLOGICAL THEORY OF EMOTIONAL INTELLIGENCE

Marija Kotevska-Dimovska*
Business Academy Smilevski – Bitola, R. N. Macedonia

Valentina Dimovska
Euro College – Kumanovo, R. N. Macedonia

Prof. Dr Taip Jakupi
Biznis Akademija Smilevski, Skopje, North Macedonia

Abstract: The quality of education should be the primary goal of all educational institutions, including universities. It implies the creation of modern educational programs that include the acquisition of technical and other competencies that will provide optimal knowledge, understanding, and advancement of students in various spheres of life. Numerous indicators that improve the quality of higher education include emotional intelligence (EI), a new psychological paradigm that unites the cognitive and emotional aspects of a person. The subject of this paper is to improve the quality of higher education in the context of theories of emotional intelligence (*Mayer &* Salovey, 1997). This paper aims to favor EI as a recognized and extremely important ability for academic education, with an emphasis on the aspects of EI that are worth promoting in higher education. The first part of the paper presents the theoretical framework of EI, the effects on academic achievement, and guidelines for creating practices for implementing EI in higher education. The empirical part explored the impact of EI on the academic achievement of 111 students at several private colleges in the Republic of Macedonia. Significant positive correlations were found between academic achievement and competencies of emotional awareness, self-control, self-motivation, and empathy, which together contributed 42% of the variance in academic achievement. The results on the impact of EI on the academic achievement of students indicate the need to implement a multimethodological approach in higher education institutions that include programs for improvement and development of EI. Finally, future research should focus on designing scientifically valued educational programs for training in emotional competencies and application at the undergraduate level.

Key words: *emotional intelligence, higher education, academic achievement, training programs*

*E-mail: marijadimovski@yahoo.com

INTRODUCTION

Higher education quality must meet the challenges of the 21st century. New technologies demand new university graduates with new personality traits. At the time when human resources are becoming increasingly important for the development of the whole countries, these issues have begun to receive significant attention at various levels. This means creating modern educational programs that include the acquisition of technical and other competencies that will provide optimal knowledge, understanding and advancement of students in various spheres of life. In recent years, there has been a growing interest in the role of emotional intelligence (EI) in students' success as well as in their emotional adjustment. There are a number of challenges related to the efforts to improve the quality of higher education through the development of students' social and emotional skills. This paper is an attempt to give a comprehensive picture of this important discussion through a theoretical elaboration of the concept of emotional intelligence in the context of improving the quality of higher education. The paper focuses on the aspects of EI that determine the academic achievement of students in higher education. Furthermore, it deals with the attempts to assess the importance of individual EI aspects in defining the quality and the possibility of learning and developing EI in higher education. The paper consists of several parts: the first one provides a literature overview of higher education quality indicators, as well as the existing empirical findings on the role of emotional intelligence in university education on student motivation for learning and academic achievement. The methodology of the current research on the relationship of EI and the academic performance of a group of students is further presented, and the results of the study that showed a positive impact of EI on academic achievement are discussed. Finally, recommendations and conclusions for the key areas to be considered in the development of policies, practices, and programs for the development of emotional intelligence in higher education are presented.

THE QUALITY OF HIGHER EDUCATION AND GUIDELINES FOR IMPROVEMENT

A large volume of literature on higher education shows that there is a general consensus on the importance of its quality. However, there is no universally accepted definition of the notion of quality that applies specifically to the higher education sector. Various attempts to define this concept favor different perspectives of higher education: some focus on meeting the set goals, others on realizing students' needs, and many modern approaches stem

from the thesis that quality is the degree to which customer expectations are met (Parasuraman al ., 1988). The factors and attributes that determine the quality of higher education greatly vary and are in a state of permanent change, which further complicates a rather complicated educational process. To overcome the ambiguity of quality assurance systems, such systems must include clear definitions, standards, and procedures; otherwise, the concept remains unclear, which is a serious obstacle to identifying the institutional mechanisms of transformation processes in the higher education sector. The European Association for Quality Assurance in Higher Education (ENQA) lists the standards, criteria, and guidelines for quality assurance in the European Higher Education Area. The main criteria for higher education are critical and independent thinking, as well as the capacity for lifelong learning (Filipov, 2009). These criteria offer modern guidance for educational institutions by favoring other types of intelligence, rather than the traditional ones that focus on logical and linguistic intelligence. Modern researchers argue that emotional intelligence or intrapersonal and interpersonal competencies may be more important for success in life than logical or linguistic intelligence (Tucker & Sojka, 2000). The concept of emotional intelligence was first introduced in organizations but its importance has made it an inevitable concept of consideration in the education sector as well.

EMOTIONAL INTELLIGENCE IN THE CONTEXT OF IMPROVING HIGHER EDUCATION

The importance of emotional intelligence (EI) lies in its impact on various aspects of human performance, including physical and psychological health, social interaction, and performance at school and at work (Bar-On, 1997). In contrast to the IQ, emotional intelligence (EQ) is associated with success in career and personal life, including academic success (Mayer and Saloway, 1997; Goleman, 1995). Emotional intelligence refers to the ability to recognize the meanings of emotions and their relationships and to judge and solve problems based on those insights. It is a new psychological paradigm defined as "the ability to accurately perceive, evaluate, and express emotions, as well as the ability to understand and regulate emotions to promote emotional and intellectual growth" (Meyer and Saloway, 1997). Emotional intelligence is involved in the ability to perceive emotions, to understand information about those emotions, and to manage them. Emotional intelligence includes the following five characteristics and abilities:

- *Self-awareness* - knowledge of one's own emotions, recognizing and distinguishing between them

- *Emotional management* - dealing with and responding appropriately in accordance with the current situation
- *Self-motivation* - directing emotions towards a certain goal despite obstacles
- *Empathy* - recognizing the feelings of others and adjusting to their verbal and non-verbal signals
- *Social skills* - relationship management, dealing with interpersonal interaction and conflict resolution.

Various dimensions of emotional intelligence have been explored through related concepts, such as social skills, interpersonal competence, psychological maturity, and emotional awareness, long before the term "emotional intelligence" was coined. Teachers in schools in the eighties developed curricula that taught the beginnings of emotional intelligence, such as social and emotional development, aimed at raising the level of social and emotional competence" (Goleman, 1995). The relevance of the concept of EI in education is growing permanently, although most academic research is devoted to educational processes at school age, whereas the studies that have researched EI at universities are still scarce. Research examining the relationship between emotional intelligence and academic achievement is limited, but of great importance for improving the quality of higher education. Research on EI in higher education has two main approaches: the first one considers the role of EI from the perspective of academic achievement among students and educators, and the second approach focuses on the opportunities for EI development in the higher education process.

THE ROLE OF EI FROM THE PERSPECTIVE OF ACADEMIC ACHIEVEMENT WITH STUDENTS

It is believed that high levels of intelligence along with developed emotional competence make students more motivated to study and influence their academic achievement and social behavior (Radu, 2011). Research confirms that in the analysis of students' achievement and success, emotional intelligence is one of the most important predictors of students' affective and cognitive engagement (Maguire, 2017). One of the leading researchers of emotional intelligence, Revan Bar-On, recognizes the impact of this non-cognitive ability on the success of a student's life. He defines EI as: "the ability to manage one's emotions and to be able to solve problems of a personal and interpersonal nature is important to be academically successful." Academic performance is facilitated by both setting personal goals and being optimistic and self-motivated enough to achieve them.

Jaeger's study (2003) found that emotional intelligence levels were related to academic performance and that EI could be learned and developed in students and teachers. Similarly, Aminudin, Taylaripin, and Rohaizan (2009) found that emotional intelligence was closely related to students' academic achievement, as evidenced by the findings of Parker et al. and Petrides et al. In addition, there are a number of studies examining the association between EI, anxiety, and subjective fatigue where emotions trigger different patterns of behavior, such as failure avoidance, learned helplessness, and passive aggression, concluding that EI should be considered a potential protective factor for students experiencing stress and exhaustion (Zisberg et al., 2017).

Several authors state that students' EI increases dramatically between high school and university education (Bar-On, 2000), so it needs to be permanently developed throughout the educational process, so it should be integrated into the curriculum in higher education. EI in higher education is also related to the role of the educator for both effective teaching and job satisfaction. Emotions have been shown to have an effect on job satisfaction and teachers' sense of self-efficacy (Pianta, 2006).

In-depth research has shown the link between the five competencies of EI and a range of life outcomes in students (Fried, 2011). The first dimension, self-awareness, is positively related to high school and college grades, as well as work, and negatively correlated with harmful behavior. The dimensions of emotion management and self-motivation also apply positively to high school and college grades. The other dimensions, empathy, and social skills show positive correlations with task performance and organizational citizenship (OECD, n.d.). Demonstrating expertise in social and emotional skills increases students' likelihood of doing well academically, making healthier lifestyle choices, performing tasks well, and volunteering to contribute to the well-being of the organizations they belong to.

SOCIAL AND EMOTIONAL LEARNING IN HIGHER EDUCATION

The benefits of emotional and social competence include improved academic achievement, better performance and performance at work, and enhanced physical and mental health. Knowing this, higher education institutions are trying to create opportunities for the development of social and emotional skills, and as a result, Programs for the Development of Social and Emotional Intelligence in Education have been developed.

Social and Emotional Learning (SEL) is defined as the processes by which children and adults acquire and apply basic competencies for recognizing

and managing emotions, setting and achieving positive goals, appreciating the perspectives of others, establishing supportive relationships, making responsible decisions, and achieving constructive goals (Domitrovich and Gulota, 2015). While the term SEL is only two decades old, the interest of schools and researchers in social and emotional development is much longer, accompanied by controversial debates about the role of educational institutions in promoting non-academic outcomes such as social and emotional skills (Kidron & Osher, 2012).

Questions about the effects of SEL applicability programs have been answered in research, which, although limited, has proven that it is possible to develop social cognitive processes and social and emotional skills through well-designed SEL programs (Langeveld, Gundersen & Svartdal, 2012). Research on the effectiveness of SEL programs has shown that the socio-emotional competencies of children, adolescents, and students are important for healthy development and academic success (Elias et al., 1997). Research findings suggest that well-designed SEL programs help prevent problem behaviors and promote personal and social growth, character values, and better learning (Langdon, 1996). According to Caruso, Meyer, and Saloway (2002), the skills and knowledge of emotional intelligence can be developed and learned, and this is most important during education. Emotional intelligence, as the ability to recognize one's own feelings and the feelings of others, to motivate oneself and one's relationship with others, can develop and improve at different ages, especially if it is a thoughtful and continuous process embedded in educational programs. Lang's study (1998) of educational programs for EI development concluded that teachers with higher EI are better at designing a learning environment that suits students and can lead them towards success. Other studies (e.g., Ediger, 1997; Parker, Summerfeld, Hogan, and Mayeski 2004) have shown that programs designed to develop emotional intelligence skills in the educational process significantly contribute to students' positive thinking and improve their ability to concentrate over time.

RESEARCH

A review of the literature on the quality of higher education, which includes the development of emotional intelligence in order to improve students' academic achievement, was conducted in order to develop a research study. In the context of the presented literature review, research on the impact of emotional intelligence on academic achievement in students in higher education has been conducted. The problem of this research is based on the

research questions: Does emotional intelligence affect students' academic performance? The aim is to test the hypothesis that students' level of EI development significantly affects their academic performance. The next goal is to analyze and measure the impact of EI with its competencies, and to present it as a factor that determines the quality of higher education. Emotional intelligence as a measurable and developmental ability can develop in different age periods, so the ultimate goal of this paper is to present the opportunities for its development in the education system, in order to improve the quality of higher education.

METHODOLOGY

The target population for this study are higher education students. The sample was randomly selected and consisted of 111 students from two private colleges in R.S.M. According to gender, 56% of the sample were female and 46% male, with an age range from 18 to 35 years, and an average age of 26.5 years. Research variables are academic achievement - a dependent variable and emotional intelligence - an independent variable. The instruments used in the research to measure the level of development of emotional intelligence are the Emotional Competence Questionnaire PKI - 45 by Taksic (1999). The data on students' academic achievement were collected from the university's academic records and using the Academic Achievement Inventory. Statistical processing of the obtained data with the Pearson correlation coefficient and multiple correlations between the examined variables was performed.

RESULTS AND DISCUSSION

The results of the research on the relationship between students' emotional intelligence and their academic success show that students' emotional competence correlates significantly with their academic success. The following table (Table 1) presents the correlation between the total score of emotional intelligence and academic success. The results show a statistically significant correlation, the multiple correlation coefficient is 0.386 and is statistically significant at the level of 0.001 ($r = 0.386$; $p < 0.001$).

Table 1. Correlations between academic success and emotional competence.

Multiple correlation Coefficient	Multiple determination coefficient	Variance	Standard error
R	**r2**	**V**	**T**
0,386	**0,148**	**14,8%.**	**0,0635**

The coefficient of determination (r2 = 0.148) shows that the students' EI participates with about 15% in determining academic achievement. According to these results, it can be expected that students with more developed emotional competence will be able to achieve a better academic success. The explanation for the link between EI and academic performance is based on the fact that a high level of emotional competence contributes to higher self-awareness and emotional stability that improves the retention of the information received. In addition, the ability to regulate stress and anxiety in examinations results in a better relationship of each of the three individually examined EI competencies: emotion awareness, emotion regulation RO, and appraisal of others' emotions AOE, with academic achievement.

Table. 2 Pearson correlation coefficient between EI dimensions and achievement

Variables	SEA.	ROE	AROE	Total EI
Achievement	**0,22***	**0,321****	**0,301****	**0386****

*Note. N = 111, **p < 0.01, *p < 0.05*

The results presented in Table 2 show that all EI competencies have some connection with academic achievement. The competencies of emotional regulation and empathy showed a correlation with a higher level of significance. The ability to self-regulate emotions is positively correlated with academic achievement (r = 0.321, p <0.001), which is explained by the fact that the students who have developed the competence to control their emotions can regulate their moods and behaviors under certain circumstances, which enables them to effectively cope with the pressures of academic excellence in higher education institutions. Competence empathy or assessment of the emotions of others, which is also significantly correlated with academic achievement (r = 0.301 p <0.001), can help students foster solid social relationships and seek academic help from their instructors and colleagues.

The results confirm that students who have developed emotional intelligence will be more successful in the study process, as also confirmed by other researchers. They are consistent with the findings of Parveen et al. (2012) and Fayombo (2012) who pointed out that low levels of emotional competence development affect students' academic performance, whereas higher development of EI definitely correlates with better academic results.

CONCLUSION AND RECOMMENDATIONS

The aim of this paper was to examine the relationship between students' emotional intelligence and their academic achievement. The research was conducted on a sample of students at universities in R. N. Macedonia and has shown a significant link between EI and academic performance.

Significant correlation between EI and its three competencies: self-awareness, self-control, and empathy with academic achievement can be explained by the fact that emotional competence provides students with the ability to control and regulate their emotions during studies and classes, so they can perform their academic goals and have better success than students with a lower level of emotional intelligence.

The impact of EI on academic achievement of university students should spur curriculum developers to learn more about the impact of emotional intelligence competencies on achievement. Emotional intelligence researchers say that emotional competence is the realized potential of EI that can be developed through emotional and social learning. Socio-emotional learning (SEL) can take place in educational settings and contribute to better academic achievement (Matthews, Zeidner, & Roberts, 2002). The results of this research can be useful for resolving controversies regarding the use of EI development training in higher education in order to improve the quality of the educational process and increase the level of student achievement.

The general recommendation arising from this paper is the need to introduce programs for social and emotional participation (SEL), both to improve students' academic achievement and their future success in life. Accumulated research evidence confirms that socio-emotional competence should be studied in educational institutions, from primary schools to higher education (Maier and Salovei, 1997). In developed countries, especially the United States, SLE programs are widely used. Most of them are based on a scientific approach, and researchers on the relevance of program design and implementation are developing methods and mechanisms to advance the science and practice of SEL. In our country, the practice of developing socio-emotional competencies in education is not widely used, but of course,

we need to be up to date with the practices of developed countries that will contribute to improving the overall quality of our educational institutions.

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EXECUTIVE FUNCTIONS AS INDICATORS OF STUDENTS' ACHIEVEMENT IN THE UNIVERSITY EDUCATION SYSTEM

Arsić Sladjana*
Academy of Educational and Medical Vocational Studies, Kruševac,
Ćuprija Department, Serbia

Abstract: Executive functions (EF) participate in coordinating mental processes, manipulating information and solving new problems. They allow a person to successfully organize independent and purposeful behavior for a particular purpose. In addition, they participate in self-control, adaptive behavior and performance in everyday social and academic functioning. Most studies show that the subcomponents of executive function models allow a person to acquire knowledge and solve a problem. The aim of the research would be to analyze the results of the assessment of executive functions and their correlation with the achievement of students' learning success. The methodological principle of the research is based on a descriptive study. The applied procedure in research is testing. An instrument for evaluating executive functions is the WCST (Wisconsin Card Sorting Test) in a computer application. It is easy to apply and offers the ability to test multiple respondents. The sample consists of 60 students. The results indicate an association between executive functions and learning success. All subcomponents of executive functions have some influence on the learning process and the achievement of learning success. Anticipation and verification of achievement are of particular importance. The link between the quality of executive functions and the achievement of learning success can be used in current pedagogical and research fields. Encouraging executive mechanisms in general, and in academic education in particular could have a positive impact on improving the quality of university education and teaching practice.

Key words: executive functions; success in learning; computer test application

INTRODUCTION

Quality of education as a basis for the development of a knowledge-based society occupies a high place on the list of priorities in the high education system. Education systems, both in our country and around the world, face great challenges. Modern tendencies of development and improvement of high education are mostly focused on the learning outcomes and competencies of graduates. Therefore, it is necessary to monitor key performance

*E-mail: sarsic101@gmail.com

indicators, which may have an influence on raising the level of quality in the high education system.

According to some researches, executive functions (acronym EF) can serve as an indicator of academic achievement in higher education. Although they have long been studied from a neuropsychological perspective, executive functions are now the focus of various other studies that observe them from a variety of perspectives, including the field of education.

They represent a relatively new general concept that refers to the cognitive organization of those abilities on which goal-oriented behavior is based. They are the essence of all socially useful, personally improving, constructive and creative activities.

Executive functions (EF) participate in the coordination of mental processes, manipulation of information and solving new problems. In addition, they participate in self-control, adaptive behavior and success in everyday social and academic functioning. Most studies show that the subcomponents of the executive function model enable a person to acquire knowledge and solve a problem.

It is stated that the areas of action of executive functions differ from the cognitive areas, but also that they overlap in the area of attention, reasoning and problem solving (Pennington & Ozonoff, 1996). Lezak (Lezak, 1982) singles out the key differences between cognitive and executive functions. Cognitive functions are related to what and how much a person knows and can do, while executive functions refer to performing certain activities.

Modern trends in the theory and research of executive functions go in the direction of their analysis across a larger number of subordinate functions and examination of the mutual relations of such subcomponents. The proposed sub-components of executive functions are: shifting attention from one mental content to another (shifting); monitoring and updating representations in working memory (updating); and inhibition of dominant responses (inhibition).

A complex connection between executive functions and intelligence as a general cognitive ability has been identified, and in a certain sense it can be said that the efficiency of executive functions is a prerequisite for efficient intellectual functioning. In addition, it is assumed that there is a connection between executive functions and personality traits. This assumption is supported by the results of some research showing that extroverted individuals perform better on relocation and update tasks (Chamorro-Premuzic et al., 2005; Moutafi et al., 2006; Silvia & Sanders, 2010).

Over the past decade, the results of most studies that have analyzed the relationship between executive functions and education have highlighted

the importance of planning skills in achieving academic success. Previous research has not provided more precise answers to the questions about the influence of executive functions on the learning process and the achievement of learning success. Exploring the nature of this relationship would allow us to find out to what extent executive functions along with cognition and motivation, represent the basis of self-regulation and influence the learning process and final academic achievement of students.

The connection between the quality of executive functions and the achievement of learning success can be used in the current pedagogical and research fields as well. Encouraging executive mechanisms in general, and in academic education in particular, could have a positive influence on improving the quality of university education and pedagogical practice.

OBJECTIVE

The aim of this research would be to analyze the results of the assessment of executive functions and their connection with the achievement of students' learning success. The quality of the estimated executive functions would be observed as a predictor of academic outcomes.

METHODS

The methodological principle of the research will be based on a descriptive study. The applied procedure in the research will be testing. The instrument to be used to assess executive functions will be the WCST test (Wisconsin Card Sorting Test) in a computer application. It is easy to apply and provides a possibility of testing a larger number of respondents. Although the assessment of executive functions is a major challenge, a test with satisfactory psychometric characteristics will be used for a comprehensive assessment of executive functions. All components of executive functions will be operationalized in the given test and adapted for computer assignment. Executive functions will be observed as an independent variable, while in analyzing academic performance we will look at the overall success through a grade point average in each year of study.

Participants

The sample is deemed suitable and consists of about 60 students of the Academy of Educational and Medical Vocational Studies in Krusevac. The average age structure of the respondents is 20 years, the distribution of the sample

by gender is uniform. Subjects are selected by random sampling. The criteria for inclusion in the study were the absence of neurological and psychiatric disorders and addictive diseases. Only those respondents who voluntarily agreed to be a part of this research participated. The consent of the Ethics Committee of the Academy was obtained for the implementation of this research.

Neuropsychological assessment

The Wisconsin card sorting test - WCST is most commonly used to evaluate executive functions. It is a sorting test and the most famous test for discovering perseverance and mental rigidity. The WCST may be performed on a computer (Jevremovic et al. 2018). The possibility of using the computer version of a WCST test is advantageous in comparison to the classic way of applying the test. The administration of the computer test solution is very simple, allowing it to be widely applied on a different population sample. The respondent watches the stimulus cards, and when the offered card appears on the screen, the respondent gives the answer, the match with the stimulus card according to some criterion (color, shape, number) on the stimulus card. Respondents are not given too detailed instructions for solving the test: it is essential that they come to a solution based on the feedback in the form of a (different) sound signal that records an accurate or an incorrect response. The advantage of solving a computer test is that the test is done more easily, more efficiently and quickly, regardless of the fact that the test is not time-limited. The respondent does not have a retroactive view of the offered ticket which was an accurate or incorrect answer. This requires the respondent to remember the offered ticket. However, this has a positive effect on the capacity of short-term memory. As an example of the application that we have used for HCI-MAP platform demonstration we took the Wisconsin Card Sorting Test.

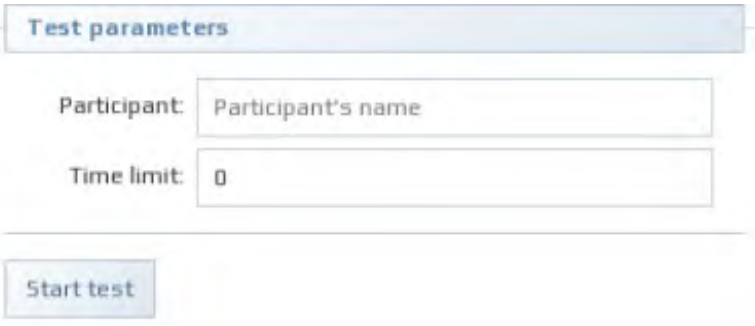

Figure 1. Initial form screen of the WCST application

The initial form is displayed in Fig. 1. This form contains only two fields - one for participant's name and one for the test time limit. The time for taking this test could be limited by inserting a number of seconds in the 'Time limit' field. After entering these values, the participant can click the 'Start test' button and proceed to the test itself.

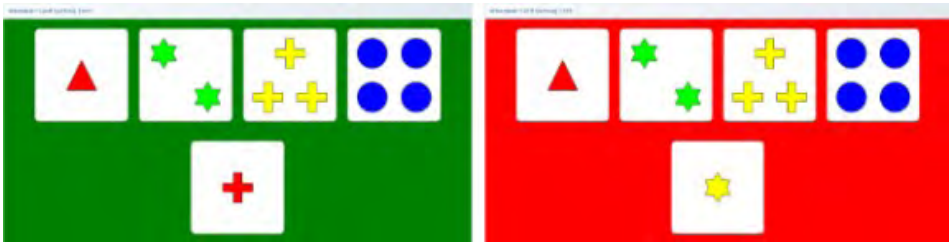

Figure 2. Screen after selecting a correct (left) or incorrect card (right)

The test's main screen is given in the Figure 2. The screen consists of five cards - four static, displayed as a stimuli, and one active card, displayed at the bottom row. The active card is picked from the deck (128 cards total), and the participant is asked to choose one card from the stimuli set, according to some criteria (shape, color, or number). If the chosen card is correct, the screen background color is changed to green, and an appropriate sound is played. Otherwise, if the chosen card is not the correct answer, the screen goes red and an appropriate sound is played. The test is over when all 128 cards from deck are displayed. After that, the result screen is displayed (Fig. 3).

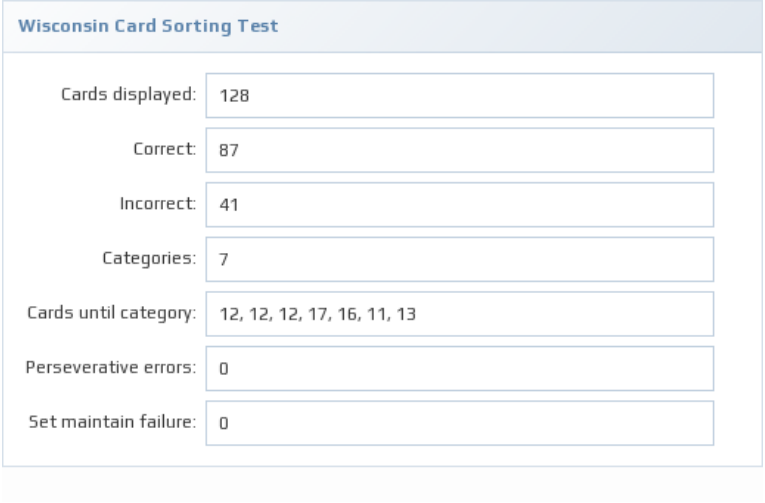

Figure 3. The results screen

STATISTICAL ANALYSIS

Central tendency measures, arithmetic mean (AS), standard deviation (SD) and t test were used in the data analysis. Data processing was performed in SPSS Statistical Package, version 17.

RESULTS

The results of the research will be presented in tables and graphs in absolute numbers and percentages.

DISCUSSION

Executive functions are used as a general term for a wide range of cognitive mechanisms. Nevertheless, within the paradigm of individual differences in recent years, the consensus has been reached on the three key elements of executive functions that underlie complex mental operations (Diamond, 2013). The authors single out three basic, distinctive, but related elements of executive functions: updating, inhibition, and relocation. Considering that there is not much data that speaks of the relationship between executive functions and the quality of learning within high education, for now we can only make certain assumptions.

Updating is a function of continuous monitoring and coding of information that arrives in memory with their simultaneous revision. This maintains elements of importance in memory, while at the same time "deleting" old and unnecessary data from memory. It can be assumed that the quality of this part of the EF would be important for the learning process. When the new teaching content arrives, it would facilitate the process of receiving and recognizing the material, enable quick separation of the important from the irrelevant and effectively eliminate the old, unnecessary material. This can provide a good basis for effective academic achievement.

Inhibition is the intentional overcoming and stopping of dominant, automatic actions or responses. This element of executive functions is activated whenever there are two simultaneously active conflict processes. Inhibition can be manifested on the behavioral level as the efficiency of directing selective attention to external or internal stimuli, the efficiency of impulse control, the efficiency of resisting interference, distractions, etc. (Diamond, 2013). If inhibition is observed on the behavioral level, especially in the part of efficient impulse control, as well as resistance to interference and distractions, then it could be expected that the focus of the respondents' attention on the presented material will be at a high level. This would mean that the quality of

this EF element can provide the respondent with excellent self-control and facilitate his adoption of the presented material.

The essence of the part of the executive function of relocation is in the ability to efficiently transfer attention from one task, operation, or mental set to another. In short, this part of the executive functions is responsible for flexibility in thinking and behavior, whether in problem solving, perception or interpersonal relations. If we start from the fact that flexibility in thinking will make it easier to solve problems, and that flexibility in behavior will result in successful interpersonal relationships, then we can assume how important this part of executive functions is in the learning process. At the opposite pole of successful cognitive flexibility is cognitive rigidity and perseveration (Diamond, 2013). Their impact would certainly be negative on the learning process.

In accordance with the above, it was determined that different parts of executive functions achieve differential correlations with the measures of intellectual abilities. Updating and inhibition, as parts of executive functions, are relatively highly associated with cognitive abilities, while the remainder, or relocation, does not achieve exclusive correlations with intelligence measures (Wongupparaj, Kumari, & Morris, 2015). Those subjects who have superior inhibitory abilities solve the task faster and with greater success. At the same time, these same subjects have lower scores on the conscientiousness dimension. This is possible because more conscientious respondents are more oriented towards dominant answers, so it is harder for them to deviate from them in the tasks of inhibition. The tendency of conscientious respondents to stay on the dominant answers can be interpreted as consistency in behavior (Teovanovic, 2013). It can be assumed that the direction of influence that goes from the cognitive domain to the domain of personality traits inevitably continues the path to those parts of the executive functions that can stimulate the learning process in this case.

On the other side, there is a complex relationship between updating as a part of executive functions and openness to new experiences, intelligence, and to some extent, with the pervasiveness of respondents. The nature of this connection is such that more penetrating respondents are more willing to approach update tasks and achieve better results on them. Of all the executive functions, updating is most closely related to intelligence, as a general cognitive ability. Therefore, in a sense, it can be said that the efficiency of this executive function is a prerequisite for efficient intellectual functioning, and thus learning. Perhaps this assumption will receive support from the results of our research. Since it indicates the direction of the influence of executive functions on the learning process, it can also be an indicator of students' academic achievement.

This review and assumptions show individual differences in the elements of executive functions. Finally, this systematic analysis, with predictive elements, may prove predictive for student achievement in the high education system.

CONCLUSION

It is obvious that learning outcomes play a crucial role in ensuring the transparency of qualifications and the qualifications' framework. The focus of the new educational paradigm is the development of abilities, key competencies for life in the knowledge society. The imperative of modern education is the development of students' competencies for coping and learning after graduation. After completing the education, the acquired knowledge will have to be constantly improved, supplemented and updated. Therefore, students must be able to actively use sources of information, to reflect, analyze, enrich their experiences, critically evaluate, develop independence and coping in their environment.

Considering that executive functions (EF) participate in the coordination of mental processes, manipulation of information and solving new problems, it is concluded that their role in the learning process is extremely important. They enable a person to successfully organize independent and purposeful behavior with a goal. In such a situation of accelerated development and progress, it is completely realistic to expect that executive functions can be indicators of student achievement in higher education. In the organization of higher education, there should be an opportunity to formulate and research indicators and understand the significance of their influence on learning outcomes.

The connection between the quality of executive functions and the achievement of learning success can be used in the current pedagogical and research fields. Encouraging executive mechanisms in general and in the context of academic education in particular, could have a positive impact on improving the quality of university education and pedagogical practice.

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THE QUALITY OF THE PRESCHOOL TEACHER-CHILD RELATIONSHIP AS THE FACTOR OF REALIZATION OF EDUCATIONAL GOALS

Radmila Milovanović*
Faculty of Education in Jagodina, University of Kragujevac

Abstract: The most common factor mentioned in relation to positive youth development is the quality of relationships with very important adults in their immediate surroundings, including their preschool teachers. The aim of the paper is to try to determine the quality of the preschool teacher-child relationship in our preschool institutions. The study included 225 preschool children (M = 6.3 years), 225 preschool teachers and 225 parents from different cities in Serbia. A questionnaire for preschool teachers and parents designed for the purposes of this research and a projective drawing for children was used to collect data. The results of the research show that the quality of the preschool teachers-children relationship is generally good, but that there is some discrepancy between the self-satisfaction of preschool teachers and the dissatisfaction of a certain number of parents. In their drawings and by their choices of objects and colours, children show that they perceive their preschool teachers as good, beautiful and pleasant, but in a disturbing number of cases as alienated, dangerous, unknown and distanced. The results indicate the necessity of planning the activities in the direction of improving the competences of preschool teachers for the development of a harmonious relationship with children in educational work.

Key words: interactions, preschool teacher-child relationship, improvement of educational work.

INTRODUCTION

Social interaction is a process in which two or more persons act so that their experience and behavior are mutually conditioned and interdependent. It is a two-way, mutually active relationship that leads to changes in the behaviors of all participants; the exchange between two partners that reciprocally influence each other. Interaction implies the activity of both participants in the process, reciprocity and complementarity, which means it depends not only on what the participants during it do but also how they do it. For these reasons, interaction can be called a co-relationship (Spitz, 1965).

*E-mail: andjelao02@yahoo.com

In the context of social relations, social interaction is a broader term than social behavior, social action or social contact and may involve all of that. In the true sense of the word, it forms the basis of social relations or rather builds social relations and gives them a certain quality. There can be no good, quality relationship without real interaction, the one that implies emotional involvement and genuine human closeness. Interactions make a pattern over time, i.e. they grow into what is usually meant by the term relationship. The terms "relates" and a "dynamic relationship" are used to denote "what a person does to another person taking into account that person" (Deutcsh, 1978: 189)

The very term relation (lat. *Relatio* - relationship) indicates the existence of two independent subjects who share a connection, something they have in common binding them together. A social relationship means relatively long connections between two or more people. Relationships between people can be good or bad, friendly or hostile, horizontal or vertical, symmetrical or asymmetrical, but can also be a relationship of domination (a relationship in which one member dominates over the other and the other submits). There are relationships with various forms of aggression and abuse (Deutcsh, 1949).

One of the most desirable relationships between people is rapport. A harmonious, complementary relationship is recognized by how we feel included, pleasant, undisturbed, understood and accepted in it (Gordon, 1998). There are significant and less significant relationships in life. When it comes to child development, apart from relationships with parents, relationships with educators and teachers are essential. For these reasons, developing a very special relationship between a teacher and a child is inevitable, the relationship that must never be emotionally neutral or emotionally cold. A child needs a relationship of compassion, understanding and support, i.e. a relationship in which a child hears "I am here, I know how you feel, don't worry, you are not alone." When a child hears that, (s)he relaxes, (s)he feels safe, their hormones are secreted to an optimal extent and their brain is encouraged to do the best it can. What a child needs is the I-Thou relationship. In the I-Thou relationship there is satisfaction with a human encounter, that encounter is an end in itself. As Buber himself says, "I-Thou can be spoken only with the whole being" (Buber, 1976: 76). When a person is in an I-Thou relationship, (s)he feels included, understood, fulfilled, valued, satisfied.

In all situations when a teacher does not pay full attention to a child (s)he is in interaction with, but deals with something else (thinks about the end of working hours, his/her problems and obligations), (s)he puts a child in the object position, in the I-It relationship. When a child feels the need to reach a teacher, when (s)he wants the teacher to really see it, but stays

excluded, when (s)he hopes to be Thou, and is treated as if they do not matter at all - the child faces rejection and the pain of rejection. Abandonment, separation, rejection or at least a threat that this could happen is a true danger for a child. Rejection signals to a child that (s)he is not good enough and that there is a danger they will remain alone. Social rejection in general, and especially by an adult, when it comes to children, is one of the most common causes of anxiety (Ausubel, 1968).

The feeling of exclusion does not depend so much on the number of relationships a child has, but on how much a child feels accepted by only a few important people which certainly include a teacher. What opens the door to the I-Thou relationship is certainly empathy. Empathy allows sensitivity to the needs and feelings of another.

Educational work implies professional skills that drive children to "open their minds" for what comes from adults. Bringing a child into interaction with others, adults and children, providing models for identification and imitation, engaging a child intellectually, emotionally and willingly and a proper interaction that happens in a harmonious relationship with a child are factors that affect the development of all components of a child's personality, lead to a healthy formation of self, help develop cognition and form healthy emotionality and drive a child to perform activities aimed at the world around it (Ivić, 2001).

John Bowlby, a creator of the attachment theory, pointed out the importance of experience in early relationships for a child's personality development (Bowlby, 1969). Although the first significant relationships are usually formed with parents, alternative relationships formed with educators, teachers and other caregivers are also crucial for the development of children and adolescents. The most common factor mentioned in connection with the positive development of young people is the quality of a relationship with an adult. When children start preschool, teachers have an important role in shaping their experience. In addition to the role they play in the development of cognitive skills, they are responsible for regulating the levels of activity, communication and contact with peers. The relationship between children and teachers is considered important at all ages and is related to later academic and social functioning (Hamre et al. 2001).

Positive and low-conflict relationships with educators and teachers from preschool to secondary school are the main factors in children's adaptation to social and academic environments. Bridget Hamre and Robert Pianta (2001) report that relationships between a teacher and a child in kindergarten are very predictive of long-term outcomes of education (in primary and secondary school). In particular, a conflict between teacher and

child seems to be associated with negative feelings, a lack of cooperation in classrooms and poor academic performance (Birch, 1997). In addition, reports of teachers on relational conflict are associated with an increase in the number of children with behavioral problems and a decline of competent behavior over time (Pianta, 2003). In contrast, small children whose relationships with teachers are characterized by closeness show higher levels of overall school adaptation (Birch, 1998). Similarly, Wentzel reports on the correlation between the teacher support and interest in the school in secondary school students and suggests that a relationship between a teacher and a child can be particularly predictive of student functioning during transition periods, such as transition from primary to secondary school (Wentzel & Kathryn, 1998).

What is especially important to point out is that children who are at risk due to academic and behavioral difficulties find positive relationships with teachers particularly important (Pianta et al. 1995),

Research also suggests that a relationship between a teacher and a child plays a significant role in children's social and emotional development (Hamre et al, 2001). In studies of a relationship between a teacher and a child, children who had a secure relationship with their teachers in the preschool institutions showed good interaction with peers and more positive relationships with primary school teachers. On the other hand, children who had insecure relationships with teachers had more difficulty interacting with peers and participated in multiple conflicts with their teachers. Additionally, studies have shown that constructive styles of teacher interaction with children help children build positive and emotionally secure relationships with adults. Also, children whose teachers showed warmth and respect for them coped better in conflict situations with peers and manifested fewer problems in behavior as well as higher levels of school competencies (Webster-Stratton et al, 2001)

The need for good teachers in modern society is great. Many important humane principles and human achievements are incorporated into modern teacher education, such as respect for children and children's rights regardless of nationality, race or religious affiliation, political affiliation or social status of their parents; promotion of child care, their rights to equal opportunities, upbringing and education under the same conditions, etc. The goals of teachers and their responsibilities are set out in national laws and ethical regulations of many countries (now, Serbian as well, e.g. is the Declaration of Children's Rights). Despite all that, if a teacher does not work on the construction of a harmonious relationship with a child, or if bad interaction results in a bad relationship, consequences can be very destructive in all aspects of a child's personality development. Starting from all the above

mentioned, we consider the effort to examine the quality of the teacher-child relationship a relevant endeavor, especially since this is a topic which is dealt with by a small number of researchers in our surroundings.

METHOD

Objective A general objective of the research is defined as an effort to determine the quality of the teacher-child relationship in our preschool institutions. Specific goals are also defined: to examine the attitudes of teachers towards some aspects of the work they deal with which may have effects on the quality of their relationship with children, to examine how parents evaluate teachers and the teacher-their child relationship, to determine how children experience their teachers and compare the data obtained.

Sample The research sample consisted of 225 teachers, 225 mothers and 225 children with the average age of 6.3 years from preschool institutions in different cities of Serbia (Jagodina, Kragujevac, Despotovac, Rekovac, Velika Plana, Petrovac na Mlavi, Smederevo and Svilajnac).

Instruments To examine how teachers assess the quality of their relationship with children, a questionnaire for teachers was used containing 6 questions: (Am I satisfied with my job?, What are today's children like?, If you could, what kind of children would you choose for your group? How do children feel about you? What do you do to develop a good relationship with children? Rate the quality of your relationship with children on a scale of 1 to 10). To examine how parents assess the quality of the teacher's relationship with their child, a parent questionnaire was used which also contained 6 questions approximately equivalent to the questions posed to the teachers: Am I satisfied with my child's teacher?, What are today's teachers like?, Do you know how your child feels about her/his teacher? What do you do to help your child develop a good relationship with the teacher? Rate your child's teacher on a scale of 1 to 10. Rate the relationship between the teacher and your child on a scale of 1 to 10). To evaluate the experience of the children, a projective drawing was used with the topic *If I had a magic wand I would turn my teacher into…?* and *"Me and my teacher"*

Procedure Data were collected on several occasions in 2017/18/19. The teachers filled out the questionnaires during breaks in their working hours. Parents filled out the questionnaires when they came to pick up their children. It took about 15 minutes to complete the questionnaire. The children made their thematic drawings during their directed activities in kindergarten.

Analysis procedures Descriptive statistics and the test of significance were used to process the data from the questionnaire, while children's drawings were interpreted using psychological interpretation.

RESULTS AND DISCUSSION

The first question teachers were asked was about their job satisfaction as that is considered one of the key elements of motivation for work. Job satisfaction is usually defined as the general attitude of an employee towards one's own job (Robbins Coulter 2012). Distribution of teachers' answers to the first question, i.e. statement from the questionnaire is shown in Table 1.

Table 1. Distribution of teachers' answers to the first question from the questionnaire

Question 1	YES		BOTH YES AND NO		NO	
	f	%	f	%	f	%
I am satisfied with my job.	72	32.00	64	28.44	89	39.55

Research has shown that the professional status of people who teach (from kindergarten teachers to higher education teachers) is relatively low, as is satisfaction with their job. If dissatisfaction with the status persists, it affects job (dis)satisfaction, which further has direct consequences on practical procedures in working with children, which implies adverse effects on children's development, for example: insufficient readiness of children to start school, a negative impact on performance and generally weaker success in the overall further education (Nišević Colic, 2010). Research on school practice shows that teachers' job satisfaction greatly affects the motivation of students, as well as the stability and quality of learning and teaching (Sharma & Jyoti 2006). In the context of teacher-child relationship quality research, we find the obtained results worrying, considering that as much as 39.55% of surveyed teachers are not satisfied with their job. If we add that 28.44% of the teachers are "both yes and no" satisfied with their job, it seems logical to ask ourselves how much the surveyed teachers are actually motivated to invest effort in building harmonious relationships with children.

Considering that attitudes are also important motivating factors that guide individual behavior and that on the basis of knowledge of attitudes we can explain and even predict human behavior, we considered it important to

find out what the attitudes of teachers towards children were. The attitudes of one person also enable knowing the value orientations of that person since values are a more general concept than attitudes, and thereby condition attitudes. Attitudes also imply criteria that people use to select and justify actions and to evaluate other people and events (Ferić, 2007).

Distribution of answers to the question "What are today's children like, in your opinion" is shown in Table 2

Table 2. Distribution of answers to question 2

	f	%
POSITIVE ATTITUDE (good, obedient, cooperative, curious, hardworking, communicative)	123	54.66
NEGATIVE ATTITUDE (Much more aggressive than before, nervous, lacking communication, impossible, spoiled, they have no limits in behavior, they can drive you crazy, rude, lazy)	102	45.33

Most teachers have a positive attitude towards children, as they perceive them as good, hardworking, cooperative, etc. However, given the above, the results obtained are worrying considering that as many as 45% of teachers perceive children as more aggressive than before, nervous, lacking communication, impossible, spoiled, that they have no limits in behavior, that they can drive one crazy, rude. One can hardly expect a good quality relationship in a situation when teachers manifest this attitude towards their own students in the answers. This is corroborated by the answers to the question "If you could choose, what kind of children would you choose for your group?" Most teachers, as much as 68% state that they would choose good, calm, obedient and modest children. A lower percentage of teachers (32%) gave the answers such as "all children are good, I don't care, it doesn't matter" and the like.

To find out how teachers perceive children's emotional attitude towards them, the question was asked, "What do you think, how children feel about you?" The emotional component is, to recall, the central issue of social relationships. Emotions practically determine the quality of interaction. While negative emotions can lead to bad relationships, positive emotions can create good relationships and lead to personal growth and development (Fredrickson and Joiner, 2002). The best kindergartens and the best schools are happy places. In such happy places, adults understand that happiness is one of the goals of upbringing education (as well as life in general) and that

happiness is both a means and an end. Happy children who grow up understanding what happiness is will gladly use the opportunities provided by upbringing and education and will affect the happiness of the people around them. Of course, in order for children in kindergartens and schools to be happy, their teachers must be happy and satisfied. It is a matter of their relationship (Noddings, 2003: 261). As much as 98% of teachers provided the answers "they love me" or similar. Unfortunately, the reasons for this degree of teachers' positiveness and certainty that children love them stay beyond the reach of this research.

The question "What do you do to develop a good relationship with children?" was asked to find out how much teachers know of the activities necessary to build a good, harmonious relationship with children. The usual answers were "I treat all children the same, I am just, I teach them and take care of them, I do what every teacher does, I work according to the program". Building a harmonious relationship with children is a conscious process and an important aspect of the professional competencies of teachers so the absence of qualified answers that would indicate knowledge of this process is surprising.

The distribution of the answers to the question "Rate yourself as a teacher on a scale from 1 to 10" and the question "Rate the quality of your relationship with children on a scale of 1 to 10" is shown in Table 3.

Table 3. Mean values of teachers' self-assessment on a scale from 1 to 10

	m
Rate yourself as a teacher	9.6
Rate the quality of your relationship with children	9.3

As we can see, the teachers evaluated themselves and their own relationships with children with almost maximum grades. This finding is unexpected as it is inconsistent with teachers' answers to questions about satisfaction with their job, with their perception of the children they work with and with the knowledge of the activities necessary for building harmonious relationships with children. We assume that their dissatisfaction was caused by external factors as it is obvious that it does not arise in the slightest from their attitude towards their own personality which, based on these assessments, can be classified in the category of maximum self-satisfaction. The reasons for this self-satisfaction are, although very interesting, still an issue that remains beyond the reach of this research.

To form a picture of the teacher-child relationship, parents were asked complementary questions. The distribution of the answers to the first question - statement "I am satisfied with my child's teacher" is shown in Table 3

Table 4. Distribution of parents' answers to the first question-statement

Question 1	YES		BOTH YES AND NO		NO	
	f	%	f	%	f	%
I am satisfied with my child's teacher	93	41.33	64	28.44	68	30.22

The results show that almost half of the parents are satisfied with the teacher of their children. However, the results are worrying since the percentage of parents who are not satisfied is not negligible (as much as 30.22). When the percentage of parents who are "both satisfied and dissatisfied" is added to that, we believe that it is necessary to investigate the causes of this dissatisfaction and take the necessary measures to remedy this attitude. We know that educational work largely relies on the cooperation between parents and a preschool institution and this cooperation cannot be expected to be constructive if parents are generally dissatisfied with their children's teachers. To recall, a family and preschool institution cooperation needs harmonized goals and interests of parents and teachers, but the emphasis is on the process of joint activities, the outcome of which is cooperation as mutual support. When operationalizing the concept of cooperation, one approach is directed to the areas of cooperation, and the other to the quality of the teacher-parent relationship (Pavlović Breneselović, 2010).

To examine a cognitive component of their attitudes toward teachers, the way in which they perceive teachers, the parents were asked "What are today's teachers like, in your opinion?

Table 5. Distribution of parents' answers to the question "What are today's teachers like, in your opinion "?

	f	%
POSITIVE ATTITUDE (good, well-mannered, hardworking, communicative, trustworthy)	132	58.66
NEGATIVE ATTITUDE (superficial, frivolous, some are insolent, not very interested, don't care about the children because of their problems, if you are "someone" they value your child more, they don't treat all children the same, lazy)	93	41.33

The parents' answers to this question indicate that the largest percentage of parents positively perceive teachers as people of trust, good and hardworking. To recall, for understanding the cooperation of family and kindergarten, it is important to keep in mind the angle of view (perspective) of each actor in the process. Good, partnership relationships between a kindergarten and a family are built through mutual trust and respect, empathy, sensitivity and respect for the perspective of the other party, constant open communication, recognition and respect for the unique contribution and strength of the partners, joint decision-making and willingness to compromise and change (Pavlović Breneselović and Krnjaja, 2017). Given the above, the percentage of parents (as much as 41.33%) who perceive their children's teachers in a way that indicates a negative attitude towards them is worrying. Moreover, this indirectly indicates a negative perception of the teacher-child relationship by the parents.

In an effort to collect data on the quality of the teacher-child relationship, the parents were asked *''Do you know how your child feels about his/her teacher?''* The distribution of answers to this question is shown in Table 6

Table 6. Distribution of parents' answers to the question "Do you know how your child feels about its teacher"

	f	%
POSITIVE FEELINGS (likes her, loves her, adores her)	121	53.77
NEGATIVE FEELINGS (it is ashamed, confused, doesn't really like her, doesn't feel anything special, a little afraid of her)	104	46.22

Parents' answers to this question indicate that the largest percentage of parents believe that their child has positive feelings towards the teacher. The emotional component, to recall, is the most important component of the interpersonal relationship quality. A positive relationship should never be emotionally neutral or emotionally cold, it should include an interchange of positive feelings in which a child feels secure, understood, and accepted (Sheldon & Lyubomirsky, 2006). For that reason, the percentage of parents who estimate that their child has negative feelings towards the teacher is worried. Feelings such as fear, shame or anxiety in a relationship with a teacher are developmentally destructive and extremely undesirable.

When asked the question "What do you do to help your child develop a good relationship with the teacher?", 43% of parents answered that it is not

their responsibility and that it mostly depends on the teacher. The majority of parents (57%) answered that they teach their child to listen to the teacher, to be good and obedient.

And finally, asked to "Rate your child's teacher on a scale of 1 to 10" and "Rate the quality of the relationship between your child and the teacher on a scale of 1 to 10" the parents gave the average scores shown in Table 7.

Table 7. Mean values of teachers' assessment by parents on a scale from 1 to 10

	m
Rate your child's teacher	5.6
Rate the quality of the relationship between your child and the teacher	6.2

The mean scores the parents gave the teachers are not high. The parents rated their child's teacher with a mean score of 5.6 while giving a slightly higher grade (6.2) to their relationship. This result indicates that the parents are neither satisfied nor dissatisfied with their child's teacher and barely satisfied with their relationship.

And what did the children say? In this paper, drawing was used as an unavoidable part of the psychodiagnostic assessment of children. In addition, as the most often encountered theme in children's drawings is man, man is the most commonly used theme in projective techniques and research with children (Burkitt, Barrett, & Davis, 2003).

Tasked with "If I had a magic wand, what would I turn my teacher into? (draw)", the children answered as shown in Table 8

Table 8. Distribution of themes of drawing "If I had a magic wand, what would I turn my teacher into"

	f	%
Queen	19	8.44
Fairy	18	8.00
Flower	28	12.44
Butterfly	29	12.88
Sun	25	11.11
Σ	**119**	**52.88**

Dragon	16	7.11
Snake	21	9.33
Witch	17	7.55
Wolf, tiger	19	8.44
Frog	16	7.11
Stone	17	7.55
Σ	**106**	**47.11**
Σ	225	100

As we can see, just over half of six-year-olds would turn their teacher into a queen, a fairy, a flower, a butterfly, or the sun if they had a magic wand. Unfortunately, a large percentage of children, as much as 47%, would turn their teacher into a dragon, a snake, a frog, a witch, a wolf, a tiger, even a stone. This is a worrying finding since researchers who analyze children's drawings believe that children project their negative attitude towards adults by drawing dangerous animals and characters from fairy tales which they fear (as they project their positive relationship by drawing fairies, queens, flowers and butterflies) (Silk & Thomas, 1986).

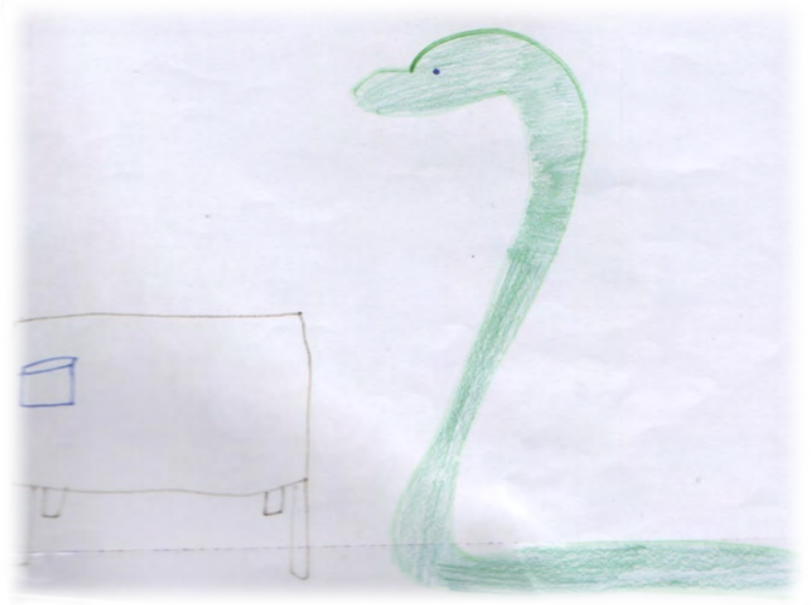
Typical representatives of "positive" drawings are shown in Figures 1 and 2

Drawing 1. Drawing by B.M. "If I had a magic wand, what would I turn my teacher into?"

Drawing 2. Drawing by J.R. "If I had a magic wand, what would I turn my teacher into?"

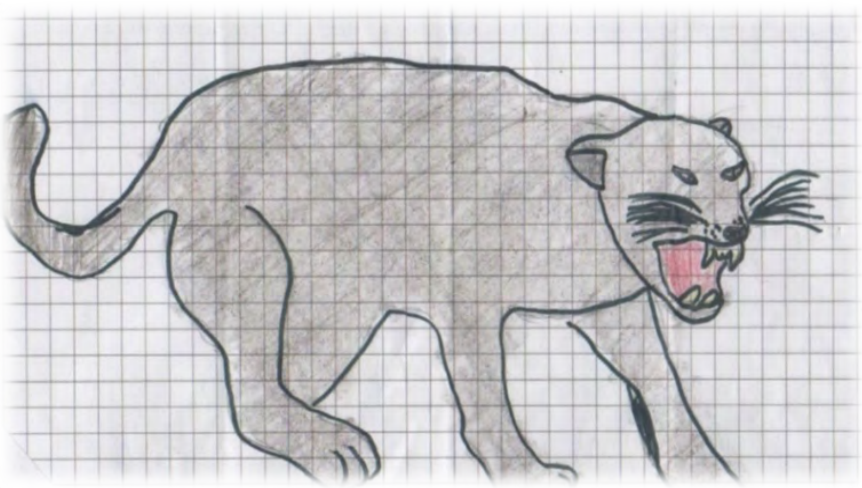
Drawing 3. Drawing by L.B. "If I had a magic wand, what would I turn my teacher into?"

Drawing 4. Drawing P. S. "If I had a magic wand, what would I turn my teacher into?"



Drawing 5. Drawing L. M. "If I had a magic wand, what would I turn my teacher into?"

Drawing 6. Drawing by M. "If I had a magic wand, what would I turn my teacher into?"



Drawings themed "Me and my teacher" mostly indicate distance (as much as 66%). Typical representatives of this type of drawings are drawings 7 and 8.

Drawing 7. Drawing by A.M. on the theme "Me and my teacher"

Drawing 8. Drawing by K.M. on the theme "Me and my teacher"

When the answers of the teachers and the parents are finally compared, a clear difference between their views can be noticed. While teachers are dissatisfied with their job, parents are dissatisfied with teachers. Teachers see children as good, obedient, etc. but also in a large percentage as disobedient, aggressive, spoiled. Parents see teachers as good and hardworking but also in a high percentage as superficial, unmotivated, etc. While teachers think that children love them, a large percentage of parents estimate that children fear them and that they do not really like them. It is clear from the answers that teachers are not knowledgeable of the methods of building a harmonious relationship while a significant percentage of parents strive to teach their children how to behave towards the teacher in order to be on good terms with them. What has proven to be the dominant difference is the difference between teacher self-assessment and the grade they received from the parents. While teachers rate themselves with ten, the parents give them five. The difference is also obvious between the teacher-child relationship assessments made by parents and teachers. Teachers evaluate those relationships with ten and parents with six. If we add the percentage of the children who see the teacher as a dragon, a snake, a witch, a wolf, a tiger, a frog,

a tree - as well as the percentage of drawings showing a striking physical distance between the teacher and the child, we can conclude that the relationship between teachers and children is not good in a worrying number of cases. That certainly points to further research, but also to the necessity of educating teachers in the direction of acquiring skills for the development of a harmonious relationship with children.

CONCLUSION

The most common factor mentioned relative to the positive development of young people is the quality of relationships with significant adults, including teachers. Starting from that finding, the paper aimed to try to determine the quality of the teacher-child relationship in our preschools. The results showed that in a significant percentage of cases this relationship is not at the level that would be desirable for undisturbed educational work. This certainly points to further research but also to the necessity of educating teachers in the direction of acquiring skills for the development of a harmonious relationship with children.

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CHALLENGES IN THE REALIZATION OF FUTURE PRESCHOOL TEACHERS' PROFESSIONAL PRACTICE

Stojanović J. Biljana*
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Eremić S. Nina
University of Kragujevac, Faculty of Education in Jagodina, Serbia

Abstract: Professional practice of future preschool teachers is one of the most sensitive areas in the entire structure of their initial education. Preschool institutions have an important role in the partnership between faculties and preschool institutions, because they implement professional practice with the aim of training students for practical work with children. The main goal of the research was to examine how preschool teachers-mentors assess the effectiveness of professional practice in order to connect the theoretical and practical training of students. The sample consisted of 150 preschool teachers from 6 preschool institutions in Serbia. A questionnaire developed for the purposes of this research was used to collect data on the efficiency of students' professional practice. The results showed that preschool teachers are not sufficiently informed about the goals and tasks that students should realize during their internship in a preschool institution. Also, the majority of preschool teachers (61%) stated that they were reluctant to accept the role of a mentor in professional practice, the most common reason being that students do not accept their suggestions and are not interested enough to get involved in working with children. The obtained results indicate the need for more intensive communication between a faculty and a preschool institution, converging of goals and tasks in professional practice, all that with the aim of better preparing students for their future professions.

Key words: preschool teacher, student, professional practice

INTRODUCTION

Professional practice of future preschool teachers is an important dimension of their initial education. Apart from acquiring theoretical knowledge at the university, it is even more important to enable future preschool teachers to develop their potential for the profession and a readiness to respond to the increasing trends of changes in theories of upbringing and education, preschool institutions, and wider social changes. The duration and realization of professional practice are determined by the *Regulation*

*E-mail: biljanastojanovic23@yahoo.com

on Standards and Procedure for Accreditation of Study Programmes (2019), which states that higher education institutions offering study programs in the field of education must provide pedagogical practice in pedagogical institutions in the 2nd, 3rd, and 4th years of study, at least 90 hours per year. The content and the structure of professional practice as a course are determined by the professional practice course specification. At the Faculty of Education in Jagodina, the goal of professional practice is defined as: introducing students to the organizational structure of upbringing and education work in a preschool institution; introduction to upbringing and education methods, forms of work and realization of all forms of work with preschool children; introducing students to programs and to the model of evaluation of upbringing and education work in preschool institutions; training students to apply different research methods and techniques in working with preschool children; training students in systematic observation and analysis of social relations in a preschool institution (Course directory, 2014).

Although professional practice implies that future preschool teachers practically get to know their profession through active participation in various daily activities in the preschool institution, Vandekerckhove et al. point out that the level of education of preschool teachers is not a guarantee of quality work, but that it depends more on the staff's ability to create a high-quality educational environment that allows enough room for continuous professional development (Vandekerckhove et al. 2013). In *New Fundamentals of Preschool Education Curriculum* (2018), a model of future preschool teacher education presupposes the education of a preschool teacher as a reflective practitioner, which implies an active individual who explores different possibilities for solving practical problems. "A reflective practitioner creates, that is, builds a reflective practice based on his/her own reflection-in-action and reflection-on-action which is a characteristic of an excellent (reflective) practitioner" (Bubnys and Kairienė, 2016). Such a model of education includes the development of various abilities and skills of future preschool teachers, such as: inclination towards teamwork; independence and creativity in applying acquired knowledge, skills and abilities in practice; a proneness to introspection, critical thinking and self-criticism; autonomy in decision making and responsibility for one's own decisions and actions; openness to new ideas and adaptability to new situations and differences (Marković, 2014).

The necessary competencies for the job of a preschool teacher raise a question as to whether the initial education of preschool teachers develops these competencies in accordance with the set standards and requirements of the educational profession. Some authors point out that, in the initial education of preschool teachers, it is necessary to reduce the possibilities for

the effect of two powerful mechanisms that often negatively affect the professional work of future preschool teachers, namely: imitating the established routine practice and attitude towards a child and strong personal experiences of upbringing and education. In order to bypass these negative mechanisms which often affect young preschool teachers by inertia, Henting believes it is necessary to create study opportunities that will give future preschool teachers a possibility and freedom to develop and create their own ideas about their role before molding them (Henting, 1997). Preschool teacher education is characterized by the still present mechanistic approach, fragmentation, a gap between education and practice, a discontinuity between initial education and further professional development. A current state of preschool teachers' initial education in terms of their competence testifies of the lack of competencies developed in the context of practice but also a lack of competencies for taking on an autonomous role in education (Bubnys and Kairienė, 2016; Mićanović, 2010; Krnjaja, 2019; Backovic, 2019). The observed weaknesses in the initial education of preschool teachers include: insufficient harmonization of the initial education program with the competencies expected of a preschool teacher; the dominance of *ex-cathedra* teaching work with students, where the teacher's role continues to be reduced to knowledge transfer; insufficiently present integration of different methodologies; professional practice has not yet gained the importance and place it deserves, since the issue of practice rooms has yet to be resolved; the role and status of the preschool teacher-mentor has not been defined yet, nor has his/her education for performing the mentoring role, etc. (Markovic, 2014).

Considering that students - future preschool teachers are expected to abandon the role of passive knowledge recipients and those who accept and practice certain skills required for educational work, it is imperative to enable them to take on an active role and a responsibility for their own learning, and then also for applying knowledge in direct practice. This also requires changes in higher education and adapting the concept of studies and program outcomes to the needs of the modern educational staff (Mićanović, 2019). Accordingly, the guidelines for the conceptualization of the study program for initial education of preschool teachers should relate to the harmonization of study programs with the time in which education is realized; a study program requires a shift of emphasis from teaching content to a learning process; a learning process is enhanced through joint research of teachers, students and practitioners; interconnecting courses, areas and knowledge into a harmonious whole that would reduce the problems observed in preschool teachers education related to the lack of synthesis and usability of knowledge (Goodnough, Falkenberg & MacDonald, 2016).

In order to avoid present discontinuity between initial education and later professional development caused by insufficient cooperation of these institutions, it is necessary to establish a partnership between a higher education institution and a kindergarten. An additional reason for the reconceptualization of a relationship between a higher education institution and a kindergarten in Serbia towards partnership, according to Krnjaja (2019), is related to harmonization with the two new educational policy documents, Fundamentals of preschool upbringing and education program 'Years of Ascent' (Rules on Fundamentals…, 2018) and Standards of competences for the preschool teacher profession and their professional development (Rules on Standards…, 2018). In addition to the fact that the partnership implies the involvement of kindergartens in the field of providing professional practice, where kindergartens provide co-mentors-preschool teachers in whose educational groups students plan and implement program activities, it also involves collaboration, sharing power, sharing responsibilities, mutual trust and joint participation in creating educational practice (Mićanović, 2019; Pavlović Breneselović, 2010).

Through cooperation and partnership relations between faculties for the education of preschool teachers and preschools institutions, the key elements related to quality training of students for work should be defined. In addition to harmonizing the curriculum with the current program for preschool upbringing and education, and familiarizing preschool teachers-mentors with the contents of professional practice and students' obligations, it is necessary to clearly define the role and tasks of a preschool teacher-mentor. There should always be exchange and reciprocity in the mentoring relationship between preschool teachers and students. In traditional forms, mentoring is 'a form of professional development in which a more experienced and knowledgeable person helps and guides a less experienced and knowledgeable one' (Miškeljin, 2016: 397). In this model, there is a one-way exchange from the more experienced (mentor) to the less experienced (trainee). The new mentoring model implies a common action of individuals, groups, research and educational institutions of all levels of the education system and its broader surroundings (Vujičić and Čamber Tambolaš, 2017; Stipić and Prlić, 2019).

Many studies point out the problems that arise in training students for their future profession. In their study of how students at teacher training faculties and their professors see the relationship of theory and practice, Polovina and Pavlović (2010) came up with the results showing that the experience of a 'split' in university teaching prevails, as university programs are almost exclusively equipped with theoretical knowledge, which students consider an inadequate preparation for work. Both Rajović and Radulović

(2007) talk about the fact that the theoretical knowledge acquired in initial education does not develop into relevant applicable knowledge. Practitioners say that their professional learning is associated with its verification in practical situations, and according to the research results, those educational programs that integrate theory and practice have the greatest impact on their professional development. In a survey conducted at the Faculty of Teacher Education in Užice, the most common students' remark related to practice was dissatisfaction with the time provided for practice and insufficient engagement during practice, a passive role, or merely observation of the educational process. Students' suggestions were to increase the time for practice and tp provide opportunities for more active participation (Nikolić, 2008). In the research conducted by Stepić and Prlić (2019), the results show that participation of students and preschool teachers-mentors in professional practice is oversimplified, which is summarized as a simplification of participation in professional practice by reducing preschool education to realization of pre-planned educational work; practice and professional practice to a set of activities; activities to planned learning situations; mentoring to practical training of students to fit into the existing kindergarten culture through adequate forms of behavior in practice. In general, the focus is on performing an activity, rather than on joint participation in practice, as well as on managing children's learning, rather than on building relationships with all participants.

Fulan (1993) believes that these problems related to the realization of professional practice, and a consequential mentoring relationship in the preparation of future preschool teachers, can be overcome by the paradigm shift which includes participation of all subjects - inclusion of quality preschool teachers in student education and student participation in these changes, theoretical knowledge but also new learning strategies - action research and reflective practice.

Starting from the importance of professional practice and the role of a preschool teacher-mentor in the process of practical training of students-future preschool teachers, we consider it justified to study the attitudes of preschool teacher mentors about the concept, goals, and challenges in the realization of professional practice in a preschool institution.

METHOD

Research Problem and Objectives

The research problem is defined through the following question: how do preschool teachers-mentors evaluate a concept of professional practice that

takes place in preschool institutions and to what extent are they motivated to perform a mentoring role?

The main objective of the research is to examine the attitudes of preschool teachers-mentors about the effectiveness of professional practices in order to link theoretical with practical training of students, future preschool teachers.

Research Sample

The research included 150 preschool teachers from six preschool institutions in Serbia.

Research Instruments

The instrument used in the research is a survey created for the purposes of this research which contains open and closed type questions and within these, questions of descriptive attitude scale and ranking types. The survey contains six questions that examine the attitudes of preschool teachers about students' competence to apply theoretical knowledge in practice, about the problems they face when fulfilling the mentor role, about the reasons for accepting or not accepting the mentor role and suggestions for possible strategies to improve the quality of professional practice.

RESEARCH RESULTS AND DISCUSSION

To examine the attitudes of preschool teachers-mentors about the goals of professional practice, the first question was to rank the goals of professional practice, on a scale from 1 to 5, where 1 indicates the goal they consider to be the most important one. Table 1 shows the results obtained for this question.

Table 1. Ranking the goals of professional practice by importance

Professional practice goals	Ranking
For students to connect theoretical knowledge with practical experience	1
For students to gain some practical experience	2
For students to adapt to the kindergarten environment	3
For students to be trained to solve specific problems in direct work practice	4
For students to form their own pedagogical style through practical activities	5

The preschool teachers' answers show that they understand the importance and significance of linking theoretical knowledge with practice in preparation for their vocation, as they put this goal in the first place, i.e. they valued it as the most important goal. The second most important goal for students was to gain practical experience. The preschool teachers ranked adaptation to a preschool institution and solving specific problems third and fourth, respectively. What especially attracts attention is the goal ranked 5, and that is the goal that refers to the formation of one's own pedagogical style through practical work. The fact that the preschool teachers-mentors define this goal as the least important can be interpreted by the presence of the 'imitative' model of realizing professional practice in which students observe their more experienced colleagues and repeat what they see (Stojanović, 2009). In order for the student to accomplish the set tasks, in addition to respecting the knowledge of a more experienced preschool teacher, he/she should rely on the acquired knowledge about educational work and try to apply the relevant principles in his/her own way to given circumstances, which means to adopt the proper investigative, critical approach to the social and educational contexts in which he/she operates. This also means that he/she will not passively adapt to what he/she finds in the institution, but will instead try to change something, as students are introduced to the culture of practice through their own participation. The practice is first observed to be understood and then one participates more actively in it through some of the selected practice repertoires (Chizhik et al., 2017).

When we asked the preschool teachers about the problems they encountered during the fulfillment of their mentoring role, we got the following answers: the insufficient knowledge of preschool teachers-mentors about the program, the goals and tasks of professional practice; insufficient knowledge of students about the institution and the rules of conduct; clearly defined tasks that students need to accomplish in practice and the students' attitude towards children and parents. The results are shown in Table 2.

Table 2. Problems during the fulfillment of a mentoring role

Problems	N	%
I am not familiar with the concept of professional practice	98	65%
Student behavior	24	16%
Realization of tasks students received from their teachers	24	16%
Students' attitude towards children and parents.	4	3%

The results showed that more than half (65%) of preschool teachers do not know enough of the concept of professional practice and are, therefore, not familiar with the tasks students have in each year of studies, which is what they stated to be a basic problem in the realization of professional practice. This information indicates the necessity of establishing better communication between the faculty and the preschool institution for the purpose of mutual familiarity with the program and the goals of the professional practice course, but also about the concept of work in the preschool institution, in order to more successfully overcome this problem. Only through the partnership between these institutions can students prepare well for their future vocation (Krnjaja, 2019; Marković, 2014; Mićanović, 2019). Inadequate student behavior as a problem in the realization of professional practice was identified by 16% of surveyed preschool teachers. On this occasion, the preschool teachers did not state what these behaviors were and how they hindered the process of educational work. The following difficulty was the realization of tasks that students received from their teachers, in terms of a lack of knowledge about these tasks. Only 3% of preschool teachers stated the attitude of students towards children and parents as a problem. We can interpret these results in light of the problems we mentioned at the beginning of this paper, and that is the insufficient knowledge of preschool teachers-mentors about the concept, the contents, and the ways of realization of tasks students should accomplish in practice. We assume that if preschool teachers had information on when and what students should do, preschool teacher-student communication would be of better quality, and their relationship would be more of a partnership in its nature.

Asked if preschool teachers (if they could choose) would accept the role of mentors to students within professional practice, 31% of preschool teachers answered affirmatively, and as many as 69% of preschool teachers said they would not accept this role. The questionnaire provided an opportunity, in case of a negative answer, for the respondents to state the reasons why they would not accept the role of a mentor. The results are shown in Table 3.

Table 3. Reasons for not accepting the mentor role

Reasons why preschool teachers do not accept the mentor role	**F**	**N**
No answer	61.1%	91
Mentoring is a big obligation for preschool teachers	19%	29
Students do not accept advice and suggestions	14%	21
I do not have enough work experience to be a mentor	3.4%	5
Students are not interested	2.5%	4

The fact that a large number (69%) of preschool teachers would not accept the role of a mentor indicates unresolved mentoring status, insufficient training, and insufficient motivation to accept additional commitment on top of regular tasks (Miškeljin, 2016). More than half of the preschool teachers did not give an explanation for not accepting this role and it can be assumed that the reasons of these preschool teachers are diverse. The obtained data raises the question: what happens in practice if the majority of preschool teachers are not motivated to help students or do not do it appropriately? One of the solutions to be considered is a legally regulated status of mentoring work, which would appreciate and reward educational experience and additional effort, as well as the appropriate training of preschool teachers to perform mentor roles. A number of preschool teachers, 19%, stated that the reason for not accepting the mentoring work is the additional obligation without any compensation, whether material reimbursement or professional satisfaction. Also, 14% of preschool teachers answered that students do not accept advice and suggestions, showing that they view the preschool teacher mentor-student relationship as a relationship of power, a relationship in which those who know should advise and suggest, rather than a partnership in which they should participate together and build educational practice jointly (Chizhik et al., 2017).

In the end, we asked the preschool teachers-mentors to give suggestions about the ways and effective strategies that could improve the quality of professional practice. Since it is an open type question, we classified the answers into three groups and showed them in Figure 1.

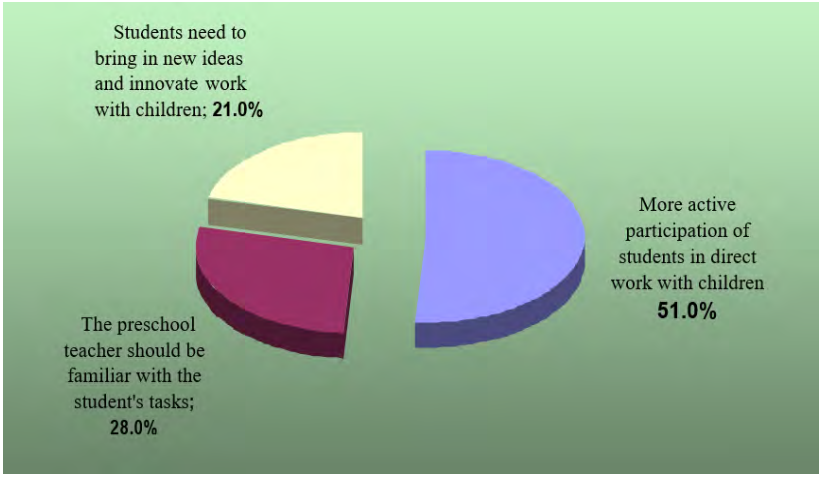

Figure 1. Proposals and suggestions of preschool teachers on the strategies for improving the quality of professional practice

A half of the surveyed preschool teachers (51%) believe that more active participation of students in direct work with children would contribute to their training in practical work and contribute to more efficient connection of theory and practice. A number of preschool teachers (28%) stated that professional practice would have been more successful had preschool teachers-mentors been familiar with the tasks that students should accomplish during the practice, as preschool teachers could thus adapt their work to the given tasks, help students and guide them. This comment of preschool teachers again points to the problem we have defined, and that is insufficient mentor awareness of student tasks (Markovic, 2014). By analyzing the responses of 21% of preschool teachers, we came to the results that show their expectations of students to bring in new ideas and innovate work with children. This shows the need for a number of preschool teachers to improve their own work, to come to new knowledge and ideas, and they expect students to be a source of such information.

Summarizing the obtained results, we can notice that the surveyed preschool teachers notice problems in the realization of professional practice for students and hold higher education institution, faculty teachers, and most often students themselves accountable for these problems. None of the preschool teachers' answers concerned their own role and responsibility in performing the mentoring role. For example, preschool teachers did not state that, in addition to the legally regulated status of a mentor, they needed training for the realization of this role, additional knowledge and skills, etc. All of the above shows that fundamental changes in conception, organization, and realization of professional practice of students are needed; that it is necessary to establish partnership relations between preschool teacher education faculties and preschool institutions; to establish cooperative relations between preschool teachers-mentors and students based on two-way communication, joint learning and building educational practice. This is precisely the preschool teacher mentor-student interaction that should be the center of professional development of future preschool teachers.

Despite the limitations of the research (we are not familiar with the criteria for selecting preschool teachers to be mentors, a suitable sample, etc.), we find these research findings relevant as they show the current state of professional practice from the standpoint of preschool teacher practitioners. Although many authors and researchers recognized these problems in preparing future preschool teachers for the profession, the changes that are recommended or necessary to overcome the problem are either too slow or non-existent. We hope that this research will provide a better view of challenges in the professional training of students and allow the necessary progress to the resolution thereof.

CONCLUSION

More attention should be paid to practical training of students within the initial education as only through an appropriate system of professional training and development can preschool teachers capable of optimal developmental stimulation of children be prepared.

The research results indicated key shortcomings in the implementation of professional practice, from the aspect of a preschool teacher-mentor. Although preschool teachers understand the importance of practical training of students for the future profession, the fact that they ranked the goal: for students to form their own pedagogical style through practical activities - as the least important, clearly shows their attitude that students should work according to the 'imitation' model, rather than reflecting and researching the educational practice itself. Preschool teachers-mentors state a lack of information about the very concept of practice, the tasks that students should realize and, finally, students' behavior in the educational group as the key shortcomings of professional practice. Two-thirds of preschool teachers-mentors are not motivated to accept this role for various reasons, the strongest one being the burden this role implies. As far as suggestions for improving professional practice are concerned, the surveyed preschool teachers pointed out greater students' engagement in working with children and better knowledge about the goals and tasks of professional practice.

The obtained results lead us to the conclusion that partnerships between preschool teacher education faculties and preschool institutions are yet to be established, and therefore the common general goals and specific tasks of professional training are still not set. Also, there is still no effective communication among the relevant factors in the process and that should contribute to the practical preparation of future preschool teachers. Moreover, some new questions have been raised, such as harmonization of the goals of professional practice with the New fundamentals of the preschool program, resolution of the preschool teachers-mentors status, involvement of preschool institutions and preschool teachers-practitioners in the process of planning and organizing the practical preparation of future preschool teachers, etc. These and other issues should be addressed in future research aimed at better and higher-quality practical training of future preschool teachers.

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PEDAGOGICAL, THEORETICAL AND CONCEPTUAL FOUNDATIONS OF SCHOOL IN TIMES OF RAPID SOCIAL CHANGES

Ivko Nikolić*
University of Belgrade, Teacher Education Faculty, Serbia

Sefedin Šehović
University of Belgrade, Teacher Education Faculty, Serbia

Ljljana Mitić
University of Nis, Faculty of Education in Vranje, Serbia

Abstract: Nowadays, a word 'change' is very commonly used in both scientific and social and cultural life. In the modern society, change is rapid and difficult to manage. These features are caused largely by modern digital technology. In the digital age, the speed of change in technology, technology, social relations, lifestyles, etc. is so great that it exceeds man's capabilities to assimilate and adapt to them. In the digital era, school has to change fundamentally. The theoretical level of teachers' education should be raised to the level of critical analysis of possible and most effective solutions. The modern conception of school and its educational work must be grounded in theory. The paper presents the theoretical foundations on which to build a modern, more effective conception of the school: critical - commutative and emancipatory theories, constructivist, cognitive, structuralist and humanistic theories. Education should be provided so as to meet the demands of today and those of the future, constantly adapting its elements to a rapidly changing digital society.

Key words: conceptual foundations, theories of present and future school, model of digital society school

INTRODUCTION

The most prominent parameters, i.e. the reasons for changes are reflected in the changing demands of the market, globalization of the market, a rapid development of digitalization and a growth of competition. The modern post-industrial society, the knowledge society, defines knowledge productivity and knowledge management (Đurišić-Bojanović, 2007). More advanced

*E-mail: ivko.nikolic@uf.bg.ac.rs

countries in this digital age are trying to gain the best possible position in the international market competition with their knowledge. Three decades ago, Denison (J. Denison, 1991) stated that in an information-based economy, a growing number of people earn a living in jobs that involve creation, processing and distribution of information and that a high percentage of economic income comes from those activities (Nikolić, 2014:81).

The digital environment in which school operates has fundamentally changed and the change is rapid. Such an environment causes more and more frequent debates on how to adapt the educational process to the needs of a modern society and the conditions in the environment in which an individual lives (Maričić, S. and Purić, D. 2011). Bearing in mind that the modern society is largely influenced by electronic media, it is emphasized that "the new school, the school for the 21st century, must be based on new tools and at the same time provide all teachers and students with an easy and fast access to total world knowledge." (Soleša 2006: 13). Changes are based on innovative knowledge. Knowledge becomes a significant productive value on which technological and social changes are based. Rapid changes in the digital society shorten the time lag of many situations, and thus directly change both the atmosphere and the flow rate through the experiential channel in a given time interval. Scientific and technological development caused by digitalization requires today's school to change rapidly. The world in which our children will live is changing four times faster than our schools (Wilard Daggett, 1999). In the digital age in which networked intelligence exists and expert knowledge is quickly available to a student, teaching as a source of knowledge is really obsolete. The biggest changes in teaching are expected in the change of methods of teaching and learning (Vilotijević, N. et al. 2019). Effective teaching can no longer be measured by how interesting the teacher's lecture is, but by how independent and thoughtful students' activities are. The focus of teaching is on learning, and to a much lesser extent on teaching. In that way, the focus of the teacher's work will change, so as to focus on the organization of the teaching process.

There are many theories of learning, some of which are very different from each other and are sometimes completely opposed in terms of the principles they stand for and the goals they strive for.

Current theories of teaching and learning

The question also arises as to which theoretical model, which conception of teaching and school organization best suits modern needs. In order to answer the question, we must first look at the most current theories of teaching today and see what kind of teaching and school they stand for and

the solutions they propose to analyze from the point of view of modern and future digital, cultural and social development. In this paper, we start from the following needs: a) in the modern digital society, students should be prepared for current needs, trained to apply what they have learned and to learn independently; b) the theoretical level of teachers and teaching should be raised to the level of critical analysis of solutions and proposals offered by theoretical concepts; c) the teaching process should be improved by introducing the most modern technical - technological means and innovative solutions so that it prepares a multimedia character at the level of modern needs which should contribute to the development of desirable competencies of students to live and work in a modern environment.

Critical theories

These theories arose from the Frankfurt philosophical School in the second half of the 20th century, the school that was very critical of the social reality and demanded that current values be re-evaluated and viewed from the perspective of an ideal, emancipated future. When it comes to education, critical theory has led to positivist currents by insisting on new relations between school and the society, between students and teachers, demands to approach a student as an autonomous person, suggestions that the focus of school work should be more on student personality development, less on content memorization. One of the most prominent representatives of this philosophical school, Habermas believes that interest is the key and highest source of knowledge, and there are three key interests: a) to dispose of the world of objects, b) to communicate with other subjects and c) to distinguish oneself as a person, to move beyond traditional cultural determinism towards self-determination. He emphasizes emancipation as a goal to strive for, but it is difficult to reach that goal because the space of democratic teaching is not expanding because society acts instrumentally and instead of conducting a democratic discourse, pressures people with manipulation and subordination (Habermas, 1988).

Critical-communicative didactics - Schulz, Klafki, Otto, Winkel drew the basic ideas for their conception of upbringing and education from the philosophy of the Frankfurt School. Molenhauer demands that pedagogical science in its activity should free itself from dogmatism and concentrate on self-determination as the goal of educational work. In order to achieve self-determination, the teaching task should be agreed upon by the students, without any imposition. Schultz demands that teaching goals be achieved through rich interaction and points out that education is legitimate only as a dialogue between subjects. He advocates school helping students obtain qualifications

to participate in social reproduction, but on condition that students' autonomy, self-determination and self-disposition are supported.

The founder of critical-communicative didactics, Winkel, opposes the view that education serves only to obtain work qualifications, i.e. treat students instrumentally, because the view of education should also be focused on relations in the society and the department. In 1980, Klafki shaped a new conception of education and upbringing, which he called critical-constructive didactics. Klafki formulated a planning concept in which, among other things, he points out:

- The main goal of school is to help students develop the ability of self-determination and solidarity, which includes the ability to think, argue, emotional stability and diligence.
- Teaching and learning should be organized as an interaction process in which students, with the help of teachers, independently acquire knowledge.
- Learning content should be learned with understanding, through discovery and rediscovery to which reproductive learning and exercise are subordinated.

It is necessary to determine the main types of learning processes in which students adopt certain content, with the aim of developing the ability of self-determination and solidarity. To achieve this goal, it is best to use learning through discovery, re-experience and understanding. The basic planning unit should not be a 45-minute lesson, but a thematic unit, a teaching project or a course sequence that does not have to coincide with the figure of 45 minutes, but can last longer.

Constructivism - This theoretical conception is based on the premise that knowledge should be acquired on the basis of one's own experience. Students are required to independently collect and select information, to process it independently, to set hypotheses and make decisions based on their own mental patterns by which they shape their experience. The task of the teacher is to motivate students to independently determine connections between subjects and phenomena, to discover rules and laws in the taught content and to mentally transform to fit with their previous knowledge. One of the founders of constructivism, Jerome Bruner, points out that: a) teaching and learning should be based on student experience and conducted in a stimulating environment; b) new knowledge should be structured and adapted to the abilities of students; c) contents should be shaped so that the gaps between old and new knowledge are filled. The task of a teacher is to help students discover the easiest way to acquire knowledge, to teach them to learn, to make them independent and to connect life's problems with the material that needs to be mastered.

The most important starting points of the constructivist critical approach are:

a) Learning is not the teacher's transfer of knowledge to students;
b) Learning is the construction of knowledge through one's own activity;
c) Learning is an interactional process;
d) During learning, the student produces new ideas that he compares with previous experiences and thus expands and enriches his knowledge;
e) A success in learning depends very much on the previous knowledge with which new information is connected;
f) Every student has a thought structure that, under the influence of new knowledge, partially changes or is completely reorganized.

Cognitive theories

Representatives of these theories point out that thinking is a process of information processing, and that learning is a process of organizing, storing and establishing cause-and-effect relationships between information. Learning consists in building thought patterns that are representative of certain phenomena from the environment but are also internal processes. Learning is an interactive activity through which new knowledge is built and old knowledge is reshaped or suppressed. In learning, a focus is on shaping new thought structures and adapting and reorganizing the existing ones. The most famous representatives of cognitivism are: Dewey, Ousubel, Bruner, Piaget, Vygotsky.

Dewey pointed out the need for students in the school to research, discover and experiment and asked for this process to take place in workshops, laboratories and the natural environment. Students should be instructed to do something that is practically valuable through collaborative interaction. The founder of cognitivism, Piaget, starts from the fact that as a child develops, (s)he forms cognitive patterns that enable them to understand the behavior of the environment and to "respond" to it. Vygotsky developed a theory of social learning in which he focuses on the socio-cultural environment in which the child is formed and on the learning process in which a connection is established between what was previously learned and what needs to be learned. His basic views are that: learning is not a consequence of development but precedes development; there is a feedback effect of learning on the development of higher mental functions; in teaching and learning, one must keep in mind not only the formed thought functions but also those that are in development.

Ganje recommends that in each teaching area, the content be arranged hierarchically so that the student first masters simpler, and then more complex concepts and abilities. He suggests that teaching goals should be set keeping in mind the types of learning that will be applied because it will make the goals easier to achieve. Learning outcomes include discrimination, concepts, rules, problem solving, but also verbal information, cognitive strategies and motor skills.

Bruner, like other cognitivists, advocates that students learn by constructing knowledge. That is why he emphasizes that the purpose of learning is not just to remember the facts, but to organize and arrange them into logical wholes.

Structuralist theories

There are no so-called theories that differ in all their elements from other theories. Most often, they are intertwined, so there are theorists who, according to some of their views, belong to one theory, and according to other views, to another. Thus Bruner, Ganje, Ousubel, according to some, belong to cognitivism and the theory of instruction, but are also counted among structuralist theories. In these theories, it is emphasized that the most common reason for a student's failure is not understanding the material, as it leads to mechanical memorization and then forgetting. Structuralists recommend that a teacher should carefully select the contents and organize them into logical structures and adapt the requirements to the students' abilities. The longest-lasting is the knowledge that is actively anchored in the existing student's commentary patterns, because then the knowledge is expanded or reorganized if not in accordance with the new information.

Humanistic theories

It is impossible to talk about humanistic theories without mentioning behaviorism because they appeared as its antipode. Behaviorists approach the learning process technologically, demanding strict planning, detailed goals, finely sequenced content, and a strict procedure. It is an S-R, or process-product approach in which everything is technicalized, everything is tested. Humanistic theorists (K. Rogers, A. Maslov, Kouzma) oppose this, emphasizing that each student is a unique and unrepeatable person and cannot be fitted into behavioral schemes. In addition, each teacher is autonomous in their work. They start from the fact that the most important personal development is that each individual should realize the potentials

he carries within himself. This means that a student should develop his/her inner strength to realize himself/herself as a person. Teachers are obliged to respect each student and to adapt their requirements to students' abilities and peculiarities. Humanistic theorists advocate teaching with a student at the center. The task of a teacher is to cherish an open and honest approach and help a student recognize values and thus encourage the process of his/her self-determination. There is a current in humanistic theory that requires schools to be "open" and "free", not to insist on solid organization, planning and content, but to focus on the emotional development of students, the development of their critical thinking and the formation of an image of oneself. Research has shown that students from such schools tend to be cooperative and to have a favorable image of themselves; however, their knowledge is weaker than of those attending schools with clear planning, and a focus on the curriculum.

What kind of education is needed today and in the future

Today's society is digitalized, and tomorrow's society will be even more so. In the last few decades, the migration of employees from one work area to another has become more visible. There are fewer and fewer of those who work in direct material production, and there are more and more of those who live from creating, processing and distributing information. The biggest income comes from there. Information is the basis for them. Many authors (John Denison, for example) point out that there have been major changes in the very structure of the paper. National economies in the most developed countries base their wealth less and less on the processing of raw materials into finished products, and more and more on the technological know-how. Peter Drucker points out that the share of knowledge in the production of semiconductor chips is 70% (these are research, development and testing) and no more than 12% of the work. There are several areas in which direct work does not account for more than 15% of the finished product, and knowledge accounts for 50%. In short, it could be said that the most developed countries base their development not on natural resources and financial capital but on knowledge.

Nickerson points out that the following skills are important for learning: basic operations, primarily generalization and classification, possession of specific knowledge from various thematic areas, knowledge of reasoning principles, knowledge of informal principles of thinking useful in solving problems, metacognitive knowledge, possession of values such as impartiality, personal perceptions.

Michael Ramsey, Archbishop of Canterbury, states that education is increasingly appearing as a commodity on the market today. He says that human education products do not exist to serve God, but gross national product, and its content is increasingly assessed in terms of utility.

The instrumentalist approach was sharply criticized by Wood, who said that the American administration is guided by "the boxing results of international economic competition, and the gross national income is read in the same way as a doctor reads a patient's vital signs." The professional aspect of schooling is overemphasized, and the role of schools in the preparation of construction for active participation in democratic processes is neglected. Denison points out that in an information and knowledge-based economy, in a world of bio-technological revolution, at a time when the balance of power between an individual and the state is undergoing drastic changes, caring for ethical considerations is not a luxury but a collective duty and a great challenge. Delors in the UNESCO report Hidden Treasury points to the need for a person to learn throughout his life if he wants to be successful in the world of work and active in social and cultural life. The 1989 recommendation of the Secretary General of the European Council sets out the following general objectives of education in Europe:
-preparation of young people for acquiring a positive and realistic image of themselves, which they will realize in personal and social situations;
-preparation for life in a democratic society, which includes knowledge of the rights, fundamental freedoms, duties and responsibilities of citizens and providing assistance to young people for inclusion in public life;
- preparation for work which should enable a broad view of work and theoretical insight into the nature and forms of work and work experience;
-preparation for cultural life so that young people know how to find sources for enriching the personality and get involved in the spiritual, cultural, historical and scientific heritage and be accepted for life in a multicultural society.

Basic elements for the school model in the digital society

The school must model its profile based on the needs of students and the society and theoretical achievements in teaching and learning. Herbert Gudjons says it is not good to rely on just one theory and emphasizes:

- that teaching is too complex a process for only one theory to adequately illuminate it;-that more theories in mutual competition better serve scientific knowledge, than one, officially prescribed or dogmatic "theory";
- finally, discovering common moments in different theories can provide not only intellectual satisfaction, but also show us that the usual

problems of our school everyday life have their theoretical weight. We will try to list the elements that could influence the raising of the quality of teaching and learning and school activities in general from the previously mentioned theories and approaches in a synthesized form.

- A school should contribute to the formation of autonomy, self-determination of students. The task of teaching and teachers is to support the aspiration of students to realize themselves as persons, to enrich their minds by starting the process of self-management, self-regulation and autonomy.
- A school and a teaching process should be characterized by a democratic atmosphere in which there are no threats of punishments, grades, prohibitions. A teaching process should not be managed in an authoritarian manner. A teacher should cooperate with students, accept their initiatives and suggestions, respect them as individuals. (Critical and humanistic theories, alternative schools)
- It is necessary to organize teaching as a rich interaction process, albeit asymmetric, due to teacher's greater degree of knowledge and experience, but with the ultimate goal of constantly increasing the share of students in that process. (Critical and humanistic theories, alternative schools).
- It is necessary to insist on cooperative forms of work in school, teaching and learning in small groups in which students cooperate with each other, help, express themselves as independent individuals, but with a built-in sense of solidarity (Critical and humanistic theories, Bruner, Vygotsky, other didactic directions).
- A student is a unique and unrepeatable person, a cosmos for himself, the center of his own experience and teachers will understand him best if they put themselves in student's position (humanistic, critical and various other theories).
- A school should prepare students for the social work process, but education should not be viewed exclusively instrumentally and in the service of the market competition, i.e. increasing gross national income, because school serves not only to "lubricate the economy" but should also prepare young people for participation in cultural and public life, in a democratic discourse (Critical and humanistic theories, OECD, many prominent intellectuals).
- Teaching should be understood not as a teacher's transfer of knowledge but as student's learning. A student constructs knowledge through his/her own activity and in that process creates new ideas, compares them with his/her previous knowledge and experiences and thus expands and enriches them, organizes or reorganizes his thought

structures. (Cognitivist and constructivist theories, Dewey, Piaget, Bruner, Vygotsky).

- In teaching and learning, one must keep in mind not only the already formed mental functions, but also those that are just being discovered. It is necessary to "provoke" the zone of further development, which is very important for the intellectual progress of students. That is why they need to challenge the upper limit of their possibilities (Vygotsky)
- There are conflicting theoretical understandings about the way of learning. Jerome Bruner, as well as humanistic theorists, advocate that students, with less help from teachers, organize the material and discover connections between facts. These authors advocate learning by making a discovery through which thinking and a learning ability develop. Students thus master the structure that allows to establish a connection between previous and new knowledge and develop their mental patterns. In contrast, Ousubel advocates meaningful verbal learning through reception in which a teacher presents the material to students in a relatively complete form
- Theoretical opinions on what should take precedence in evaluation are opposed - knowledge of the content or the so-called relational aspect advocated by the founders of critical-constructive didactics and the emancipatory approach and humanistic theory in general. They emphasize emancipatory values - solidarity, understanding the other, cooperation, the ability to critically re-examine one's own and others' actions and behavior, overcoming disputes through discussion. They pay less attention to strict planning, precisely organized teaching and mastery of teaching content. In practice, it has been shown that the neglect of planning and the content adversely affects a final cognitive outcome. Many prominent authors rightly point out that these values should not be opposed to each other. "Relational moments", moral and emotional development, solidarity, cooperation, self-criticism, self-knowledge, but also the knowledge of the most important contents are important; cognitive quality is important, meaning logical connection and structuring of the material, drawing conclusions and rules.
- In almost all modern approaches, it is emphasized that a school should evaluate not only the final student's result, but also his/her work, motivation, interests and conditions in which (s)he works. When it comes to teachers, it is necessary to evaluate the final outcomes, but also the quality of the teaching process, because a smaller amount of knowledge acquired correctly is more valuable than a larger volume achieved by inappropriate methods and procedures. Didactic and methodological diversity is required from teachers. There is also a high degree of

agreement on the point that students should evaluate their own work and results and that this self-evaluation should be respected because it is one of the ways for a student to see himself as a person

We believe that these theoretical views can be a good backbone for schools to make their own model for the organization and implementation of the teaching process. This does not exhaust all the issues that should be kept in mind when creating a model. In addition to the above, school, in order to be of high quality, must pay great attention to the professional development of teachers, innovation of teaching and technical-media modernization of the teaching process. Digitization of complete organization of school work, and especially the teaching process, is one of the important conditions for the school to act in accordance with the demands of the present. Today's school must prepare students for today's and tomorrow's needs, which means that, in addition to language and mathematical literacy, students must also be digitally literate.

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EVALUATION OF LOWER EXTREMITY POSTURE OF YOUNGER SCHOOL-AGE CHILDREN[1]

Vladan Pelemiš*
University of Belgrade, Teacher Education Faculty in Belgrade, Serbia

Dragan V. Pavlović
Adjunct Professor of Anesthesiology, Dalhousie University, Halifax, Canada

Zoran Momčilović
University of Niš, Faculty of Education in Vranje, Serbia

Abstract: Economic development of countries in transition has indirectly led to a change in the quality and way of life, and has influenced the instruction of physical education in schools. One of the problems encountered in physical education lessons is improper posture of younger school-age children. Monitoring posture status has an important role both in the prevention of deformities and in the smooth instruction at this age. The aim of the study was to investigate lower extremity posture of younger school-age children with an average age of 7.34±0.38 from Belgrade. The evaluation was carried out on a total sample of 68 pupils divided into two equivalent subsamples: 34 boys and 34 girls. Non-experimental research design, more precisely, ex post facto design was used. The χ^2 test was used to test the distribution of frequencies. The research results indicated the absence of gender-related statistically significant differences ($p>0.05$) concerning the shape of legs ("X" and "O" type of legs), as well as the shape of foot arches. However, the results of the study are alarming, because 20.2% of participants have mild forms of knee deformity (16.2% "X" type of legs and 4.4% "O" type of legs), while 52.9% of the analysed sample have developed early stages of flat feet, which can significantly compromise physical education classes in the future. It can be assumed that this is a consequence of insufficient physical activity, insufficient engagement of the muscles of the lower extremity, genetic predisposition (hereditary) and inadequate footwear in early childhood, as well as the lack of preconditions for exhibiting biotic motor skills in schools and the environment in which they grow up.

Key words: evaluation, legs, foot arches, gender, differences, physical education

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*E-mail: vladan.pelemis@uf.bg.ac.rs

INTRODUCTION

Bad posture of younger school-age children is often an indicator of health issues. These problems can become very serious if bad posture or bad position of foot arches is not corrected in time (McEvoy, & Grimmer, 2005). These types of problems often go unnoticed in the earlier stages. At a later age, these problems lead to serious health problems, starting with decreased physical activity in physical education classes on the part of the affected pupils. It would be highly beneficial if teachers noticed the first signs of bad posture, lower extremity and foot arches problems, and passed this information on to parents. A proper assessment of posture plays an important role in the prevention of deformities in children of both preschool and younger school age and preschool and school teachers have the necessary knowledge to perform this assessment. Timely evaluation of this segment of the anthropological status of children can prevent further progression of bad posture and contribute to an early detection of problems, thus allowing timely action.

Over the past decade, a rapid development of the Internet has brought a new, modern lifestyle which has its positive effects but has also caused some negative impacts (a lack of exercise, fast food, stress and obesity). The World Health Organization (WHO, 2000) classified physical inactivity as a risk factor and equated it with the risk carried by hypertension and obesity (Pelemis, Pavlovic, Nikolic, & Ujsasi, 2020). It is alarming that all these negative influences were noticed in members of the younger population. All of the above-mentioned problems further create preconditions for posture disorders and leg and feet deformities. The goal of posture evaluation is to create an efficient self-sustaining system in which, using advanced methods, problems related to posture, leg and feet deformity, which have become more frequent due to urbanization, will be detected early on and then corrected with programmed physical activity in schools. The first specific goal of this evaluation is to improve the assessment of posture and properly identify sensorimotor problems. Another specific goal is to raise awareness among target groups about the importance of timely detection and prevention of sensorimotor problems in children. According to previous studies, a level of physical activity on a global scale is continuously declining. The education system and physical activity incorporated into the curriculum in transition countries are declining dramatically. This is caused by the fact that economic development in countries in transition has indirectly led to a change in the quality of life and affected both parents and children.

The issue of detection and evaluation of posture disorders, including the evaluation of legs and feet, has been dealt with by many authors who obtained different results. Radisavljevic, Ulic, & Arunovic (1997) indicate that

15% of boys and 16.25% of girls had a lighter "X" type of leg, while a more severe form of this issue was observed in 3% of boys and 29.5% of girls, whereas flat feet were noticed in 75 % - 79% of students. Bigovic & Krsmanovic, (2006) indicate that the lack of children's play without shoes in urban areas certainly leads to reduced engagement of feet muscles and causes flat feet in both genders. Sabo, (2006) points to a better condition of foot arches in girls, while Miloševic, & Obradovic, (2008) indicate the fact that foot arches were in a good shape in a higher percentage of survey participants of both genders. Mihajlovic, Solaje, & Petrovic, (2010) indicate that 90% of children have the first degree of flat feet (at that age they have an extremely poor initial shape of the feet). Djokic, Medjedovic, & Smiljanic, (2011) state that scoliosis and flat feet are the most common deformities in primary schools. Studies also show that the "O" type of legs are found in boys in a slightly higher percentage than the "X" type of legs. The "O" type of legs was observed in 19.8% of boys, while the "X" type of legs was seen in 16.4% (Jovovic, & Canjak 2012). It was also found that the "O" type of legs is more frequent than the "X" type of legs, and that the "X" type of legs is more common among the obese children, while the "O" type of legs is more frequently found in children who weigh less (Vlaskalic, Bozic-Krstic, Obradovic, & Srdic, 2006).

Based on the above, the aim of the research was defined: to determine whether there are any significant gender differences in the condition of foot arches of children between 7 and 8 years of age from Belgrade, as well as the overview of the results obtained by direct measurement and comparison of the tested population of similar age in Serbia.

METHOD

Non-experimental research design - *ex post facto* research design was used in this paper. This design was chosen because the changes in the analyzed variables occurred earlier, and the conclusion is made *post facto*. For the purposes of the research, the population of participants from the first grade of the primary school "Vuk Karadžić" in Belgrade was selected. The total sample of 68 subjects was divided by gender into two equivalent subsamples: (34 boys and 34 girls). Only those first-grade pupils whose parents gave their written consent in accordance with the Declaration of Helsinki were included in the research (Declaration of Helsinki, 2013).

The research was conducted in September 2019 at the beginning of the school year. The evaluation of posture was described as a posture status assessment during one school year and was of a formative nature. This evaluation was aimed at improving teaching practice and introducing additional

physical education classes intended for corrective purposes, i.e. meant to improve children's health. A prior needs assessment was performed (conducted before the implementation of the physical education curriculum to establish the existing physical preparation level of pupils, as well as to identify specific target groups) in order to gain insight into students' needs regarding physical education. The evaluation was performed using the somatoscopic method by Napoleon Wolanski. Various segments of posture status were observed, including the following: 1. *shape of the legs (the "X" and "O" type of legs)* and 2. *foot arches (flat feet).* According to this methodology, grade zero (0) indicated that the observed segments were in normal state; grade one (1) represented a smaller deviation from the normal position (first degree of deviation), and grade two (2) represented a greater deviation from the normal position (second degree of deviation). It is a method by which the body of an examinee is observed as a whole from a distance of 2 meters, from the front, rear and lateral sides.

The "X" type of legs: grade 0 - legs are straight, knees and feet slightly touching; grade 1 - there was a deviation in the area of the ankles. The distance between them is greater than the width of participant's two fingers; grade 2 - there was a deviation in the area of the ankles. The distance between them is greater than the width of participant's three fingers.

The "O" type of legs: grade 0 - legs are straight, knees and feet slightly touching; grade 1 - there was a deviation in the area of the knees. The distance between them is greater than the width of participant's fingers; grade 2 - there was a deviation in the area of the knees. The distance between them is greater than the width of participant's three fingers.

Foot arches: grade 0 - the inner foot arches are good; grade 1 - the inner foot arches are not high enough and show a tendency to lower when standing on one leg; grade 2 - the feet are flat.

Statistical analysis of the data included a non-parametric χ^2 test, more precisely cross-tabulation, where marginal frequencies were obtained for each combination of pairs of variable categories for all examined variables of posture status, at the level of statistical significance of $p \leq 0.05$.

RESULTS

Tables 1, 2 and 3 show frequencies of the assessments of the leg shape and the condition of foot arches in relation to the gender of the examinees. The values of the χ^2 test in Table 1 indicate that there is no statistically significant difference between the two subsamples of subjects, boys and girls in the "X" type of legs category ($p = 0.323$). Subjects of different gender had a similar

condition of the observed segment of posture status, which can be assessed as generally good. The total number of survey participants with good posture was 57 or 83.8%, 27 of which were boys (39.7%) and 30 girls (44.1%). There were 7 boys (10.3%) and 4 girls (5.9%) with posture deformities - grade 1. The data indicate good posture of the knee joint, which is a total of 16.2%. The data indicate correct posture of the knee joint, with a total of 16.2%. The results from the same table also indicate the absence of structural disorders in the knee joint in both examined subsamples of participants, because there are no recorded grades 2 (0%).

Numerically, more boys had a knee joint disorder than girls of the same age. Weakness of the leg muscles and ligaments of the knee joint are characteristic of this degree of deformity. In these examinees, general ligamentous laxity was observed, especially the medial collateral ligament (inner, lateral), and these children were somewhat obese. It can be concluded that the condition of the knee joint is satisfactory in both subsamples.

Table 1. Contingency table for the "X" type of legs in relation to survey participants' gender

Posture status assessment		Gender		Total
		M	F	
0	Number	27	30	57
	% in relation to "X" type of legs	47.4%	52.6%	100.0%
	% in relation to gender	79.4%	88.2%	83.8%
1	Number	7	4	11
	% in relation to "X" type of legs	63.6%	36.4%	100.0%
	% in relation to gender	20.6%	11.8%	16.2%
Total	Number	34	34	68
	% in relation to the "X" type of legs	50.0%	50.0%	100.0%
	% in relation to gender	100.0%	100.0%	100.0%

χ^2=.976 p=0.323

Legend: χ^2–Chi-square test value; p-value of statistical significance for the Chi-square test.

Similar data were obtained by analyzing the numerical and percentage representation of the "O" type of legs variable in different gender subjects in Table 2. Moreover, similar values (p=0.555) recorded for both subsamples indicate that there were no statistically significant differences observed

between the subsamples of examinees regarding this variable related to the assessment of the knee joint condition. There was also no structural deformity observed in both subsamples, while posture deformity (grade 1) was found in only 2 girls (5.9%) and 1 boy (2.9%). Therefore, it can be highlighted that this deformity is not present or is very little present in the examined sample of children.

Table 2. Contingency table for the "O" type of legs in relation to survey participants' gender

Posture status assessment		Gender		Total
		M	F	
0	Number	33	32	65
	% in relation to "O" type of legs	50.8%	49.2%	100.0%
	% in relation to gender	97.1%	94.1%	95.6%
1	Number	1	2	3
	% in relation to "O" type of legs	33.3%	66.7%	100.0%
	% in relation to gender	2.9%	5.9%	4.4%
Total	Number	34	34	68
	% in relation to the "O" type of legs	50.0%	50.0%	100.0%
	% in relation to gender	100.0%	100.0%	100.0%

χ^2=.349 p=.555

Legend: χ^2–Chi-square test value; p-value of statistical significance for Chi-square test.

No statistically significant differences between examinees of different gender were observed in the third analyzed variable - *Foot arches* (Table 3) (p=0.614). Similar conditions of foot arches in boys and in girls contributed to such results. It should be highlighted that there were a total of 21 examinees (30.9%) with proper postures; 36 subjects (52.9%) had grade 1, that is, damage in the form of weakened ligaments and muscles holding the longitudinal arch of the foot; and, 11 examinees, which accounted for a total of 16.2%, had a structural disorder in the form of completely flat feet - *pes planovalgus*.

Table 3 also shows the percentage of representation of the variable *Foot Arches*. A slightly higher prevalence of good posture for this segment was observed in the subsample of girls (11 girls, or 32.4% had grade 0) compared to their peers of the opposite gender - 10 boys or 29.4%. There were 17 boys (as many as 50%), which is an extremely poor and devastating result, and 19 girls (as many as 55.9%) had grade 1, that is, their foot position can

be characterized as *pes planus* – a foot position with weak and insufficient musculature. From the aspect of subsamples, almost half of the examinees, regardless of gender, had an initial degree of lowered foot arches. As indicated by the subsamples, almost half of the survey participants, regardless of gender, had an initial degree of lowered foot arches. A total of 7 boys (20.6%), which is almost one fifth of all male examinees and 4 girls (11.8%), which is almost a tenth of the analyzed sample had grade 2, i.e. completely lowered arch foot arches or flat feet. If we were to summarize the results, we could say that 11 subjects, out of 68 in total, had flat feet, which represents 7.48% of the total sample. The evaluation indicated a need for regular, daily systematic exercise in health care institutions, schools or classrooms for corrective gymnastics.

Table 3. Contingency table for foot arches in relation to survey participants' gender

	Posture status assessment	Gender		Total
		M	F	
0	Number	10	11	21
	% in relation to Foot arches	47.6%	52.4%	100.0%
	% in relation to gender	29.4%	32.4%	30.9%
1	Number	17	19	36
	% in relation to Foot arches	47.2%	52.8%	100.0%
	% in relation to gender	50%	55.9%	52.9%
2	Number	7	4	11
	% in relation to Foot arches	63.6%	36.4%	100.0%
	% in relation to gender	20.6%	11.8%	16.2%
Total	Number	34	34	68
	% in relation to Foot arches	50.0%	50.0%	100.0%
	% in relation to gender	100.0%	100.0%	100.0%

χ^2=.977 p=.614

Legend: χ^2–Chi-square test value; p-value of statistical significance for the Chi-square test

DISCUSSION

The research results obtained on a sample of 68 survey participants of both genders and of younger school-age from Belgrade, indicated a similar

condition of posture components, that is, the shape of the legs and foot arches. No statistically significant differences were found between the subjects who were divided into two subsamples on the basis of sexual dimorphism, which indicates a similar condition of the observed components. The results of this study confirm a part of earlier findings from a study related to the condition of the knee joint by Radisavljevic, Ulic, & Arunovic (1997), who also found that differences in the shape of the knee joint do not exist, but that there are examinees with impaired posture in the form of the "X" or "O" type of legs in both genders. The data obtained by evaluating the posture of the lower extremity in tested children in schools are alarming and indicate the need for permanent action in the field of physical education and detection of physical deformities. This is particularly true in cases of flat feet, because respondents with grade 1 can quickly find themselves in the group of examinees with grade 2, i.e., they can have complete weakness of the muscles and ligamentous laxity of the feet and lower leg muscles. In this way, such pupils would be subjects to an even greater number of deformities that would affect other posture components, primarily the knee joint and the spine. The consequences of such conditions, which can still be eliminated with an additional program of physical activities in schools, would be visible at a later age. At this stage, there is a pain in the spine, which is difficult to treat, and many psychological factors that students would be affected with, which could also cause changes in students' personality traits, i.e., conative characteristics. It has to be highlighted that there is a concern for a large number of students in this age group with foot deformities in the form of lowered foot arches. With the progression of flat foot deformity, if not adequately treated, there is the intense pressure on the inside of the foot when walking. This problem would not be tied to the feet only, it could cause certain issues with the support of lower extremities and problems with the "X" type of legs later in life. Until the age of five, the "X" type of legs can be considered a normal stage of development and growth of the child and does not require any special therapy. Prevention and therapy for flat feet also influences the prevention of the "X" type of legs, and, later on, spine deformities which can result out of this deformity. Parents often do not notice flat foot deformities and are more worried about the "X" type of legs after the progression of foot deformity has already started.

In both subsamples, the percentage of functional deformities is on a slight increase in all three examined variables. Based on the results obtained, it can be concluded that the number of foot deformities is similar for both genders. Based on these results, it can be concluded that children at that age have extremely unsatisfactory initial state of their feet, which is manifested through extremely weak leg muscles, especially the muscles supporting the

longitudinal foot arches (muscles of the front and back part of the lower leg, and foot muscles - plantar and dorsal foot flexors). A lack of muscle strength, insufficient physical activity, a lack of movement, and even less directed physical activity can cause flat feet in children of younger school age. The inability of children to freely engage in sports activities because they have to pay certain membership fees in sports clubs, pupils avoiding physical education classes in schools, and most of all, the reduction of the total amount of physical activity during the day as a result of lifestyle changes in younger population, contribute to high percentage of deformities in the form of flat feet (16.2% grade 2) and functional stage of deformity (52.9% grade 1) in the tested sample of children from Belgrade. These research findings are in line with the findings of Pelemis, Ujsasi, Pelemis, Mitrovic, & Lalic, (2015).

The deformities of foot arches are most probably the consequence of muscle weakness, short sole muscles and lower leg muscles. A child is born with flat feet which are brought to a normal state with walking and spontaneous physical activity, and the longitudinal and transverse foot arches develop. Reduced physical activity in this developmental phase leads to insufficient formation primarily of the longitudinal foot arches. These research results are also in line with the results presented by Mihajlovic, Solaja, & Petrovic, (2010). The percentage of foot arch deformities is lower compared to the results presented by (Zivkovic, 2009; Mihajlovic, & Toncev, 2008).

Physical education teachers in primary schools should provide their own programs for additional work with children in terms of corrective exercises. In order to prevent the progression of deformities and correct them, it is necessary for children to do corrective exercises to strengthen feet muscles. Exercises should be done every day for 10-15 minutes. This activity should be planned for before or after classes in small groups. Only sufficiently strong and correctly performed corrective physical exercises can provide satisfactory results (Momcilović, 2007). Therefore, it would be necessary to teach parents as well so they would be able to supervise their children doing the same exercises at home. It would be especially desirable to include such children and their parents in school projects and apply at their request and on their behalf to the institutions in charge which could provide the appropriate equipment, as well as to raise awareness about physical education in general. Thus, regular monitoring of posture could be performed, which would contribute to the detection of body deformities and their correction. An individual approach to working with students would thus be provided resulting in a better syllabus of physical education classes (forming new groups of students and implementing corrective physical exercises in school).

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II

DIDACTIC AND METHODOLOGICAL ASPECTS AND DIGITAL TECHNOLOGY IN THE CONTEXT OF HIGHER EDUCATION QUALITY IMPROVEMENT

UDK 371.31

POSSIBILITIES AND EXTENSIVENESS OF TEACHER EDUCATION FOR THE PURPOSE OF IMPLEMENTING THE INTEGRATED APPROACH TO TEACHING

Ivana Tasić Mitić*
Faculty of Education in Vranje

Ana Spasić Stošić
Faculty of Education in Vranje

Vesna Zdravković
Faculty of Education in Vranje

Abstract: One of the ways to improve the teaching process and thus provide students with complete and lasting knowledge is the implementation of an integrated approach to teaching. This innovated work model allows for a complex observation and study of phenomena and issues from several perspectives since it is based on the interconnection of related learning topics from different science disciplines. The extent to which integrated teaching will be used in teaching practice depends primarily on the readiness and ability of teachers to implement it. We conducted a survey in order to examine the attitudes of teachers regarding the implementation of integrated teaching during the first cycle of primary education. Research objectives are defined as determining the attitudes of teachers about the implementation and efficiency of integrated teaching in the younger grades of primary school. The basic research method is a descriptive research method. The technique used in the research was a teacher survey, while the research instrument was a survey questionnaire specifically designed for this purpose. The research, which was conducted in the 2018/2019 school year included 82 teachers from the city of Vranje. The obtained research results show positive attitudes of surveyed teachers regarding the implementation of integrated teaching and the effects it can produce, but also that participants insufficiently use this approach in their teaching practice. This indicates a need for the teachers to become more acquainted with the characteristics, advantages and possibilities of the implementation of integrated teaching through organized and continuous education.

Key words: integrated teaching, first cycle of primary education, teacher, attitudes.

INTRODUCTION

Accelerated development of technologies and social development in all fields prompt the need for the modern school system to align its educational

*E-mail: ivana.tasic82@yahoo.com

process with the requirements of the general progress of civilization. The necessity of such an approach stems from the fact that school ceased to be the only source of knowledge a long time ago, and, therefore, appropriate measures need to be taken in order to enable present-day children to acquire functional knowledge and skills in the most creative, rational and efficient ways possible. This implies the implementation of serious and systematic changes in all aspects of the teaching process, starting from the selection of adequate learning topics, forms and work methods, the usage of functional teaching aids, and the development of specific lesson plans for the organization and implementation of lessons. In order to succeed in this intention, it is necessary for teachers themselves to be trained to implement all types and forms of innovations.

The shortcomings of traditional teaching are reflected in the fragmentation and disunity of courses and learning topics, among other things. This results in the adoption of knowledge in the form of partial units, and not as integral parts forming a whole. "Knowledge, understanding, processes, attitudes, interests and other things need to be studied as integral parts that reflect current issues and aspects of change in the modern world" (Spasić Stošić and Tasić Mitić, 2014: 356). This also implies that the acquired knowledge cannot be applied in practice separately, divided by science disciplines, but rather as a whole (Vilotijević and Vilotijević, 2008). This is the reason why the focus is on the integrated learning approach, which basically implies learning based on the unity of learning topics that are correlated. In that way, it is possible to acquire complete and purposeful knowledge, since the phenomena and issues are perceived and studied from several different perspectives. Therefore, the focus is on the integration within a network of numerous and diverse teaching subjects. As an innovated model, integrated teaching provides interconnection and a synthesis of individual elements into a meaningful whole, with a completely new meaning. This type of teaching provides an opportunity for comprehensive research of an issue, a concept or an idea.

The concept of integrated teaching was most comprehensively defined by Lake, who understood it as:

- complex research into knowledge from different fields related to certain issues from students' lives;
- rational study of different teaching fields and the synergy of different elements into logical thought units that would truly reflect the reality of life;
- unique, common hubs of knowledge that encourage students to discover relationships, create models, systems and structures;

- application of a methodology and language of several subjects for the study of main topics, issues or experiences;
- merging of different subject areas into one, in the manner in which children master objects and phenomena in everyday reality, converging them in a unique process;
- a new way of thinking;
- preparing for the application of knowledge to new situations, the transfer of knowledge through adopted thinking models (Lake, 1994).

The essence of integrated teaching is the thematic approach. It involves an integrated linking of content from different science disciplines or subjects regarding a selected topic in order to comprehensively consider and study a particular issue. This allows for a complex construction of concepts that are related to the same topic. When applying the thematic approach, one should be mindful when selecting the appropriate content. Therefore, the content that can be combined inherently and logically is selected. Although there is already some degree of content integration within each subject, it is necessary to perform external integration with the related content of other subjects in order to achieve more efficient results. Educational technology, in the form of computer use, is also significant for integrated teaching. Therefore, students should be taught how to search different computer databases from an early age and to independently obtain certain information that they will be able to integrate (Ivić, Pešikan and Antić, 2001).

The implementation of integrated teaching has a very favourable effect on students' learning and their results. They develop an ability to synthesize and integrate science facts, expand their horizons, develop creativity and originality, critical thinking and conclusion skills, establish a balance between subjective and objective thinking, etc. (Ivanitskaya et al, 2002). Furthermore, positive effects of implementing the integrated approach to teaching and learning equally apply to the implementers of this model - teachers. It enables them more dynamic lesson organization and a modern way of teaching, since they have the opportunity to use numerous sources and resources in teaching (Gajić, Andevski and Lungulov, 2009). As the role of teachers in the application of integrated teaching is very important, the research we conducted focuses on the question of their ability to implement this type of teaching.

METHODOLOGICAL APPROACH

The subject of this research refers to the implementation of integrated teaching and the effects that can be achieved through its application in class teaching.

The goal of the research is to determine the attitudes of teachers regarding the implementation of integrated teaching in the younger grades of primary school.

In the research, we specified tasks related to: identifying teachers' attitudes about the implementation of integrated teaching in the first cycle of primary education, examining teachers' attitudes about the efficiency of the adoption of learning topics through integrated teaching, identifying teachers' opinions on the ability to perform this type of teaching and learning their opinions on the reasons for the perceived insufficient usage of the integrated approach to teaching.

Research variables:

The independent variable is the number of teachers' years of service. The dependent variable includes the attitudes and opinions of teachers regarding the implementation of integrated teaching during the first cycle of primary education.

The research was conducted in the 2017/2018 school year. The research sample included 82 teachers from six primary schools in the city of Vranje (*Dositej Obradovic, Vuk Karadzic, Jovan Jovanovic Zmaj, Svetozar Markovic, Branko Radicevic and Radoje Domanovic*).

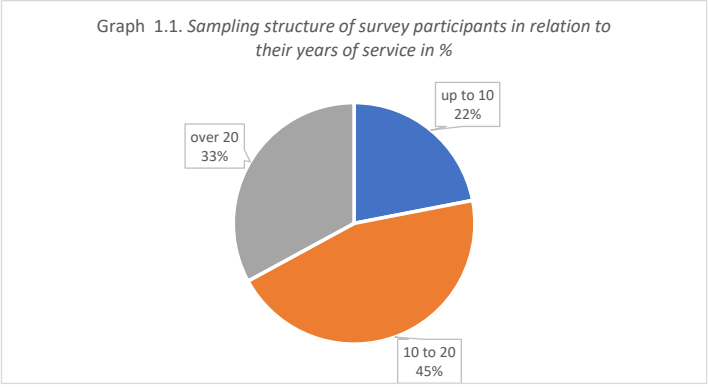
A descriptive research method was used in this research. From the aspect of research techniques, a survey method was used, while the instrument used was the questionnaire consisting of fifteen closed-ended questions. The questionnaire was intended to check the attitudes and opinions of teachers regarding the implementation of integrated teaching in the younger grades of primary school, i.e. to see whether they apply this type of teaching, what their attitudes about the effects achieved by the application of this method are, whether they think that they acquired the necessary knowledge for the implementation of integrated teaching at the faculty, as well as the most common reasons why they are reluctant to use this innovated model in their teaching practice.

- ***The sampling structure of survey participants in relation to years of service:***

The sample included 82 teachers. Table 1.1. and graph 1.1 show the sampling structure of survey participants in relation to their years of service.

Table 1.1. *Sampling structure of survey participants in relation to their years of service*

Years of service	No. of survey participants	%
Up to 10	**18**	**22**
10 to 20	**37**	**45**
Over 20	**27**	**33**
Total	**82**	**100**



The data obtained was analysed in the SPSS Statistical software.

RESEARCH RESULTS AND DISCUSSION

In the discussion section, we will show only the answers to the main questions in the questionnaire, related to the paper topic.

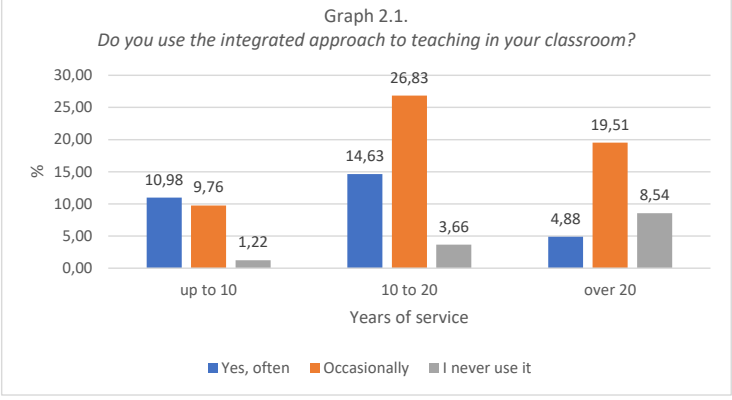


Table 1. *Do you use the integrated approach to teaching in your classroom?*

Answer	n	χ^2	C	$\chi^2\alpha$,df	p-value
Yes, often	25	9,488	0,326	9,488	0,04424
Occasionally	46				
I never use it	11				

Based on the results obtained, we can conclude that teachers occasionally implement integrated teaching in the classroom. This is indicated by the result of the χ^2-test (9,488) at the significance level of 0.05 and the degree of freedom df = 4. The contingency coefficient C = 0.326 and p-value <0.05 (0.04424 <0.05000) show that there is a statistically significant difference between the survey participants' answers and their years of service, i.e., that the teachers with over 20 years of service do not sufficiently use this type of teaching compared to the teachers who have less years of service. This was expected, since today far more attention is paid to acquainting future teachers with the characteristics and advantages of the usage of integrated teaching, as well as educating them to use this innovative model in their teaching practice. Those who have worked as teachers for more than 20 years were not given the opportunity to get acquainted with this mode of teaching more thoroughly within the study programs they attended during their undergraduate studies, and were not sufficiently acquainted with the positive effects of its usage. This may account for their lack of interest to introduce any changes that may be conditioned by the implementation of integrated teaching.

Table 3. *Does the implementation of integrated teaching ensure efficient adoption of learning topics?*

Answer	n	χ^2	C	$\chi^2\alpha$,df	p-value
Yes, absolutely	56	7,835	0,295	9,488	0,09781
Partially	18				
Effective learning topics adoption is not ensured	8				

The results obtained show that the surveyed teachers have positive attitudes about the efficiency of learning content adoption by applying integrated teaching. The contingency coefficient C=0,295 and p-value > 0.05 (0.09781>0.05000) lead to the conclusion that there is no connection between the survey participants' answers and their years of service, i.e., that teachers, regardless of their length of employment, have positive attitudes about the efficiency of the learning topics adoption by applying integrated teaching. This further indicates that teachers are fully aware of the positive effects of the usage of integrated teaching in working with children of younger school age, but that there are also certain reasons that cause its insufficient usage.

Table 4. *Do you think that during your studies at the university you have acquired the necessary knowledge in your teaching methodology course to implement the integrated teaching?*

Answer	n	χ^2	C	$\chi^2\alpha$,df	p-value
Yes, absolutely	17	34,989	0,547	9,488	0,0000
Partially	19				
Insufficiently	46				

The answers to this question show that most teachers believe that they have not acquired the necessary knowledge in their teaching methodology course to implement the integrated teaching approach, i.e., that they did not receive sufficient information about it. Based on the results obtained, the contingency coefficient C = 0.547, and p-value <0.05 (0.0000 <0.05000), we can conclude that there is a statistically significant difference between the survey participants' answers and their years of service, i.e., that the teachers with over 20 years of service consider that they have not acquired adequate knowledge to implement the integrated teaching approach compared to the teachers who have less work experience - up to 20 years. Those teachers have a completely opposite opinion - they believe that they have acquired the necessary knowledge to apply the integrated teaching approach. This finding is justified due to the fact that in recent years the teaching methodology curriculum concept is aimed at educating students, future teachers to apply innovative teaching models, including the integrated approach, because thematic lesson planning and teaching have become relevant in modern teaching practice.

Table 5. *What hinders the implementation of integrated teaching?*

Answer	n	χ^2	C	$\chi^2\alpha$,df	p-value
There is a necessity for collaboration and teamwork during the development of thematic lesson plans	26	8,574	0,308	9,488	0,07267
Lack of material resources	13				
Lack of familiarity with the forms of organizing and implementing integrated teaching	46				

The χ^2 test value shown in Table 5 leads to the conclusion that teachers believe that the reasons that hinder the implementation of integrated teaching mostly relate to the lack of familiarity with the forms and methods of its implementation. The contingency coefficient C = 0.308 and p-value > 0.05 (0.07267>0.05000) show that there is no correlation between the survey participants' answers and their length of employment, i.e., that teachers, regardless of their years of service, are of the same opinion with regard to the reasons that hinder the implementation of integrated teaching. This indicates that, despite the fact that in recent years more attention has been paid to integrated teaching and its implementation, teachers believe that they have not yet acquired all the necessary knowledge about this type of teaching to apply it regularly in their teaching practice.

Conclusion

The research conducted leads to the conclusion that teachers, in addition to their tendency to implement integrated teaching, insufficiently use this innovative model in working with younger school age students, although they have positive attitudes about the efficiency of learning content adoption by implementing this type of teaching. Survey participants said that during their initial education, in the teaching methodology course, they did not acquire the necessary knowledge to implement the integrated teaching approach; the teachers with less years of service believe that they have the appropriate level of qualification, while teachers with longer length of employment claim that they did not have the opportunity to get acquainted with the ways this teaching model should be implemented. Some of the main reasons for the insufficient implementation of integrated teaching is the lack of teachers' familiarity with the forms of organizing and implementing this teaching model. All this indicates the need to take this issue more

seriously, primarily with regard to educating future teachers to implement the integrated model of teaching, but also to provide assistance to teachers in terms of advising them about the forms and methods of implementing this approach to teaching.

In order to innovate study programs that would familiarize students with the methodological tools necessary to implement integrated teaching, and in order to popularize this approach, it is necessary to educate students to:

- design course programs and implement integrated teaching;
- do an efficient internal and external integration of related learning topics;
- transfer functional knowledge, and
- embrace organized teamwork (Lukic Radojicic, 2011).

Despite all the efforts to make integrated teaching one of the main teaching models in modern school, there is still no established national concept in our country that supports the implementation of this type of teaching. Integration is usually left to individual teachers, who approach their profession with a lot of professionalism and enthusiasm (Đorđević, 2007).

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APPLICATION OF EXPERIMENT IN THE REALIZATION OF GEOGRAPHICAL CONTENTS IN THE FIRST CYCLE OF COMPULSORY EDUCATION FROM A TEACHER'S PERSPECTIVE

Džinović G. Milanka*
University in Belgrade, Faculty of Teacher Education
Belgrade, the Republic of Serbia

Živković S. Ljiljana
University in Belgrade, Faculty of Geography
Belgrade, the Republic of Serbia

Milanović M. Nedeljko
University in Kragujevac, Faculty of Education in Jagodina
Jagodina, the Republic of Serbia

Abstract: School experiments enable students to gain knowledge through direct practical activities. The aim of the research study was to obtain information on the scope of application of models, experiments and research, as methodical solutions, when processing geographical content in the teaching of social, environmental and scientific education. An empirical study was conducted to analyze the experiences of 117 teachers, in the first cycle of compulsory education in the Republic of Serbia, about the application of this work method.

The results of the research indicate that teachers occasionally realize geographical content, in the teaching of social, environmental and scientific education, through experiments, even though the resources needed for their implementation are accessible to all students. Experiments can be applied to explain the essence of physical geographical phenomena and processes, however, their use in teaching involves the training of teachers to use them, which, unfortunately, was mostly cited by teachers as a reason for occasional application. Greater attention should be given to training future teachers to apply the experiments in order to use this method more often when working with students, where they would work as a team, be active, creative, think critically, identify and explain phenomena and processes and relate to examples from everyday life.

Key words: experiment, geographical contents, teaching Social, Environmental and Scientific Education, research.

*E-mail: milanka.dzinovic@uf.bg.ac.rs

INTRODUCTION

In the first cycle of primary education in Serbia, geographical contents are realized in teaching compulsory subjects The World Around Us and Social, Environmental and Scientific Education. The question that is frequently asked is how to bring closer geographical phenomena and processes that are abstract to the pupils of younger school age? What is wind and how to determine its speed, why do day and night alternate, as well as many other questions to which pupils find answers in traditional explanations given in textbooks through learning concepts that need to be remembered, or by means of modern technology, using 3D models and animations (Koehler et al., 2013; Džigurski – Ivkov et al., 2009) which provide wide range of possible explanations of geographical concepts, however, their application in teaching considers teacher training for its use and technically equipped schools, which are, unfortunately, very common deficiencies. That is why, school experiments, that are relatively neglected part of teaching geography in our schools, can be applied for the explanation of physical – geographical phenomena and processes (De Zan, 2005; Cvjetićanin et al., 2010). While realizing geographical contents in the teaching of social, environmental and scientific education through experiments and research work, there is no need for any special nor expensive equipment (most frequently used items for school experiments are: balloon, plasticine, funnel, plastic bottle, paper, etc.), but what is necessary is teacher's knowledge (which is gained through schooling and professional development) for the application of this methodical solution.

School experiments enable the acquisition of pupils' knowledge through direct practical activities, and are often used in teaching physics (Dojčilović and Ivković, 2008) and chemistry, whilst in teaching geography are not. The most frequent are visits to science festivals, school meteorological observations, demonstrations in working with a compass (Tadić, 2011), and the least common are experiments in the true sense of the word (Andrews and Knighton 2008; Buza and Bigaci, 2009; Vanderlinden and Suzuki, 2009; Mate et al. ., 2008; Pikulik, 2017; Rabiza, 1988; Robson, 2006; Tota, 2014). "Starting from the first grade of primary school, as part of the teaching of social, environmental and scientific education, pupils should, step by step, be introduced to the scientific method. It is a teacher's task to gradually get pupils to think like scientists. They should have such an approach (the thinking process) not only within school and learning, but also to adopt it as a way of solving problems in everyday life: spot the problem - formulate questions - set hypothesis (es) - collect additional data and information - test the hypothesis - discuss the results - draw a conclusion and predict the

development of the phenomenon (Džinović and Tadić, 2020: 20)." Geographical concepts through school experiments are not abstract, easily forgotten, but pupils learn and work in a team, are active, creative, think critically, notice and explain phenomena and processes, and then connect them with examples from everyday life (Vilotijević and Vilotijević, 2010; Živković et al., 2015). Pupils need to understand why it is necessary to learn geography and that it is the basis of many phenomena and processes that they encounter every day. Geographical knowledge would help them to get to know the nature and discover the laws that rule it (Fundamentals of Natural Sciences - School Set, 2007; Matanović, 2006).

RESEARCH METHODOLOGY

The aim of the research was to obtain information about the scope of application of experiments and research study, as methodical solutions, when processing geographical contents in the teaching of social, environmental and scientific education.

Research tasks were related to determining teachers' opinion on how often, in the teaching of social, environmental and scientific education, geographical contents are realized through experiments and research work; then, whether the curricula of subjects The World Around Us and Social, Environmental and Scientific Education, sufficiently provide instructions for the realization of geographical contents through experiments and research work; from which publishers, teachers use textbooks for the subjects The World Around Us and Social, Environmental and Scientific Education, whether the textbooks include geographical contents that are suitable for the realization through experiments and research work and whether the teachers have acquired sufficient knowledge through schooling and professional development about the application of experiments and research work in the processing of geographical contents.

It is assumed that geographical contents are not often realized through experiments and research work, and that their application in teaching, according to teachers' opinion, means training for its use, which was, unfortunately, mostly stated as a reason for its occasional use.

A descriptive method was applied as a general method, which type was a descriptive survey that provided insight into the scope of application of models, experiments and research work, as methodical solutions, when processing geographical contents in the teaching of social, environmental and scientific education. Since it was considered to examine the causal – consequential connection between the examined phenomena, it is also a causal survey.

Of the nonparametric methods, a correlation using the Spearman coefficient and the χ^2 test were used to determine whether there were statistically significant differences between the variables. The correlation between the variables, cross-tabulation (contingency coefficient – C) was used as well (Todorović, 1998). When the statistical tests for the analysis of differences (χ^2 test) and relations (contingency coefficient) showed that there was a statistically significant difference, that is, connection between the variables, the direction of those relations was determined. The research results are presented in tables and graphs. The data were statistically processed in the SPSS 21.0 program.

The research sample consisted of 117 teachers. Based on the survey questionnaire, data were obtained on the gender of teachers: male 16.2 % (f = 19) and female 83.8 % (f = 98), as well as on educational background: 19,7 % (f = 23) tertiary education, 61,5 % (f = 72) higher education, 18,8 % (f = 22) master's degree, magister degree or PhD. Such high percentage of 80.3% (f = 94) teachers with higher education and master's degree is a consequence of the teachers', with a degree from the Pedagogical Academy, additional education at the Faculty of Teacher Education. In order to determine the relevance of work experience for the answers they had given, we classified teachers according to their experience in teaching profession into four categories: a) 0 - 9 years = 16.2% (f = 19); b) 10 - 19 years = 14.5% (f = 17); c) 20 - 29 years = 56.4% (f = 66); d) 30 and more years = 12.8% (f = 15). Considering the type of settlement in which the school where teachers work is located, the data show that 35.0% (f = 41) of teachers work in cities, while 65.0% (f = 76) work in schools in other settlements.

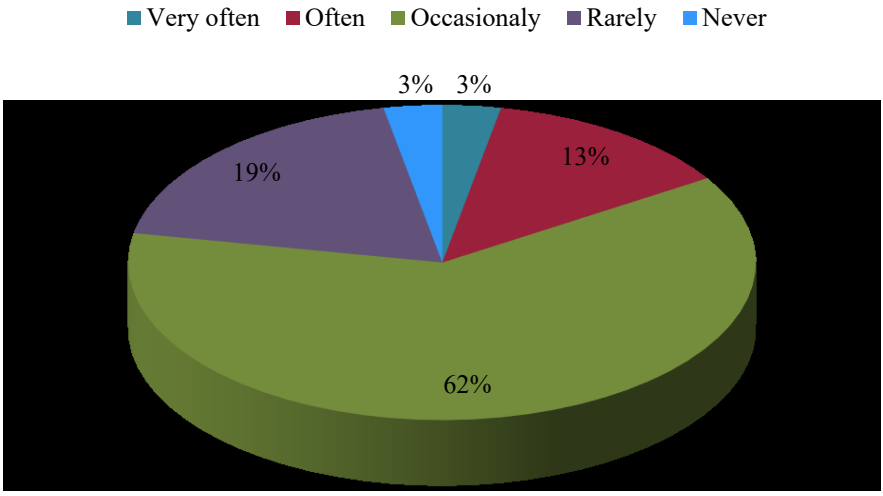
For the purposes of this research, a questionnaire was constructed as a special instrument for empirical research that serves to assess the situation related to the scope of application of geographical contents in the teaching of social, environmental and scientific education through experiments and research work, so that possible improvements could be implemented in teaching.

RESEARCH RESULTS AND DISCUSSION

In the research part of the paper, we wanted to determine *how often geographical contents are realized through experiments and research in the teaching of social, environmental and scientific education.*

Graph 1 shows that 62.4% (f = 73) of teachers occasionally, in the teaching of social, environmental and scientific education, realize geographical contents through experiments and research work, 15.4% (f = 18) of teachers

very often and often, while 22.2 % (f = 26) of teachers rarely or never realize geographical contents with this work method. The chi-square shows that the difference in the frequency of responses is statistically significant ($\chi 2 = 142.1$; df = 4; p = 0.00), based on which we can say that most teachers occasionally use experiments and research in the realization of geographical contents.



Graph 1. How often are geographical contents realized through experiments and research work in teaching Social, Environmental and Scientific Education?

Based on the contingency coefficient calculated from the classification shown in Table 1, whose value is 0.39, at the level of statistical significance of 0.00, the results show that there is a connection between teachers' educational background and the frequency of using experiments and research in the implementation of geographical contents, which means that the teachers with a tertiary education more often use experiments and research work in the realization of geographical contents than the teachers with higher education.

Table 1. Connection between educational background and teachers' evaluation of how often geographical contents are realized through experiments and research work in the teaching of social, environmental and scientific education

		How often is geography-related content taught through experiments and research work in social, environmental and scientific education?					
		Very often	Often	Occasionally	Rarely	Never	Total
Educational background	Tertiary education	1	8	14	0	0	23
	Higher Education	1	7	45	17	2	72
	Master's degree, Magistrate and PhD	1	0	14	5	2	22
	Total	3	15	73	22	4	117

Based on the contingency coefficient calculated from the classification shown in Table 2, whose value is 0.54, at the level of statistical significance of 0.00, the results show that there is a connection between work experience in the teaching profession and the frequency of using experiments and research in the implementation of geographical contents, which means that the teachers with work experience from 20 - 29 years more often use experiments and research in the realization of geographical contents than the teachers with experience from 0-19 years.

Table 2. Connection between work experience and teachers' evaluation of how often geographical contents are realized through experiments and research work in the teaching of social, environmental and scientific education

		How often are geographical contents realized through experiments and research in the teaching of social, environmental and scientific education?					
		Very often	Often	Occasionally	Rarely	Never	Total
Work experience	0 – 9 years	0	0	10	6	3	19
	10 – 19 years	0	1	11	4	1	17
	20 – 29 years	0	11	46	9	0	66
	30 and more	3	3	6	3	0	15
	Total	3	15	73	22	4	117

There is no connection between the genders, as well as between the type of settlement in which schools where teachers work are located and opinions of teachers on the use of experiments and research work in the realization of geographical contents.

One of the tasks was to determine *why teachers rarely or never use experiments and research work in the realization of geographical contents in the teaching of social, environmental and scientific education*. Respondents were asked an open-ended question, however, the answers were similar and could be classified into one category (f = 26):

- Geographical contents are not realized through experiments and research work due to the lack of teaching aids in schools, all teachers say, that is, 100% of them.

Teachers who rarely or never use experiments and research work in the realization of geographical contents in the teaching of social, environmental and scientific education, do not state any reason that indicates lack of teachers' motivation or any other reason than the above.

We wanted to determine through empirical research *whether the curricula of the subjects The World Around Us and Social, Environmental and Scientific Education, give instructions for the realization of geographical contents through experiments and research work to a sufficient extent.*

The chi-square indicates that the difference in the frequency of responses is statistically significant ($\chi 2 = 73.21$; df = 4; p = 0.00), where 43.6% of teachers (f = 51) think that the programs largely give instructions for realization of geographical contents through experiments and research, only 5.1% of them (f = 6) think that they fully give instructions, while 31.6% (f = 37) cannot decide whether the programs give sufficient instructions or not. One fifth, i.e. 19.6% (f = 23), think that the programs do not give or do not give enough instructions for the realization of geographical content through experiments and research work.

The correlation between the educational background and the teachers' evaluation whether the curricula of the subjects The World Around Us and Social, Environmental and Scientific Education, give instructions to a sufficient extent for the realization of geographical contents through experiments and research (Table 3) is significant (C = 0.25), at the level of statistical significance p = 0.01, which means that the teachers with higher education more often state that programs give instructions to a greater extent than the teachers with tertiary education.

Table 3. Correlation of educational background and teachers' evaluation of whether the curricula sufficiently give instructions for the realization of geographical contents through experiments and research

		Educational background
Teachers' evaluation of whether the curricula of the subjects The World Around Us and Social, Environmental and Scientific Education, give instructions to a sufficient extent for the realization of geographical contents through experiments and research work	correlation coefficient	0,25
	p	0,01

Textbooks for the subjects The World Around Us and Social, Environmental and Scientific Education are consisted of contents from Natural Sciences and Social Sciences and the Humanities among which are the geographical contents that we are considering in this analysis. We asked *which publishers do teachers use textbooks from, for the subjects The World Around Us and Social, Environmental and Scientific Education.* Table 4 shows the classification of textbooks use by publishers.

The chi-square test showed that there is a statistically significant difference in terms of the frequency of use of textbooks from the stated publishers ($\chi 2 = 104.79$; df = 5; p = 0.00), which means that the textbooks of Klett, Creative Center and Logos are used more often than others.

Table 4. Textbooks (classification by publishers)

Textbooks for the subjects The World Around Us and Social, Environmental and Scientific Education used by teachers:	Frequency	Percentage
➢ Logos	43	36,8
➢ Creative Center	18	15,4
➢ Klett	46	39,3
➢ Other	10	8,5
➢ Total	117	100

From the above mentioned, the task arose to determine *whether the textbooks contain geographical contents that are suitable for realization through experiments and research.*

The chi-square indicates that the difference in the frequency of responses is statistically significant ($\chi 2 = 107.06$; df = 4; p = 0.00), where 53.0% of

teachers (f = 62) think that textbooks largely contain geographical contents which are suitable for realization through experiments and research work, only 6.0% (f = 7) of them consider to contain them in full, while 29.9% (f = 35) cannot decide whether the textbooks contain enough geographical content or not. 11.1% (f = 13) of teachers think that textbooks do not contain at all or contain to a small extent geographical contents that are suitable for realization through experiments and research work.

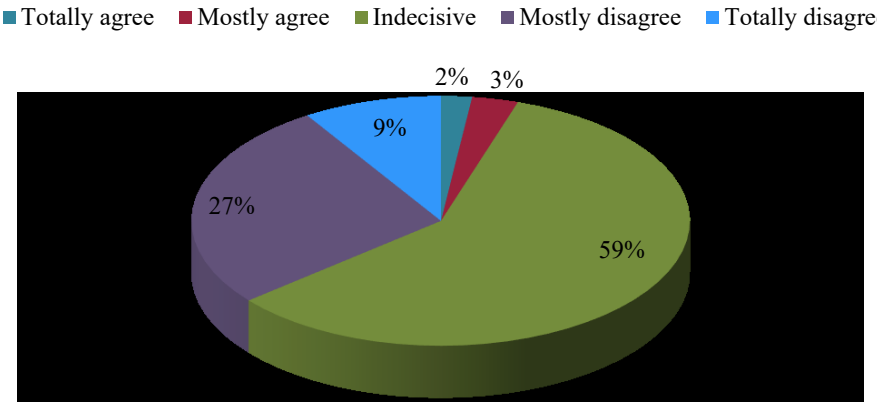
Based on the contingency coefficient calculated from the classification shown in Table 5, whose value is 0.77, at the level of statistical significance of p = 0.00, it can be said that there is a connection between teachers' evaluation of to what extent do the programs in the teaching of social, environmental and scientific education give sufficient instructions for work and evaluation of to what extent textbooks contain geographical contents that are suitable for implementation through experiments and research work. To a large extent, for 33.33% (f = 39) of teachers, programs in the teaching of social, environmental and scientific education, sufficiently provide instructions for experiments and research work, and textbooks contain geographical contents that are suitable for realization through experiments and research work, while 18.80% (f =) of teachers are indecisive.

Table 5. Connection between teachers' evaluation of to what extent do the programs in the teaching of social, environmental and scientific education give sufficient instructions for work and evaluation of to what extent textbooks contain geographical contents that are suitable for implementation through experiments and research work

		Textbooks contain geographical contents that are suitable for realization through experiments and research work					
		Yes, completely	Yes, to a large extent	I'm indecisive	Yes, to a small extent	Not at all	Total
Teachers' evaluation of to what extent do the programs in the teaching of social, environmental and scientific education give sufficient instructions for experiments and research work	Yes, completely	2	4	0	0	0	6
	Yes, to a large extent	5	39	7	0	0	51
	I'm indecisive	0	10	22	5	0	37
	Yes, to a small extent	0	9	6	6	0	21
	Not at all	0	0	0	0	2	2
	Total	7	62	35	11	2	117

In the research part of the paper, we wanted to determine *whether teachers acquired sufficient knowledge about the application of experiments and research work in the processing of geographical contents during schooling and professional development.*

Graph 2 shows that 5.1% (f = 6) of teachers are of the opinion that during schooling and professional development they acquired sufficient knowledge about the application of experiments and research work in the implementation of geographical content, 59.0% (f = 69) are indecisive and 35.9% (f = 42) disagree (mostly or totally). The chi-square shows that the difference in the frequency of responses is statistically significant ($\chi 2 = 133.56$; df = 4; p = 0.00), based on which we can say that most teachers are indecisive or think that they did not acquire sufficient knowledge about the application of experiments and research work in the processing of geographical contents during schooling and professional development.



Graph 2. Have the teachers acquired sufficient knowledge about the application of experiments and research work in the realization of geographical contents?

Based on the contingency coefficient (C = 0.62; p = 0.00) (the classification is shown in Table 6), we can say that there is a positive connection between teachers' evaluation of how often, in the teaching of social, environmental and scientific education, geographical contents are realized by means of experiments and research work and their evaluation of whether they have acquired sufficient knowledge about the application of experiments and research work in processing geographical contents during their schooling and professional development.

Teachers, 70 of them who occasionally, in the teaching of social, environmental and scientific education, realize geographical contents through experiments and research work, more often state that they are indecisive (f = 54) and mostly do not agree (f = 16) in evaluation of whether they have acquired sufficient knowledge during their schooling and professional development about the application of experiments and research work in processing geographical contents, than the teachers who often use this methodical solution (f = 10), while stating that they are indecisive about whether they have acquired sufficient knowledge during their schooling and professional development about the application of experiments and research work in processing geographical contents.

Table 6. Connection between teachers' evaluation of how often, in the teaching of social, environmental and scientific education, geographical contents are realized through experiments and research work and their evaluation of whether they have acquired sufficient knowledge about the application of experiments and research work in processing geographical contents during schooling and professional development

		During schooling and professional development I have acquired sufficient knowledge about the application of experiments and research work in processing geographical contents					
		Totally agree	Mostly agree	Indecisive	Mostly disagree	Totally disagree	Total
How often are geographical contents realized through experiments and research work in the teaching of social, environmental and scientific education?	Very often	0	1	2	0	0	3
	Often	1	3	10	1	0	15
	Occasionally	1	0	54	16	2	73
	Rarely	0	0	2	13	7	22
	Never	0	0	1	1	2	4
	Total	2	4	69	31	11	117

CONCLUSION

In achieving the aim of the research, to gain relevant knowledge about the scope of application of experiments and research work in the implementation of geographical contents in the teaching of social, environmental and scientific education, the first task was to determine how often they are used,

where most teachers declared occasional use. Teachers who rarely or never use experiments and research work were asked to give reasons for it. All of them stated that the reason is the lack of teaching aids in schools (they do not mention any other reasons) and beside the fact that no special funds are needed for the realization of experiments (Farndon et al., 2000): (most common items used for school experiments are: sand, plasticine, balloon, plastic cups and bottles, paint for cakes, etc.), but what is necessary is teacher's knowledge for the application of this methodical solution.

Based on the contingency coefficient, it was calculated that there is a connection between teachers' evaluation of to what extent programs in the teaching of social, environmental and scientific education, sufficiently provide instructions for experiments and research work and evaluation of to what extent textbooks contain geographical content suitable for their implementation. For one third of teachers, the programs also provide sufficient instructions and textbooks contain geographical contents that are suitable for realization through experiments and research work.

In the research part of the paper, we wanted to determine whether teachers have acquired sufficient knowledge about the application of experiments and research work in the processing of geographical contents during schooling and professional development, whereby most teachers were hesitant or thinking that they did not acquire sufficient knowledge during schooling and professional development. The analysis of the data leads us to the conclusion, whereby the general hypothesis of the research was confirmed, that geographical contents are not realized by means of experiments and research work often, emphasizing that during schooling and professional development they did not acquire enough knowledge for their application.

Based on the research, we can conclude that it is necessary to shed light on this segment in the methodical education of teachers during their studies at teachers' and pedagogical faculties, and then through professional development programs for teachers who already work in practice, to improve geographical knowledge.

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DIGITAL LITERACY - AN IMPORTANT COMPONENT OF FUTURE TEACHERS' EDUCATION

Aleksandra Milanović*
Faculty of Education in Vranje, University of Niš

Biljana Novković Cvetković
Faculty of Education in Vranje University of Niš

Jelena Maksimović
Faculty of Philosophy, University of Niš

Abstract: Successful learning and teaching involve the use of modern technology. One of the teachers' objectives is to constantly improve and innovate the teaching process adapting to the trends of the new generations of students. Therefore, this paper analyses digital literacy as an indispensable link in teacher education.

The goal of this paper is to emphasize the need and importance of digital literacy as an important component of students-future teachers' education. The research objectives are as follows: 1. an analysis of modern forms of literacy, with an emphasis on digital literacy as one of them; 2. opportunities and benefits of digital literacy for students-future teachers' learning and teaching; 3. identification of potential ways for students to acquire digital literacy (in and out of class).

The theoretical analysis method and the content analysis technique were used to analyse the research objectives and to focus on this novel concept that modern education is facing. Previous studies and educational practices show that although students come from digitally literate environments and possess a satisfactory level of digital skills, they still need support and additional knowledge that will raise their digital literacy to a higher level. In addition to using digital devices, digital literacy includes hundreds of skills that help efficient functioning and working.

Key words: modern technology, digital literacy, teacher, educational practice, digital skills.

INTRODUCTION

As they represent the first and the main link in the education process, teachers have an "obligation" to constantly improve and innovate their work practices, in accordance with the trends of future generations of students, to adapt and constantly innovate their teaching methods, materials and forms.

*E-mail: aleksandram@pfvr.ni.ac.rs

These tasks can be aided by the extensive use of technology in everyday life, both by teachers and by young people who learn to use modern technology before even learning their alphabets and their first numbers.

Digital literacy with its features, significance, benefits and possibilities is seen as an important segment in the education of students-future teachers. Although it belongs among modern forms of literacy, digital literacy does not exclude, that is, it does not neglect traditional literacy; on the contrary, it implies both traditional literacy and its quality. Without digital activities, there is no teaching that would be interesting and motivating for a modern student, even in the earliest grades of primary education. A digital age requires a digitally trained teacher, who needs digital literacy as the key to successful work, teaching, learning and communication. Education practice shows that although they come from digitally literate environments, students still need to raise their digital literacy to a higher level.

Education is not immune to the influence of modern technology. Although some of these changes have been present for decades, there is always room to improve the teaching conditions and to adapt those who teach and those who learn to these changes. This is the reason why digital literacy of students-future teachers is so important - by learning about the basic elements and features of digital literacy, by analysing potential teaching methods that rely on digital technology, we can raise students' awareness and their perspectives of their future profession. We can first help future teachers accept the fact that instead of traditional teaching only, they will be required to stand side by side with their students in the era of digital technology, fully aware of the need for its application in education.

DIGITAL LITERACY AS ONE OF THE MODERN FORMS OF LITERACY

In addition to traditional access to information, there has been an increase in the search and use of digital documents as a source of information in recent decades. "Digital learning is becoming an increasingly relevant resource with numerous advantages over the traditional approach due to its easier, cheaper and faster access to information published digitally" (Santos & Serpa, 2017: 91). Digital technology, which has prompted the emergence of the concept of digital literacy, includes electronic technology (hardware and software) that an individual uses for educational, social, entertainment purposes at school, outside school and at home (Ng, 2012a). This further leads to a change in the concept of literacy, which starts to include the skills and abilities related to the use of the Internet and modern technology for educational purposes. In addition to the use of digital devices, a complexity

of digital literacy is also reflected in the skills related to the efficient actions that are in line with the needs of the society and individuals who learn and teach (Vrkić Dimić, 2014). Certain authors (Eshet- Alakalai & Michai-Hamburger, 2004) believe that digital literacy skills include something they call photo-visual skills (an ability to read and understand instructions from the display), reproduction skills (the use of digital resources to create new information, materials), branching skills (an ability to construct knowledge based on non-linear, hypertextual cues), information skills (the assessment of information quality and validity) and socio-emotional skills (being able to understand and follow the rules in cyberspace and adhere to them in Internet communication).

Modern literacy, as an aspect of development, includes alphabetical, numerical, technical and symbolic literacy and is shaped by new technologies (Vrkić Dimić, 2014; Ng, 2012b). Digital literacy is a broad term, encompassing technical, cognitive, socio-emotional perspectives of learning via digital tools (Ng, 2012a: 1067). As a type of modern literacy, it is progressively developed and added to the skills already formed and the acquired knowledge. A digitally literate individual can easily and quickly use new technologies in their work, with a prerequisite of traditional literacy skills as a foundation. Digital literacy is closely related to informatics, information, visual, technological and computer/software literacy, as well as media literacy. Without informatics literacy, the notion of a "literate" individual cannot be complete. Information literacy is seen as an individual's awareness of the need for information, for the identification and assessment of the quality of acquired information, an access to and both efficient and ethical use of information. It includes the knowledge already acquired, the skills to recognize information needs, to find and assess the quality of information, and subsequently be able to use the acquired information for further findings and discoveries. It builds on numerical literacy, on reading and writing skills as the indicators of traditional literacy that are not sufficient to characterize a modern individual as literate and adequately prepared for future work (Vrkić Dimić, 2014: 381-394; Hobbs, 2010; Bawden, 2008). Visual literacy is most often presented in the form of forming, adapting the use of and integrating images and videos by using modern and traditional media, which leads to improved thinking, decision-making, communication and learning skills. The visual nature of the media was considered an aspect of digital literacy, hence the view that digital literacy has evolved from visual literacy (Belshaw, 2011). Technological and computer literacy consists of the knowledge and skills that an individual needs to lead a productive life, to develop through lifelong learning activities and provide positive contribution to the society. Software literacy refers to understanding and solving tasks and processing

information created by computer commands (Hennessey, 2009; Baufora, 2003; Kaya, 2011; Tuzel, 2010 according to Cam & Kiyici, 2017: 29-45). And, finally, media literacy that brings a better understanding of various types of modern literacy represents a way of using and producing information by an individual (Nichols & Stornaiuolo, 2019).

Characteristics of digital literacy are as follows:

1. Being able to perform digital activities in concrete contexts of people's lives: learning, work, leisure and other aspects of daily life,
2. Digital literacy varies according to the situation of each person and his/her life and their need to use digital technology and will develop in that direction,
3. It is related to other literacies as well, e.g. information literacy, media and visual literacy,
4. It involves the acquisition and use of knowledge, skills, attitudes, and personal qualities and includes an ability to plan, implement and evaluate digital actions in solving everyday tasks, including self-criticism, the capacity to reflect on the development of digital literacy itself (Martin, 2005: 130-136).

Digital literacy goes beyond basic skills of literacy, writing, reading, listening and speaking. To be digitally literate is a matter of cognitive authority, safety and privacy, creative, ethical and responsible use of digital media in various fields (Meyers, Erickson and Small, 2013). The literature is somewhat inconsistent when it comes to defining the term "digital literacy"; some restrict the concept to the technical aspects of operating in digital environments, while others define digital literacy in the context of cognitive and socio-emotional aspects of work in a computer environment (Eshet- Alkalai, 2004). The most specific definition of digital literacy was given by Buckingham (Buckingham, 2015: 21-34) claiming that it is a minimal set of skills that will enable the user to operate effectively with software tools.

In order to clarify what should be expected from students-future teachers regarding their digital literacy, we will use the findings of the author (Ng, 2012a: 1068) who specified the characteristics of a digitally literate individual. Therefore, after the process of digital literacy is complete, which implies the development of technical, cognitive and socio-emotional skills, the student-future teacher should be ready to:

1. perform basic operations on a computer and access information on a daily basis,
2. efficiently search, recognize and evaluate information for the purpose of research and learning of content,

3. develop competence to use the most suitable technical tools to perform tasks, solve problems, create materials,
4. behave responsibly in the Internet, online communities.

THE POSSIBILITIES AND ADVANTAGES OF DIGITAL LITERACY FOR STUDENTS-FUTURE TEACHERS' LEARNING AND WORK

The possibilities and advantages of having digital competence are reflected not only in a quick and easy access to information, but also in young people knowing how to choose accurate and useful information (Santos & Serpa, 2017). The importance of digital literacy of future students can be explained by three components whose synergy results in digital literacy, according to this author (Ng, 2012a; Ng, 2012b). The first component is a cognitive dimension that includes the ability to use critical thinking while searching for, assessing and handling digital information and selecting software programs suitable for learning and mastering certain tasks. A cognitive dimension requires knowledge and a respect of ethical, moral and legal codes when using digital resources. The second, technological component, allows for an understanding of a file structure, use of digital storage space, finding and downloading applications and data, as well as a use of digital tools for social networking, e-mail, etc. The last component that speaks in favour of the possibilities provided by the use of digital tools is the socio-emotional component related to the use of the Internet for communication, socializing, learning, understanding digital symbols and their use in carrying out certain activities.

Digital literacy relies on and derives from the use of modern digital technology that enables easy and simple creation, implementation of activities, data sharing, socializing, research, collaboration, communication and learning (Meyers, Erickson & Small, 2013: 355-367). Digital "life" enables constant connection and communication with others: sharing photos, videos, virtual learning, practicing and perfecting an individual's creativity in various fields (Hobbs, 2010). All of the above activities allow the user/the student to enjoy their benefits in terms of efficiency, easy information access, as well as the unlimited access to information when needed. Digital literacy relies on 20 aspects which we will explain to present a wide range of opportunities offered by digital literacy to everyone, especially our target group – students who pursue careers as teachers.

Basic digital skills, didactic ICT competence, learning strategies, and digital building in accordance with ethical norms (Rokenes & Krumsvik, 2016) can also support and emphasize the importance of potentials of digital

literacy for future teachers when it comes to their initial education and laying the foundation for their professional engagement that will follow the trend of global development and the growing need for e-learning. According to the above-mentioned authors, basic digital skills include elementary use of ICT in leisure time (basic technical skills, social media, news, music, games) and a use of software for teaching in schools (e-mail, interactive whiteboards, laptops, tablets). Didactic ICT competence is actually a way of integrating digital technology into subjects (multimodal learning resources, digital quizzes, discussion forums, use of ICT to develop student potential), keeping in mind the advantages of digital textbooks over traditional ones, the advantages of animation over images. Learning strategies in a form of reading text on the screen, searching the Internet or comparing and interpreting multiple sources on the Internet facilitate learning and knowledge construction. Moreover, there is the influence of ICT on assessment in the form of digital exams, electronic portfolios, facilitated differentiation of tasks and organization and implementation of individual activities in the classroom. Lastly, digital building in accordance with ethical norms is reflected in raising the awareness of students about electronic violence, plagiarism, illegal access to information and respect of privacy.

Now that we have pointed out the possible contribution and importance of digital literacy of students-future teachers for the efficient preparation of young people for life and work in the future, it is also relevant to mention potential ways of "embedding" digital competence, the basis of digital literacy, in organizational strategies. Ala-Mutka (Ala-Mutka, 2008) suggests 3 steps to expedite this process:

5. Awareness of the importance of digital competence – a systematic strategy for personnel training and skills updating should be established, along with support services and networks for teachers, thus embedding digital tools in the institutional learning.
6. Embed digital competence in its widest sense in all curricula – it should be ensured that digital literacy in its widest sense is included in educational curricula in primary and secondary education. Education should start building digital competences as early as possible in primary education, through learning to use digital tools confidently, critically and creatively.
7. Digital competence as a segment of Lifelong Learning strategies – starting from the fact that ICT (Information and Communications Technology) is becoming an increasingly important tool for learning, work in all fields, and leisure.

Internet can nowadays be used almost always and everywhere. It is possible to download and use the content in the classroom with teacher's help. A proper use of the Internet can result in new learning materials and their sharing online where others will be able to access them. In this situation, the teacher acts as an occasional guide, as children can access the Internet on their own. A specific aspect of using the Internet in the classroom is the standardization of users. On the other hand, we have the use of the Internet outside of school/classroom that also has numerous possibilities and benefits. First of all, the access to the Internet happens without teacher's help, the creation of new content is students' original contribution, there is the privilege of multimodal systems, the adaptation of users and easier collaboration with others (Fasher-Herro & Steinkuehler, 2009).

Based on the research conducted with the intention of identifying the qualities of a good teacher for the future, Donaldson (Donaldson, 2010: 12) singles out the qualities that the research participants mentioned: be reflective, with critical and creative thinking skills; be committed to teaching as a vocation; be committed to the development and learning of each child; work in a range of partnerships to support the learning of young people; have a passion for learning and deep understanding of and enthusiasm for teaching subjects; have discernment to be able to put relevant theory into practice; share ideas and network with colleagues from other schools, cities, countries; and be keen to participate in your personal learning and development. For a modern teacher, a decade after the research in question was conducted, these qualities seem incomplete without the possibilities and benefits of digital literacy which improves and facilitates the educational practice.

POTENTIAL WAYS TO ACQUIRE AND DEVELOP DIGITAL LITERACY IN STUDENTS

Efficient, modern schooling includes innovative uses of technology, a much greater emphasis on collaborative work, with a view to address the shortcomings of the existing curricula, and higher expectations for students (Ball & Forzani, 2009). Digital literacy is a precondition for expanding access to information and communications technology in order to ensure greater competitiveness of young people in the labour market (Shopova, 2014). The way in which digital technology is put in the service of didactic, educational practice largely depends on the digital competence of subject teachers, but primarily of class teachers (Krumsvik & Jones, 2013). According to these authors (Meyers, Erickson & Small, 2013), digital literacy is often considered a school-based competence, but it is introduced and developed in informal

learning contexts such as libraries, museums, social groups, affinity spaces online, and the home environment. Living and working in a digital society is based on Google, Facebook, YouTube and other online systems for online research, social networking, e-learning (Meyers, Erickson & Small, 2013, Hobbs, 2010). There are many ways, situations and activities in which young people consciously or subconsciously learn via technology. Virtually there are no time or place limitations when it comes to the Internet access: be it at home with television, movies, surfing the Internet, reading online magazines or playing video games. Even in primary and secondary schools, young people should be provided with an access to the Internet and encouraged to analyse, evaluate and express themselves creatively during their lessons at school. Students should be given tasks which can be solved only if they find various contents and information related to the subject, create multimedia presentations, get involved in group problem solving, collaborate on projects. In recent years, libraries have provided access to computers and the Internet with available programs for database searching using digital tools. Moreover, there are media programs for young people that provide them with opportunities to critically analyse and create multimedia messages using both traditional and interactive media, making young people see themselves as active participants in their communities in an interesting, attractive way (Hobbs, 2010: 22).

Learning digital skills should be a specific goal built into all teaching subjects in order to respond to lifelong learning strategies and effectively educate future teachers. As early as possible, i.e., in primary education, the youngest pupils have to start learning how to use digital tools reliably, critically and creatively with caution, respect of privacy and security, which inevitably leads to and requires the digital competence of teachers themselves (Ala-Mutka, Punie & Redecker, 2008). Digital skills are essential to individuals, in our case teachers, in order to be able to find, evaluate and extract information to use in everyday activities, in the educational process, in professional engagement. Students-future teachers need knowledge about the benefits of using modern technology for educational purposes in order to be able to use the benefits provided by digital tools for creating lessons, assessment, enabling collaborative learning (Leahy & Wilson, 2014).

"Instructional practices for digital literacy:

1. Keeping a media-use diary: use a diary, keep record of media choices, reflect on decisions about sharing and publishing information.
2. Using information search and evaluation strategies: finding, evaluating and sharing content from a variety of sources which helps people make choices about the quality and relevance of information.

3. Reading, viewing, listening and discussing: active interpretation of texts helps people acquire new ideas, perspectives and knowledge, dialogue and sharing help deepen understanding and appreciation.
4. Close analysis of the nature of content: encourages people to use critical questioning to examine the author's intent he/she had during content creation and sharing.
5. Cross-media comparison: comparing two different texts about the same topic helps students develop critical thinking skills.
6. Simulation and role-playing: playful activities promote imagination and decision-making skills, and they support students' reflective thinking about choices and consequences.
7. Multimedia composition: every message (composed using a combination of language, images, sound, special effects) has a certain goal. Team work and collaboration enhance creativity and deepen respect for diversity" (Hobbs, 2010: 24).

Access to information, analysis and evaluation of data, creation of new materials and content based on analysis of information found and available, reflective thinking and taking action by sharing personal knowledge and newly created information with the public are the competencies that Hobbs (Hobbs, 2011) highlights as the necessary steps that affect and constitute digital literacy.

Students study the media, create and interpret media content (Prnjat, 2018). Learning in a university environment requires students to have skills to find information, to analyse and synthesize the information found, to share and discuss different ideas suggested by students. Young people are good at using social networking, e-mail, surfing the Internet, they are active participants in virtual communities, but their knowledge and competences for the effective use of new technology in the learning process are often insufficient or superficial (Shopova, 2014). Taking into account the above-mentioned characteristics and ways of working and learning, we can conclude that students should be encouraged to use digital textbooks, movies, websites, electronic magazines, blogs, Wikipedia and learning games as often as possible.

CONCLUSION

A rapid technological development has changed the concept of living and working in all their segments, it has also affected a professional engagement of teachers, and hence the idea of raising and strengthening the awareness of the role and importance of digital literacy. Teacher competence, school

equipment and student skills greatly influence the process and the final outcome of digital literacy of students (Santos & Serpa, 2017). Digital literacy has become one of the preconditions for successful learning; it has changed the former role of teachers by requiring them to be digitally competent, which further modernizes all other prerequisites for organizing and implementing a successful lesson.

Practice shows that skills related to the use of digital information are increasingly necessary for student learning and independent research. Similar findings of theoretical research from 2014 by Vrkić-Dimić (2014) seem to be very suitable when it comes to the need to modernize the initial education of future teachers. This author suggests the need to change the way the future teachers acquire competences in order to include their experiences in their teaching practices.

Good-quality teaching, based on traditional teaching, but improved with innovative teaching methods, forms and teaching aids, should be available to prospective teachers so that they can later apply that knowledge in the design and creation of teaching materials, and act in the best interests of their students. By developing activities that help to acquire digital literacy, higher education affects the development of essential abilities for professional engagement of future teachers. Initial teacher education and early years of professional engagement lay the foundation for professional values, knowledge and expertise (Santos & Serpa, 2017; Donaldson, 2010).

During their primary education, present-day university students did not have the opportunity to use technology and the Internet to the extent that today's primary school pupils use it in the educational process. Therefore, it is necessary to point out to students-future teachers the importance, opportunities and contribution that digital literacy, as one of the segments of modern literacy, can have for their initial education, professional work and development. By trying to be skilful and good at modern technology, both in class and outside the classroom, by setting an example, but also by giving tasks that can be solved only via the Internet search, critical approach to information and data, we can motivate students to look at computers, laptops, tablets and mobile phones differently and use them for work and study. We can surely raise students' awareness of the importance of using digital tools in teaching, particularly now while they are still students themselves. This will certainly help them and prepare them to follow global trends and, based on these, set an educational basis for their own students when the time comes for themselves to assume teachers' roles.

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STL4NLP – WEB TOOL FOR MANUAL SEMANTIC ANNOTATION OF DIGITAL CORPORA

Miljana Mladenović*
University of Niš, Faculty of Education in Vranje, Serbia

Vladimir Momčilović
University of Niš, Faculty of Education in Vranje, Serbia

Ivan Prskalo
University of Zagreb, Faculty of Teacher Education, Croatia

Abstract: Annotation of machine-readable text collections (digital corpora) is a technique used for single parts of corpora joining metadata. Manual annotation of small parts of digital corpora is important for its application in automatic annotation of large digital corpora. Annotation of digital corpora is applied both in humanities and technical sciences in the achievement of interoperability of heterogeneous systems, sharing and reusing resources by large teams of users. In this paper, a web application, STL4NLP that provides manual annotation of heterogeneous corpora is presented. The application is freely available, used for collaborative, online work that can handle diverse content to produce labeled or multi-tagged text in different languages. It was evaluated on corpora in Serbian – by labeling comments if they represent hate speech. The comments were published as reactions to the sports news on sports websites and sports Youtube channels. Testing was conducted by 33 students engaged to annotate 5,954 sport comments as 'hate speech' or 'not hate speech'.

Key words: computational linguistics, semantic annotation, inter-annotator agreement, annotated corpora, hate speech

INTRODUCTION

A digital corpus (plural corpora) is a large set of electronically stored texts in written or spoken form in a single (a monolingual corpus) or multiple languages (a multilingual corpus). It is an important resource that takes part in Natural language processing (NLP), in building morphosyntax tools like are: Part of Speech tagging (POS), Word Sense Disambiguation (WSD), Machine Translation (Passonneau, Habash & Rambow, 2006), Speech Recognition (SR), Stemming, Lemmatization, etc. For semantic tools in NLP,

*E-mail: ml.miljana@gmail.com

digital corpora are not usable in raw form. For semantic tasks like Name Entity Recognition (NER), *semantic annotation* is required (Lakel, Bendella & Benkhadda, 2017).

The definition of the term *semantic annotation* has already been given (Oren et al, 2006; Oliveira & Rocha, 2013; Jovanović & Bagheri, 2017; Yordanova & Krüger, 2018, etc.). The terms *labeling*, *coding*, and *tagging* are used in some of definitions as synonyms for *semantic annotation*. According to Oliveira & Rocha (2013), *semantic annotation* is "the process of joining semantic concepts to natural language". They also argue that "semantic Annotation is the process of inserting metadata, which are concepts of a ontology (i.e. classes, instances, properties and relations), in Web resources, in order to assign semantics". Yordanova & Krüger (2018) point out that "the result of coding is a sequence of labels (traces) that represents the underlying meaning of a written, spoken, or visual data". Jovanović and Bagheri (2017) claim that the aim of semantic annotation is "not only recognizing the type of an entity, but also uniquely linking it to its appropriate corresponding entry in a well-established knowledge base".

Semantic Annotation is utilized in different fields of study: categorization and classification, web mining, information retrieval, machine learning, tag recommendation. Jovanović and Bagheri (2017), Sicilia, Sánchez-Alonso & Lytras, (2015), Neves and Leser, (2012) explored biomedical semantic annotations that have been applied in bioinformatics and biomedicine. Jovanović and Bagheri (2017) have pointed out that annotation in these fields is "used to extract domain-specific concepts that could serve as discriminative features for building automated classifiers of clinical documents" and "used to disambiguate polysemous abbreviations and unambiguously describe abbreviated terms based on the context in which they appear". Sloetjes & Wittenburg (2008) have demonstrated a multipurpose, multimedia manual annotation tool, which is an up-to-date annotation tool for audio and video recordings (ELAN, 2020). In (Duan et al., 2008), semantic annotation has been applied in music, by annotating a music signal with a set of semantic labels. Lakel, Bendella & Benkhadda (2017) have presented the application of semantic annotation in psychology. Semantic annotation provides interoperability of heterogeneous systems, sharing and reusing resources, discovering the existing knowledge and inferring new knowledge from digital data in all areas of its usage. It is also used for training machine learning models, and for the evaluation of automatic annotation tools.

Although there are plethora of software tools for automatic semantic annotation and some of them are described in (Maynard, 2008; Neves & Leser, 2012; Oliveira & Rocha, 2013; Jovanović & Bagheri, 2017; Neves & Ševa, 2019), there are several reasons to conduct manual annotation. According to

Hinze et al. (2019), automatic annotation "is often not of sufficient quality". It suffers from precision metric substantially lower than recall (Khalili et al., 2012). It is more useful for less sophisticated annotation tasks, while human annotators have to be engaged for the complex ones (Burghardt, 2014). Furthermore, as an automatic semantic annotation tool is based on the specific natural language, it can hardly be applied to other languages, except for cross-languages tasks (Van Gysel et al. 2019). Automatic semantic annotation tools are broadly developed for the English language and not so much for other languages (Alemany, 2007). According to Oliveira & Rocha (2013), a *manual annotation* tool in combination with the automatic ones can increase the quality of annotation (a semi-automatic approach).

In this paper, we present a new web application with the functionality of *manual semantic annotation* of textual corpora in different languages. It provides labeling at the level of a document in a corpus and tagging at all levels usually annotated in textual documents (Neves & Ševa, 2019). It includes three types of users: the administrator of the application, managers of annotating projects of different kinds, and annotators. The annotation scheme is freely defined by a project manager. Projects are mutually independent and can be related to different fields of study. They provide automatic importing of corpora content for annotation and also automatic exporting of the annotated content to different formats.

The paper is organized as follows: after the introduction, the related work is considered in the second section. In the third section, a novel web application tool is presented. Section 4 explores the functionality of the application to corpora in Serbian – by labeling the comments if they represent hate speech. The comments were published as reactions to the sports news on sports websites and sports YouTube channels. The inter-annotator agreement (IAA) is used to evaluate the quality of the annotations. Section 5 presents the discussion and gives conclusions, main contributions to the field of study, and ideas for future work.

RELATED WORK

According to Neves and Ševa (2019), *manual annotation* applied to textual corpora is a human effort representing „the task of reading a particular preselected document and providing additional information in the form of the so-called annotations. An annotation can occur at any level of a linguistic component, i.e. document, paragraph, sentence, phrase, word or character."

Recent *manual semantic annotation* tools are presented in Sloetjes & Wittenburg, 2008; Hinze et al. 2012; Burghardt, 2014; Yordanova & Krüger,

2018; Hinze et al., 2019. Hinze et al., (2019) have divided current manual systems into commenting tools, web-annotation, wiki-based systems, content composition systems, digital library tools, and linguistic text analysis.

In (Sloetjes & Wittenburg, 2008), a non-web application for manual semantic annotation of video and audio files ELAN was depicted, but the evaluation of annotation was not conducted. ELAN was used for tagging predefined linguistic concepts. Hinze et al. (2012) used One Click Annotator, a WYSIWYG web application for the creation of RDFa annotations manually. It supports JSON and XHTML formats. DBPedia was used as an annotation scheme, i.e. to spot annotation concepts. Although authors provided partition feedback analysis, inter-annotator agreement as evaluation metric was not provided. The evaluation was conducted in Burghardt (2014): "eleven linguistic annotation tools are evaluated in order to derive hints for good and bad designs in this specific domain of application". These are: Dexter, Catma, Glozz, UAM Corpus Tool, Brat, MMAX2, WordFreak, Analec, WebAnno, Knowtator, and GATE, where only Brat, Catma, and WebAnno are web-based tools, while the rest are desktop applications. Six of them have implemented user role management (safety option). Finally, only Knowtator, WebAnno, and Brat provide "a feature for monitoring the progress of different users on different annotation documents. It is possible to monitor the level of agreement for different annotators on different levels of annotation".

In Neves & Ševa (2019), the study showed that web applications for semantic annotations significantly outperform non-web based applications in the last decade. Therefore, the authors proposed a list of 15 web-based tools for semantic annotation of textual data, selected from 78 tools, based on 26 criteria. These are: BioQRator, Brat, Catma, Djangology, ezTag, FLAT, LightTag, MAT, MyMiner, PDFAnno, Prodigy, TagTog, TextAE, WAT-SL, and WebAnno. Three of them are considered to be the most useful ones as they satisfy most criteria: WebAnno (20 criteria), FLAT (18), and ezTag (18). According to the authors, however, WebAnno and Brat are "the most comprehensive tools and also the most popular tools regarding number of citations".

Taking into account application features that are pointed out as the most relevant ones in Burghardt (2014); Neves & Ševa (2019), we have created the tool *STL4NLP* that is: a modern web-based application with user role management which monitors the progress of different annotators on different annotating documents, evaluates inter-annotator agreement, provides multi language support, uses different annotation schemas simultaneously, and automatically imports and exports digital corpora.

SEMANTIC ANNOTATION TOOL STL4NLP

STL4NLP web application is a freely available,[1] online tool, created as a C# application with MS SQL Server relational database for storing user data, digital corpora and annotation schemes. As it is previously mentioned, users getting one of the three roles are involved (Figure 1). These are: the administrator of the application (user role "Survey admin"), managers of annotating projects (user role "Survey creator"), and annotators (user role "Survey responses"). The administrator registers all participants and conducts security-related activities (database backup, log-files monitoring). Each manager of annotating projects imports digital corpus (corpora) into the application (user role "Survey creator"), defines the annotation scheme, defines annotation tasks, divides the corpus in smaller parts if it is necessary, assigns annotation tasks to annotators, gives the instructions about the annotation to the annotators, monitors ongoing annotation work, and finally evaluates the annotation by measuring inter-annotator agreement. If the IAA measure is not high enough, the manager can get more annotators, substitute the present ones, or clear the annotation results and restart annotation. Annotators have the role of labeling or tagging portions of corpora which are assigned to them. In this paper, *labeling* represents joining a tag and the whole task item, while *tagging* is joining a tag and a piece of a task item.

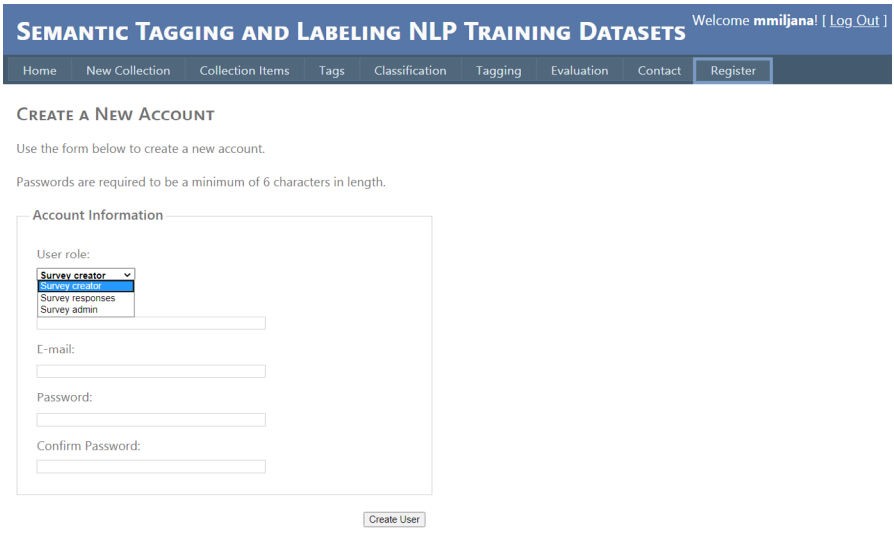

Figure 1. Three roles of users of STL4NLP web application

[1] STL4NLP is on URL http://ankete.mmiljana.com/

Home page of the application, shown in Figure 2, has the function of monitoring the progress of different annotators in annotating corpora. It shows three corpora used for the detection of rhetorical figures (oxymoron, irony, and sarcasm) and one for hate speech detection. A corpus can be divided into parts (for example Oxymoron corpus) by the creator (column *Creator*). The size of a part is measured by the number of text slices, shown in the column named *CollectionItems*. A corpus (named in the column *Collection*) is allowed for annotation, if the status is 1 (column *Status*), and the current date is between dates given in the columns *DateFrom* and *DateTo*.

Figure 2. Home page of STL4NLP web application

A manager of the project can define a tag in the annotation scheme (Figure 3).

Figure 3. Maintaining of annotating scheme (add a new tag)

In addition, a manager of the project can define an annotation task by: (1) automatic import of a corpus or a part of a corpus into the application by choosing a text file from a local computer where the corpus is stored, (2) manual insertion of text slices of a digital corpus by successive clicks on the "+" button (in Figure 4, defining an annotation task from 'Hate speech corpus' is shown).

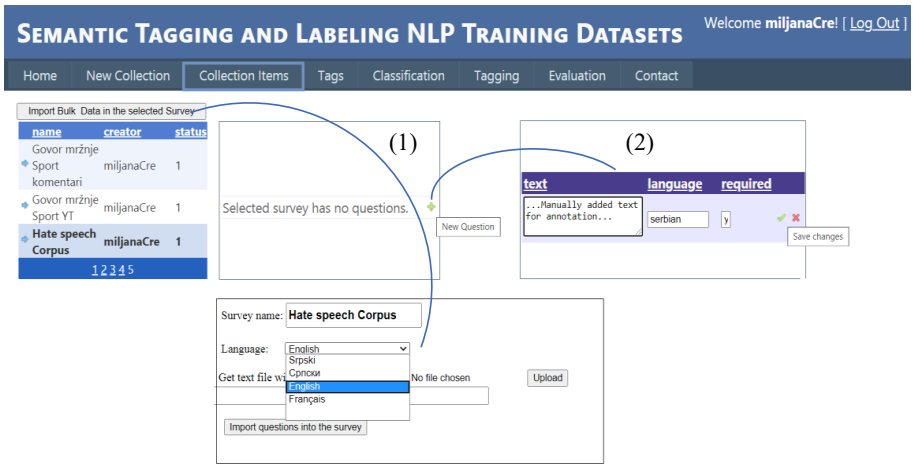

Figure 4. Automatic (1) or manual (2) defining of the Hate speech annotation task

Each annotation task is assigned to two or more annotators who are engaged to label the data by giving a label to each single task item. In this case, a label is used from a predefined set of labels {'yes','no','neu'} (Figure 5). Annotators can also tag portion(s) of text in each single task item (Figure 6) by taking a tag from the predefined annotation scheme (Figure 3). Annotators can omit labels for some task items and in the IAA evaluation the "missing data" are represented with "." – dot value (Figure 7). Annotators can easily follow their own annotation progress, because the application counts annotated task items (Figure 2 – column named *LabeledItems*).

Before tagging, an annotator has to select a corpus or a part of a corpus for tagging (upper left table in Figure 6) and a tag (lower left table in Figure 6). Then, he/she reads the text in the main table (centered in Figure 6) and selects part(s) of the text. After selecting, the application offers tagging the selected text, or removing the tag, if the selected text has already been tagged. If a task item contains a tag, the text is shown twice – the original, unannotated text is blue, while the annotated text is red, with inserted tags (in Figure 6, the text is tagged by tag GM).

An annotator can review the whole collection of annotation tasks assigned to him to find if there are unlabeled tasks that he/she missed. If a task has not been marked by an ordinal number, it is unlabeled. Navigation through a task collection assigned to an annotator is at the bottom of the page for labeling. A task collection can be automatically reviewed for finding the missing metadata – labels (Figure 2 – the difference between values of columns named *CollectionItems* and *LabeledItems*). Tagging cannot be automatically reviewed for finding the missing metadata. An annotator can navigate through the collection and manually check single tasks (without red colored text).

The main weakness of the application is in this segment of performed activities. If an annotator needs some kind of manager's support about a specific task item, he/she cannot instantly get it, as the application does not provide active connection between them. This slows down the work and reduces the quality of annotation. On the other hand, the manager cannot evaluate inter-annotation agreement "on the fly", but must wait until all annotators have finished their jobs.

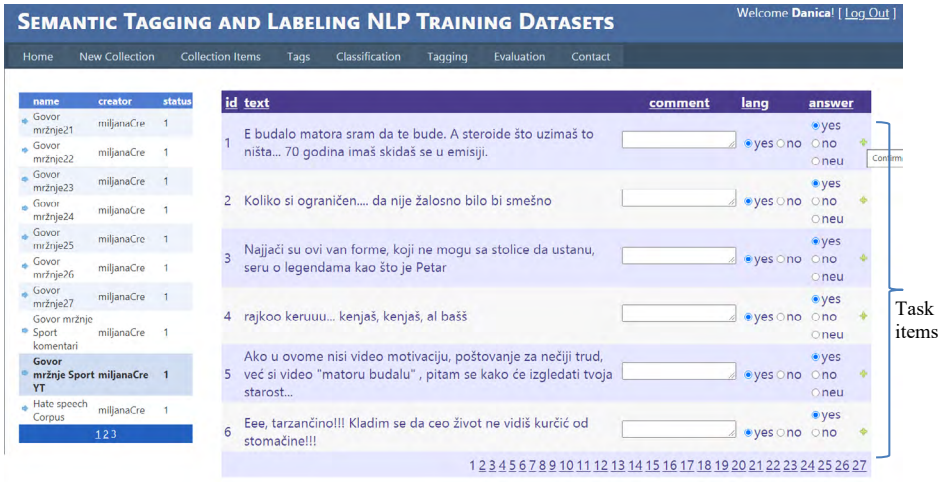

Figure 5. Annotator *Danica* labeled the corpus named *Govor mržnje Sport YT*

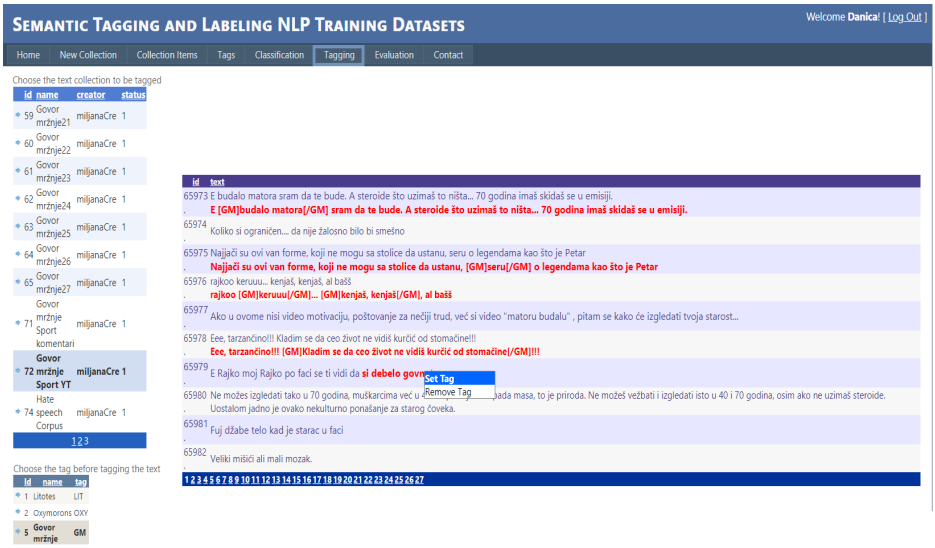

Figure 6. Annotator *Danica* tagged the corpus named *Govor mržnje Sport YT*

EVALUATION OF SEMANTIC ANNOTATIONS IN STL4NLP

In manual semantic annotation, as in all scientific tasks, the quality of an applied method or a tool has to be estimated. This is especially important when it comes to the techniques and methods based on the decisions made by humans. Although annotators are instructed before doing the tasks, their judgments still depend on their age, gender, cross-cultural differences, education, political commitment, ethnic legacy, etc., even if they are experts in the domain of the study. Therefore, various IAA metrics provide a quantitative measure of the degree of agreement of judgment among annotators. According to Bayerl & Paul (2011), IAA "is based on the assumption that if multiple coders agree in their coding decisions of the same material we can be certain that — at least for this set of data and this set of coders — annotations are free of unsystematic and distorting variations".

Some of the prominent IAA statistical measures are *Cohen's kappa* (Cohen, 1960), *Scott's pi* (Scott, 1955), *Fleis' kappa* (Fleiss, 1971) and *Krippendorff's alpha* (Hayes & Krippendorff, 2007). *Cohen's kappa* (Cohen, 1960) and *Scott's pi* (Scott, 1955) both measure the percent of agreement of two annotators on nominal data, whereas Fleis' *kappa* measures the percent of agreement of more than two annotators on nominal data. Hitherto, one of the most robust and powerful statistical measures of annotators' reliability

is *Krippendorff's α* (*Kalpha*). It can deal with missing data, more annotators, more labels and any level of measurement (nominal, ordinal, interval, ratio, polar, circular). On the other hand, it is more rigid than the previously mentioned ones. *Kalpha* is defined by:

$$\alpha = 1 - \frac{D_o}{D_e} = 1 - \frac{ObservedDisagreement}{ExpectedDisagreement}$$

The value of the *Kalpha* statistical measure can be in the interval [0,1] where *Kalpha*=1 represents the degree of complete agreement, and *Kalpha*=0 the degree of complete disagreement. *Kalpha* can also take a negative value from the interval (-1.0) due to sampling errors or system mismatch. An interpretation of possible *Kalpha* values is given in Table 1.

Table 1. Interpretation of the inter-annotation agreement measured by *Krippendorff's α*

IAA	*Kalpha*
low	$\alpha < 0.67$
moderate	$0.67 \leq \alpha \leq 0.80$
high	$0.80 < \alpha$

STL4NLP application is evaluated in semantic annotation of a corpus in Serbian, composed of comments published as reactions to the sports news on sports web pages on portals: blic.rs, b92.net, and sports Youtube channels. Corpus was generated from 5,954 comments that were published on portals in the period of two years. Comments were crawled and cleaned from useless characters. Then, the corpus was divided into 29 parts containing approximately the same number of comments and automatically imported into STL4NLP. In that way, 29 semantic annotation tasks were created and they were annotated over a period of one month. The semantic annotation task was assigned to 33 students and each of them annotated from three to seven parts. They used three tags {'yes','no','neu'} (see Figure 5). If a comment expressed hate speech, it was annotated by 'yes', if it did not express hate speech, it was annotated by 'no', and if the annotator was not sure, then 'neu' tag was used.

After annotation, we estimated IAA to evaluate the quality of students' annotations. For that purpose, we used *Krippendorff's α* (*Kalpha*) statistical measure, because there were more than two annotators on each task and some students missed to annotate some comments (one can compare the corresponding values in columns *CollectionItems* and *LabeledItems* at Figure 2). In Figure 7, the calculated *Kalpha* is shown (at the bottom of the table on the image) for the task GovorMrznje7 (GM7.xlsx file name at the top of the table in the image). In Figure 2, it is shown that the GovorMrznje7 task contained 200 comments, and it was annotated by 6 students, only two of which annotated all the items. The *Kalpha* value is 0.179, which is very low. It means that we should force re-annotation which will result in all the items annotated and, if possible, classified in two groups 'yes' or 'no'.

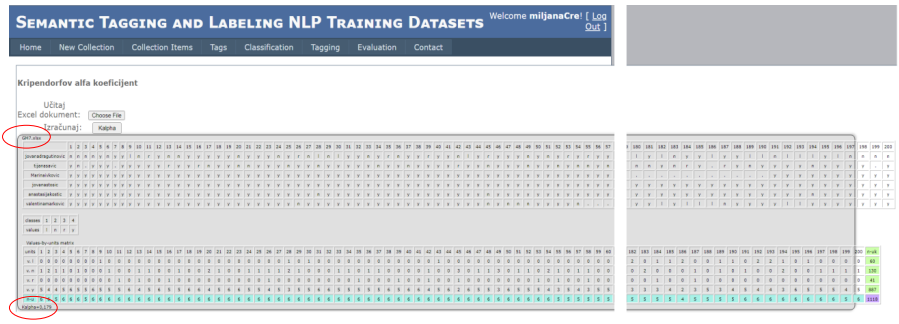

Figure 7. IAA by *Krippendorff's α* (*Kalpha*) statistical measure *on Govor mržnje7* task

CONCLUSIONS AND FUTURE WORK

In this paper, a freely available web application, STL4NLP that provides manual annotating of heterogeneous corpora in different languages is presented. The application is used for collaborative, online work that can handle a diverse content to produce labeled or multi-tagged text. The quality of semantic annotation is measured by IAA statistical measure *Krippendorff's α* (*Kalpha*). In the future, we will continue to work on improving the application to support ontologies and terminologies for defining the annotation schemes, to provide data visualization, and calculate different IAA statistical measures.

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SHORT BIOGRAPHIES OF AUTHORS AND CO-AUTHORS OF PAPERS

SHORT BIOGRAPHIES OF AUTHORS AND CO-AUTHORS OF PAPERS

Aleksandra Z. Aleksić Veljković was born in 1984. She graduated with a Bachelor's and Master's studies in Physical Education at the Faculty of Physical Education, University of Nis. In 2016 she defended a doctoral dissertation entitled *The Balance as a Factor of Success in the Exercise on the Balance Beam*. She has published over 50 scientific papers, actively participated in many professional and scientific meetings and she is also the author of the book "*Methodology of motor learning and control*". From 1998 to 2007, member of the Serbian national team in gymnastics. During this period participated in the Universiade: Daegu (South Korea), Izmir (Turkey) and Bangkok (Thailand), the European Championships in Amsterdam (the Netherlands), and Volos (Greece), as well as other international competitions. As an international gymnastics judge, judged many international competitions as well as at the Universiade in Belgrade (2009) and the European Championships in Sofia (2014), Bern (2016), and Cluj (2017).

E-mail: axy.gym@gmail.com

*

Aleksandra M. Mihajlović, PhD (1975) is an Associate Professor at Faculty of Education in Jagodina, University of Kragujevac. She was awarded a Bachelor's degree in Mathematics and Computer Science by the Faculty of Science, University of Kragujevac. In 2012 she received her PhD in Methodology of Teaching Mathematics from the Faculty of Education, University of Kragujevac. Her research interests are focused on the didactics of mathematics, mathematics education, history and psychology of mathematics. She is an author of a university textbook, two monographs, and over 30 research papers. Currently, she is working on the development and implementation of innovative approaches in teaching mathematics.

E-mail: aleksandra.mihajlovic@pefja.kg.ac.rs

*

Aleksandra Lj. Milanović was born on February 9, 1989. She holds MA in pedagogy from the Faculty of Philosophy in Niš. At the moment she is working on her PhD in pedagogy. Mrs. Milanović works as a teaching assistant at

the Department of Preschool and Primary Teacher Training at the Faculty of Pedagogy in Vranje.

E-mail: aleksandram@pfvr.ni.ac.rs

*

Aleksandar M. Stojadinović (1984) is the assistant professor for the courses Music Instruction Methodology and Music Education Methodology. He has worked at the Faculty of Education in Vranje since 2012. He earned a master's degree at the Faculty of Education in Jagodina (2009), and a PhD at the Faculty of Philosophy in Novi Sad (2018) in the field of Music Instruction Methodology. He is the author and co-author of a number of professional and science papers. In 2018, he was appointed as vice dean for scientific research at the Faculty of Education in Vranje. He is a prominent member of the "Daskal" choir, which has achieved enviable results at art gatherings in the country and abroad.

E-mail: stojadinovicaleksandar@gmail.com

*

Ana D. Spasić Stošić (1974) is a teaching assistant for the courses Methods of Teaching about Nature and Society and Methods of Teaching about Environment at the Pedagogical faculty in Vranje. She graduated (2000) and earned her master's degree (2011) at the Faculty of Teacher Education in Vranje, University of Niš. She is in the process of earning her doctoral dissertation in the field of Methods of Teaching about Nature and Society at the Pedagogical faculty in Vranje. She has taken part in numerous conferences and summits in the field of education, and is an author and co-author of a number of scientific and professional papers.

E-mail: anas@pfvr.ni.ac.rs

*

Biljana S. Jeremić holds a PhD in Methodology of teaching musical culture. She currently works as an Associate Professor at the University of Novi Sad, Faculty of Education in Sombor, Academy of Arts in Novi Sad, Serbia, with research interests focused on learning and introducing music to younger pupils. She is the author of the book Methods of Teaching Music Education (Faculty of Education in Sombor, 2015; 2020), and the book Music teaching methodology for preschool and lower elementary school children (Faculty of Education in Sombor, 2019), as well as several papers on talent, hyperactive and children with learning disabilities, modern technology and innovative

models of teaching. She holds a master's degree in choral conducting, both in the artistic field (children's choir and mixed choir). She has won significant awards in the country and abroad. She is a member of the jury in various International competitions.

E-mail: mrbiljana@gmail.com

*

Biljana Novković Cvetković was born on June 15, 1974. He is a doctor of pedagogical sciences. She completed her doctoral studies at the Faculty of Philosophy, University of East Sarajevo. He works at the Pedagogical Faculty in Vranje, University of Niš, Serbia. It deals with Education technology and ICT in education. He is the author of several works published in the country and abroad. He is a member of the editorial board in several journals.

E-mail: biljanan@pfvr.ni.ac.rs

*

Biljana J. Stojanović (1965) is an associate professor in Pedagogy at the University of Kragujevac. She earned her PhD degree in the field of curriculum development in primary education. Her previous professional experience is connected to early education: she worked as the pedagogue at the preschool institution "Pionir" in Jagodina and was the principal of the same institution (2000-2004). Her main research interests are early education and communication/cooperation in education (child-teacher-parent). Her publications deal with education and psychology and she also published seven books aimed to help teachers in organizing, conducting and assessing educational activities with young learners. In period 2015-2019., she was chief of the Department for Pedagogy and Psychology at the Faculty of Education in Jagodina. Besides pedagogy courses in BA studies, she teaches Pedagogical communication at MA and Innovative models in primary school teaching at PhD level.

E-mail: biljanastojanovi23@yahoo.com

*

Blaženka, P. Bačlija Sušić, PhD is an assistant professor for music education at Faculty of Teacher Education, University of Zagreb. She graduated piano at Academy of Music, University of Zagreb. After graduation she studied chamber music at the Hochschule für Musik und dartstellende Kunst in Graz. She received her PhD in music pedagogy at the Department for Music Pedagogy at the Academy of music in Ljubljana (Slovenia) in 2012. Her previous

work involves teaching piano at Music High School – Elly Bašić in Zagreb and at the Institute for Church Music of the Catholic Faculty of Theology of the University of Zagreb. From 2013. she is an external associate professor for Psychology of Music at Catholic University of Croatia in Zagreb. She participated in many international scientific conferences at home and abroad and she is the author of numerous scientific papers published in various journals, proceedings and scientific monographs. The basic fields of her research interest are focused on music education, music creativity, music competencies, music giftedness and psychology of music.

Email: blazenka.baclijasusic@ufzg.hr

*

Daniela Todorova Yordanova, professor (PhD) lecturer at the Department of Pedagogy in Pedagogical Faculty of the University of Veliko Turnovo Deputy Director of "Department for Continuing Education and Qualification of Pedagogical specialist", VTU "St. St. Cyril and Methodius" Scientific interests: Methodology of teaching Bulgarian language and literature at the initial stage of the basic educational degree; training in orthography and spelling in stage I - IV class; work with artistic texts and formation of reading literacy; higher education pedagogy; professional and practical training in Bulgarian language for pedagogical students; continuity in Bulgarian language teaching; modern educational technologies in Bulgarian language teaching.

Email: danni_vt@abv.bg

*

Danijela Zdravković, a Doctor of Social Science, full professor of Sociology, Family Sociology, Family and Modern Society, Modern Perceptions of Socio-Historical Processes at the Faculty of Education, University of Nis, as well as Sociology of Sports at the Faculty of Sports and Physical Education, University of Nis. She is the editor-in-chief of the scientific journal Facta Universitatis, series Teaching, Learning and Teacher Education University of Nis, head of doctoral studies department and president of the quality committee of the Faculty of Education in Vranje. She is involved in the social development theory, the sociology of family and education, the sociology of everyday life, the sociology of culture and art, ethno-sociology and the sociology of sports.

Email: danijelaz@pfvr.ni.ac.rs

*

Dragan V. Pavlović, born on August 4, 1949, Vranje, Serbia, Nationality: French / Serbian. He finished grammar school in Vranje. After graduating from Medical University in Belgrade, he did general practice at the Buje Health Center, Croatia and Koper in Slovenia for 1 year, and then specialized in anesthesia and intensive care in Germany for 4 years (Marl and Waiblingen), Sports Medicine in London, did research work in Paris for 15 years (respiratory mechanics, asthma, muscle contractility; University of Paris VII, Bichat University), 15 years in Anesthesia in Germany (Greifswald University) as the director of the Laboratory of Experimental Anesthesiology and Intensive Care, received his second doctorate (asthma research) and obtained his habilitation for research of sepsis and microcirculation, and as a professor he taught experimental anesthesiology and intensive care medicine. He also taught pathophysiology at the private American Faculty in Belgrade for 3 years. He retired at the University of Greifswald, but continued to teach part-time in Canada (Dalhousie University). He lives in Paris, where he previously (1992-2000) worked as an editor for the Dialogue, an international Social Sciences journal that still exists as a publishing house.

E-mail: dragan.pavlovic@gmail.com

*

Emilija D. Tasić was born in 1994, in Vranje, located on the southern border of Serbia. The road towards achieving my dream started in High School, where I studied Nursery children's education and care. Four years later I enrolled in the Pedagogical Faculty in Vranje, University of Niš, for Pre-school education and development program, finishing with Bachelor with Honours in Education, and eventually receiving Master in Education Degree in 2019. My next step was moving to Dubai, UAE, where I started working in *Willow Children's Nursery (Kids First Group Company)* in September 2018 and I am currently teaching here. This is the nursery with British EYFS Curriculum and Reggio Emilia Approach and since I'm in this company, I had a chance to work with children different ages and nationalities, and to use musical talent to organise music lessons with the whole nursery. Atmosphere in Willow is inspiring, and it is this very environment coupled with the people, like myself, who fully believe in the project and the vision of our company, which enables children to grow and become the best version of themselves.

E-mail: emilija.tasic.vr@gmail.com

*

Emina M. Kopas-Vukašinović, PhD (1959), full professor. She graduated from the University of Novi Sad, at the Faculty of Philosophy (the Department of Pedagogy) and completed her doctoral studies at the same university. She is a pedagogy professor at the Faculty of Education University of Kragujevac, in Jagodina, Serbia. Her areas of study are preschool pedagogy, university education and prevention of behavioural disorders. She is an external collaborator in two projects of the Institute for Educational Research in Belgrade, financially supported by the Ministry of Education and Science Republic of Serbia (2011-2019). Her surveys are directed towards two main directions, the learning and behaviour of preschool children and the examination of possible development of students' activities system in university teaching, with the aim of their qualitative education and preparation for the future profession. She has published over than 100 papers, also in International Journals.

E-mail: emina.kopas@pefja.kg.ac.rs

*

Irena B. Golubović-Ilić was born in 1974. She graduated from the Faculty of Teacher Education in 1998. In 2006, she received the academic title Magister of Methodology of teaching Science. She completed her Ph.D. studies in Teaching Methodology at the Faculty of Philosophy, the University of Novi Sad in 2014. Her interests are focused on the study of didactics and methodical specificities, the possibilities of innovating and intensifying the educational process of children of pre-school and pre-school school age, especially in the field of natural sciences. She is the author of two monographs *Individualization of the teaching of Science* (2008) and *Research activities in the teaching of Nature and Society* (2017). She has published more than 30 scientific and professional papers in journals of national importance and she has participated in numerous scientific conferences and professional meetings in the country and abroad.

E-mail: golubovic.ilic@gmail.com

*

Ivana R. Ćirković Miladinović, PhD**,** born in 1977, is an Assistant Professor at the Faculty of Education in Jagodina. Her research area is in the field of Methodology of teaching English as a foreign language. She is currently teaching EGP, ESP, TEFL, TEYL and EAP. After getting the national scholarship award, she completed her MA studies at the School of Education, University

of Nottingham, UK. In 2014 she defended her PhD thesis in the area of Methodology of ELT. Her current interest is in language learning strategies, affective learning strategies, Content and Language Integrated Learning (CLIL), Computer Assisted Language Learning (CALL), Teaching English to Young Learners (TEYL) and teaching foreign language at the university level. She has published over 40 papers and presented at international conferences in the country and abroad. Dr Cirkovic-Miladinovic taught at three universities abroad (Marburg, Porto and Baja) during her Erasmus plus mobility period.

Email: ivanajag@yahoo.co.uk

*

Ivan Prskalo, PhD (1959) is a full professor at the Faculty of Teacher Education, University of Zagreb. His research area is in kinesiology and methodology of kinesiology. He served as department head, vice dean, and for two terms as dean at the Faculty of Teacher Education in Petrinja, chief of doctoral studies, a member of Senate at the University of Zagreb, a member of the election Committee for the dean of the University of Zagreb and the President of the Board of Directors of the Student Center Sisak. He is a member of the National Council for Higher Education and the National Bologna Monitoring Group from 2005 to 2007. He is also a member of the expert working group on curriculum reform. Further, he has published over 150 scientific and professional papers, ten authored books, two of which are university textbooks in his native language, one in English and 15 are editorial books.

E-mail: ivan.prskalo1@zg.ht.hr

*

Ivana D. Tasić Mitić (1982) is an assistant professor for the courses Serbian Language and Literature Teaching Methodology and Methodology of Speech Development. She has worked at the Pedagogical Faculty in Vranje since 2008. She earned her PhD at the Faculty of Education in Vranje, University of Nis (2018) in the field of Serbian Language and Literature Teaching Methodology. She is the author and co-author of numerous professional and scientific papers that primarily focus on implementing innovative teaching methods and analyzing the results achieved, with the aim of improving the education process. She has participated in several scientific conferences.

E-mail: ivanatm@pfvr.ni.ac.rs

*

Ivko A. Nikolić (1963), has been working at the Faculty of Teacher Education since 2016. as the head of the R&D center. From 2018. elected assistant professor for the subject Methodology of Teaching Nature and Society. He worked as a teacher, assistant principal and school principal. Graduated from the Faculty of Teacher Education in Belgrade. He specialized (2005), received his master's degree (2009), and his doctorate (2014) on the topic of the role and competencies of teachers of nature and society in an rapidly changing efficient school.

Author of monographs: Objects of work in teaching nature and society, Roles of teachers of nature and society in a rapidly changing school, Competence approach to teaching nature and society, co-author of the monograph Informatics basics of integrative teaching Author and co-author of 24 papers in domestic and international scientific journals. He is the editor-in-chief of the journal Methodical Theory and Practice.

E-mail: ivko.nikolic@uf.bg.ac.rs

*

Jelena Ž. Maksimović was born on March 19, 1977. She graduated from the Faculty of Philosophy, Pedagogy Department, University of Priština (Kosovska Mitrovica) in 2001. In the same year, she enrolled in the postgraduate studies at the Pedagogy Department, Faculty of Philosophy in Kosovska Mitrovica. Upon the completion of her master's studies, she defended the master's thesis *Various Methodological Approaches to the Research of Academic Failure* and was awarded a degree of Master of Pedagogy in 2007. She defended her doctoral dissertation entitled*The Role of Action Researches in the Improvement of Teaching Practice,* completed under the mentorship of Professor Veljko Banđur, PhD, at the Faculty of Philosophy, University of Istočno Sarajevo, in 2011. On 16th December, 2002, she started her teaching career at the Pedagogy Department, Faculty of Philosophy, University of Niš, as a teaching assistant for the academic courses *Methodology of Pedagogical Research* and *Statistics in Pedagogy,* and from December, 2007, as an assistant teaching the academic courses *Pedagogical Methodology* and *Statistics in Pedagogy.* She was promoted to an assistant professor for the scientific discipline Pedagogy (*Pedagogical Methodology* and *Research in Pedagogy*) at the Faculty of Philosophy, University of Niš on 15th September, 2011. She was elected associate professor for the scientific discipline Pedagogy (*Pedagogical Methodology* and *Research in Pedagogy*) on 11th July, 2016.

E-mail: jelena.maksimovic@filfak.ni.ac.rs

*

Ljiljana B. Mitić, born in 1967 in Vranje. She finished primary and secondary school in Vranje. She graduated from the Pedagogical Academy in Belgrade. She graduated from the Faculty of Teacher Education in Vranje. She received her master's degree in 2006 on the topic of Didactic-methodological bases and peculiarities of ecological upbringing and education in primary school. PhD in 2010 - Needs and interests of students as a determining criterion for choosing environmental content in teaching. She was elected as assistant professor in 2010 and associate professor in 2015. Head of the Department of Teaching Methods at the Faculty of Pedagogy in Vranje (2015-2018), head of the study program for teacher education at the Faculty of Pedagogy in Vranje (since 2018). From 2011-2015. year member of the research team on the Tempus project HAMOC. Reviewer in the journal Innovations in Teaching. She is the author and co-author of several scientific papers and monographs.

E-mail: ljiljanam@pfvr.ni.ac.rs

*

Ljiljana S. Živković (1959) graduated in 1984 from the Faculty of Science and Mathematics, University of Belgrade, Department of Geography and Spatial Planning. She received her master's degree in 1991. The title of her doctoral thesis is Geographical changes in the Negotin region in the 20th century. She was promoted to the scientific title of Doctor of Geography on March 24, 2005, and to the title of Assistant Professor at the University of Belgrade – Faculty of Geography on March 7, 2006. She was elected associate professor on February 9, 2015. She is the author of over 100 scientific papers, of which eight were published on the SCI list. She participated in 50 scientific meetings of national and international importance. She is the researcher on the project Development revitalization of the village no. 176008 Ministry of Education, Science and Technological Development. She is the mentor in 3 doctoral dissertations, 9 master theses, 38 master papers and 64 graduation and final papers.

E-mail: ljiljana.zivkovic@gef.bg.ac.rs

*

Marija Kotevska-Dimovska, PhD (1960) is an associate professor at Business Academy Smilevski - BAS, Leadership. She is an active participant and an author of over 100 scientific papers published in journals and conference proceedings. She has two published books. In 2017 she published her second publication, *A Vision for Emotional Intelligence in Leadership*, Grafrom

2017 (282 pages). Also, she is the member of the following organizations: Ethics Committee of the Macedonian Scientific Society MND - Bitola, Organizing Committee of the Macedonian Gifted and Talented Association - MANT, Organizational Board of the Association for Development and Psychotherapy - Anima, Member of the National Gestalt Therapy Organization - MNAGT, Member of the International Society for Emotional Intelligence, Inc. (ISEI) New York, USA).

E-mail: marijadimovski@yahoo.com

*

Marija M. Stanojević Veselinović, PhD, works as Assistant professor at the Faculty of Education in Jagodina. She teaches several academic subjects in the area of Methodology of teaching German Language. She graduated at the Faculty of Philology and Arts, University of Kragujevac. She defended her PhD thesis at the same faculty in 2018. She published many research papers in the journals and conference proceedings and participated in several national and international conferences. She has completed her professional development in the area of Teaching German several times abroad. She is the first associate of ÖSD Institut Rudjer Boskovic in Jagodina and faculty coordinator of Erasmus+ and CEEPUS programmes. Her main research activities are focused on methodology, phraseology, contrastive linguistic.

Email: majastanojevic2@gmail.com

*

Milanka G. Džinović was born in Šabac on August 26, 1968. She completed her basic academic studies in Geography in 1995 in Belgrade. She fnished her master's degree in 2005 at the Faculty of Geography in Belgrade, narrow scientific field: Geographic Cartography. She received her PhD in 2015 at the Faculty of Geography, University of Belgrade on the topic: *Didactic transformation of geographical contents from I to IV grade of primary school*, narrow scientific field: Geography. She works as an assistant professor at the Faculty of Teacher Education, University of Belgrade for the following subjects: Introduction to Social Sciences, Environmental education, Geographical Concepts through Experiments and Homeland Geography. Dr. Milanka Džinović published: several bibliographic units, four of which are on the SCI or SSCI list and a university textbook: Džinović, M., Tadić, M. (2020). *Geographical concepts through experiments*. Belgrade: Faculty of Teacher Education.

E-mail: milanka.dzinovic@uf.bg.ac.rs

*

Miljana Mladenović is currently working as Associate Professor at University of Niš, Faculty of Pedagogy, Serbia. She holds PhD in Computer Science from Faculty of Mathematics, University of Belgrade, Serbia. She has several conference and journal publications in the area of machine learning, sentiment analysis, semantic web, knowledge extraction and knowledge engineering. She is the author of the first comprehensive digital dictionary of dialect of Slavic languages and the author of the first domain ontology of rhetorical figures in Serbian. The main areas of interest are machine learning, natural language processing, sentiment analysis, semantic web, figurative language, and knowledge based systems.

E-mail: ml.miljana@gmail.com

*

Nedeljko M. Milanović was born in 1996 in Belgrade. In 2015, he enrolled at the Faculty of Education in Jagodina, University of Kragujevac, in study program Boarding school teacher. He completed Master of Academic Studies in 2020 with an average grade of 10.00 and acquired the title of Master Boarding school teacher. During his studies he was awarded for his student achievements: Scholarship from the Ministry of Education, Science and Technological Development and Scholarship FUND for young talents of the RS Ministry of Youth and Sports. He has published 7 bibliographic items in domestic and foreign journals. In the spring semester 2020 he was hired as an associate-demonstrator on the subject of Pedagogy of Leisure time at the Faculty of Education in Jagodina. Since 2017, he has been conducting workshops with people with disabilities through a project funded by the Ministry of Labor, Veterans' and Social Affairs. He is a member of the Pedagogical Society of Serbia.

E-mail: nedeljko996@gmail.com

*

Nina S. Eremić was born on August 2, 1990, in Jagodina, Serbia. In 2013. she graduated with a Bachelor degree at Faculty of applied art in Kragujevac. In 2016. after graduating on a Faculty of Education in Jagodina and achieving a title of master teacher she started working as a teaching asistant at the same Faculty. Same year, she started doctoral studies at Faculty of Education in Sarajevo, department for teaching methodology in art Education, where she is currently finalizing her Phd thesis. Since 2018 she is teaching on a Faculty od Education in Jagodina as assistant at the Department of Didactic and

Methodological Sciences. From 2016 she published several scientific papers on subject of art Education and attended Scientifical Conferences.

E-mail: ns.ninastojanovic@gmail.com

*

Radmila B. Milovanović, PhD, psychologist, full professor at the Faculty of Education in Jagodina, University of Kragujevac. She has many years of experience in educational work. She has published 5 textbooks, 3 monographs and over 40 scientific papers in the national and foreign scientific journals. Her scientific field of interest is social interactions and personality development, emotions and mental health of children and youth.

E-mail: andjelao02@yahoo.com

*

Sefedin F. Šehović was born in the village of Noćaje near Tutin in 1960. He finished primary school in Delimedj, Gimnasium in Tutin. He graduated from the Faculty of Philosophy, Department of Pedagogy, in Pristina in 1984. Master's thesis: Network and organization of primary teacher education in Novi Pazar, Sjenica and Tutin, 1945-1995. He defended his doctoral dissertation: Elementary schools of the Raska region in the education system of Serbia, 1912-2000, at the Faculty of Philosophy in Pristina in 2000. Dr. Sefedin F. Šehović was elected at the University of Belgrade, to work in the Teaching Department of the Faculty of Teacher Education from Belgrade in Novi Pazar. With his dedicated work, as a pedagogue, assistant, assistant professor, associate professor, full professor and as a scientist, Dr. Sefedin F. Šehović made his studies at the Faculty of Teacher Education, in the area where he works, attractive and successful.

E-mail: sefedin.sehovic@uf.bg.ac.rs

*

Sladjana D. Arsić, PhD (1965), professor of professional studies. She graduated from the University of Belgrade, at the Faculty of Special education and rehabilitation, and master's degree from the same faculty. She obtained the title of Doctor of Science at the University of Belgrade, in the sector of science and scientific activity for studies at the University, from the multidisciplinary scientific field - neuroscience. She is a professor in the subject of psychomotor development of a child and general kinesitherapy at the Academy of Educational Medical Vocational Studies in Kruševac, Department Ćuprija, Serbia. Areas of her study are mental and motor development education and

rehabilitation. She is a regular member of the Association for Cognitive Neurorehabilitation since 2018, Belgrade. She is engaged in two international projects: *Implementation of Artificial Intelligence in human-computer interaction analysis and evaluation of cognitive performances*, 2019; COST- European Cooperation in Science &Technology - CA18106 – The neural architecture of consciousness, 2019. She has published a large number of professional papers in International Journals.

E-mail: sarsic101@gmail.com

*

Slađana S. Stanković was born in 1974. She graduated with a Bachelor's and Masters's studies in Physical Education at the Faculty of Physical Education, University of Nis. In 2016 she defended two doctoral dissertations: the first at the Faculty of Pedagogical Sciences, University in Kragujevac, Jagodina (Ph.D. of Methodology of teaching Physical education), and second at the Faculty of Sport and Tourism in Novi Sad (Ph.D. of sports science). She is a Dipped Rescuer on the water and a young scuba diver, a choreographer on the water swimming in synchronized swimming, and a member of the Stewardship Jury in modern ballet, contemporary dance, and dance. She has published over 60 professional and scientific papers, actively participated in many professional and scientific meetings and she is also co-author of the textbooks *Fundamentals of kinesiology and sports of aesthetic - Coordination character*.

E-mail: iskrasladja@gmail.com

*

Snežana M. Lawrence, PhD (1964) is a Senior Lecturer at the Department of Mathematics and Design Engineering, Middlesex University. She is interested in the creativity, identity, and engagement in the learning of mathematics, and is a mathematical historian. Snezana is involved in various national and international initiatives to promote the use of the history of mathematics in mathematics education. She is the Chair of the History and Pedagogy of Mathematics Study Group (an affiliate of the International Mathematics Union), is on the Council of the Institute of Mathematics and Its Applications, an editorial board member of *Mathematics Today* and is the Associate Editor of the *BJHM* (British Journal for the History of Mathematics). Snezana is the Education Council member of the same Society. Snezana writes a regular column for *Mathematics Today* and is the author of *A New Year's Present from a Mathematician* (published by Chapman & Hall).

Email: snezana@mathsisgoodforyou.com

*

Stoyanka Lyubomirova Georgieva-Lazarova, associate professor (PhD) lecturer at the Department of Pedagogy in Pedagogical Faculty of the University of Veliko Turnovo; director of the Distance Learning Center in the University of Veliko Turnovo. Scientific interests: Information and communication technology in education and working in digital environment; working with digital didactical aids; pedagogy of the 21st century, electronic textbook, etc. Monograph: *Education in digital environment* (2012), *Pedagogy of the 21st century* (2017); textbooks and teaching aids, papers, and reports in the field of application of the modern technologies in teaching. Membership: Union of scientist – Bulgaria.

Email: s.lazarova@live.uni-vt.bg

*

Taip Jakupi, PhD, was born on August 28, 1965 in the village of Nikishtani, Skopje. He finished high school at the high school "Zef Ljus Marku" in Skopje. First cycle of studies ends at the Faculty of Mechanical Engineering, e.g. the University "Ss. Cyril and Methodius University in Skopje in the field of production and technical education. He continues his second cycle studies at the Institute for Sociological and Political-Legal Research at the University "St. Cyril and Methodius in Skopje, where in 2004 he successfully defended his master's thesis entitled "Organizational learning as a strategy to improve the quality of working life" and acquired the qualification Master in Personnel Management. He completed his doctoral studies at the same institute in 2007 where he successfully defended his doctoral thesis "Modeling mentoring in the implementation of organizational change" and obtained the qualification Doctor of Management. In terms of education, the candidate has participated in several international seminars within the World Postal Union in the field of management, transformation and marketing. He has also participated in several seminars on Occupational Safety organized by several organizations in the country, as well as by the Ministry of Labor and Social Policy of R. Macedonia.

E-mail: taip.jakupi@hotmail.com

*

Valentina Dimovska, MA, was born in 1990 in Kumanovo, R.N.Macedonia. She holds master degree in Business Administration and Bachelor's degree in English Language and Literature from the Faculty of Philology "Blaze Koneski", Skopje. From March 2020 she works as a business development

specialist at Taskforce, Bitola. Besides this she has an experience and worked as a Freelance Online English Tutor, Freelance translator, English teacher at Euro College, Kumanovo.

E-mail: valentina_arsovska@yahoo.com

*

Vesna S. Zdravković (1973) is an associate professor for the subject of Music education teaching methodology and others in the field of music education. She has worked at the Faculty of Education in Vranje since 1998. She earned her master's degree from the Faculty of Education in Bjeljina, University of Sarajevo (2004), and her PhD degree from the Faculty of Education in Vranje, University of Nis (2016) in the field of Music education teaching methodology – earning her the title *Doctor of Didactic and Methodological Sciences.* She is the author and co-author of a number of professional and scientific papers. She has participated in many competitions (piano, choir) and has won numerous awards and diplomas. She also works as a *piano accompanist* with the "Daskal" student choir at the Faculty of Education in Vranje.

E-mail: vesnaz@pfvr.ni.ac.rs

*

Vladan M. Pelemiš, PhD (1977). He received his PhD from the Faculty of Sports and Physical Education, University of Novi Sad (2016) in the field of morphological and motor development of children. He has been permanently employed at the Faculty of Teacher Education, University of Belgrade since 2010. He is also engaged as a research associate at the Scientific Research Institute of Apeiron University in Banja Luka, Department of Kinesiology and Sports Sciences. He is the editor-in-chief of a scientific journal at the Faculty of Teacher Education, University of Belgrade, and a member of scientific boards in several scientific journals referred to Scopus and WoS. He is also a member of several scientific committees for editing the proceedings of international scientific conferences and a reviewer of a large number of scientific journals. He is married and is the father of two children. It deals with the analysis of sexual dimorphism in children, defining body composition, determining the latent structure of morphological and motor space, as well as checking the effects of kinesiological treatments on their morphological and motor status. He played basketball, spoke English and Dutch.

E-mail: vladan.pelemis@uf.bg.ac.rs

*

Vladimir Momčilović, PhD was born in Vranje in 1983, where he finished primary and secondary school. He graduated from the Faculty of Sports and Physical Education in Nis. He completed his master's studies at the Faculty of Sports and Physical Education in Belgrade, upon completing a master's thesis on the topic of *Motor skills of fourth grade elementary school students in urban and rural areas in Vranje.* He defended his master's thesis entitled *The Effect of Coordination and Speed Exercise Program on the Anthropological Dimensions of Class Students* at the Faculty of Physical Education and Sports in East Sarajevo. He received his doctorate at the Faculty of Physical Education and Sports in East Sarajevo, after defending his doctoral dissertation entitled *Valorization of additional exercise models for the development of anthropological dimensions of primary school students.* He is the co-author of one monograph, textbook and practicum, as well as several scientific and professional papers. His field of study includes the scientific methodology, philosophy and theory of physical education and the methodology of physical education.

E-mail: vladmomcilovic@pfvr.ni.ac.rs

*

Zoran Momčilović (1955) is a full professor at the Faculty of Education in Vranje for the subjects Methodology of Teaching Physical Education and Fundamentals of Physical Education and Sports. He graduated from the Faculty of Physical Education in Belgrade, earned his master's degree at the Faculty of Physical Education in Novi Sad, and his PhD at the Faculty of Sports and Physical Education in Belgrade. In 2018, he was appointed as the dean of the Faculty of Education in Vranje. He is the author and co-author of numerous professional and scientific papers, monographs and textbooks.

E-mail: zoranm@pfvr.ni.ac.rs

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Emina Kopas-Vukašinović

Aleksandar Stojadinović

EXCERPTS FROM REVIEWS

This collection of papers provides new perspectives to the development and improvement of higher education that will be equally useful for researchers and scientists to study this phenomenon further on, as well as for practitioners who can analyse again the complexity of pedagogical theories and methodological approaches in order to encourage development and improvement of higher education. This would be useful as suitable literature for first, second and third cycle students, but also as inspiration for some future studies and action models that will develop and improve higher education.

Prof. Jurka Lepičnik Vodopivec, PhD, University of Primorska, Faculty of Education, Koper, Slovenia

The quality of education cannot be observed separately from the development of competencies that lead to the establishment of good socio-emotional relations in all school contexts, especially in university. The Proceeding should emphasize the author's idea to affirm the need to develop physical/sports competencies and skills that are directly or indirectly reflect physical and metal health of future creators of our overall progress. It should be concluded that the definition, assessment, consideration and improvement of the perspective of strategic directions of quality development in higher education is not an imaginary issue but an implicit need of the state, institutions and the individual himself. This should be a strategic imperative for all of us if we want to keep up with modern European and global trends.

Prof. Ljupčo Kevereski, PhD, University Sv Kliment Ohridski Bitola, Faculty of Education, Bitola, North Macedonia

I believe that such views, solutions and proposals for a faster development and modernization of all levels of education, and especially higher education, will be useful for students, as well as for scientific and education workers. This collection of papers can truly serve as motivation and a source of new ideas for the improvement of higher education.

Danijela Mišić, PhD, Faculty of Education, Vranje, Serbia

In their works, the prominent experts in university education from several universities analyzed the existing problems of higher education within their fields of expertise and offered innovative directions of strategic improvement of the quality of higher education for the future. The papers in these proceedings integrate the strategic directions of education as a social practice in general and the present problems of the quality of higher education, establishing an unbreakable feedback between these two phenomena.It should be emphasized that the editors of these proceedings have successfully combined different perspectives, approaches and levels of analysis into a coherent whole that provides clear and understandable strategic directions for actions towards the improvement of quality of higher education.

Nenad Stevanović, PhD, Faculty of Education, Jagodina, Serbia

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