



Borka D. Malčić¹,
Stanislava D. Marić Jurišin,
Nataša D. Tančić

University of Novi Sad, Faculty of Philosophy,
Novi Sad, Serbia

**Оригинални
научни рад**

Factor Structure of the Teacher Autonomy Scale

Abstract: *Teacher autonomy encompasses in its essence the (self)activity of the teacher, the right and opportunity to make decisions and choices, and finally accepting the consequences that come with those decisions. Accordingly, autonomy represents one of the core competences of the modern teacher and it is being increasingly in the focus of numerous pedagogical researches. The purpose of the study conducted and presented in this paper was to examine psychometric characteristics and determine factor structure of the Teaching Autonomy Scale (TAS). The study sampled 310 teachers of the upper-primary subjects and primary school grade teachers from 16 primary, mixed-sex public schools. The researchers have applied Horn's parallel factor analysis and initially extracted three factors, but due to a low reliability of the third subscale, a shortened version was suggested with two factors and 10 items. The first factor represents Curriculum autonomy, while the second one refers to General autonomy. The conclusion is that the TAS scale can be used in its modified version of 10 items and with a two-factor structure of the instrument.*

Keywords: *teacher autonomy, psychometric characteristics, primary school, Serbia*

¹ borka.malcic@ff.uns.ac.rs

Copyright © 2023 by the authors, licensee Teacher Education Faculty University of Belgrade, SERBIA.

This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original paper is accurately cited.

Introduction

In education policies of numerous countries, teachers are expected to play many roles. Some of them are to follow the curriculum, adapt it and create it, plan the contents and instruction methods in accordance with different working environments, cooperate with other stakeholders and to work in teams, to be engaged in developing their school and local communities, to have a critical and reflective approach to their work (OECD, 2010). Teachers find themselves in the roles of leaders, facilitators, organizers, advisors and coworkers. Creating educational policies and fulfilling all the roles mentioned above is greatly influenced by the degree of teachers' autonomy in schools. Researchers and scientists worldwide are increasingly turning towards studying teacher autonomy on both empirical and theoretical levels (Benson, 2010; Dikilitaş & Mumford, 2019). It is noticeable that the scientific literature dealing with teacher autonomy concentrates on conceptualization studies (Friedman, 1999; Pearson & Hall, 1993; Pearson & Moomaw, 2005, 2006), correlation studies (Koustelios et al, 2004; Pearson & Moomaw, 2005) and qualitative studies based on the data obtained via interviews (Dikilitaş & Mumford, 2019; Hong & Youngs, 2016; Yolcu & Akar-Vural, 2021). Teacher autonomy has also become a popular topic of research regarding manifestation and integrative types of behaviour within teaching practice and beyond it, such as job satisfaction, stress (burn-out), professional development, professional identity (Brunetti, 2001; Klecker & Loadman, 1996; Khmelkov, 2000; Pearson & Moomaw, 2006; Vujisić Živković & Vranješević, 2019; Živković, 2012), in the context of wider national and global education trends. Studies connected with teacher autonomy play a vital role in the development of education environments (Brunetti, 2001; Pearson & Hall, 1993). An autonomous teacher is the one who feels comfortable in performing his/her role, and the feeling of his/ her competence and autonomous creation of teaching methods reflects on the success and higher

quality of instruction (Pearson & Moomaw, 2006). With this in mind, it seems significant to examine the construct of teacher autonomy on the sample in Serbia, with the primary purpose of determining the factor structure and examining the instrument on this sample. Following the validation of the instruments it can be expected of it to be applied in future research of teacher autonomy in different education contexts.

Teacher Autonomy

The definition of teacher autonomy is a subject of numerous discussions and research, so the literature has seen visible changes in the definition of the construct, which is at the same time the result of different attitudes of the researchers. Alongside this, the literature uses terms which are mutually related- autonomy, independence, and control. Among the first researchers to examine the construct of autonomy were Pearson and Hall (1993) who applied in their research the *Teacher Autonomy Scale* (TAS) survey. They define autonomy as perception of the teachers regarding the control they have over themselves and their work environment. From the standpoint of the theory of motivation Ryan and Deci (Ryan & Deci, 2000), the creators of the Self-determination theory contend that autonomy is a natural and innate need, which enables personal integrity and pro-social development, and which is determined by a number of personal and contextual factors. The factors that are most commonly examined in theory are desire to help students, desire for social and instruction changes, professional development, salary and acknowledgement by the fellow teachers (Dinham & Scott, 1996; Firestone & Pennell, 1993; Pearson & Moomaw, 2006). Littlewood's definition of autonomy says that autonomous person can be defined as one who has an independent capacity to make and carry out the choices which govern his or her actions (1997:428). This capacity of an individual, according to the author, is determined by important factors in forming autonomous behavior, namely capability and will. Several researchers (Lit-

tle, 1999; Pemberton et al., 1996; Ramos Cárdenas, 2006) gave their contribution to understanding autonomy by pointing out that autonomy is not an “all or nothing” concept, and can be developed and present in some aspects of a person’s life but not in others; individuals can be autonomous at different levels and life stages, responsibility, awareness of one’s needs, critical reflection, self-evaluation and certain level of freedom are all vital elements of autonomy.

Furthermore, for the last two decades autonomy has been the subject of the research in Serbia. Author Tadić (2015) regards autonomy as the feeling of freedom and the ability of the teacher to influence events that take place at school, to initiate his/her own actions at school, to have his/her suggestions and perception of certain problems at school valued and that his/her actions are autonomous. By taking a holistic perspective of the school context, Havelka (Havelka, 2000:295) regards teacher autonomy as “their activity, opportunity to choose and responsibility for choices and decisions and their consequences”. Analyzing the education system in Serbia in this light we can say that it is a centralized education system, burdened by curricula, resulting in low autonomy levels of schools and teachers. According to the current Law on the Education System Foundations (Official Gazette of the Republic of Serbia No. 6/2020) school autonomy includes “teacher autonomy as education experts and subject experts, who can exercise the right to autonomously create the instruction process, maintaining responsibility for learning outcomes.” It is evident that teacher autonomy defined in this way is very limited to what takes place in the classroom, and that the highest level of autonomy lies in communication with the students and creating rules of conduct (Havelka, 2000). When we analyze different definitions of teacher autonomy, we can conclude that the concept of autonomy has changed greatly over the course of time and is still developing. It is also evident that that it is a key component of teachers’ motivation for either professional promotion or leaving the profession (Brunetti, 2001; Klecker & Loadman, 1996).

One teacher can view autonomy as means of limitation and control, while another can see it as freedom to nurture camaraderie and perform different tasks outside the classroom.

Teacher autonomy categories

Given that the area teacher autonomy in the classroom is large, it is important to discover different aspects of teacher autonomy. Teacher autonomy can be considered from a wider perspective, where two aspects (categories) are identified: general autonomy, which involves two categories “classroom conduct standards and in-service personal discretion” (Pearson & Hall, 1993:177), and curriculum autonomy which also includes two subcategories, namely “autonomy of making choice of instruction activities and materials and autonomy of instrumental planning” (ibid). A specific and very important domain of teacher autonomy is curriculum autonomy given its influence on students’ achievement and student autonomy. Moreover, by displaying autonomous behavior themselves, teachers develop autonomy of the students (Benson & Huang, 2008; Tadić, 2015). Teachers believe that autonomy inherently belongs to them, because they are qualified for teaching and have the needed professional skills but also that the network of school rules stops being in force once the teacher enters the classroom since the teachers enforce their own, more flexible rules, and behaves in the classroom in the way they believe is best suited to the every specific situation (Ingersoll, 1997; Pearson & Moomaw, 2006). Teachers can freely implement decisions that they make in various areas, such as the choice of methods and techniques, use of materials, determining the length and place of activities and evaluation and assessment methods (Official Gazette of the Republic of Serbia, No.6/2020; Skilbeck, 2005; Vieira, 2007). The ability of the teacher to make changes to the curriculum is considered an important instance of autonomy, because when teachers have autonomy regarding the curriculum, they feel more strongly dedicated to implementing it, which has been confirmed

in many studies so far (Friedman, 1999; Ingersoll, 2007; Pearson & Hall, 1993). The analysis of the relevant sources that deal with the issue of autonomy reveals that general autonomy refers to “questions concerning classroom conduct standards and in-service personal discretion” (Pearson & Hall, 1993). Authors (Benson & Huang, 2008) point out that general autonomy represents the ability and willingness of an individual to create professional freedom in his or her work environment, while those individuals with low levels of autonomy were not capable nor willing to implement different innovative and creative changes in their work with students. The teachers that were surveyed successfully find innovative solutions to problems that arise in the instruction process, but research also shows they are more willing to cooperate with other teachers when needed (Ramos Cardenas, 2006; Vangrieken et al. 2017). Higher level of autonomy also allows for a more successful choice of student activities, adjusted to constructivist approach and has a more efficient application in practice (Lamb, 2008). Autonomy that the teachers have in their practice (didactic autonomy) is seen by Havelka as “huge and very important and reflects the belief that it is the only positive side of their profession for many teachers. It can be assumed that a very high percentage of the teachers had this type of personal autonomy in mind when surveyed.” (Havelka, 1996:177).

The social change in Serbia that came about following the transition, contributed to the teachers feeling abandoned, not having contact with education authorities and not having their suggestions taken into account with sufficient attention. On the other hand, teachers believe that new rights that were given to students and their parents are the reason why the possibility of control and autonomy of the teachers diminished (Raković, 2012; Tadić, 2015; Živković, 2012). As the schooling model changes, teachers are expected to adapt to changes, which affects the perception of personal autonomy, in terms of how much and to whom they feel responsible, how free they feel to make their own

decisions in their day-to-day activities. Participation and autonomy of the teachers in creating their system of professional development as well as activities of professional development, according to the teachers’ evaluation, is at a very low level (Manzano-Vazquez, 2018; Pešikan et al. 2010; Stamatović, 2006).

The results of a study (Pelletier et al., 2002, as cited by Tadić, 2015:15) about pressures, motivation, autonomy, and instruction practice, conducted with a sample of 254 teachers, show that the less motivated teachers are to do their work, due to the lack of autonomy, the less the students are likely to be autonomous in their learning, due to the controlling model applied in instruction. Responsibility, awareness of the need’s motivation, critical thinking, self-assessment and certain degree of freedom represent significant, supporting factors that are necessary for autonomy (Huang, 2005; Ramos Cardenas, 2006). Considering the results of the multiple research which examined the degree in which the pressure at school influences the rapport teachers have with students, authors, Pelletier and Sharp (Pelletier & Sharp, 2009, as cited by Tadić, 2015:16) state that the lack of the teacher’s autonomy leads to diminished motivation, which in turn increases the controlling behavior, leading to students’ decreased motivation for learning and low academic achievement.

Method

The purpose of the survey conducted was to establish the factor structure of the TAS. The significance of this study stems from the fact the construct of teacher autonomy has not been thoroughly examined in our country, nor had the TAS been validated. General hypothesis this study was that we assume that the factor structure of the TAS scale will extract two factors of teacher autonomy (general teacher autonomy and teacher autonomy in relation to the curriculum).

Sample and procedure

The sample for the research was comprised of 310 respondents, from 16 (of a total of 37 primary schools) primary, mixed-sex public schools on the territory of Novi Sad, in Serbia. The structure of the respondents was the following: 102 primary school teachers of young learners (32.9%) and 208 teachers of subjects to higher level primary students (67.1%). Out of all respondents, 80% were female (248), while the remaining 20% were male (62). The average age of the male subjects is 43.48 years (SD=10.42) while the average age of the female subjects is 43.21 years (SD=8.80), and the average age of all subjects is 43.26 years (SD=9.13). Analysis of the years of experience it showed that the majority of subjects fall into the range of 15 to 25 years of experience, in total 108 subjects (34.8%). The following category of 85 teachers (27.4%) have between 5 and 15 years of experience, while there are 64 (20.6%) teachers with more than 25 years of experience and 53 teachers (17.1%) whose work experience is between 1 and 5 years.

Instrument

The survey was conducted via a questionnaire in written form, anonymously and on voluntary basis during 2020. Techniques of scaling and survey were used in the research. The instrument was combined and consisted of two parts. The purpose of the introductory part of the instrument was collecting data about the personal characteristics of the subjects (gender, age, professional experience, division into lower and higher-level primary school teachers). The second part of the instrument used TAS (Pearson & Hall, 1993). The scale includes 18 items which are divided into four categories: selection of activities and materials; classroom standards of conduct; instructional planning and sequencing; personal on-the-job-decision making. The first and the third category belong to the factor of curriculum autonomy, while the second and the fourth category belong to the factor of general teaching autonomy.

Both scales have a high degree of reliability ($\alpha=.81$ and $\alpha=.85$), because the lower acceptable limit of the coefficient of internal consistency alpha is 0.70 (Fajgelj, 2005). The mutual correlation of the scales is $r=.28$. Eleven items are related to high autonomy while the rest refer to low autonomy. The research conducted by Pearson and Moomaw (2006) had reliability of both scales $\alpha=.80$, and the correlation of the scales was $r=.49$. The research used four-degree Likert-type scale (intensity of agreement), where 1 means completely untrue, 2 means partially untrue, 3 means partially true, while 4 means completely true. Examples of offered items are: "In my teaching, I use my own guidelines and procedures" and "In my class, I have little control over how classroom space is used".

Data analysis

Exploratory factor analysis was used to examine the latent structure of the questionnaire, by using principal component model and Promax factor rotation and SPSS 19 software package. Factor extraction was conducted by using Horn's parallel analysis for which the researchers used the Factor software (Lorenzo-Seva & Fernando, 2006). The items with communality of over .30 were not included in the further analysis as well as those whose cross loadings were found on two or more factors.

Results

Initial check of the questionnaire solution

By using the exploratory factor analysis and application of the Scree test, three factors were extracted (Image 1). As we can see in Image 1, we determine three factors, because the point where the slope of the curve is clearly leaving off indicates the number of factors that should be generated by the analysis.

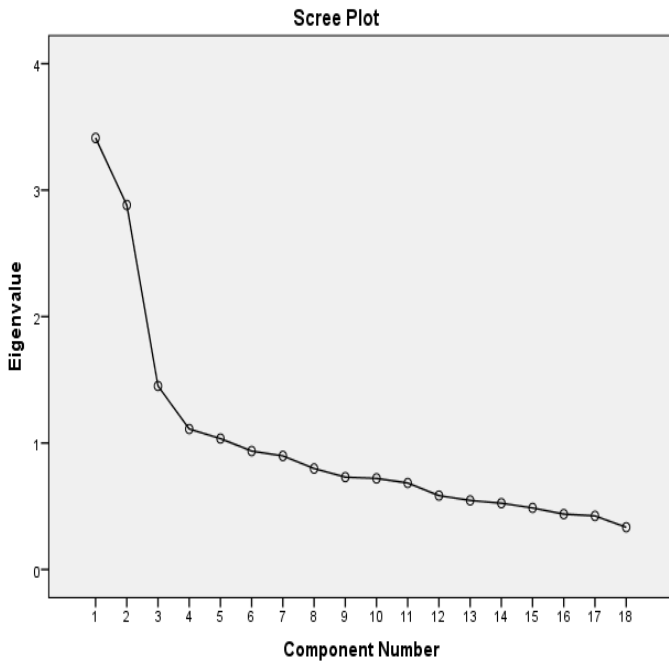


Image 1

Using Horn’s parallel analysis three factors were extracted (table 1).

Kaiser-Meyer-Olkin test is satisfactory (KMO=.776). Bartlett’s test of sphericity reached significance at the level $p < .001$ ($p = .000$) and indicates that the matrix is acceptable for factorization (Fajgelj, 2005). We obtained a three- factor solution which explains 44.6% of the questionnaire variance, and communalities vary from .334 to .673, where communalities of items 12, 13 and 16 are eliminated due to low value (.294, .222, .290) (Table 2).

Table 2 Communality matrix

	Initial	Extraction
1	1.000	.392
2	1.000	.425
3	1.000	.456
4	1.000	.673
5	1.000	.474
6	1.000	.495
7	1.000	.537
8	1.000	.513
9	1.000	.398
10	1.000	.534
11	1.000	.334
12	1.000	.294
13	1.000	.222
14	1.000	.380
15	1.000	.372
16	1.000	.290
17	1.000	.357
18	1.000	.599

After eliminating items 12 (“I seldom use alternative procedures in my teaching”), 13 (“In my teaching I use my own guidelines and procedures”) and 16 (“The evaluation and assessment activities used in my class are selected by the others”), a pure factor structure is obtained, with the percentage of questionnaire variance explanation 48.02%, and communalities ranging from .334 (item 11) to .673 (item 4).

The first factor was named Curriculum autonomy and it is comprised of items 1 (“In my teaching, I use my own guidelines and procedures”), 3 (“My teaching focuses on those goals and objec-

Table 1 Factor extraction

No. Of factor	Eigenvalue	Variance percentage	Cumulative variance %	AS random eigenvalues	Decision
1.	3.25	19.14	19.14	1.44	Accept
2.	2.88	16.92	36.07	1.36	Accept
3.	1.45	8.53	44.60	1.30	Accept
4.	1.06	6.24	50.83	1.23	Reject
5.	.99	5.82	56.67		

tives I select myself”), 4 (“What I teach in my class is determined for the most part by myself”), 5 (“The materials I use in my class are chosen for the most part by me”) i 6 (“The content and skills taught in my class are those I select”). This factor encompasses the freedom to choose teaching materials and activities, as well as autonomy related to planning and programming if the teaching contents (Pearson & Moomaw, 2006) (Table 3). The second factor consist of items 2 (“In my situation, I have little say over the content and skills that are selected for teaching”), 10 (“My job does not allow for much discretion on my part”), 14 (“In my situation, I have only limited latitude in how major problems are solved”), 15 (“In my class, I have little control over how classroom space is used”) i 18 (“I have little say over the scheduling of use of time in my classroom”). This factor relates to general teacher autonomy and it encompasses freedom in decision making related to situation teachers encounter in the classroom (Pearson & Moomaw, 2006) (Table 3). The third factor includes items 7 (“I am free to be creative in my teaching approach”), 8 (“The selection of student-learning activities in my class is under my control”), 9 (“Standards of behavior in my classroom are set primarily by me”), 11 (“The scheduling of use of time in my classroom is under my control”) and 17 (“I select the teaching methods and strategies I use with my students”) and was named autonomy in creative approach to teaching and alternative procedures in teaching. This factor encompasses freedom and creativity in lesson implementation and the choice of instruction methods and strategies (Table 3).

Table 4 shows the size of the correlation effect, is from 0.0 to .20 (0.0. to -.20) indicates very low effect, from .21 to .40 (-.21 to -.40) indicates a low effect, from .41 to .60 (-.41 to -.60) to moderate effect, .61 to .80 (-.61 to -.80) indicates high effect, and .81 to 1.0 (-.81 to -1.0) indicates a very high correlation (Evans, 1996). The analysis of the correlation matrix (Pearson Correlation) (Table 4) leads to the conclusion that the correlation of the second factor is very low and negative in relation to the third factor and

very low correlation with the first factor, while the first and the third factor correlate low. The correlation should be interpreted in accordance with the context, i.e., the empirical results that point to the maximum values of the correlation coefficient that can be reasonably expected, similar to the results of previous research (Cohen, 1988).

Table 3 Pattern Matrix

	Component		
	1	2	3
4	.830		
3	.700		
6	.659		
1	.634		
5	.525		
10		.777	
2		.700	
14		.691	
18		.658	
15		.562	
7			.707
9			.637
8			.635
11			.626
17			.605

Table 4 Component Correlation Matrix

Component	1	2	3
1	1,0	,10	,30
2	,10	1,0	-,19
3	,30	-,19	1,0

Questionnaire Reliability

The first subscale (Curriculum Autonomy) includes 5 items with the Cronbach's alpha of .734. Item analysis of the first factor shows that the reliability would not alter by removing any of the items (Table 5).

Table 5 Item analysis of the first factor subscale

	Scale Mean if Item Deleted	Scale Vari- ance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
4	12,3968	4,441	,647	,622
3	12,1806	5,411	,462	,701
6	12,6000	4,823	,518	,682
1	11,9871	6,065	,415	,718
5	11,8548	5,710	,456	,703

The second subscale (General Autonomy) has the Cronbach's alpha of .715 and it encompasses 5 items. Based on the item analysis conducted, we can infer that the reliability of this subscale would not change if any of the items were eliminated (Table 6).

Table 6 Item analysis of the second factor subscale

	Scale Mean if Item Deleted	Scale Vari- ance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
10	9,3710	7,503	,538	,641
2	9,3903	8,103	,419	,688
14	9,0710	8,040	,452	,676
18	9,5484	7,174	,537	,640
15	9,4581	7,828	,423	,688

The third subscale (Autonomy in creative approach to teaching and alternative procedures in teaching) has the Cronbach's alpha of .663 and is comprised of 5 items (Table 7). Based on the table and the item analysis, we can confirm that this subscale is not reliable.

Table 7 Item analysis of the third factor subscale

	Scale Mean if Item Deleted	Scale Vari- ance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
7	14,0290	2,630	,544	,553
9	14,0484	2,868	,358	,638
8	14,1548	2,707	,486	,580
11	14,2161	2,830	,355	,641
17	14,1581	2,891	,354	,640

Based on the data obtained, it is evident that this scale cannot be used in its three-factor form, hence we suggest using a revised, two-factor version (Curriculum Autonomy and General Autonomy), similar to the original version of the instrument (Pearson & Hall, 1993) but with the reduced number of items (10).

Discussion

Given that the teachers are a crucial link in the process of education reforms, it is of vital importance to examine how teachers assess their own autonomy observed through the prism of constant change and new roles which are imminent. The purpose of the survey conducted was to establish the factor structure of the TAS. The significance of this study stems from the fact the construct of teacher autonomy has not been thoroughly examined in our country, nor had the TAS been validated. The instrument structure comprised of 18 items, according to the recommendations of the authors, Pearson and Hall (1993). By using Horn's parallel analysis, three factors were extracted. This resulted in obtaining a three-factor solution which was described here and explained with 44.6% of the scale variance, with communalities ranging from .334 to .673. The communalities of items 12, 13 and 16 were eliminated due to low values. After eliminating the items, a pure factor structure was obtained with variance percentage of 48.02%. Based on the extracted items, three factors were obtained. The first factor was named Curriculum Autonomy, and this includes autonomy of choosing instruction activities and materials as well as autonomy related to planning and programming of the instruction contents (Pearson & Moomaw, 2006). The second factor is related to general teacher autonomy, and it encompasses the freedom of decision-making which teachers have in the classroom, which is in accordance with the two-factor structure which was obtained in the original version and research conducted by the authors (Pearson

& Moomaw, 2006). What was obtained through our research as the third factor was named Autonomy in the creative approach and alternative procedures in teaching, and this includes freedom and creativity in lesson delivery and choice of teaching methods and strategies and is not in compliance with the results and factor structure of the original questionnaire (Pearson & Moomaw, 2006). Reliability of the first subscale (Curriculum Autonomy) is comprised of 5 items with Cronbach's alpha of .734. The second subscale (General Autonomy) has Cronbach's alpha of .715 and encompasses 5 items. The third subscale (Autonomy in creative approach to teaching and alternative procedures in teaching) has the Cronbach's alpha of .663 and is comprised of five items whose analysis led to the conclusion that is unreliable. Following the item analysis, it was confirmed that the subscale would not be satisfactory (Fajgelj, 2005), even after eliminating certain items. Based on the inspection of the results that we obtained, it can be inferred that this scale cannot be used as a three-factor scale and we suggest using the reduced version with two factors (Curriculum Autonomy and General Autonomy), as it is in the original version of the questionnaire (Pearson & Hall, 1993). The first extracted factor, Curriculum autonomy, includes the following categories: using one's own guidelines and procedures in teaching, independent choice of instruction materials and instruction content and independent definition of goals and tasks. The other extracted factor, General autonomy, includes teachers' freedom in decision-making in the classroom. Based on the factor correlation we obtained and the Cronbach's alpha we can conclude that the second factor correlates low with the first factor. In one of the previous researches (Evers et al., 2017) which validated the TAS scale on the target population of 111 Dutch elementary and high school teachers, four factors were obtained ((1) primary work processes in the class; (2) curriculum implementation; (3) participation in decision making at school; (4) professional development). The reason for the differences in the number of extracted fac-

tors can be found in the fact that the respondents in the Dutch research came from both elementary and high schools while our research only included the elementary school teachers. Furthermore, cultural differences as well the normative bases of the education process, consequently the frameworks within which the teachers operate, are clearly different in the two countries. Results of the TAS questionnaire study conducted among Korean English teachers (Marshall, 2019) point to a clear two factor structure of the scale, which is in accordance with the results of the original research (Pearson & Moomaw, 2006) as well as the end result of the present research in Serbia. The same TAS scale was applied to the target population of 411 teachers from all Malaysian Cluster Schools and the results of the study (Varatharaj et al., 2015) also point to a two-factor structure.

Possible limitations in analyzing the teacher autonomy can be found in the methodology of the research itself; hence a combination of qualitative research and interviews would give a more complex overview of the autonomy structure, which is evident from a recent study involving a sample of Turkish teachers (Yolcu & Akar-Vural, 2021). Furthermore, it would be significant to broaden the target population in number, but also to teachers who work in various cultural and educational contexts and on different levels of education, using the newly proposed model of research.

Conclusion

Analysis of the relevant sources has not led to discovery of this type or topic of research ever having been conducted in Serbia, it would be of great significance to examine the psychometric characteristics of the TAS in this environment and on a more diverse sample, which is the purpose of this research. This paper demonstrates the psychometric characteristics of the instrument, as well as factor structure and recommendations for further research in keeping with the findings. Research results

indicate that the scale cannot be used on our sample in the form of a three-factor solution, and we suggest using a reduced version of the scale measuring general and curriculum teacher autonomy. The obtained results and a two-factor solution are in accordance with the previous research (Behroozi & Osam, 2016; Pearson & Hall, 1993). By using the Horn's parallel analysis, three factors were originally extracted, but due to the low reliability of the third subscale, we suggest using a reduced questionnaire form with two factors (curriculum autonomy and general autonomy) and 10 items.

The importance of self-evaluation and teacher autonomy is reflected in the contribution to the professional and personal aspect of a teacher's life and work (Marić Jurišin & Malčić, 2022; Maričić, 2017). Being an autonomous teacher means being constantly in the position of a student, thinking about your work, self-evaluating, planning, imple-

menting and evaluating actions that represent the improvement of personal practice (Đerić, Malinić & Šefer, 2017; Maksimović, 2017). The results that were obtained in this study can be important for all stakeholders of the education system; teachers and school principals and policy makers alike. Firstly, we must emphasize the significance of the obtained results in terms of improving the quality of the schools through implementing the questionnaire on new target population in Serbia which is a vital step towards changes regarding the importance of respecting the teachers' voices when creating curricula and organizing educational system. One of the most significant avenues to pursue regarding the generalization of the obtained results is to broaden the scope of research to other levels of education (high school and university teachers) and see how they assess their own autonomy.

References

- Benson, P. and Huang, J. (2008). Autonomy in the transition from foreign language learning to foreign language teaching. *DELTA*. 24, 421-439. <https://doi.org/10.1590/S0102-44502008000300003>
- Behroozi, A. and Osam, Ü. V. (2016). Teacher autonomy from the perspective of Iranian English teachers. *Journal of Teaching and Education*. 5 (2), 91-98.
- Brunetti, G. J. (2001). Why do they teach? A study of job satisfaction among long-term high school teachers. *Teacher Education Quarterly*. 28 (3), 49-74.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences, second edition*. New York: Lawrence Erlbaum Associates.
- Dikilitaş, K. and Mumford, S. E. (2019). Teacher autonomy development through reading teacher research: Agency, motivation and identity. *Innovation in Language Learning and Teaching*. 13 (3), 253-266.
- Dinham, S. and Scott, C. (1996). *Teacher satisfaction, motivation and health: Phase one of the Teacher 2000 project*. Presented at the annual meeting of the American Educational Research Association. New York.
- Dymoke, S. and Harrison, J. K. (2006). Professional development and the beginning teacher: Issues of teacher autonomy and institutional conformity in the performance review process. *Journal of Education for Teaching*. 32 (1), 71-92.
- Đerić, I., Malinić, D. i Šefer, J. (2017). Kako unaprediti proces inoviranja školske prakse. *Inovacije u nastavi*. 30 (4), 1-13.
- Evans, R. H. (1996). An Analysis of Criterion Variable Reliability in Conjoint Analysis. *Perceptual and Motor Skills*. 84, 988-990.
- Evers, A. T., Verboon, P. and Klaijnsen, A. (2017). The development and validation of a scale measuring teacher autonomous behaviour. *British Educational Research Journal*. 43 (4), 805-821.

- Fajgelj, S. (2005). *Psihometrija: Metod i teorija psihološkog merenja (II dopunjeno izdanje)*. Beograd: Centar za primenjenu psihologiju.
- Firestone, W. A. and Pennell, J. R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of Educational Research*. 63, 489–525.
- Friedman, I. A. (1999). Teacher-perceived work autonomy: The concept and its measurement. *Educational and Psychological Measurement*. 59 (1), 58–76.
- Havelka, N. (1996). Pitanje odnosa autonomije nastavnika i autonomije učenika [The question of the relationship between teacher autonomy and student autonomy]. U: Gašić-Pavišić, S. (ur.). *Autonomija ličnosti i vaspitanje* (167–180). Beograd: Pedagoško društvo Srbije.
- Havelka, N. (2000). Teacher's role in various concepts of education. *Nastava i vaspitanje*. 49 (1-2), 60–81.
- Hong, W. P. and Youngs, P. (2016). Why are teachers afraid of curricular autonomy? Contradictory effects of the new national curriculum in South Korea. *Asia Pacific Journal of Education*. 36 (1), 20–33.
- Huang, J. (2005). Teacher autonomy in language learning: A review of the research. In: Katyal, K. R., Lam H. C. and Ding, X. J. (Eds.). *Research studies education 3* (203–218). Hong Kong: Faculty of Education, University of Hong Kong.
- Ingersoll, R. M. (2007). Short on power long on responsibility. *Educational Leadership*. 65 (1), 20–25.
- Khmelkov, V. T. (2000). Developing professionalism: Effects of school workplace organization on novice teachers' sense of responsibility and efficacy (doctoral dissertation). University of Notre Dame.
- Klecker, B. J. and Loadman, W. (1996). *Exploring the relationship between teacher empowerment and teacher job satisfaction* (ERIC Document Reproduction Service No. ED 400 254).
- Koustelios, A. D., Karabatzaki, D. and Kousteliou, I. (2004). Autonomy and job satisfaction for a sample of Greek teachers. *Psychological Reports*. 95 (3), 883–886.
- Lamb, T. E. (2008). Learner autonomy and teacher autonomy. Synthesizing an agenda. In: Lamb, T. and Reinders, H. (Eds.). *Learner and teacher autonomy: Concepts, realities and responses* (269–285). John Benjamins.
- Little, D. (1999). Developing learner autonomy in the foreign language classroom: A social interactive view of learning and three fundamental pedagogical principles. *Canarian Journal of English Studies / Revista Canaria de Estudios Ingleses*. 38, 77–88.
- Littlewood, W. (1999). Defining and developing autonomy in East Asian contexts. *Applied linguistics*. 20 (1), 71–94.
- Lorenzo-Seva, U. and Fernando, P. J. (2006). FACTOR: A computer program to fit the exploratory factor analysis model. *Behavior research methods*. 37 (1), 88–91.
- Maksimović, A. (2017). Određivanje ciljeva, zadataka i ishoda nastavnog časa iz perspektive nastavnika. *Inovacije u nastavi*. 30 (2), 98–113.
- Manzano-Vázquez, B. (2018). Teacher development for autonomy: An exploratory review of language teacher education for learner and teacher autonomy. *Innovation in Language Learning and Teaching*. 12 (4), 387–398. <https://doi.org/10.1080/17501229.2016.1235171>
- Marić Jurišin, S. i Malčić, B. (2022). *Samoprocena nastavničke profesije u savremenom obrazovnom kontekstu*. Novi Sad: Filozofski fakultet.
- Maričić, S. (2017). Samovrednovanje i kvalitet pedagoškog rada škole. *Inovacije u nastavi*. 30 (1), 12–24.
- Marshall, P. A. (2019). Teacher Autonomy on English Communication Courses in Japanese Universities. *International Journal of Curriculum and Instruction*. 11 (2), 87–99.
- OECD (2010). *Politike obrazovanja i usavršavanja – nastavnici su bitni – kako privući, usavršavati i zadržati efikasne nastavnike [Education and training policies – teachers are important – how to attract, train and retain effective teachers]*. Beograd: Ministarstvo prosvete Republike Srbije – Zavod za udžbenike – Službeni glasnik.

- Pearson, L. C. and Hall, B. C. (1993). Initial construct validation of the teaching autonomy scale. *The Journal of Educational Research*. 86, 172–177.
- Pearson, L. C. and Moomaw, W. (2005). The relationship between teacher autonomy and stress, work satisfaction, empowerment, and professionalism. *Educational research quarterly*. 29 (1), 38–54.
- Pearson, L. C. and Moomaw, W. (2006). Continuing validation of the teaching autonomy scale. *The Journal of Educational Research*. 100 (1), 44–51.
- Pelletier, L.G., Seguin-Levesque, C. and Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *Journal of Educational Psychology*. 94, 186–196.
- Pelletier, L. G. & Sharp, E. C. (2009). Administrative pressures and teachers' interpersonal behaviour in the classroom. *Theory and Research in Education*. 7 (2), 174–183.
- Pemberton, R., Li, E. S., Or, W. W. and Pierson, H. D. (1996). *Taking control: Autonomy in language learning (Vol. 1)*. Hong Kong: Hong Kong University press.
- Pešikan, A., Antić, S. i Marinković, S. (2010). Konceptcija stručnog usavršavanja nastavnika u Srbiji – između proklamovanog i skrivenog modela. [In-service teacher training concept in Serbia – between the proclaimed and hidden models]. *Nastava i vaspitanje*. 59 (2), 278–296.
- Raković, J. (2012). Autonomija škole i saradnja sa roditeljima i lokalnom zajednicom. [School autonomy and cooperation with parents and the local community]. *Nastavnici u Srbiji: stavovi o profesiji I*. 13–30.
- Ramos Cárdenas, R. (2006). Considerations on the role of teacher autonomy. *Colombian Applied Linguistics Journal*. (8), 183–202. <https://doi.org/10.14483/22487085.10510>
- Ryan, R. M. and Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*. 25 (1), 54–67.
- Skilbeck, M. (2005). School-based curriculum development. In: Lieberman, A. (Ed.). *The roots of educational change* (109–132). Springer.
- Stamatović, J. (2006). In-service training as a segment of professional development of teachers: The process and the needs. *Nastava i vaspitanje*. 55 (4), 473–482.
- Tadić, A. (2015). Autonomija učenika u razrednom kontekstu – kritička perspektiva teorije samoodređenja [Student autonomy in the classroom context – a critical perspective of self-determination theory]. *Nastava i vaspitanje*. 64 (1), 101–115.
- Yolcu, O. and Akar-Vural, R. (2021). An examination of instructional autonomy practices of science teachers. *International Journal of Educational Methodology*. 7 (1), 79–94. <https://doi.org/10.12973/ijem.7.1.79>
- Vangrieken, K., Grosemans, I., Dochy, F. and Kyndt, E. (2017). Teacher autonomy and collaboration: A paradox? Conceptualising and measuring teachers' autonomy and collaborative attitude. *Teaching and Teacher Education*. 67, 302–315. <https://doi.org/10.1016/j.tate.2017.06.021>
- Varatharaj, R., Abdullah, A. G. K. and Ismail, A. (2015). The effect of teacher autonomy on assessment practices among Malaysian cluster school teachers. *International Journal of Asian Social Science*. 5 (1), 31–36.
- Vieira, F. (1997). Teacher development for learner autonomy: Ideas from an in-service teacher training project. *English Language Teaching News*. 33, 61–67. <https://doi.org/10.1080/17501229.2016.1235171>
- Vujisić Živković, N. i Vranješević, J. (2019). Konceptualizacija i istraživanje profesionalnog razvoja nastavnika. *Inovacije u nastavi*. 32 (3), 13–23.
- *Zakon o osnovama sistema obrazovanja i vaspitanja* (2020). Službeni glasnik Republike Srbije, br. 6.
- Živković, P. (2012). *Profesionalni identitet nastavnika i samoprocena kvaliteta rada [Teacher professional identity and self-assessment of work quality]*. Jagodina: Filozofski fakultet.

Борка Д. Малчић,

Станислава Д. Марић Јуришин,

Наташа Д. Танчић

Универзитет у Новом Саду, Филозофски факултет,

Нови Сад, Србија

ФАКТОРСКА СТРУКТУРА СКАЛЕ НАСТАВНИЧКЕ АУТОНОМИЈЕ

Циљ сироведеног истраживања био је провера психометријских карактеристика, утврђивање факторске структуре инструмента Скала наставничке аутономије (енгл. Teaching Autonomy Scale-TAS) (Pearson and Hall, 1993) и представљање значаја добијених резултата за даље коришћење ове скале у Србији, са тенденцијом унапређења професионалног развоја наставника. Наставничка аутономија обухвата (само)активност наставника, право и могућност напрезимање одговорности за социјалне изборе и одлуке, а затим и прихватање последица које из тих одлука проистичу. Аутономан наставник је онај наставник који се, остварујући своје улоге, осећа добро, док се доживљај компетентности и самосталног креирања васпитно-образовног рада одражава на његова постојећа и виши квалитети рада у школи. Сходно томе, наставничка аутономија представља једну од базичних компетенција наставника данашњице и све чешће се налази у фокусу бројних педагошких истраживања. Како се модел организације школства мења, од наставника се очекује да се константно прилађавају променама, што учите на перцепцију њихове аутономије и доживљаја одговорности за успех ученика. У том светлу, значајно је било испитивати конструктивну наставничку аутономију на узорку наставника у Србији и утврдити факторску структуру скале која ће након валидирања бити примењива и у будућим истраживањима наставничке аутономије у различитим образовним контекстима у Србији. На основу наведеног циља истраживања оштри хипотеза била је да представљамо да ће се у факторској структури скале наставничке аутономије издвојити два фактора аутономије (оштри наставничка аутономија и аутономија наставника у односу на курикулум). Узорак истраживања чинило је 310 наставника првог и другог циклуса основног образовања, из 16 основних школа на територији Новог Сада. Истраживање је сироведено путем учитељника, у писаној форми, анонимно и добровољно, током 2020. године. У истраживању су коришћене технике скалирања и анкеирања. Инструмент је био комбинован и састојао се из два дела. Сврха уводног дела инструмента била је прикупљање података о личним карактеристикама испитаника, док је други део инструмента представљао Скала наставничке аутономије (Pearson and Hall, 1993). Скала обухвата 18 ставки, које су подељене у четири категорије: избор активности и материјала; стандарди понашања у учионици; планирање и редослед наставе; лично доношење одлука на послу. Прва и трећа категорија спадају у фактор аутономије курикулума, док друга и четврта категорија спадају у фактор оштрие аутономије наставе. Резултати истраживања били су следећи: применом Хорнове паралелне анализе првобитно су екстрахована три фактора, али због ниске поузданости треће скале, предложена је уопште скраћена верзија инструмента, са два фактора и 10 ставки. Први фактор представља наставничку аутономију у односу на

курукулум и одухваћа категорије: коришћење социјвених смерница и постојака у наставаи, самосталан избор наставног материјала и садржаја и аутономно дефинисање циљева и задатака у наставаи. Други фактор је оштра наставничка аутономија која одухваћа слободу наставника у доношењу одлука у учионици. С обзиром на то да самовалуација и наставничка аутономија доприносе унапређењу професионалног и личног аспекта живота и рада наставника, у будућности би било значајно, уважавајући предложени модел школе, проценили структуру фактора на различитим и већим узорцима наставника који своју васпитно-образовну праксу реализују у разноликим културним и образовним контекстима и на различитим нивоима образовања. Налази добијени у овој студији могу бити значајни за све актере образовног система, наставнике, директоре али и креаторе образовних политика. Превасходно њима се експлицитно указује на значај унапређења квалитета рада школе посредством примене овог уједињеног на новим структурама узрака у Србији. Ово би несумњиво представљало значајан корак ка извесним променама када је реч о сагледавању важности и уважавању њих наставника приликом креирања курикулума и организације васпитно-образовног рада у школама.

Кључне речи: наставничка аутономија, психометријске карактеристике, основна школа, Србија