TEACHER SELF-EFFICACY: DIFFERENCES BASED ON WORKPLACE AND WORK EXPERIENCE

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The purpose of this research was to explore to what extent primary school teachers are aware of their self-efficacy, to determine if there are differences in the perceptions of self-efficacy between classroom teachers and subject teachers, and to determine the significance of the years of work experience. The research was carried out on a sample consisting of 761 teachers working in primary schools in the Republic of Croatia. In the first part of the survey, data on the basic sociodemographic characteristics of the participants were collected, while the second part of the survey was designed to collect data on the perceived teacher self-efficacy, using the shortened version of *The Teacher Sense of Teacher Efficacy Scale* (Tschannen-Moran & Woolfolk Hoy, 2001). The obtained results indicate statistically significant differences in teacher self-efficacy related to their workplace, while statistically significant differences in terms of work experience were not found.

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SAMOUČINKOVITOST UČITELJEV: RAZLIKE GLEDE NA DELOVNO MESTO IN DELOVNE IZKUŠNJE

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Z raziskavo smo želeli preveriti, v kolikšni meri osnovnošolski učitelji zaznavajo lastno samoučinkovitost in ali obstajajo razlike v zaznavi samoučinkovitosti med razrednimi in predmetnimi učitelji, torej glede na leta delovnih izkušenj. V raziskavi je sodelovalo 761 učiteljev, zaposlenih v osnovnih šolah v Republiki Hrvaški. V prvem delu vprašalnika so bili zbrani podatki o osnovnih socio-demografskih značilnostih udeležencev, v drugem delu pa podatki o zaznani samoučinkovitosti učiteljev s pomočjo lestvice *Teacher sense of teacher efficacy scale* (Tschannen-Moran & Woolfolk Hoy, 2001). Pridobljeni rezultati kažejo, da obstajajo statistično značilne razlike v samoučinkovitosti učiteljev glede na delovno mesto, medtem ko statistično značilne razlike glede na delovne izkušnje niso ugotovljene

1 Introduction

Self-efficacy is a concept developed by Albert Bandura within his Social Cognitive Theory (Bandura, 1986). Bandura (1977; 1997) defined self-efficacy as a person's belief in their own abilities of organizing and carrying out certain activities and procedures necessary to achieve the set goals. An individual's belief in their self-efficacy influences and regulates their thoughts, feelings and behaviour, and have an impact on their motivation. There are four factors which account for an individual's belief in their self-efficacy: mastery experiences (a person's memories of success in similar tasks in the past), vicarious experiences (listening to/observing other people's achievements), verbal persuasion (assessment or feedback received from other people), and physiological and affective states (interpreting information received through one's own senses). A high level of an individual's beliefs in their self-efficacy helps them face the challenges and remain committed to their goals, while a low level has the opposite effect, i.e., it encourages avoidance and negative feelings which can have a detrimental effect not only on their performance, but also on their well-being (Waddington, 2023). Bandura (2006) pointed out that self-efficacy can be seen as a multidimensional construct and the most important mechanism of human activity, as it provides us with an opportunity to have a direct impact on someone's functioning and living circumstances. Apart from that, one's beliefs in their self-efficacy might be taken as a significant predictor of a person's behaviour (Bandura, 1997).

1.1 Teacher self-efficacy

The significance and impact of self-efficacy as a concept have been frequent research topics in almost all areas of human work and activity, including the teaching profession. Numerous factors contribute to the quality of education, but the teachers have the crucial role (Raymond and Gabriel, 2023). In research carried out on the impact of teachers on students' studying and learning process, more focus has been put on teachers' beliefs in their own competencies and self-efficiency (Hassan and Akbar, 2019; Lauermann and ten Hagen, 2021; Shahzad and Naureen, 2017; Zee and Koomen, 2016).

Teacher self-efficacy can be defined as teachers' beliefs in their own ability to provide learning support in various cognitive, affective, and social ways, depending on the set task and context (Wyatt, 2010). Dellinger et al. (2008) describe self-efficacy

as an individual belief of a teacher in his/her ability to teach successfully in a particular situation. Chesnut and Cullen (2014) believe that teacher self-efficacy reflects teachers' belief in how much they are able to achieve specific teaching goals. Teachers who have a high level of self-efficacy also tend to have a positive attitude to various situations, potential difficulties, challenges, and problems. They are able to keep their emotions under control, which results in high achievements (Shahzad and Naureen, 2017). Such teachers are more organized and more skilful at giving instructions, asking questions and explaining the teaching material. They are also better at solving academic problems. The strategies they employ help them minimize the negative impacts and create the classroom environment which cultivates warm interpersonal relationships and academic work (Ashton and Webb, 1986). Schwarzer and Hallum (2008) point out that teachers with a high level of self-efficacy invest a lot of effort in improving their students' achievements, set high and challenging goals for themselves and work hard to achieve them.

Numerous and diverse instruments are used to measure teacher self-efficacy, which proves the fact that it is a complex concept (Morris et al., 2017). Researchers tend to analyse teacher self-efficacy from various angles, taking into consideration its various dimensions. Perera et al. (2019) state that teacher self-efficacy on the one hand includes self-perception of personal teaching competencies, while on the other hand it includes judgment about the teaching demands specific to a certain domain and judgment about external limitations and resources. In an attempt to draw attention to numerous aspects from which teacher self-efficacy can be considered, Schwarzer and Hallum (2008) emphasize a range of teaching tasks and situations in the classroom, such as: job accomplishment, skill development on the job, social interaction with students, parents and colleagues and coping with job stress. Bandura (1997) pointed out that teacher self-efficacy encompasses several different tasks which he has to carry out in the classroom: efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate. Skaalvik and Skaalvik (2007) believe that teacher self-efficacy comprises several elements, listing the following: self-efficacy in teaching, adjustment of the teaching process to the specific student needs, motivating students, maintaining discipline, cooperation with colleagues and parents, and adapting to changes successfully. Tschannen-Moran and Hoy (2001)

view teacher self-efficacy through three dimensions: efficacy to engage students, efficacy to use various instructional strategies and efficacy to lead the class.

Teacher self-efficacy results in numerous benefits, both for students and for teachers. According to research results, teacher self-efficacy is related to good classroom environment and successful classroom management strategies (Künsting et al., 2016). Furthermore, research indicates a positive relationship between teacher self-efficacy and the quality of the classroom instruction (Klassen and Tze, 2014). There is a greater likelihood that teachers with a higher level of self-efficacy will introduce innovative approaches into their teaching process (Rimm-Kaufman and Sawyer, 2004). Teacher self-efficacy has a great impact on student motivation and their academic achievements (Lauermann and Butler, 2021; Mojavezi and Tamiz, 2012; Shahzad and Naureen, 2017; Zee & Koomen, 2016). Teachers' beliefs in their self-efficacy are positively related to their well-being (Betoret, 2006), job satisfaction (Collie et al., 2012) and emotional intelligence (Moafian & Ghanizadeh, 2009). Teachers with a higher level of self-efficacy have a lower level of burnout (Skaalvik and Skaalvik, 2010), are more committed to their work (Klassen and Chiu, 2011) and are less likely to leave the teaching profession (Brouwers and Tomic, 2000). The grade level in which the teachers implement the teaching process and years of their work experience are some of the contextual factors which are significant social cognitive teacher beliefs about their job (Klassen and Chiu, 2010).

1.1.1 Research aim

The aim of this research was to examine how primary school teachers perceive their self-efficacy and whether there are differences in self-efficacy perceptions between classroom teachers and subject teachers, in terms of the years of work experience in the teaching profession.

1.1.2 Problem and hypotheses

Research problems and hypotheses were formed, in line with the research goals.

1. Examine if there are statistically significant differences in self-efficacy perceptions between classroom teachers and subject teachers.

H1. There is no statistically significant difference in self-efficacy perceptions between classroom teachers and subject teachers.

2. Examine if there are statistically significant differences in self-efficacy between teachers in terms of the years of work experience in the teaching profession.

H2. Teachers with more work experience exhibit a higher level of self-efficacy than teachers with less than 10 years of work experience.

2 Method

2.1 Participants

Table 1: Overview of sociodemographic characteristics of the sample (*N* = 761)

		N	%
Workplace	Classroom teaching	268	35.2 %
	Subject teaching	493	64.8 %
Education level	College	78	10.2 %
	Higher education	664	87.3 %
	MA/PhD degree	19	2.5 %
Work experience	0 – 10 years	250	32.9 %
	11 – 20 years	274	36.0 %
	21 – 30 years	167	21.9 %
	≥ 31 years	70	9.2 %

The research was carried out on a sample consisting of 767 participants, i.e., teachers employed in primary schools in the Republic of Croatia. Primary school is mandatory in the Republic of Croatia, and it lasts for 8 years. The education process in primary school is divided into two cycles – the first cycle lasts four years (grades 1- 4) and the teaching process is carried out by classroom teachers, while the second cycle also lasts four years (grades 5 – 8), but the teaching process is carried out by subject teachers (The Primary and Secondary School Education Act, 2022). Before processing the obtained data, deviations were checked. Univariate outlier detection resulted in the removal of two participants, while the analysis of Mahanalobis distance resulted in the removal of 4 additional participants, thus reducing the sample of participants to 761. The average age of the participants was 42.7 years (*SD* = 9.4), while the average number of the years of work experience was 16.4 years (*SD*

= 9.7). A detailed overview of the demographic characteristics of the sample can be seen in Table 1.

2.2 Procedure

Research was conducted online. The link to the questionnaire was shared in various teachers' groups on social media. In the introductory part of the questionnaire, the participants were informed about the research aim, the anonymity of the collected data and other ethical principles.

2.3 Research instruments

In the first part of the questionnaire, the data on the basic sociodemographic characteristics (gender, age, the county in which the respondents were employed, education level, years of work experience, and workplace) were collected, while in the second part of the questionnaire the data on the perceived teacher self-efficacy were collected.

A shortened version of *The Teacher Sense of Teacher Efficacy Scale* (Tschannen-Moran & Woolfolk Hoy, 2001) was used to measure teacher self-efficacy. A written permission of the authors was obtained for the use of this scale. The original version of the scale contains 12 items which measure three self-efficacy dimensions: efficacy in student engagement (e.g. *How much can you do to motivate students who show low interest in schoolwork?*), efficacy in instructional strategies (e.g. *To what extent can you provide an alternative explanation or example when students are confused?*), and efficacy in classroom management (e.g. *How much can you do to control disruptive behavior in the classroom?*). The respondents provided answers to the questions using a 5-point scale (from *1 – nothing* to *5 – A great deal*). Exploratory factory analysis was performed using the Principal components method with orthogonal (varimax) rotation (KMO = .897; Bartllet's test of sphericity $\chi^2 df66 = 3980.370$; $p = .000$). A two-factor structure was obtained, explaining 57.38% of the self-efficacy variance. The first factor, which includes the items efficacy in student engagement and efficacy in instructional strategies, has a Cronbach α scale reliability coefficient $\alpha = .848$, while the Cronbach α scale reliability coefficient of the second factor, efficacy in classroom management, is $\alpha = .872$.

3 Results

Table 2 contains the basic descriptive parameters of the examined variables before the analyses necessary to obtain the answers to the tasks set in the research were performed. The Kolmogorov-Smirnov test of normality distribution showed that result distributions in all measurements deviate from the normal value. However, as the values of skewness index and kurtosis are not considered extreme according to the criteria listed by Kline (2011), the application of parametric statistics can be considered justified.

Table 2: Descriptive statistics (N = 761)

	M	*SD*	Skewness	Kurtosis	Min.	Max.
Teacher self–efficacy	4.20	0.41	–0.040	–0.044	2.92	5.00
Efficacy in classroom management	4.26	0.52	–0.239	–0.200	2.50	5.00
Efficacy in student engagement and instructional strategies	4.16	0.44	–0.005	–0.227	2.75	5.00

In order to carry out the first research task and to determine possible differences in the self-efficacy perceptions between teachers in terms of their workplace, a *t-test* was performed. The obtained results are presented in Table 3, and they indicate statistically significant differences in the overall teacher self-efficacy and self-efficacy in engagement and instructional strategies in the group consisting of classroom teachers. However, the calculated Cohen's d index values show that these differences have a low size effect.

Table 3: Differences in perceptions between classroom teachers and subject teachers (N = 761)

	RN (n_{CT}= 268)			PN (n_{ST} = 493)		*t-test*	*p*	*Cohen's d*
	M	*SD*		*M*	*SD*			
Teacher self–efficacy	4.26	0.43		4.16	0.40	3.333	0.001*	–0.250
Efficacy in classroom management	4.27	0.51		4.26	0.52	0.377	0.707	–0.029
Efficacy in student engagement and instructional strategies	4.26	0.46		4.11	0.42	4.486	0.001*	–0.337

Note. *$p < .01$

The first hypothesis suggested no statistically significant differences in self-efficacy perceptions between classroom teachers and subject teachers. As statistically significant differences ($t(759) = 3{,}333$; $p = .001$) in teacher self-efficacy in terms of workplace (classroom teachers or subject teachers) were found, the hypothesis was refuted.

In order to determine differences in self-efficacy perceptions in terms of the years of work experience, a univariate variance analysis ANOVA was performed (Table 4). The participant sample was divided into four groups: ≤ 10 years of work experience ($n = 250$), 11 – 20 years of work experience ($n = 274$), 21 – 30 years of work experience ($n = 167$) and more than 31 years of work experience ($n = 70$).

Table 4: Differences in the perceptions of self-efficacy – the results of variance analysis

	Work experience						
	≤ 10	11-20	21-30	≥ 30	*F* (3, 757)	*p*	η_p^2
Variable	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)			
Teacher self–efficacy	4,16 (0.39)	4.17 (0.40)	4.26 (0.41)	4.30 (0.47)	3.746	.011	0.015
Efficacy in classroom management	4.20 (0.20)	4.26 (0.52)	4.34 (0.48)	4.28 (0.57)	2.267	.079	0.009
Efficacy in student engagement and instructional strategies	4,14 (0.44)	4.12 (0.43)	4.22 (0.44)	4.30 (0.46)	4.553	.004	0.018

Note. $*p < .05$; $**p < .01$

To avoid a risk of Type I error due to a range of ANOVA tests, the Bonferroni correction was used. It was determined that p value of at least .008 for 5% risk and .002 for 1% risk is considered significant. The results presented in Table 4 indicate that there are no statistically significant differences between the groups of participants.

According to the second hypothesis, the teachers with more years of work experience show greater self-efficacy than teachers with less than 10 years of work experience. As no statistically significant differences were found between the groups of participants, this hypothesis was refuted.

4 Discussion

The purpose of the study was to explore how primary school teachers perceive their own self-efficacy and whether there are differences in the perceived self-efficacy between classroom teachers and subject teachers in terms of the years of work experience in the teaching profession. In this research, teachers gave a relatively high assessment of their own self-efficacy levels (M = 4.20, SD = 0.41). It has a great importance for instruction, as teachers have reported numerous positive effects of self-efficacy on their work: they believe they have better competencies for working with gifted students and those with developmental difficulties; they are more tolerant of students exhibiting undesirable behaviours; they recognize and accept students' opinions and emotions; they create learning situations in which all students feel well; they use the teaching time more efficiently, etc. (Alibakhshi et al., 2020). Teacher self-efficacy is also reflected in instructional methods and strategies application, in creating encouraging environment for students, and in managing challenging situations in the classroom (Beaman & Wheldall, 2000; Tschannen-Moran & Hoy, 2007). Teacher self-efficacy undoubtedly has a great significance, and this research has highlighted the differences in self-efficacy in terms of workplace and work experience in the teaching profession.

4.1 Teacher self-efficacy and workplace

Regarding the first problem, a difference was found in the perceptions of self-efficacy between the classroom teachers and subject teachers, where classroom teachers seem to have better results. Work performed by classroom teachers and by subject teachers has a lot of specific features. Classroom teachers spend several hours per day with their students, from the day they start school to the day they finish the fourth grade. In that way, the teachers have an opportunity to get to know their students and students' parents well, to create a positive classroom climate, and to establish collaborative and supportive relationships in the class. During this period of four years, students also have an opportunity to connect well with their teacher. The way in which instruction is implemented in subject teaching, where several teachers take turns in teaching the same class in one day, does not provide opportunities for teachers and students to create quality social relationships. Apart from that, students in grades from 5 to 8 are aged between 11 and 15 years, which means they have entered the adolescent age, when they oppose to authority in

general (teachers being one type of authority). Classroom teachers might have given higher assessment of their self-efficacy level because they work with younger students, who tend to have better academic achievements and are more motivated. It aids teachers in creating a positive classroom climate and helps them reduce the number of challenges and problems. As students' opinions were not collected, this remains only an assumption which should be explored in the future research. Apart from that, classroom teachers take more courses in pedagogy, didactics, psychology and methodology during their studies than subject teachers. The knowledge they have gained in these courses is a good foundation for their professional work and could account for their greater beliefs in their self-efficacy.

The results obtained in the research are in line with the results of other similar studies. Based on the meta-analysis conducted on 165 papers published throughout 40 years of research into self-efficacy, Zee and Koomen (2016) claim that teacher self-efficacy is more significant for primary school students than for secondary school students, as they spend relatively more time with one teacher than students in secondary school. Therefore, teacher self-efficacy does not have as much impact on older students. Fives and Buehl (2009) also carried out research ($N = 372$) in which they found that teachers who work in primary school tend to report significantly higher levels of self-efficacy than teachers who work in secondary schools. Classroom teachers have reported a greater level of self-efficacy in classroom management and student engagement, in comparison with subject teachers (Klassen and Chiu, 2010; Wolters and Daugherty, 2007).

4.2 Teacher self-efficacy and work experience

Our research results indicate that teachers perceive a greater level of their own self-efficacy as their work experience increases, but the differences are not statistically significant. In terms of dimensions, efficacy in classroom management increases as work experience increases, but teachers with more than 30 years of work experience perceive themselves as less self-efficient than teachers with 21 to 30 years of work experience. The obtained results could be ascribed to fatigue before retirement. As far as self-efficacy in teaching engagement and strategies is concerned, the results generally suggest that teachers with up to 20 years of work experience perceive themselves as less self-efficient than teachers with more than 20 years of work experience. These findings might suggest that in order for teachers to feel they have

all the necessary didactic and methodological competences and confidence in the quality of their own work, they need to spend a longer amount of time working in the teaching profession. Although differences in dimensions were determined between the groups of participants in terms of the years of work experience, they are not statistically significant. In spite of that, the determined differences might be taken only as assumptions, so additional research is necessary to gain a deeper insight.

Previous research has not yielded consistent results about differences in teachers' perceptions of their own self-efficacy at various stages of their work experience. Research results obtained by Pas et al. (2012) show that work experience does not have any impact on teacher self-efficacy. On the contrary, a large portion of research has shown that there are differences in teachers' perceptions of their own self-efficacy in terms of the years of work experience. According to research results, teacher self-efficacy is influenced by age and work experience, so older and more experienced teachers had higher assessments of their own self-efficacy level (Chester and Beaudin, 1996; Fackler and Malmberg, 2016; Fives and Buehl, 2009; Woolfolk Hoy & Spero, 2005; Wolters and Daugherty, 2007). In research conducted in Canada (N = 1430), Klassen and Chiu (2010) found that teacher self-efficacy is influenced by long work experience in a nonlinear relationship, and that self-efficacy increases as work experience increases in early and middle stages of the teaching career, while it decreases in the late stage of the teaching career. Furthermore, in their research on teacher self-efficacy in instruction, student engagement and classroom management on a sample of teachers with more and less than 15 years of work experience, Gkolia et al. (2016) found that teachers with shorter work experience reported a lower level of self-efficacy in classroom management, while no differences were found in the other two dimensions.

5 Conclusions

A vast body of research supports the claim that self-efficacy and belief in self-efficacy are important for achievements in various domains of human activity, including education. Teacher self-efficacy depends on various psychosocial and contextual factors, and it is often related to many benefits for students and teachers. Teacher self-efficacy has direct and indirect consequences for various levels of classroom ecology (Zee and Koomen, 2016).

Research results have shown that teachers' perceptions of their own self-efficacy vary according to their workplace and years of work experience, where statistically significant differences were found in terms of workplace, while differences in terms of years of work experience do not have any statistical significance. Classroom teachers tend to perceive themselves as more self-efficient than subject teachers, which is in line with the results of previous body of research. In terms of work experience, the results indicate that teachers with up to 20 years of work experience give a lower assessment of their self-efficacy level than teachers with more than 20 years of work experience in the teaching profession.

This research might have practical implications for all teachers, especially subject teachers. Understanding the importance of self-efficacy in professional work is crucial to quality instruction implementation in which both students and teachers have achieved their maximum. Teacher study programmes should be modernized by introducing new courses that would promote teachers' beliefs in their own self-efficacy. In addition, it would be possible to strengthen the beliefs of students and teachers and advance their professional development using the model of reflective practice, even during studies and internship.

A limitation of this research is the usage of a self-assessment scale, so the obtained results rely on the subjective perceptions of the research participants. The applied quantitative approach might be insufficient for research on the self-efficacy phenomenon. In order to analyse its multi-layered structure, an interpretative research paradigm should be applied, so further research in this direction would be recommended. Future research should take into account additional variables, such as education level, gender, promotion of teachers to higher ranks and participation in various forms of continuous professional development.

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