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Predictive Power of Five-Factor Mentoring Model on Student Teachers' Teaching Self-Efficacy Beliefs

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Abstract: This study investigated student teachers' teaching self-efficacy level and factors that predict it (using five-factor mentoring model). Two hundred and ten third and fourth-year student teachers (N=100/N=110; 93.8% females) were involved in the study and asked to complete a self-report questionnaire. The "Mentoring for Effective Primary Teaching" instrument and "Teachers' Sense of Efficacy Scale" were used to collect the data. Findings indicated that higher levels of student teachers' self-efficacy are positively associated with the level of mentoring experience during the teaching practicum. The results found that fourth-year students reported significantly higher levels of teaching self-efficacy than third-year students. This study reported that there is a significant mean difference in student teachers' self-efficacy beliefs in terms of having parents in the teaching profession. A multiple regression found that mentor teachers' personal attributes are the best predictor of student teachers' teaching self-efficacy beliefs.

Keywords: Five-factor mentoring model, teaching self-efficacy, teaching practicum.

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Introduction

Teaching practice experiences are essential components of teacher preparation programs and the most important contributor to student teachers' perspective and professional growth (Berg & Smith, 2018; Bird & Hudson, 2015; Hendriwanto, 2020; John et al., 2021; Lejonberg et al., 2018). According to Beijaard et al. (2004), early teaching experiences before and during the initial teacher preparation program combined with personal beliefs can shape teachers' professional identity. Therefore, teacher preparation programs need to identify those mentor teachers' practices that can contribute to the quality of teaching practice experiences, which also have a profound impact and function on the upbringing of future teachers in the teaching profession (Barak & Wang, 2020; Hudson, 2010, 2013; Virtič et al., 2021). The design of successful practicum courses, well-structured field experience, and more research-based information about the roles and contributions of each contributor to the practicum experience is needed (Hojeij et al., 2021; Payant & Murphy, 2012). According to Barak and Wang (2020), mentor teachers that are involved in the mentoring program are granted with concrete functions to support student teachers' learning to teach, which calls for new conceptualizations of teacher mentoring approaches. Carver and Feiman-Nemser (2009) and Young et al. (2017) stated that mentoring is the preferred policy instrument in induction programs and has the capability of increasing beginning teachers' self-efficacy and mentors' expertise in identifying effective mentoring practices to foster students' professional skills, knowledge and expertise. Researchers have begun to investigate how future teachers and institutions benefit from mentoring in higher education as well as what kind of mentoring programs and policies are more effective (Fountain & Newcomer, 2016).

Berg and Smith (2018), Hudson et al. (2005), Yada et al. (2021) and Woolfolk Hoy (2008) all state that the development of student teachers' self-efficacy should start before they enter the teaching profession. While the body of research that investigates student teacher efficacy does not always present consistent results (Duffin et al., 2012), researchers emphasize a need for conducting more studies to determine the level of student teachers' and teachers' self-efficacy and

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to identify what elements of self-efficacy to promote during mentoring (Ayllón et al., 2019; Bjorklund et al., 2020; Clark & Newberry, 2019; Van Dinther et al., 2014).

Literature review

Teacher efficacy refers to “the teacher’s belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran et al., 1998, p. 233). According to Bandura’s theory of self-efficacy (1977), the first years of teaching contribute critically to the development of teacher efficacy. Bandura (1986) and Pajares (2002) state that distinct factors do not directly affect individual behavior. Indeed, these environmental factors initially influence other factors such as individual aspirations, personal standards, self-efficacy beliefs, emotional states, and other self-regulatory influences (Pajares, 2002). Teacher education programs play an important role in developing student teachers’ self-efficacy beliefs (Gomez Johnson et al., 2020; Pitkänieni & Martikainen, 2020). Teaching self-efficacy beliefs are considered as the “key motivational beliefs influencing professional behaviors” (George et al., 2018, p. 9). However, different styles of mentoring in teacher education can differentially influence pre-service teachers’ self-efficacy beliefs (Lejonberg et al., 2018). Mentoring is considered as a crucial factor that contributes to increasing students’ self-confidence and has a significant role in developing student teachers’ self-efficacy and teaching competences (Gomez Johnson et al., 2020; Hudson, 2004, 2014; Van Dinther et al., 2015). According to Hobson et al. (2009) and Nikoçeviq-Kurti (2021), teacher education programs should provide high-quality mentoring to ensure mentors will be able to be models of professionalism for future teachers. Gomez Johnson et al. (2020) emphasize the fact that student teachers who were mentored in how to plan lessons had a greater perception of their abilities to deal with a number of concerns related to lesson planning compared to those student teachers who have not been mentored. Studies have shown that student teachers who worked with trained mentors showed more instructional skills and were able to create more interactive lessons through offering clear instructions aligned with students’ domain-specific knowledge (König et al., 2020; Mok & Staub, 2021). Furthermore, according to Lejonberg et al. (2018), pre-service teachers are more prone to reflect on their own practice and beliefs about learning and teaching if they are provided with reflection-based mentoring. Birisci and Kul (2019) raised the issue of the importance of mentoring practices in gaining technology integration self-efficacy beliefs in real classroom environments. Furthermore, Hudson (2010) emphasized that mentors are required to play their roles correctly by showing attributes and professional teaching that will help the development of capable future teachers.

Different researches were driven by an interest in finding out if the demographic variables have significant differences on student teachers’ self-efficacy beliefs. However, it should be noted that empirical research that studies the relationship of teachers’ demographic variables such as age, gender, place of residence on efficacy beliefs are not numerous. There are several studies indicating some significant differences by gender (see Çapri & Çelikkaleli, 2008; Er, 2020; Lesh, 2017) and age (see Alwaleedi, 2017; Robinson & Edwards, 2012; Shaukat & Siddiquah, 2013; Tucker, 2017). There is a lack of studies that have examined the correlation between the place of residence and the level of student teachers’ self-efficacy in teaching. Having parents/relatives in the teaching profession was shown to have some influence on student teachers’ self-efficacy (Beltman & Wosnitza, 2008; Yada et al., 2021) and, that is why it is included in this research model.

Some studies suggest that the self-efficacy of student teachers tends to increase during teachers’ education programs (Brown et al., 2015; Ma et al., 2021, 2022; Woolfolk Hoy, 2008). A longitudinal study conducted by Ma et al. (2022) on teacher self-efficacy using the Teachers’ Sense of Efficacy (TSE) Scale investigated changes in student teachers’ teaching self-efficacy beliefs over the final 2 years of an Australian initial teacher education program. Results showed that their self-efficacy increased significantly during the last teaching practicum. Different researches showed that student teachers had increased levels of teacher self-efficacy due to the supportive environment (Chizhik et al., 2018; Craig, 2021; Deane et al., 2022), trust and communication with the mentor teacher (Hagenauer et al., 2021; Schuller & Saleh, 2020), mentoring practices on inclusion (Alsarawi & Sukonthaman, 2021), and mentors’ guidance, motivation and feedback (Farhadiba & Nunuk Wulyani, 2020; Juuti et al., 2018; Omari et al., 2020). According to Hudson (2004), the five key factors for effective mentorship are personal attributes, system requirements, pedagogical knowledge, modeling, and feedback. Hudson (2004) points out that the five-factor model for specific mentoring may assist the development of student’s teacher primary teaching, but the ultimate goal should be the development of student’s pedagogical self-efficacy, and consequently, autonomy in teaching practice. According to Cartwright (2008), Li et al. (2021) and Turpeinen (2018) mentor teachers who use these five factors during their work with student teachers have a positive impact on the initial success of the student teachers. In a study by Vásquez Carrosa et al. (2019), participating students said that the main factor in their mentoring was their mentors’ personal attributes. Even in cases of virtual mentoring, the mentors’ personal attributes have been evaluated by the students as the most important (Turpeinen, 2018). A study by Nikoçeviq-Kurti and Saqipi (2020) highlighted the impact of a mentoring culture in which mentor teachers do not seem to consider providing feedback as part of the duty. Research shows that specific evidence-based practices, multiple field experiences and lesson-related mastery experiences are the best contributors to self-efficacy (Rupp & Becker, 2020; Sciuchetti & Yssel, 2019).

Problem Statement

Initial teacher preparation programs need to identify those mentoring practices that contribute to the quality of student teaching experiences, with a basic orientation of school procedures, norms, and expectations to promote student teachers' personal and professional development, improvement of teaching self-efficacy, and transmit the culture of teaching (Carver & Feiman-Nemser, 2009; Poulou et al., 2019).

This study aims to explore Kosovar student teachers' self-efficacy in relation to their mentoring experiences after their final teaching practicum. The purpose of this study is to assess the level of student teachers' mentoring experiences (based on a five-factor mentoring model) and their level of teaching self-efficacy beliefs. Also, this study aims to identify factors that better predict teaching self-efficacy beliefs. In addition, the study explores the relationship between student teachers' self-efficacy in teaching and background variables (age, gender, place of residence, parents/relatives in the teaching profession).

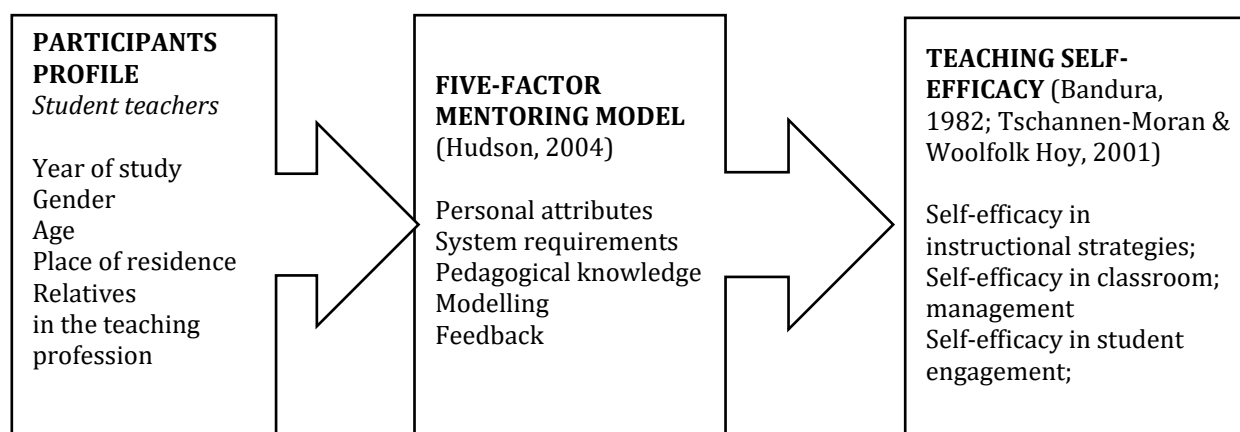


Figure 1. Conceptual Framework

Furthermore, several studies indicate differences in student teachers' level of self-efficacy related to their year of study (Kass & Miller, 2015; Swan et al., 2011), therefore the differences in level of self-efficacy between 3rd and 4th year student teachers will be examined. The conceptual framework of this study (see Figure 1.) is based on *Five-Factor Mentoring Model* (Hudson, 2004) and *Self-Efficacy Theory* (Bandura, 1982; Tschannen-Moran & Woolfolk Hoy, 2001).

The hypothesis that guided this study are:

- H1: There are significant differences in the level of student teachers' teaching self-efficacy beliefs in relation to demographic variables (gender, age, place of residence).
- H2: There is a statistically significant difference in the level of teaching self-efficacy beliefs experienced by student teachers in relation to year of study.
- H3: There is a statistically significant difference in the level of teaching self-efficacy beliefs experienced by student teachers in relation to having relatives in the teaching profession.
- H4: There is a significant relationship between student teachers' school placement mentoring experiences and their level of teaching self-efficacy beliefs.
- H5: Five factors for effective mentoring statistically significantly predict the level of student teachers' self-efficacy beliefs.

Context of the Study

This article describes the situation of teacher education in Kosovo, about which there is not much information. Teacher education in Kosovo has shown significant improvements since the period after the war (1999) both in policies and performance practices in general. The duration of studies to prepare teachers of primary education is four years, at least 240 ECTS, of which 25 ECTS are for teaching practicum. The teaching practicum is an integral part of the Teacher Education Program at the Faculty of Education of University of Prishtina. Handbook for Teaching Practicum (Faculty of Education, University of Prishtina, 2004) produced by this faculty outlines mentors' and students' roles and responsibilities for facilitating student teachers' in-school experiences. The teaching practicum starts in the second year of study, with four weeks of practice (24 hours) by observing and helping the teacher in the examination of pupils' homework and classroom management during activities and ends with an eight-week-long practice in the fourth year of study where students learn and practice teaching in the classroom. The student teachers' teaching practicum remains a major challenge for the Faculty of Education in terms of proper supervision of students during practicum and mentoring by trained mentors. According to Gjelij et al. (2020), to ensure quality of student teaching experience in Kosovar schools,

mentoring is acknowledged as an important reform focus. Their study confirmed that the reflections of teacher educators in the last years have indicated lack of quality mentoring practices in schools. It should be noted that there are no studies in Kosovo that investigated the construct of self-efficacy beliefs.

Methodology

Research Design

This study used quantitative research design. The researcher chose a quantitative study to analyze numerical data of the level of student teachers' teaching self-efficacy beliefs in relation to their socio-demographic data and mentoring experiences during last teaching practicum. Quantitative research is the basic tool to form empirical relationships, to interpret the observational data, and to understand the perceptions and attitudes of study subjects (Creswell, 2012; Stockemer, 2019). This correlational study used non-experimental research methods to understand the linear relationship/association between two variables determined by statistical analysis.

Sample and Data Collection

The sample of this study was 210 student teachers in their 3rd and 4th year of study. Since the population is around 500, the formula for sample calculation is used. The confidence level was fixed at 95 percent and the acceptable margin of error was considered at 5 percent. Therefore, out of 218 respondents, 210 questionnaires are validated and considered for analysis. Table 1 summarizes participants' demographic characteristics. Of the respondents, 110 (52.4%) were third-year students while 100 (47.6%) were fourth-year students. Most of the participants were female (93.8%) and the majority of the sample was 18-22 years old (70.5%). Of 210 respondents, 51.9% of them live in a rural area, while 48.1% in an urban area. 44.3 % of respondents have relatives in the teaching profession. Participants were recruited with the collaboration of the faculty. The researcher wasn't in any relationship with participants. The survey is conducted in-person with third-year students, while the questionnaire is distributed online to fourth-year students due to COVID-19 pandemic. Respondents have fulfilled the questionnaire after they have finished their last teaching practicum.

Table 1. Socio-Demographic Characteristics of the Respondents

No	Demographic Characteristics	Student Teachers	
		n	%
Year of Study			
1.	3 rd	110	52.4
	4 th	100	47.6
Gender			
2.	Female	197	93.8
	Male	13	6.2
Age			
3.	18-22	148	70.5
	23-26	47	22.4
	>27	15	7.1
Place of Residence			
4.	Urban	101	48.1
	Rural	109	51.9
Relative in Teaching Profession			
5.	Parents	45	21.4
	Brother/Sister	38	18.1
	None	96	45.7
	Other	31	14.8

The students were initially informed about the objective of the study and that the survey would be conducted with an anonymous self-report questionnaire. Student teachers participated in the study voluntarily and signed the consent form. The instrument constructed for this study consisted of two standardized questionnaires: Mentoring for Effective Primary Science Teaching (MEPST) instrument (Hudson et al., 2005) and Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). Background variables were included in which the participants reported their age, gender, place of residence (urban /rural), year of study, and relatives in the teaching profession. Both questionnaires are adopted for this study from the original version and translated in the Albanian language. Before the administration of the questionnaires, a pilot test with 40 student teachers was conducted to examine the clarity, validity, and reliability of the questionnaire. It used the internal pilot survey according to the organization where the respondents in the pilot are considered as the first participants in the main survey. After obtaining and analyzing the results of the pilot survey, technical issues were addressed.

Responses to Mentoring for Effective Teaching instrument 34-items are on a five-point Likert scale (strongly disagree=1, disagree=2, uncertain=3, agree=4, strongly agree=5). Reliability Internal Consistency Cronbach's alpha coefficients for MEPST was acceptable for each factor with an average value of .840 (see Table 2).

Table 2. Reliability Test (Cronbach's Alpha)

Group of questions	Number of variables	Cronbach's Alpha
Personal attributes	6	0.895
System requirements	3	0.698
Modelling	8	0.890
Pedagogical knowledge	11	0.922
Feedback	6	0.796
MEPST	34	0.840
Self-efficacy in student engagement	8	0.848
Self-efficacy in instructional strategies	8	0.916
Self-efficacy in classroom management	8	0.895
TSE	24	0.903
Average		0.871

Student teachers' self-efficacy in teaching is measured with the Teacher Sense of Efficiency Scale-long form (Tschannen-Moran, M., & Woolfolk Hoy, A., 2001). The 24-item test is a nine-point Likert-type scale (1-Nothing; 3-Very Little; 5-Some Influence; 7-Quite a Bit; and 9-A Great Deal). The Cronbach's alpha coefficient equals .903 in total for three domains of TSE. The Cronbach's Alfa for this survey questionnaire was .871, which indicates that a level of internal consistency for this scale is high. Before the administration of the questionnaires, a pilot test with 40 student teachers was conducted to examine the clarity, validity, and reliability of the questionnaire. After technical issues were addressed, the survey was conducted.

Analyzing of Data

The data management and analyses were performed using SPSS 16. To achieve the objectives of the study, several statistical analyzes were used such as: descriptive analysis, cross-tabulations, multiple correlation, and multiple regression. Since the data didn't show normal distribution, non-parametric tests were used to analyze the data. For the data analysis, Spearman's Rho correlation and a series of Mann Whitney-U test and Kruskal Wallis H tests (Non-parametric alternative of ANOVA) were utilized.

Results

Table 3 presents the results regarding the differences in the level of teaching self-efficacy beliefs experienced by student teachers in relation to demographic variables (age, gender, and place of residence). To explore whether there were significant differences between groups and level of teaching self-efficacy, the Mann Whitney-U test and the Kruskal-Wallis test was conducted. Results show that there are no significant differences between demographic variables and the level of student teachers' self-efficacy in teaching (see Table 2). No gender, age, and place of residence differences between groups were found in relation to the level of student teachers' teaching self-efficacy. Since the highest percentage of respondents were female (N=197, 93.8%) and the majority were aged 18-22 years (N = 148, 70.5%) the effect size has affected the variability to calculate gender and age differences. It can also be inferred that the hypothesis (H1) is rejected because a significant difference was not found between the answers of student teachers with respect to the demographic variables in terms of self-efficacy belief.

Table 3. Demographic Variables Differences in Terms of Student Teachers' Teaching Self-Efficacy Beliefs

Depended variable	Demographic variables	N	Mean Rank	Value	p	df	p
Teaching Self- efficacy Beliefs	Gender						
	Female	197	106.82	62.804	.943	82	.219
	Male	13	85.42				
	Age						
	18-22	148	100.37	1.930	.60	164	.74
	23-26	47	123.30				
	27+	15	100.37				
	Place of residence						
	Urban	101	111.79	94.589	.162	82	.149
	Rural	109	99.67				

Table 4 presents the results regarding the differences in the level of teaching self-efficacy beliefs experienced by student teachers in relation to the year of study. Findings show that there are statistically significant differences in the level of teaching self-efficacy beliefs between third-year and fourth-year students. The results found that fourth-year students reported significantly higher levels of teaching self-efficacy in all three subdomains than third-year students ($p < .001$). The interpretation of effect size is based on benchmarks suggested by Cohen (1988) referring to sizes as small ($d = 0.2$), medium ($d = 0.5$), and large ($d = 0.8$). The magnitudes of the effect sizes are between moderate and small. Results indicate that the hypothesis (H2) is confirmed, which means that fourth-year students have higher levels of teaching self-efficacy than third-year students.

Table 4. Differences in the Level of Student Teachers' Teaching Self-Efficacy Beliefs in Relation to Year of Study

Measure	3 rd year		4 th year		Rank	U	Z	p	Cohen's d
	M	SD	M	SD					
Self-efficacy in student engagement	7.29	.889	7.59	1.08	91.75 120.63	3987.0	-3.445	.000	.30
Self-efficacy in classroom management	7.13	.980	7.60	1.08	89.14 123.50	3700.0	-4.097	.000	.45
Self-efficacy in instructional strategies	7.44	.860	7.69	1.16	92.24 120.08	4041.0	-3.321	.001	.24

*** $p < .001$.

Table 5 presents the differences in the level of student teachers' teaching self-efficacy beliefs in relation to having relatives in the teaching profession. A Kruskal-Wallis H test showed that there was a statistically significant difference in teaching self-efficacy score between the different groups of independent variable, $\chi^2(2) = 18.738$, $p = 0.001$, with a highest rank score of 130.13 for group Parents. According to the results, students whose parents are in the teaching profession have a higher teaching self-efficacy than other students that have other relatives or none in the teaching profession, which means that students are influenced by the family model.

Table 5. Differences in the Level of Student Teachers' Teaching Self-Efficacy Beliefs in Relation to having Relatives in the Teaching Profession

Depended variable	Relatives in the teaching profession	N	Rank	$\chi^2(2)$	df	p
Teaching self- efficacy beliefs	Parents	45	130.13	18.738	3	.001
	Brother/Sister	38	125.16			
	None	96	90.54			
	Other	31	91.98			

The results of the hypothesis H3 testing (Table 4) confirm the existence of statistically significant differences between the levels of student teachers' teaching self-efficacy beliefs in relation to having relatives in the teaching profession.

Table 6 presents student teachers' perception regarding the level of mentoring experience after last teaching practice and the level of teaching self-efficacy beliefs. The findings show the high level of student teachers' mentoring experience ($M = 3.9$, $SD = 0.84$); student teachers showed great extent of mentoring on mentor teachers' personal attributes and modeling while lower extent of mentoring is offered for system requirements, pedagogical knowledge, and feedback. According to results, student teachers reported the lowest extent of feedback provision by the mentor teachers.

Table 6. Perception of Student Teachers on Level of Mentoring Experience and Self-Efficacy in Teaching

Description Statistics			
Variables	M	Mode	SD
Mentoring experience (Five-factor model)			
Personal attributes	4.1397	5.00	.86522
System requirement	3.8444	4.33	.91018
Pedagogical knowledge	3.9238	4.12	.83007
Modeling	4.0246	4.00	.75515
Feedback	3.6152	4.00	.84103
Mentoring experience (total)	3.9145	4.12	0.84033
Self-efficacy in teaching			
Self-efficacy in instructional strategies	7.5649	8.00	1.02298
Self-efficacy in student engagement	7.3582	8.00	1.05711
Self-efficacy in classroom management	7.4369	8.25	.99545
Self-efficacy (total)	7.4531	7.75	.97494

Most of the student teachers' responses regarding their level of teaching self-efficacy are in the highest three levels of the 9-point Likert Scale ($M=7.45$, $SD=.97$). Student teachers reported the highest level of self-efficacy in instructional strategies ($M=7.56$, $SD=1.02$) and the lowest level of self-efficacy in classroom management ($M=7.43$, $SD=.99$).

Table 7 presents the relationship between the student teachers' mentoring experience (five-factor mentoring model) and their self-efficacy beliefs. Results show a *weak* ($r=196^{**}$), *but statistically* significant ($p<0.01$) positive association between student teachers' mentoring experience in teaching practicum and their level of teaching self-efficacy. Results indicate that hypothesis H4 is confirmed.

Table 7. Relationship Between the Level of Student Teachers Mentoring Experience and Their Teaching Self-Efficacy Beliefs

		n	M	SD	r	p
Spearman's rho	Teaching self-efficacy beliefs	210	7.45	0.9749	196**	0.004
	Mentoring experience (five-factor model)	210	3.91	0.8403		

Multiple regression was run to predict the level of student teachers' teaching self-efficacy from five factors which are: mentors' attributes, system requirements, pedagogical knowledge, modeling, and feedback. Model summary (see Table 8) provides the R , R^2 , adjusted R^2 , and the standard error of the estimate.

Table 8. Model Summary and Standard Error of the Estimate

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.207 ^a	0.043	0.020	0.96536	0.043	1.834	5	204	0.108

a. Predictors: (Constant), Feedback, Modeling, System requirements, Attributes, Pedagogical Knowledge

b. Dependent Variable: Self-efficacy

A value of $R=0.760$, in this case, indicates a low level of prediction for all five factors. Findings show that the independent variables do not statistically significantly predict the dependent variable, $F(4, 204) = 1.834$, $p>.05$. Furthermore, each independent variable was tested for statistical significance. Table 9 shows the t-values and the corresponding p-values for each dependent variable. These data show that only the mentor teachers' personal attributes significantly predict the level of self-efficacy of students in teaching ($p=.038$), while other variables do not. Results indicate that the hypothesis (H5) was rejected.

Table 9. Factors That Predict the Level of Student Teachers' Teaching Self-Efficacy Beliefs

		<i>Coefficients^a</i>				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	p
1	(Constant)	6.579	0.369		17.810	.000
	Personal Attributes	0.359	0.172	0.319	2.087	.038
	System requirements	-0.076	0.143	-0.071	-0.531	.596
	Modelling	0.065	0.179	0.051	0.366	.715
	Pedagogical Knowledge	-0.201	0.240	-0.171	-0.837	.403
	Feedback	0.056	0.134	0.048	0.419	.676

a. Dependent Variable: Self-efficacy

Discussion

As results indicate, characteristics of gender, age, and place of residence were not found to be related to the teaching self-efficacy of the participating student teachers. These results were consistent with those of the earlier studies in other countries that find no significant differences amongst student teachers with regards to gender in both subscales and total scores of self-efficacy belief scale (Ellez, 2020; Pendergast et al., 2011; Sezgintürk & Sungur, 2020; Tschannen-Moran & Woolfolk Hoy, 2007) and no age differences in the level of student teachers' self-efficacy beliefs (Pendergast et al., 2011; Sarıçoban, 2015). Other studies on the relationship between student teachers' place of residence and teaching self-efficacy beliefs were not found. Almeida et al. (2016) found a difference in perceptions of computer self-efficacy for rural and urban teacher candidates, while Knoblauch and Chase (2015) found the impact of school settings (i.e., rural, suburban, and urban) on student teachers' self-efficacy beliefs. This study results found that fourth-year students have higher levels of teaching self-efficacy than third-year students. Even though the effect size values showed that the strength of the difference is weak, they do not suggest the findings are insignificant. These findings confirm that changes from the start of the program to the end of the student teaching practicum can significantly increase efficacy (see also Seng et al., 2020; Swan et al., 2011). The background variables also included contextual factors, specifically having parents, sister/brother, or others in the family as teachers. This study revealed that student teachers whose parents are in the teaching profession reported higher teaching self-efficacy beliefs. Yada et al. (2021) found that a significant predictor of student teachers' self-efficacy beliefs is the career choice affected by having relatives (other than parents) in the teaching profession. These results, as explained by Bandura (1997) and Yada et al. (2021) might be a consequence of experience gained indirectly from observing their parents as role models. Furthermore, according to Beltman and Wosnitza (2008), the immediate family (parents) had the strongest influence on the decision to become an education student. On the other hand, the differences can be caused by socio-economic status or differences in vocations (e.g., academic vs. non-academic) of student teacher's parents. These results need to be interpreted with caution, as there can be a possibility that the significant result was due to other reasons.

This study supports the conclusion that self-efficacy can be enhanced as a result of positive experiences in school-based settings. Results show that student teachers that had a positive mentoring experience increased their self-efficacy in the three sub-domains: classroom management, student engagement, and instructional strategies. Also, the student teachers with strong teachers' self-efficacy beliefs have better relationships with their mentors and therefore value their personal attributes. Results showed that mentor teachers' personal attributes were the strongest factor associated with student teachers' self-efficacy beliefs. Even though there are no other studies that prove that the mentors' personal attributes are the main determining factor of students' level of self-efficacy in teaching, the importance and role that mentors' attributes have are emphasized in literature (see Hudson, 2004; Hudson et al., 2005; Smolik, 2010; Turpeinen, 2018; Vásquez Carrosa et al., 2019). According to Hudson (2004) and Vrtič et al. (2021) the mentor's personal attributes can affect the perceived mentoring therefore the mentor needs to establish a friendly and supportive rapport with the student before they begin to demonstrate their teaching practices. Given that teacher self-efficacy predicts teacher leadership by developing student teachers' self-efficacy beliefs, teacher preparation programs can raise their awareness of the significant role these beliefs have in shaping children's academic motivation achievements but also in developing their willingness to share expertise through professional development and lead beyond the classroom (Nichols et al., 2020; Shilshtein & Margalit, 2019).

Conclusion

This study examined student teachers' teaching self-efficacy beliefs after the teaching practicum and the factors that influence it. Drawing from the findings of this study, the following conclusions are made: gender, age, and place of residence do not influence student teachers' teaching self-efficacy; fourth-year students showed higher levels of teaching self-efficacy than third-year students after the teaching practicum; there is a relationship between student teachers' mentoring experience and their level of teaching self-efficacy; and mentor teachers' personal attributes emerged as a significant predictor of student teachers' teaching self-efficacy. Student teachers showed a high teaching self-efficacy with

average scores ranging from 7.35 to 7.56 on a nine-point scale. They were found to be more effective in instructional strategies, slightly less effective in student engagement, and least effective in classroom management.

The evidence suggests that the process of mentoring, especially student teachers' positive experience with their mentors' personal attributes has an impact on their teaching self-efficacy beliefs. Therefore, mentoring relationships should be characterized by mentors' support of student teachers' development in primary teaching practices. Additionally, findings show that mentor teachers should be comfortable in talking, attentive, should assist in reflecting on teaching practices but also instill confidence and positive attitudes toward teaching. It is recommended that teacher education institutions should emphasize the development of mentors' capacities through training and support.

Recommendations

Teacher education institutions and schools should ensure that student teachers' mentors understand their role in the mentoring process and the importance of their personal attributes in developing student teachers' self-efficacy in teaching. School mentors should undergo continuous training, especially on supervision and guidance, in order to develop their mentoring skills as well as achieve effective mentoring of student teachers. The results also suggest providing more teaching opportunities for students so that they receive more feedback on their performance to identify specific personal gaps and strengths. If students experience a more positive mentoring experience and become familiar with various kinds of classroom management styles and techniques, they could be more confident in communicating with children and their personal beliefs in their capabilities might be developed and shaped in a positive direction. Furthermore, this may contribute towards the development of more effective teachers in the future. Further studies should focus more on mentors and student teachers' personal experiences to determine the characteristics of effective mentors and good student teachers in the mentoring relationship. Because this study did not demonstrate what kinds of relationship between student teachers and mentors can affect student teachers' self-efficacy beliefs, further studies should explore the quality of student-mentor relationships and its association with self-efficacy.

Limitations

This study contains some limitations that should be addressed. This study was limited to one public university in Kosovo and student teachers of the Elementary Program. Future research could be conducted at multiple universities or across more than one study program. The second study limitation was the use of a self-reporting measure of self-efficacy. The validity of the perceived teaching self-efficacy data was dependent upon the honest self-report of the participating student teachers. According to Bandura (2006), teachers have been found to both over and underestimate their ratings on self-efficacy scales for a variety of reasons. Another limitation of this study is that it is unclear whether the earlier teaching experiences influenced the level of student-teachers' self-efficacy. A deeper examination of effects and relationship of other variables will untangle their contribution and will explain the processes intervening between earlier experiences and later self-efficacy for teaching.

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