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## Relationship between Preservice Teachers' Course Attitudes and Professional Self-Efficacy Beliefs

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### Abstract

The purpose of this study is to determine the attitudes of preservice teachers about the Instructional Technologies and Material Development (ITMD) course and their perceptions about professional self-efficacy, along with an examination of the relationship between these two variables. Realized in a relational survey model, this study was conducted with more than 523 preservice teachers from 13 departments who attended the Instructional Technologies and Material Development Course and are still in the last term of their university education. At the end of the study, the attitudes of preservice teachers about the ITMD course were found to change according to their gender, school type and professional self-efficacy. Furthermore, the teachers' self-efficacy perceptions were not found to display any difference in by gender. The study did show, however significant differences according to their school type in which they will work. Throughout the study, the preservice teachers' attitudes about the ITMD course, their perceptions about their professional self-efficacy and their overall academic average were found to have a positive and significant relationship.

**Key words:** Preservice teachers; ITMD lesson; Attitude; Self-efficacy

### Introduction

To keep pace with rapid developments in technology and science, individuals must be equipped with the knowledge and skills required by these developments. This makes it vitally important to increase the quality of education (Yüksel & Sağlam, 2014). To manage the process of teaching and learning in a healthy way, a teacher needs to be well-qualified, since they are the guides and regulators of the process of education (MEB, 2007). The educational process is composed of student-teacher relationship. This relationship necessitates increasing the qualifications of teachers to enable the success of educational reforms (MEB, 1995). Increasing the qualifications of preservice and in-service teachers depends upon the acquisition of related qualifications through pre-service and in-service training programs (MEB, 2006).

Prepared under the responsibility of the Ministry of Education Directorate General of Teacher Training and Development, the Support to Basic Education Project includes general competencies of teaching profession within the component of Teacher Training. These competencies are in the form of six main competencies, 39 sub-competencies related to these competencies and 233 performance indicators. Teaching and Learning is included in the six main competencies. Material Preparation and Arranging the Learning Environment is placed in its sub-competencies. According to these two sub-competencies, teachers should use available facilities in an effective way to meet their students' needs. They must design teaching materials that facilitate the learning process for their students and should be a model to those around themselves (MEB, 2006). Teachers, who are one of the most important components of the educational process, play a dominant role in the realization of educational goals (Yanpar, 2009). Rapid advances in science and technology brought about new duties and responsibilities (Alkan, 1995) for teachers and also diversified the competencies necessary for teachers to have (Yanpar, 2009). Competency is defined as "acquiring the necessary knowledge and skills to perform a defined job" (Celep, 2004); the concept of teacher efficacy is defined as a "teacher's possession of a detailed list of skills, information, and attitudes" (TED, 2009).

Since proficiency is expected of them, teachers must perform the tasks of process planners, educational technology practitioners and evaluators (Küçüköğlü, 2008). Although the teacher's role in the teaching-learning process is still complex and requires expertise, (Küçüköğlü, 2008), a common element for teacher competency is the preparation of their materials and using them in the classroom to make their teaching effective (Uşun, 2000). Two important stages in the process of formation of teaching materials are the "design and preparation of

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teaching materials” (Yanpar, 2009). Design in the teaching-learning process is at the hand of the teacher at the micro level. Thus, the teacher should be knowledgeable about the design of their teaching materials (Küçüköğlü, 2008). Taking advantage of this information, teachers should prepare effective learning materials (Yanpar, 2009) and use them (Halis, 2002). To develop effective learning materials, instructional technology is an important factor. Instructional technology and material development concepts are interrelated (Kaya, 2006). Instructional technology is an effort to use a combination of all possible resources to achieve the goals set by the teacher; while design and implementation are the necessary materials to systemize the teaching process (Geçit, 2011; Halis, 2002). Since designing the teaching process is the task of teachers (Yanpar, 2009), teachers can realize their goals in instructional technology by making the educational process productive (Halis, 2002). The Instructional Technology and Material Development course contributes much to the process of preservice education for teachers to enable them to acquire needed qualifications and competences (Yıldız, 2002).

When the studies related to instructional technologies and material development are examined, one can observe that teachers seem to be more sufficient than preservice teachers in using instructional technologies (Baki, Yalçınkaya, Özpınar & Uzun, 2009; Korkmaz, 2011). Teachers themselves have positive attitudes about instructional technologies and material development, but they also seem to lack a good level of instructional technologies and material development (Fidan, 2008; Hacısalihoğlu, 2008; Karamustafaoğlu, 2006; Sur, 2012). The reason that inhibits teachers from making use of instructional technologies stems from schools that lack sufficient material and teachers not having sufficient knowledge related to it (Eroldoğan, 2007). Furthermore, these schools have deficiencies in their physical conditions (Hacısalihoğlu, 2008). Science and math preservice teachers, however, have a high level of self-efficacy with regard to computers and have a positive relationship between their computer self-efficacy and their attitudes towards it (Pamuk, 2007).

Furthermore, education based on the use of objects affects teachers’ self-efficacy in a positive way (Bağdat, 2014; Pişkin, 2010) and has an impact on their academic success (Bağdat, 2014). Math teaching based on digital games does not have a significant impact on the self-efficacies of teachers, except for their success and attitude levels (Aksoy, 2014). The use of computers and the Internet to achieve professional goals has a positive effect on teacher self-efficacies (Kasap, 2012). Swiss preservice teachers have higher levels of self-efficacy compared to those of Turkish preservice teachers. Girls outperform boys in regard to their self-efficacy level for instructional technologies (Efe, 2013), but male preservice teachers have a higher level of self-efficacy perceptions than female preservice teachers in regard to Internet use for educational purposes. A significant difference with regard to their self-efficacy perceptions was also found between preservice teachers’ Internet use for educational purposes and the departments they attend. Preservice teachers in CITE (Computer and Instructional Technologies Education) and their perceptions of self-efficacy with regard to Internet use for educational purposes are higher than those in the Turkish and the Mentally Disabled Teaching departments (Topal, 2013). Preservice teachers that prepare materials in Instructional Technologies and Material Development lessons feel themselves more competent in preparation of these materials compared to those who have not prepared anything (Kaya & Samancı, 2010). Turkish preservice teachers have higher self-confidence in using technology. There is no significant difference between male and female preservice teachers with regard to their use of technology (Eyüp, 2012). No significant difference was found between preservice teachers’ technology and material development perceptions and their branches. Math teachers have a higher proficiency in their use of technology compared to teachers in other branches, while the lowest average is seen in science and technology teachers (Akgül, 2010). A medium, positive relationship between preservice teachers’ self-efficacy perceptions and their attitudes towards teaching with computer-supported instruction (Arslan, 2008) was discovered. Computer department preservice teachers have high levels of computer and teaching self-efficacy beliefs, a positive and highly significant (Orhan, 2005) finding.

When their self-efficacy perceptions and beliefs are examined, teachers’ (Babaoğlu & Korkut, 2010; Gençtürk, 2008; Korkut, 2009; Yüksel, 2010; Zararsız, 2012) and preservice teachers’ self-efficacy perceptions are found to be high (Alaçayır, 2011; Ekinci, 2013; Gerçek, Yılmaz, Köseoğlu & Soran, 2006; Gürol, Altunbaş & Karaaslan, 2010; Kahyaoğlu & Yangın, 2007; Saçıcı, 2013; Soysal, 2014; Yavuz, 2009). No significant difference was found between their self-efficacy beliefs and their gender (Alaçayır, 2011; Azar, 2010; Behjoo, 2013; Çakıroğlu, 2008; Doğan, 2013; Ekinci, 2013; Gençtürk, 2008; Gür, 2008; Gürol et al., 2010; Kahyaoğlu & Yangın, 2007; Kasap, 2012; Morgil, Seçken & Yücel, 2004; Özerkan, 2007; Soysal, 2014; Şallı, 2012; Uysal & Kösemen, 2013; Yavuz, 2009; Yenice, 2012; Yüksel, 2010; Zararsız, 2012), but when average points are examined, males’ self-efficacy perceptions are found to be higher than those of females (Demirtaş, Cömert & Özer, 2011; Dolapci, 2013; Morgil et al., 2004; Uysal & Kösemen, 2013; Zararsız, 2012). When all these studies examine many different aspects, there are no studies that examine preservice teachers’ attitudes towards Instructional Technologies and Material Development (ITMD) lessons and the relationship between preservice teachers’ professional self-efficacy and their attitudes.

## Purpose of the Study

The purpose of this study is to determine the attitudes of preservice teachers towards the course of Instructional Technologies and Material Development (ITMD) and their perceptions about professional self-efficacy, along with the examination of relationship between these two variables. The general goals of this study include the sub-problems below:

1. Do preservice teachers' attitudes towards ITMD lesson display significant differences according to their gender?
2. Do preservice teachers' attitudes towards ITMD lessons display significant differences according to the type of school in which they will work?
3. Do preservice teachers' professional self-efficacy perceptions display significant differences according to their gender?
4. Do preservice teachers' professional self-efficacy perceptions display significant differences according to the type of school in which they will work?
5. Do preservice teachers' attitudes towards ITMD, their professional self-efficacy and their average academic grades have a significant relationship with each other?

## Method

The study was carried out in a relational scanning model. Karasar (2011) suggests using this model if there are two or more variables and their level of change together is to be determined. The sample used in this study includes 523 preservice teachers from 13 departments in an education faculty (German, Geography, Science, Mathematics, English, Music, Pre-School Education, Secondary School Mathematics, Class Teacher, Social Studies, History, Turkish, and Mentally Disabled). These participants were selected from the last grade of students in a Turkish state university in the academic year of 2013-2014. The distribution of the participants according to their gender can be seen in Table 1.

Table 1. The distribution of the participants according to their gender

Gender	N	%
Female	367	70.2
Male	156	29.8
Total	523	100

Table 1 indicates that 70.2% of the participants are female, while 29.8% of them are male. According to the 2013-2014 higher education statistics published by the Student Selection and Placement Centre (ÖSYM), female students constitute the majority of the students who study and graduate from the Faculties of Education (TUİK, 2013). The distribution of the participants according to their school types are presented in Table 2.

Table 2. The distribution of the participants according to their types of schools

School Type	N	%
Primary school	171	32.7
Secondary school	188	35.9
High school	164	31.4
Total	523	100

Table 2 points out that 32.7% of the participants will teach in primary schools, 35.9% of them will teach in secondary schools and 31.4% of them will teach in high schools.

## Data Collection Tools

Within the scope of this study, the Attitudes towards Instructional Technologies and Material Development Course Scale, developed by Çetin, Bağçeci, Kinay & Şimşek (2013) to determine the attitudes of participants towards the ITMD course, was used. The scale is composed of 5-point Likert-type, 33 items and sub-dimensions of Usefulness, Liking and Negation. The Cronbach Alpha reliability of the scale in this study is  $\alpha = .96$ . In order to determine the professional self-efficacies of the participants, the Teachers' Self Efficacy Scale, developed by Tschannen-Moran and Hoy (1998) and adapted into Turkish by Çapa, Çakıroğlu & Sarıkaya (2005) after checking its validity and reliability, was employed. The scale is composed of 9-point Likert-type, 24 items and

has three sub-dimensions: self-efficacy for student participation, self-efficacy for teaching strategies and self-efficacy for classroom management. The Cronbach Alpha reliability of the scale in terms of the study is  $\alpha = .94$ .

### Data Analysis

The data obtained from the scales and information about the participants were analyzed using the SPSS 15.0 package program. Analyzing the data, percentages and frequencies were used to indicate demographical information about gender and the types of schools in which the preservice teachers will teach. To determine whether the attitudes of preservice teachers towards ITMD courses and their perception of professional self-efficacies change according to gender, an independent-sample t-test was carried out. To determine whether the attitudes of preservice teachers towards ITMD courses and their perception of professional self-efficacies change according to the type of school in which they will teach, a one-way variance analysis (ANOVA) was used. To specify the cause of the difference found, the Scheffe Test was applied. To determine the correlation among the attitudes of preservice teachers towards ITMD courses, their perception of professional self-efficacies and overall academic average, the correlation coefficient was applied.

### Findings

The results of the analysis of the data gathered in line with the sub-problems of the study were reported in tables. The findings about the attitudes of preservice teachers towards ITMD courses are presented in Table 3.

Table 3. Scores for the attitudes of preservice teachers towards ITMD courses

Attitudes towards ITMD courses	N	$\bar{X}$	Sd	Min. Score	Max. Score
Usefulness	523	69.92	14.28	18.00	90.00
Liking	526	29.21	7.73	9.00	45.00
Negation	523	15.61	4.92	6.00	30.00
Total	523	114.74	18.01	43.00	151.00

Table 3 indicates that the average points for the category “usefulness” of ITMD courses is 70, that of the “liking” is 29, that of “negation” is 16 and that of “overall ITMD attitude” is 115. Based on the averages, it can be said that preservice teachers attending ITMD courses hold similar opinions about the usefulness of the course. The first sub-problem of the study is the question whether the attitudes of preservice teachers towards ITMD courses differ significantly according to gender. The results of the independent-sample t-test carried out to determine the above-mentioned difference are presented in Table 4.

Table 4. The independent-sample t-test results of the attitudes of the preservice teachers towards ITMD Courses according to Gender

The attitudes of the preservice teachers towards ITMD	Gender	N	$\bar{X}$	Sd	t	p
Usefulness	Female	367	71.53	12.52	3.542	0.00**
	Male	156	66.13	17.20		
Liking	Female	369	29.77	7.17	2.353	0.02*
	Male	157	27.89	8.78		
Negation	Female	370	15.54	4.66	.476	0.63
	Male	157	15.78	5.50		
Total	Female	367	116.84	15.82	3.670	0.00**
	Male	156	109.81	21.61		

\*\*p < 0.01, \*p < 0.05

Table 4 indicates that the attitudes of preservice teachers towards the ITMD course demonstrate significant differences in the sub-dimensions of usefulness ( $t = 3.542$ ;  $p < 0.01$ ) and liking ( $t = 2.353$ ;  $p < 0.05$ ) and overall ITMD attitude points ( $t = 3.670$ ;  $p < 0.01$ ) according to gender. Examining the averages, it can be seen that the difference is in favor of female preservice teachers. Female preservice teachers found the ITMD course to be more useful and more likeable than male preservice teachers did. The sub-dimension of negation of the scale did not display any significant difference according to gender ( $t = -.476$ ;  $p > 0.05$ ). To determine whether the

attitudes of preservice teachers towards the ITMD course and their perception of professional self-efficacies change according to the type of school in which they will teach, a one-way variance analysis (ANOVA) was used. The findings of that analysis can be found in Table 5.

Table 5. The results of the variance analysis of the attitudes of the preservice teachers towards the ITMD course according to school type

School Type	N	Usefulness			Liking			Negation			Total		
		$\bar{X}$	F	p	$\bar{X}$	F	p	$\bar{X}$	F	p	$\bar{X}$	F	p
Primary School	171	70.80			30.25			15.19			116.24		
Secondary School	188	70.01	0.73	0.48	29.66	5.57	0.00** (1-3, 2-3)	15.38	2.52	0.08	115.06	1.55	0.21
High School	164	68.91			27.59			16.32			112.82		

According to Table 5, there is a significant difference in the sub-dimension of liking of the scale in terms of the school type ( $F = 5.57$ ;  $p < 0.01$ ). As a result of a Scheffe test carried out to specify the direction of the difference, significance was apparent among the points of primary and high school preservice teachers and those of secondary and high school preservice teachers. When the average points were evaluated, primary school preservice teachers were seen to have the most positive attitude towards IMTD courses, which can be a significant finding, considering these teachers will be in more need of concrete practice and materially-supported learning for their future students in primary school. In view of the average points, as the age of preservice teachers' prospective students increases, the teachers' attitudes towards the ITMD course become less positive. There is no significant difference in the sub-dimensions of usefulness and negation, and in overall ITMD attitude in terms of the school types. The points related to perception levels of the participants for professional self-efficacy can be seen in Table 6.

Table 6. The points for the perception levels of the professional self-efficacy of the participants

Perception levels of the professional self-efficacy	N	$\bar{X}$	Sd	Min. Score	Max. Score
Self-efficacy in student participation	523	30.26	4.15	12.00	40.00
Self-efficacy in teaching strategies	523	30.59	4.18	13.00	40.00
Self-efficacy in classroom management	523	30.63	4.36	10.00	40.00
Total	523	91.49	11.65	38.00	120.00

When Table 6 is examined, the average point total for self-efficacy in student participation is seen to be about 30, that of self-efficacy for teaching strategies is about 31 and that of self-efficacy in teaching strategies and classroom management are about 31, and that of the overall professional self-efficacy is about 91. The average point totals were found to be very close to each other in the sub-dimensions of the scale, which proves that the professional self-efficacy perceptions of the participants do not fall under one single dimension. The independent-sample t-test was applied to find an answer to the third question—whether professional self-efficacy perceptions of preservice teachers differ significantly according to gender. The findings are presented in Table 7.

Table 7. The professional self-efficacy perception of the preservice teachers according to gender

Self-Efficacy	Gender	N	$\bar{X}$	Sd	t	p
Self-efficacy in student participation	Female	367	30.24	3.92	-.123	0.90
	Male	156	30.29	4.66		
Self-efficacy in teaching strategies	Female	367	30.44	3.98	-1.333	0.18
	Male	156	30.97	4.60		
Self-efficacy in classroom management	Female	367	30.42	4.05	-1.596	0.11
	Male	156	31.14	4.99		
Total	Female	367	91.10	10.88	-1.083	0.28
	Male	156	92.40	13.29		

Table 7 indicates that there is no significant difference statistically in the sub-dimensions of the scale and the overall professional self-efficacy averages according to gender. One-way variance analysis (ANOVA) was applied to the fourth sub-problem: whether professional self-efficacy perceptions of preservice teachers show a meaningful difference according to the departments in which they study. The findings are given in Table 8.

Table 8. The professional self-efficacy perception of the preservice teachers according to types of schools

School Type	N	Self-efficacy in student participation			Self-efficacy in teaching strategies			Self-efficacy in classroom management			Total		
		$\bar{X}$	F	p	$\bar{X}$	F	p	$\bar{X}$	F	p	$\bar{X}$	F	p
Primary School	171	31.04			31.31			31.00			93.34		
Secondary School	188	29.50	6.28	0.00** (1-2)	30.19	3.80	0.02* (1-2)	30.10	2.25	0.11	89.79	4.21	0.02* (1-2)
High School	164	30.32			30.32			30.87			91.51		

\*\*p<0.01, \*p<0.05

Table 8 shows that there are significant differences about the sub-dimensions of self-efficacy for student participation ( $F = 6.28$ ;  $p < 0.01$ ) and self-efficacy for teaching strategies ( $F = 4.21$ ;  $p < 0.05$ ) and self-efficacy for overall self-efficacy average points. As a result of the Scheffe test carried out to determine the direction of this difference, it was found that the significant difference is between the point totals of primary and secondary school preservice teachers. There is no difference in terms of the sub-dimension of self-efficacy for classroom management. The correlation analysis was applied to answer the question as to whether there is a meaningful correlation among the attitudes of preservice teachers towards the ITMD course, their professional self-efficacy perceptions and their overall academic average. The findings are presented in Table 9.

Table 9. The correlation among the variables

Variables	Self-efficacy in student participation	Self-efficacy in teaching strategies	Self-efficacy in classroom management	Overall professional self-efficacy	Overall academic averages
Usefulness	.225**	.229**	.189**	.233**	.202**
Liking	.192**	.204**	.144**	.195**	.240**
Negation	.208**	.199**	.146**	.200**	.141**
Overall IMTD Attitude	.204**	.214**	.172**	.214**	.225**
Overall Academic Averages	.165**	.104*	.043	.112*	

\*\*p < 0.01, \*p < 0.05

Table 9 shows that there is a statistically positive relationship between the sub-dimensions of usefulness and liking in the scale and the overall ITMD attitude points and between the sub-dimensions of the self-efficacy scale: self-efficacy for student participation, teaching strategies and classroom management; and overall professional self-efficacy points. Hence, it can be said that as preservice teachers find the ITMD course more useful and likeable, their professional self-efficacy will be higher. There is also a positive relationship between the academic average of the participants, all sub-dimensions of the scale, the overall ITMD attitude point totals and between the sub-dimensions of self-efficacy scale: self-efficacy for student participation, teaching strategies and classroom management, as well as their overall professional self-efficacy.

Thus, it could be said that the more positive attitude preservice teachers have towards the ITMD course, the higher their overall academic average points will be. Moreover, the higher their overall academic average points are, the higher their professional self-efficacy will be. No significant relationship was found between self-efficacy for classroom management and their overall academic average. Statistically, there is a significant negative relationship between negation sub-dimension of the attitude scale and all sub-dimensions of the teacher self-efficacy scale and their overall academic average.



## Results and Discussion

The results of this study, which aims at determining preservice teachers' attitudes towards the ITMD lessons and their professional self-efficacy and examining the relationship between these attitudes and perceptions will be discussed. Regarding preservice teachers' attitudes towards the ITMD lessons, there was found a significant difference in favor of females according to the gender variable. Korkmaz (2011) also drew a conclusion in his study that female teachers have higher self-efficacy perceptions about instructional materials development in comparison to male teachers. In their study which aimed at biology, physics and chemistry preservice teachers, Özarlan, Çetin & Sarıtaş (2013) determined that female teachers among biology preservice teachers and male teachers among physics and chemistry teachers have more positive attitudes towards information and communication technologies. In addition to these studies, Hacısalihoğlu (2008) expresses in his research that male teachers use technologies such as computer and multimedia more in comparison to females. In his study in which he sought to determine secondary school teachers' opinions about instructional technologies and material development through the scale, Verim (2013) concluded that male teachers feel themselves undecided about Distance Learning, Smart Instructional Systems, and Using Multimedia, but see themselves more sufficient in the dimensions of Using Smart Board and Tablet Computer.

In their study in which they observed preservice teachers' technological qualifications, Menzi, Çalışkan & Çetin (2012) stated that male preservice teachers are more sufficient in all sub-dimensions of using technology in comparison to females. Sur (2012) expressed that the attitudes of male teachers about using technology are higher in comparison to females. When the literature is observed, however, there are studies that have been done in which there is no difference according to gender. Moreover, Gorder (2008) concluded that teacher perceptions do not demonstrate a significant difference according to gender in regard to using technology and its integration into the classroom. Eroldoğan (2007) did not find any significant difference according to gender in his study about teachers' use of instructional technologies. Similarly, Eyüp (2012) expressed that the self-efficacy of Turkish department preservice teachers does not differ according to gender. Metin, Birişçi & Coşkun (2013) found that preservice teachers' attitudes towards instructional technologies do not display any difference according to gender, except for the dimension of "being unwilling to use instructional technologies." Korkmaz (2011) put forth in his study that class, social studies, computer and instructional technology preservice teachers have the highest self-efficacy; while pre-school, Turkish, and guidance and counseling department preservice teachers have the lowest self-efficacy. Metin et al. (2013) specified that the attitudes of preservice teachers toward teaching technology change according to their department they attend. Özarlan et al. (2013) found out that the average of biology teachers' knowledge and attitudes about the ICT are higher than the average of those of physics and chemistry teachers. However, Akgül (2010) and Verim (2013) reached a conclusion that teachers' practice-based teaching technologies and material design skill perception do not change according to their branches. In the study, it was found that preservice teachers' self-efficacy perceptions do not change according to gender. Other researchers' previous works on preservice teachers and in-service teachers support this finding (Alaçayır, 2011; Azar, 2010; Çakıroğlu, 2008; Ekinci, 2013; Gençtürk, 2008; Kahyaoğlu & Yangın, 2007; Kasap, 2012; Özerkan, 2007; Soysal, 2014; Uysal & Kösemen, 2013; Yenice, 2012; Zararsız, 2012). However, there are some studies in the literature that claim otherwise. Demirtaş et al. (2011) found in their study that preservice teachers' self-efficacy belief scale, instructional strategies and class management demonstrate significant difference in favor of males. Similarly, Dolapci (2013) revealed that preservice teachers' self-efficacy points in class management display a significant difference, again in favor of males. In another study by Akbaba (2013), a significant difference was found in favor of females in the dimension of class management for bureau management preservice teachers. In addition, there are several studies that mention a significant change according to gender with regard to the self-efficacy perceptions of female and male preservice teachers and in-service teachers (Coşkun, 2010; Korkut, 2009; Yavuz, 2009). The self-efficacy perception of preservice teachers was shown to change significantly depending on the type of school in which they will work. In the literature, there are also studies which support the finding that the self-efficacy perceptions of preservice teachers change significantly according to the department they attend (Altunçekiç, Koray & Yaman, 2005; Azar, 2010; Çapri & Çelikkaleli, 2008; Demirtaş et al., 2011; Gürol et al., 2010; Kahyaoğlu & Yangın, 2007). There are several other studies, however, that found no significant difference according to the department they attend (Ekinci, 2013; Uysal & Kösemen, 2013; Yavuz, 2009).

It was observed that there is a positive relationship between their attitudes towards the ITMD course and their professional self-efficacies; their general academic average and their attitudes toward the ITMD course; their general academic average and their professional self-efficacy. When the literature is examined, there were no studies that directly examined the relationship between preservice teachers' attitudes towards the ITMD course and their professional self-efficacies. In his study related to relationship between preservice teachers' attitudes towards computer assisted teaching and teacher self-efficacy, however, Arslan (2008) mentions a positive



relationship. There are several studies which support the finding that there is a positive relationship between preservice teachers' general academic average and their self-efficacy. Similarly, it was found that preservice teachers' self-efficacy increases as their academic success increases (Akbaba, 2013; Azar, 2010; Gerçek et al., 2006; Yavuzer & Koç, 2002; Yenilmez & Kakmacı, 2008).

## References

- Akbaba D. (2013). *Büro yönetimi öğretmen adaylarının öğretmen öz-yeterlik algılarının bazı değişkenler açısından incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 333506)
- Akgül A. (2010). *Öğretmenlerin uygulamaya dayalı öğretim teknolojileri ve materyal tasarımı beceri algılarının öğrencilerin seviye belirleme sınavı (SBS) başarısı ile ilişkisi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 265089)
- Aksoy, N. C. (2014). *Dijital oyun tabanlı matematik öğretiminin ortaokul 6. sınıf öğrencilerinin başarılarına, başarı güdüsü, öz-yeterlik ve tutum özelliklerine etkisi*. (Doctoral dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 356671)
- Alaçayır, S. (2011). *Zihin engelliler öğretmeni adaylarının yeterlik algıları ile öğrenme stilleri arasındaki ilişkinin incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 298578)
- Alkan, C. (1995). *Eğitim teknolojisi*. Ankara: Atilla Kitabevi.
- Altunçekiç, A., Yaman, S. & Koray, Ö. (2005). Öğretmen adaylarının öz-yeterlik inanç düzeyleri ve problem çözme becerileri üzerine bir araştırma (Kastamonu ili örneği). *Kastamonu Eğitim Dergisi*, 13(1), 93-102.
- Arslan, A. (2008). Öğretmen adaylarının bilgisayar destekli eğitim yapmaya yönelik tutumları ile öz yeterlik algıları arasındaki ilişki. *Elektronik Sosyal Bilimler Dergisi*, 7(24), 101-109.
- Azar, A. (2010). Ortaöğretim fen bilimleri ve matematik öğretmeni adaylarının öz yeterlilik inançları. *Zonguldak Karaelmas Üniversitesi Sosyal Bilimler Dergisi*, 6(12), 235-252.
- Babaoğlu, E. & Korkut, K. (2010). Sınıf öğretmenlerinin öz yeterlik inançları ile sınıf yönetimi beceri algıları arasındaki ilişki. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 11(1), 1-19.
- Bağdat, T. (2014). *Öğrenme nesnelere matematik öğretiminde akademik başarı, öz-yeterlik algısı, motivasyon ve öğrenme kalıcılığına etkisi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 366333)
- Baki, A., Yalçinkaya, H. A., Özpınar, İ. & Uzun, S. Ç. (2009). İlköğretim matematik öğretmenleri ve öğretmen adaylarının öğretim teknolojilerine bakışlarının karşılaştırılması. *Turkish Journal of Computer and Mathematics Education*, 1(1), 65-83.
- Behjoo, B. M. (2013). *The relationship among self-efficacy, academic self-efficacy, problem solving skills and foreign language achievement*. Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 339110)
- Celep, C. (2004). Meslek olarak öğretmenlik. In C. Celep (Ed.), *Meslek olarak öğretmenlik* (pp. 23-49). Ankara: Anı Yayıncılık.
- Coşkun, M. K. (2010). Din kültürü ve ahlak bilgisi öğretmenlerinin özyeterlik algılarının çeşitli değişkenler açısından incelenmesi. *Sosyal Bilimler Araştırmaları Dergisi*, 1, 95-109.
- Çakıroğlu, E. (2008). The teaching efficacy beliefs of pre-service teachers in the USA and Turkey. *Journal of Education for Teaching*, 34(1), 33-44.
- Çapa, Y., Çakıroğlu, J. & Sarıkaya, H. (2005). The development and validation of a Turkish version of teachers' sense of efficacy scale. *Eğitim ve Bilim*, 30(137), 74-81.
- Çapri, B. & Çelikkaleli, Ö. (2008). Öğretmen adaylarının öğretmenliğe ilişkin tutum ve mesleki yeterlik inançlarının cinsiyet, program ve fakültelerine göre incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 9(15), 33-53.
- Çetin, B., Bağçeci, B., Kinay, İ. & Şimşek, Ö. (2013). Öğretim teknolojileri ve materyal tasarımı dersine yönelik tutum ölçeğinin (ÖTMTDYTÖ) geliştirilmesi: Geçerlik ve güvenilirlik çalışması. *The Journal of Academic Social Science Studies*, 6(2), 697-713.
- Demirtaş, H., Cömert, M. & Özer, N. (2011). öğretmen adaylarının özyeterlik inançları ve öğretmenlik mesleğine ilişkin tutumları. *Eğitim ve Bilim*, 36(159), 96-111.
- Doğan, S. (2013). *Sınıf öğretmenlerinin öz yeterlik algısı ve öğretmenlik mesleğine yönelik tutumlarının incelenmesi (Ağrı ili örneği)*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 327532)
- Dolapci, S. (2013). *Öğretmen adaylarının öz-yeterlilik alguları ve kaynaştırma eğitimine bakış açıları*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 342334)

- Efe, H. A. (2013). *Türkiye ve İsviçre'deki fen alanları öğretmen adaylarının öğretim teknolojilerine yönelik kaygı, tutum ve öz yeterlilik açısından karşılaştırılmaları*. (Doctoral dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 335522)
- Ekinci, H. (2013). Öğretmen adaylarının özyeterlilik algıları: Müzik, resim ve beden eğitimi. *Turkish Studies*, 8(3), 189-196.
- Ekizler, F. (2013). *The relationship between teaching concerns and self-efficacy levels of pre- and in-service EFL teachers*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 357114)
- Eroldoğan, Y. A. (2007). *İlköğretim II. kademe okullarındaki branş öğretmenlerinin, bazı değişkenlere göre öğretim teknolojilerini kullanma düzeylerinin incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 206407)
- Eyüp, B. (2012). Türkçe öğretmeni adaylarının öğretim teknolojilerini kullanmaya yönelik öz güvenleri. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 5(9), 77-87.
- Fidan, N. K. (2008). İlköğretimde araç gereç kullanımına ilişkin öğretmen görüşleri. *Kuramsal Eğitimbilim*, 1(1), 48-61.
- Gençtürk, A. (2008). *İlköğretim okulu öğretmenlerinin öz-yeterlilik algıları ve iş doyumlarının çeşitli değişkenler açısından incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 220053)
- Geçit, Y. (2011). Eğitim, öğretim teknolojisi ve iletişim. In M. Küçük (Ed.), *Öğretim teknolojileri ve materyal tasarımı*. (pp. 1-21). Ankara: Nobel Akademik Yayıncılık.
- Gerçek, C., Yılmaz, M., Köseoğlu, P. & Soran, H. (2006). Biyoloji eğitimi öğretmen adaylarının öğretiminde öz-yeterlilik inançları. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 39(1), 57-73.
- Gorder, L. M. (2008). A study of teacher perceptions of instructional technology integration in the classroom. *Delta Pi Epsilon Journal*, 50(2), 63-76.
- Gür, G. (2008). *A study on the predictors of teachers' sense of efficacy beliefs*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 227775)
- Gürol, A., Altunbaş, S. & Karaaslan, N. (2010). Öğretmen adaylarının öz yeterlilik inançları ve epistemolojik inançları üzerine bir çalışma. *e-Journal of New World Sciences Academy*, 5(3), 1395-1404.
- Hacısalihoğlu, H. (2008). *Ticaret meslek liselerinde görev yapan öğretmenlerin eğitim teknolojilerini kullanım düzeylerini belirlemeye yönelik bir araştırma*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 219034)
- Halis, İ. (2002). *Öğretim teknolojileri ve materyal geliştirme*. Ankara: Nobel Yayın Dağıtım.
- Kahyaoglu, M. & Yangın, S. (2007). İlköğretim öğretmen adaylarının mesleki öz-yeterliliklerine ilişkin görüşleri. *Kastamonu Eğitim Dergisi*, 15(1), 73-84.
- Karamustafaoğlu, O. (2006). Fen ve teknoloji öğretmenlerinin öğretim materyallerini kullanma düzeyleri: Amasya ili örneği. *AÜ. Bayburt Eğitim Fakültesi Dergisi*, 1(1), 90-101.
- Karasar, N. (2011). *Bilimsel araştırma yöntemi*. Ankara: Nobel Yayın Dağıtım.
- Kasap, D. (2012). *Sınıf öğretmenlerinin öz yeterlilik inançları ile mesleklerine yönelik bilgisayar ve internet kullanımları arasındaki ilişkinin incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 322439)
- Kaya, R. & Samancı, O. (2010). Öğretmen adaylarının alternatif öğretim materyalleri ile ilgili görüşleri. *Milli Eğitim*, 188, 83-98.
- Kaya, Z. (2006). *Öğretim teknolojileri ve materyal geliştirme*. Ankara: Pegem A Yayıncılık.
- Korkmaz, Ö. (2011). Öğretmen adaylarının öğretim materyallerinden yararlanmaya dönük özyeterlilik algıları. *Eğitim Teknolojileri Araştırmaları Dergisi*, 2(4).
- Korkut, K. (2009). *Sınıf öğretmenlerinin öz yeterlilik inançları ile sınıf yönetimi beceri algıları arasındaki ilişki*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 250873)
- Küçüköğlü, A. (2008). Eğitim programı ve öğretim sürecinin tasarımı. In K. Selvi (Ed.), *Öğretim teknolojileri ve materyal tasarımı* (pp. 1-50). Ankara: Anı Yayıncılık.
- MEB (1995). Öğretmen değerlendirme. [Available online at: [http://Yegitek.Meb.Gov.Tr/Tamamlanan/Ogretmen\\_Degerlendirme.Pdf](http://Yegitek.Meb.Gov.Tr/Tamamlanan/Ogretmen_Degerlendirme.Pdf).], Retrieved on December 25, 2014.
- MEB (2006). Öğretmenlik mesleği genel yeterlilikleri. [Available online at: <http://Otmg.Meb.Gov.Tr/Belgeler/Otmg/Yeterlilikler.Pdf>.], Retrieved on December 25, 2014.
- MEB (2007). Çağdaş öğretmen profili. [Available online at: <http://Yegitek.Meb.Gov.Tr/Earged/Arasayfa.Php?G=62>.], Retrieved on December 25, 2014.
- Menzi, N., Çalışkan, E. & Çetin, O. (2012). Öğretmen adaylarının teknoloji yeterliliklerinin çeşitli değişkenler açısından incelenmesi. *Anadolu Journal of Educational Sciences International*, 2(1), 1-18.
- Metin, M., Birişçi, S. & Coşkun, K. (2013). Öğretmen adaylarının öğretim teknolojilerine yönelik tutumlarının farklı değişkenler açısından incelenmesi. *Kastamonu Eğitim Dergisi*, 21(4), 1345-1364.

- Morgil, İ., Seçken, N. & Yücel, A. S. (2004). Kimya öğretmen adaylarının öz-yeterlik inançlarının bazı değişkenler açısından incelenmesi. *Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 6(1), 62-72.
- Orhan, F. (2005). Bilgisayar öğretmen adaylarının, bilgisayar kullanma öz yeterlik inancı ile bilgisayar öğretmenliği öz yeterlik inancı üzerine bir çalışma. *Eurasian Journal of Educational Research*, 21, 173-186.
- Özarslan, M., Çetin, G. & Sarıtaş, T. (2013). Biyoloji, fizik ve kimya öğretmen adaylarının bilgi ve iletişim teknolojilerine yönelik tutumları. *Türk Fen Eğitimi Dergisi*, 10(2), 85-100.
- Özçalı, S. (2007). *Possible effects of in-service education on EFL teachers' professional development in terms of teacher efficacy and reflective thinking*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 206281)
- Özerkan, E. (2007). *Öğretmenlerin öz-yeterlik alguları ile öğrencilerin sosyal bilgiler benlik kavramları arasındaki ilişki*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 240972)
- Pamuk, S. (2007). *Pre-service science and mathematics teachers' computer related self-efficacy, attitudes, and the relationship among these variables*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 217997)
- Pişkin, M. (2010). *Investigation of pre-service elementary mathematics teachers' self-efficacy beliefs about using concrete models in teaching mathematics*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 262511)
- Saçıcı, S. (2013). *The interrelation between pre-service science teachers' conceptions of teaching and learning, learning approaches and self-efficacy beliefs*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 345131)
- Soysal, M. R. (2014). *Sınıf öğretmenliği ana bilim dalı öğrencilerinin öğretmenlik mesleği öz yeterlik inançları*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 370219)
- Sur, D. (2012). *Meslek liselerinin büro yönetimi ve sekreterlik programlarında görev yapan öğretmenlerin eğitim teknolojilerini kullanma düzeylerini belirlemeye yönelik bir araştırma*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 317083)
- Şallı, F. (2012). *Sınıf öğretmeni adaylarının matematik öz yeterlikleri ile matematik öğretimi yeterliklerinin incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 328643)
- Şenler, B. (2011). *Pre-service science teachers' self-efficacy in relation to personality traits and academic self-regulation*. (Doctoral dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 300744)
- Topal, M. (2013). *Eğitim fakültesinde okuyan öğretmen adaylarının eğitim amaçlı internet kullanımı öz-yeterlik algularının incelenmesi ve geliştirilmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 336018)
- Tschannen-Moran, M., Hoy, W. A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68(2), 202-248.
- TUİK (2013). 2012-2103 Öğretim yılı eğitim birimlerine göre öğrenci ve öğretim elemanları sayıları. [Available at: <http://www.osym.gov.tr/dosya/1-69422/h/3egitimbirimlerineogrenciogretimalemanlarisay.pdf>], Retrieved on February 5, 2015.
- Türk Eğitim Derneği (2009). *Öğretmen yeterlikleri*. Ankara: Adım Okan Matbaacılık.
- Uşun, S. (2000). *Özel öğretim teknolojileri ve materyal geliştirme*. Ankara: Pegem A Yayıncılık.
- Uysal, İ. & Kösem, S. (2013). Öğretmen adaylarının genel öz-yeterlik inançlarının incelenmesi. *Eğitim ve Öğretim Araştırmaları Dergisi*, 2(2), 217-226.
- Verim, G. (2013). *Ortaöğretim kurumlarında görev yapan öğretmenlerin öğretim teknolojileri ve materyal tasarımlarına ilişkin görüşleri*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 336974)
- Yanpar, T. (2009). *Öğretim teknolojileri ve materyal tasarımı*. Ankara: Anı Yayıncılık.
- Yavuz, D. (2009). *Öğretmen adaylarının öz-yeterlik alguları ve üstbilişsel farkındalıklarının çeşitli değişkenler açısından incelenmesi*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 239298)
- Yavuzer, Y. & Koç, M. (2002). Eğitim fakültesi öğrencilerinin öğretmen yetkinlikleri üzerinde bir değerlendirme. *N.Ü. Eğitim Fakültesi Eğitim ve Bilim Dergisi*, 1(1), 35-43.
- Yenice, N. (2012). Öğretmen adaylarının öz -yeterlik düzeyleri ile problem çözme becerilerinin incelenmesi. *Elektronik Sosyal Bilimler Dergisi*, 11(39), 36-58.
- Yenilmez, K. & Kakmacı, Ö. (2008). İlköğretim matematik öğretmenliği bölümü öğrencilerinin öz yeterlilik inanç düzeyleri. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 9(2), 1-21.
- Yıldız, R. (2002). Öğretim araç-gereçlerini etkili kullanma. In R.Yıldız (Ed.), *Öğretim teknolojileri ve materyal geliştirme* (pp. 29-44). Ankara: Mikro Yayınları.

- Yüksel, B. T. (2010). *Teacher efficacy beliefs of Turkish EFL teachers: A study with Turkish EFL teachers working at state primary schools*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 262335)
- Yüksel, İ. & Sağlam, M. (2014). *Eğitimde program değerlendirme*. Ankara: Pegem Akademi.
- Zararsız, N. (2012). *İlköğretim okullarında görev yapan öğretmenlerin öz yeterlik algılarının incelenmesi (İstanbul-Sultanbeyli ilçesi örneği)*. (Master dissertation). Retrieved from <https://tez.yok.gov.tr/>. (Accession number: 319973)