Academic Self-Efficacy Perceptions of Teacher Candidates

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Key words: Self-efficacy, academic self-efficacy, academic self-efficacy perception, teacher candidates.

This study aims determining academic self-efficacy perception of teacher candidates. It is survey model. Population of the study consists of teacher candidates in 2010-2011 academic years at Ahmet Keleşoğlu Education Faculty of Education Formation of Selçuk University. A simple random sample was selected as sampling method and the study was conducted on 312 teacher candidates. The data of this study was obtained by “academic self-efficacy scale” which was developed by Jerusalem and Schwazer (1981) and translated into Turkish by Yılmaz, Gürçay, and Ekici (2007) and its reliability value was determined as .79. However, Cronbach Alfa reliability value of this scale became .76 with the result of the data analysis of the study. SPSS package program was used to analyze the data; and the data analysis, frequency, percentage, arithmetic mean, standard deviation, independent samples t-test, one-way analysis of variance (ANOVA) and post hoc tests (LSD) test were used. When the findings of the research were considered in general, the result showed that the academic self-efficacy perception level of the candidates was at desired level. However, teachers' views about the level of academic self-efficacy perception showed that most of them preferred a lower level option "suits me", instead of "totally suits me" option that was the highest degree of participation of four likert-type scale. This illustrated that their perception about this issue was not at a very high level. When independent variables were taken into account, among the academic perception levels of teacher candidates, a significant difference was detected in terms of working as a teacher or not and academic achievement variables but it revealed no significant difference in terms of gender and type of education program variables.

Introduction

Fundamental aim of the education is to raise quality individuals. And for them to be raised with quality, first of all, the ones who raise them need to be sufficient. At this point, things which first come to mind are tutorhood and the ones who carry out this profession. Also, teachers being sufficient is closely related to the education they receive during the education process before executing the profession. In order for this education to reach its purpose, teachers are expected to have a set of efficacies that partake in academic self-efficacy between each other during the candidacy.

Efficacy is the degree of having necessary knowledge, ability and attitudes so that a role can be played (Balçı, 2005). According to another definition, efficacy is defined as carrying out the roles assigned by one’s employers with quantity and quality and as having the required knowledge and ability so that an attitude will be exercised (Şişman, 2006). The notion efficacy taking place in an individual is self-efficacy. The notion self-efficacy is based on Bandura’s Social Learning Theory.

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According to Bandura, self-efficacy is a person’s belief in his own exercise capacity after organizing the necessary activities, thus that person can put forward certain performances (Bandura, 1995). Self-efficacy is a person’s trust on his capability of organizing his knowledge and abilities and putting these into action, so that a problem will be solved and a task will be carried out with success (Eccles & Wigfield, 2002; Cited by Firat Durdukoça, 2010). Bandura, concerning this matter, emphasizes on there being four sources of self-efficacy beliefs. These are a) “performance achievements”, b) “experiences”, c) “persuasion”, and d) “physical /emotional situation”.

In the literature, there are different types of efficacy as self-efficacy, professional efficacy, teacher efficacy. One of these concepts is “academic self-efficacy.” Academic self-efficacy is the belief of the student regarding whether he will be able to fulfill an academic job successfully (Linnenbrink & Pintrich, 2003). According to another definition, academic self-efficacy is the judgments concerning people’s arrangement and realization skills of the required acts in order to achieve their education goals (Schunk, 1991). And Bandura (1997), in a similar way with these definitions, stated that academic self-efficacy is an individual’s belief regarding that individual being successful in an academic subject field.

Self-efficacy is seen in people with high or low levels. Individuals whose self-efficacy belief is high are more willing to partake in the activities in their lives, put more effort in these activities, develop more effective strategies against the challenges they face (Eggen & Kauchak, 1999). Linnenbrink and Pinrich (2003), in this context, have laid stress on the relationship of the contribution of academic self-efficacy perception regarding the learning process with its behavioral, cognitive, and motivational aspects. As accordance with this, while students’ self-efficacy perceptions determine their learning and achievements, the student’s self-efficacy also increases equally as he learns more and achieves more. Hence Brannick, Miles and Kisamore (2005) emphasizes that as individuals’ accumulation of knowledge on some matter increases, then the academic self-efficacy perception on that matter increases directly.

Linnenbrink and Pinrich (2003) have laid stress on the relationship of the contribution of academic self-efficacy perception regarding the learning process with its behavioral, cognitive, and motivational aspects. According to this, while students’ self-efficacy perceptions determine their learning and success through their participation to the school events, the student’s self-efficacy also increases equally as he learns more and achieves more. As the accumulation of knowledge increases on a particular subject, then the academic self-efficacy perception on that particular subject scales up as well (Brannick, Miles & Kisamore, 2005). Thus, studies concerning the subject show that high academic self-efficacy has a huge effect on the students’ academic lives (Caprara et al, 2006; Chemers, Hu & Garcia, 2001; Goddard, Hoy & Woolfolk-Hoy, 2000; Pajares & Graham, 1999; Pajares, 1996; Schunk, 1991; Schunk, 1995; Shell, Murphy & Bruning, 1989; Vrugt, Langereis & Hoogstraten, 1998).

There are numerous studies on self-efficacy in Turkey. These involve subjects such as, particularly, computer self-efficacy perception (Akkoynulu & Kurbanoğlu, 2003; Askar & Umay, 2001), teachers’ and teacher candidates’ self-efficacy perception (Arslan, 2008; Baykara, 2011; Çalışkan, Selçuk & Özcan, 2010; Çubukçu & Girmen, 2007; Hevedanlı & Ekici, 2009; Kan & Akbaş, 2006; Özerkan, 2007; Üstüner et al, 2009, Yeşilyurt, 2011), scale development self-efficacy perception (Ekici, 2005; Hancı Yanar & Bümén, 2012; Yılmaz et al, 2004), and examining the self-efficacies in terms of various variables such as gender, branch, school type, education level etc. (Aykaç Duman, 2007; Bulut & Oral, 2012; Çoşkun, 2010; Odacı & Berber Çelik, 2011), and also the relationship of self-efficacy with academic success (Köseoğlu, 2010) and life satisfaction (Aydıner, 2011).

Nevertheless, a limited number of researches were achieved in the subject of self-efficiency. These researches can be summed up in two sections. In the first section, scale adaptation studies regarding
self-efficacy (Ekici, 2012; Öncü, 2012; Yılmaz, Gürçay & Ekici, 2007), and in the second section, studies conducted upon the academic self-efficacies of teacher candidates (Arslan, 2010; Fırat Durdukoça, 2010; Odacı & Berber Çelik, 2011; Ünlü & Kalemoğlu, 2011). Though a number of researches related to self-efficacy can be come up against in the literature, sufficient amount of researches on the academic self-efficacy perceptions of teacher candidates have not been reached. Thus, also examining the academic self-efficacy perceptions of teacher candidates alongside with this study is expected to contribute to the field.

**Purpose of the Study**

The main purpose of the study is to set forth the academic self-efficacy perception of teacher candidates. In accordance with this aim, answers were sought to the questions below.

a. What is the self-efficacy perception level of teacher candidates?

b. Does self-efficacy perception level of teacher candidates show significant difference according to the variables below?

✓ Gender,

✓ Working- not working as a teacher,

✓ Academic achievement and,

✓ Type of education program.

**Method**

**Research Model**

The research presents a descriptive feature as well as being a screening model. The screening model aims to describe a situation existing in our day or in the past as it is (Karasar, 2012). Within the scope of the research, self-efficacy perceptions of teacher candidates are described.

**Population and Sample**

Demographic characteristics of the teacher candidates participating in the study are shown in Table 1.

**Table 1:** The demographic characteristics of the teacher candidates participating in the study

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Female</td>
<td>234</td>
<td>75.0</td>
</tr>
<tr>
<td>2 Male</td>
<td>78</td>
<td>25.0</td>
</tr>
<tr>
<td>Whether or Not Working as a Teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Yes</td>
<td>79</td>
<td>25.3</td>
</tr>
<tr>
<td>2 No</td>
<td>233</td>
<td>74.7</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 61-70</td>
<td>43</td>
<td>13.8</td>
</tr>
<tr>
<td>2 71-80</td>
<td>146</td>
<td>46.8</td>
</tr>
<tr>
<td>3 81-90</td>
<td>123</td>
<td>39.4</td>
</tr>
<tr>
<td>Program Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Mathematic Teaching</td>
<td>90</td>
<td>28.8</td>
</tr>
<tr>
<td>2 Physics Teaching</td>
<td>17</td>
<td>5.4</td>
</tr>
<tr>
<td>3 Chemistry Teaching</td>
<td>20</td>
<td>6.4</td>
</tr>
<tr>
<td>4 Biology Teaching</td>
<td>29</td>
<td>9.3</td>
</tr>
<tr>
<td>5 Turkish Language and Literature Teaching</td>
<td>61</td>
<td>19.6</td>
</tr>
<tr>
<td>6 Philosophy Group Teaching</td>
<td>58</td>
<td>18.6</td>
</tr>
<tr>
<td>7 Language (English, French, Deutsch ) Group Teaching</td>
<td>37</td>
<td>11.9</td>
</tr>
<tr>
<td>Total</td>
<td>312</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Population of the study consists of teacher candidates in 2010-2011 academic years at Ahmet Keleșoğlu Education Faculty of Education Formation of Selçuk University. A simple random sample was selected as sampling method in the research. This method was selected because every unit in the population has a chance of being an equal and independent sample (Balcı, 2011), samples are selected without replacing the individuals who entered the sample with others (Aziz, 2008), and everyone in the population has an equal chance of getting selected (Karasar, 2012). The sample of the research composes of 312 teacher candidates and the demographic characteristics of the teacher candidates participating in the sample are shown in Table 1. It was determined that in terms of the gender variable of participants, females (75,0%), in terms of the academic achievement, 71-80 (46,8%), in terms of the program type, Math (28,8%), and in terms of whether or not working as a teacher, ones who don’t work (74,7) seem to prevail.

Data Collection Instrument
The data of this study was obtained by “Academic Self-Efficacy Scale” which was developed by Jerusalem ve Schwarzer (1981). The Cronbach's alpha reliability value of the original scale was determined to be .87. Scale was translated into Turkish by Yılmaz, Gürçay and Ekici (2007). The Cronbach's alpha reliability value of the scale composing of seven subjects and only one aspect is .79. And the Cronbach's alpha reliability value in the wake of the analysis conducted on the data acquired from this research appeared to be .76.

Data Analysis
SPSS package program was used to analyze the data. The demographic characteristics of participants have been determined through frequency and percentage. Arithmetic mean, standard deviations were used to establish the academic self-efficacy perceptions of the teacher candidates. As stated in Taşvancıl (2002), the data which is acquired from equally spaced scales can be analyzed by arithmetic mean, standard deviation and variance. So to figure out if there is a significant difference between the participant groups in terms of the gender and the whether or not working as a teacher variables or not, “independent samples t-test” was used. Büyüköztürk (2007), Ak (2006), Balcı (2011) and Demirgil (2006) emphasize that “independent samples t-test” can be used in determining if the difference between the means of two irrelevant samples is meaningful or not. In addition to these, One-way Analysis of Variance (ANOVA) was conducted to determine if there is a significant difference between the participant groups in the sense of the academic achievement and the type of education program variables or not. To determine between which groups the differences that were established in the wake of this analysis are, the post hoc tests (LSD) test, which determine view differences lower than .05 between the participant groups with a more radical point of view than tests such as Scheffe, Tukey etc., is used. Between two or more irrelevant sample means, it’s emphasized that using “one-way analysis of variance” in putting forward if three or more average points regarding a factor differ from each other in a significant way or not is ideal (Antalyalı, 2006; Balcı, 2011; Büyüköztürk, 2006; Demirgil, 2006). Four likert-type subjects are graded as “1” – Doesn’t suit me at all (1.00–1.75), “2” – Suits me slightly (1.76–2.50), “3”- Suits me (2.51–3.25), “4”- Suits me totally (3.26–4.00) and the significance level was accepted as .05.

Results
The results, which were obtained after analyzing the data acquired in accordance with the study’s purpose, take place below taking account of the subgoals of the study and the sequence of these goals.
Academic Self-efficacy Perception Level of Teacher Candidates

Findings that were acquired regarding academic self-efficacy perceptions of teacher candidates are given in Table 2.

Table 2: Arithmetic mean and standard deviation results of the data that was acquired regarding academic self-efficacy perceptions of teacher candidates

<table>
<thead>
<tr>
<th>Academic Self-efficacy Scale</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 In my university education, I am always able to accomplish the work to be done</td>
<td>3,250</td>
<td>.590</td>
</tr>
<tr>
<td>2 I always achieve high success when I am adequately prepared for the exam.</td>
<td>3,576</td>
<td>.573</td>
</tr>
<tr>
<td>3 To get good grades, I know very well what I need to do.</td>
<td>3,381</td>
<td>.599</td>
</tr>
<tr>
<td>4 Even if a written exam is very hard, I know I will succeed.</td>
<td>2,955</td>
<td>.674</td>
</tr>
<tr>
<td>5 I cannot think of failing any exam</td>
<td>2,471</td>
<td>.821</td>
</tr>
<tr>
<td>6 I am comfortable in the exam because I trust my intelligence.</td>
<td>2,888</td>
<td>.734</td>
</tr>
<tr>
<td>7 When I prepare for an exam, I often do not know how to deal with the topics that I need to learn (-)</td>
<td>3,448</td>
<td>.779</td>
</tr>
<tr>
<td>General Mean</td>
<td>3,138</td>
<td>.416</td>
</tr>
</tbody>
</table>

The arithmetic mean of the opinions put forth by the teacher candidates regarding their self-efficacy perceptions is 3,138. This ratio shows that the views of the teacher candidates agree on the option “suits me” of the five likert-type scale. Obtained finding can be interpreted as being higher than the averages of the academic self-efficacy perception level of the teacher candidates, though not being on a desired level. Also the standard deviation result of the teacher candidate views regarding their self-efficacy perceptions is .416. This finding puts forth that parallelism, consistency, consensus between the views of the teacher candidates are of high level, and that the candidates state views similar to one another’s.

Academic Self-efficacy Perception Level of the Teacher Candidates in Terms of Independent Variables

Findings that put forth the academic self-efficacy perception level as accordance with the gender, whether or not working as a teacher, academic achievement and the type of education program variables of the teacher candidates take place in Table 3.

There was no significant difference between the views of the teacher candidates in terms of the gender variable regarding academic self-efficacy perception levels. This finding shows that male and female teacher candidates have similar academic self-efficacy perception to each other. According to the findings obtained from the study, no statistically significant difference between the self-efficacy perception levels of teachers concerning the whether or not working as a teacher variable was found. It was determined that teachers who’re working as a teacher in an institute have a higher academic self-efficacy perception level than the ones who’re not working. This finding can be described as working as a teacher having a positive effect on academic self-efficacies of the teacher candidates. In terms of academic achievement, no significant difference between academic self-efficacy perception levels of the teacher candidates was determined. Academic self-efficacy perception level of the teacher candidates whose academic achievements are somewhere between 81-90 seems to be higher than those candidates’ who have other achievements. This revealed finding can be put into words as academic achievement affecting the academic self-efficacies of the teacher candidates in a positive way. In terms of the type of education program variable, no statistically significant difference between the academic self-efficacy perception levels of teachers was found. This finding, in terms of the type of education program variable, portrays that candidates have an academic self-efficacy perception similar and close to each other.
Table 3: Analysis results of the academic self-efficacy perception of the teacher candidates in terms of independent variables

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female (f=234; %75,0)</th>
<th>Male (f=78; %25,0)</th>
<th>t &amp; p values</th>
<th>Levene's test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic self-efficacy</td>
<td>( \bar{x} = 3.146 ), SD = 0.407</td>
<td>( \bar{x} = 3.113 ), SD = 0.446</td>
<td>t = 0.605, p = 0.546</td>
<td>F = 0.266, p = 0.606</td>
</tr>
<tr>
<td>Gender</td>
<td>Yes (f=79; %25,3)</td>
<td>No (f=233; %74,7)</td>
<td>t &amp; p values</td>
<td>Levene's test</td>
</tr>
<tr>
<td>Academic self-efficacy</td>
<td>( \bar{x} = 61-70 ), SD = 3.224, SD = 3.109</td>
<td>( \bar{x} = 71-80 ), SD = 3.134, SD = 4.20</td>
<td>t = 2.134, p = 0.034*</td>
<td>F = 0.016, p = 0.899</td>
</tr>
<tr>
<td>Academic achievement</td>
<td>( \bar{x} = 66-70 ), SD = 3.04</td>
<td>( \bar{x} = 71-80 ), SD = 3.08</td>
<td>( \bar{x} = 3.19 ), SD = 0.42</td>
<td>( \bar{x} = 3.23 ), SD = 0.03</td>
</tr>
<tr>
<td>Program type</td>
<td>Mathematics (f=50; %16,3)</td>
<td>Physics (f=50; %16,3)</td>
<td>Chemistry (f=50; %16,3)</td>
<td>Biology (f=50; %16,3)</td>
</tr>
<tr>
<td>Academic self-efficacy</td>
<td>( \bar{x} = 3.04 ), SD = 0.43</td>
<td>( \bar{x} = 3.134 ), SD = 0.455</td>
<td>( \bar{x} = 3.123 ), SD = 0.402</td>
<td>( \bar{x} = 3.36 ), SD = 3.336</td>
</tr>
</tbody>
</table>

P<.05  GD: Groups which have Differences

Discussion and Conclusion

These results were recovered in the light of the findings obtained from the study. Academic self-efficacy perception level of the teacher candidates is above the average and at a sufficient level. That said, it was found that academic self-efficacy perception level regarding the candidates themselves in terms of always being able to accomplish the work to be done, always achieving high success, being comfortable in the exam, trusting oneself in succeeding and dealing with the topics that need to be learnt is high. In the literature there are researches supporting this result which was reached in the wake of this study. Hence, some of the researches regarding the topic put forth that the self-efficacies of the teacher candidates are above the average (Gürol, Altunbaş & Karaaslan, 2010; Oğuz & Topkaya, 2008; Ülper & Bağcı, 2012; Ünlü & Kalemoğlu, 2011; Yeşilyurt, 2011; Yılmaz, Yılmaz & Türk, 2010). On the other hand, there are also researches that which don’t go with the research results, that which put forward that the self-efficacies of the teacher candidates are on an average level (Altunçekic, Yaman & Koray, 2005; Çevik, 2011; Gelbal & Kelecioglu, 2007; Seferoğlu, 2005). The main purpose of this study being academic self-efficacy and the main purpose of other studies being self-efficacy may have very well resulted in them studies putting forth different outcomes.

When independent variables are taken into account, no significant difference between the candidates was found in terms of the gender variable regarding the academic self-efficacy perception levels. Some of the researches regarding the topic do support this obtained result. Thusly, in the literature, there are lots of studies saying that both two genders have a similar self-efficacy perception, in that there is no significant relationship between gender and self-efficacy

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On the other side, some studies regarding the gender variable say that self-efficacy and academic self-efficacy of females are higher (Busch, 1995; Bong 1999) and some of them say that males’ are higher (Demirtaş, Cömert & Özer, 2011; Fırat Durdukoca, 2010; Morgil, Seçken & Yücel, 2004; Zeldin & Pajares, 2000). Henceforth, what can be derived from this is that results obtained from this study don’t tally with the results of the studies in the literature. This situation may have stemmed from participants from the relevant researches having different socio-cultural structures.

A statistically significant difference was determined between academic self-efficacy perception levels of the teacher candidates in terms of the whether or not working as a teacher and academic achievement variables. As accordance with this, it was established that academic self-efficacy perception level of teacher candidates who work as a teacher, and of teacher candidates whose academic achievement is high, is higher. This revealed result shows parallelism with the result of the research conducted by Yenilmez and Turgut (2012) with Ülper and Bağcı (2012) regarding this topic. Amongst the results of relevant researches, it is stated that teacher candidates whose academic achievement level is high have a higher self-efficacy perception. But, thanks to a study conducted by Şahin-Taşkin and Hacıömeroğlu (2010), it was found out that there was no significant difference between academic achievements and self-efficacy perceptions of candidates.

Among the study results, it is stated that no significant difference was found between the views of the teacher candidates in the sense of the type of education program variable concerning the academic self-efficacy perception levels. Similar results were acquired from the studies relevant to this topic that were made by Demirtaş, Cömert and Özer (2011), and Özdemir (2008). This situation establishes that study results support each other and are consistent with one another.

When the obtained findings are generally reviewed, the result is that teacher candidates are in general just slightly above the average of the academic self-efficacy perception level. This situation at the same time points out that academic self-efficacy perception levels of the candidates are not at high levels. The obtained result, in other words views regarding the academic self-efficacy perception level of the teacher candidates, joining in on the option “suits me” rather than on the option “suits me totally”, which is the highest participation level of the four likert-type scale, can be given as proof of this result.

Recommendations

These advices were presented in the light of the results obtained from the research.

a. Instructors who guide the teacher candidates (consulting) can give scientific support in the fields of academic self-efficacy.

b. In the fields of academic self-efficacy, activities such as informative seminars, panels etc. to candidates can be organized.

c. For it was found out that working as a teacher contributes to the academic self-efficacy of the candidates, number of lessons in which the practice such as School Experience and Teaching Practice is focused, or course hours of these lessons can be increased.

d. This study was conducted upon the teacher candidates being educated in the pedagogical formation program. Similar studies can be conducted upon teacher candidates who take up undergraduate programs of faculties that bring up different teachers.

Acknowledgement

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