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# The Relationship Between Teaching-Learning Approaches And Academic Self-Efficacy Of Physical Education Candidate Teachers

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## ABSTRACT
The purpose of this study is to investigate the correlation between pre-service teachers' teaching-learning approaches and their academic self-efficacy. For this purpose, "correlations survey method" was adopted in this study in order to find answers to the research questions. The sample of the study was students (n=329) attending Physical Education and Sports Teacher Education Departments. The data were collected by "Teaching-Learning Approaches Questionnaire (Aypar,2011)" and " Academic Self-Efficacy Scale (Ekici, 2012)". According to Pearson's moment correlation analysis, it was found out that there was a positive significant correlation between pre-service teachers' teaching-learning conception and their academic self-efficacy. On the other hand, according to the results of the regression analysis, it was found out that pre-service teachers' constructivist perception predicted their student academic self-efficacy significantly.

**Keywords:** Teaching-learning approaches, academic self-efficacy, physical education and sports teacher candidates.

## INTRODUCTION
Intense changes occurring in our world in every field, has also affected the educational system of the countries thus it causes changes in essential qualities of individuals who will maintain the existence of the societies. At the present it is expected from the individuals that instead of consuming information they should have the abilities like raising new information by making sense of the information that we have, having an information-oriented life, critical thinking, synthesizing, problem solving, and communicating.

It can be said that developments in education sciences in different periods reveal two different teaching-learning concepts naming traditional and constructive, which are contrasted with each other (Duffy & Roehler, 1986; Chen & Elliot, 2004; Schunk, 2008; Cheng & et al., 2009; Akpınar, 2010; Aypay, 2011; Oğuz, 2011, Bıkmaz, 2011; Şahin & Yılmaz, 2011). Today the way of change in education shifts from the traditional way to student centered constructivist approach. In our country since 2006 constructivist approach based on cognitive theory has supplanted the place of traditional approaches that based on the behaviorist theory. Behaviorist theory which had been dominant until the 70s in education applications emerged based on the assumption that learners were passive in teaching. When teaching-learning situations considered in which traditional approach is applied learning is pursued with gifts, punishment, and repetition. A situation in which everything is controlled by a teacher is created (Açıkgöz, 2005). The Teacher seems as the source of the knowledge and students seem as the passive receivers. Teachers give the knowledge to students in a didactic way and expect them to give correct answers to questions. In traditional approach students often study alone (Chan and Elliott, 2004; Cheng & Cheng, 2009; Schunk, 2009).

In new teaching approach it is thought that teaching is handled like a complicated process and teaching can only be done by the educated tutors (Crisp, 2006). Students and teachers share the responsibilities in constructivist teaching. It is expected from students to attend learning activities at every stage and teachers to guide and pave the way for students while gaining knowledge and skills. Thus, planning, execution, and evaluation of the learning process are different from the traditional approach. Today it is believed that learning is an inner and cognitive process rather than being a product of environmental factors (Biggs, 1996; Açıkgöz, 2005). Constructivists believe that some activities and rich experiences can activate learning process and affect the learners' learning levels

positively (Brooks & Brooks, 1999). Hence constructivist learning is grounded in the process of problem solving, critical thinking, and creativity (Fer & Cırık, 2007).

Self-efficiency is a popular and searched concept that is an important determiner especially in the process related to education like learning and performance within social-cognitive theory (Bandura; 1989, 1994, 1997). According to Schunk (1991) self-efficiency belief is the most important predictor of the individual behaviors. Learners having high self-efficiency beliefs are more adaptive while gaining a skill or learning a subject, more hard working, more determined, more durable against difficulties, and more successful than the students who are skeptical about their capacities and skills (Pajares, 1996; Zimmerman, 2000). Academic self-efficiency accepted as a type of self-efficiency is the perception of the individuals about succeeding a duty at a level of specified success level (Schunk, 1991; Zimmerman, 1995). Academic self-efficiency is like a self-esteem in academic subject students need to study (Cheemers & et al., 2001).

It is stated that in order to be successful in school students' affective skills are important as much as their cognitive skills (Alsop & Watts, 2000; Thomson & Mintzes, 2002; Açıkgöz, 2005). In constructivist approach, students need to attend actively to the learning process by adding already known information, processing the information, developing hypotheses and testing and interpreting them (Açıkgöz, 2005). Therefore, it is known that affective domain skills are important to join that process. In order to increase students' course attendances, attentions, motivations, and self-esteems, constructivist approach methods can be used and that can increase their academic beliefs. In this context, it seems that it is possible to have a relation between learning-teaching perceptions and academic self-efficiency.

All in all, although there are so much both domestic and abroad, research in relevant literature about either academic self-efficiency or teaching-learning perceptions (Clements and Battista, 1990; Schunk, 2009, Aypar, 2011; Baş, 2012, 2013, 2014; Saçıcı, 2013), it is not encountered both of these subjects searched together. In an experimental research done by Kaya (2014), students' self-efficiency perceptions were examined about traditional and constructivist teaching methods in a chorus teaching. Therefore, it is thought that examining these two significantly interactive variables would be meaningful. Thus the problem statement of the research is "Is there any relationship between pre- service teachers' teaching-learning perceptions and their academic self-efficiencies." In order to find answers to the problem statement, these sub-problems are applied.

What is the level of pre-service P.E teachers' teaching-learning perceptions and academic self-efficiency points?

Is there any significant relationship between the teaching-learning perceptions and academic self-efficiencies of pre-service P.E teachers?

Do the teaching-learning perceptions of the pre service P.E teachers predict their academic self-efficiencies significantly?

**METHOD OF THE STUDY**

The purpose of this study is to investigate the correlation between pre-service teachers', attending Physical Education and Sports Teacher Education Departments on 1st and 4th grade at Akdeniz, Ahi Evran and Erciyes University, teaching-learning approaches and their academic self-efficacy. For this purpose, "correlations survey method" was adopted in this study in order to find answers to the research questions. Correlational research investigates the relationship between two or more variables without intervention (Büyüköztürk and the others, 2011).

The sample of the study was students (n=329) attending Physical Education and Sports Teacher Education Departments on 1st and 4th grade at Akdeniz, Ahi Evran, Ege and Erciyes University. The mean age (age = 21.92 ± 3:33) of 329 [130 women (39.5%) and 199 men (60.5%)] of students. 82 students (24.9%) are studying at Akdeniz, 97 (29.5%) students are studying at Erciyes, 84 (25.5%) students are studying at Ahi Evran and 66 (20.1%) students are studying at the Ege University. 176 (53.5%) students studying on the 1st grade and 153 (46.5%) students studying on the 4th grade. For the sample selection, appropriate sampling method was adopted. In this method, researchers start on the most accessible form the sample until they reach the needed size of responders (Cohen & Manion, 1998).

The data collection tools were "Teaching-Learning Approaches Questionnaire (Chan & Elliot, 2004)" and "Academic Self-Efficacy Scale (Owen & Froman, 1988)". Information about the scales is as follows.

**Teaching-Learning Approaches Questionnaire**

In order to determine understanding of the teaching-learning of prospective teachers, Teaching-Learning Approaches Questionnaire which was developed by Chan and Elliot (2004) and was adapted Turkish by Aypay (2011). The sample of the study was teacher candidates. The scale consists of 30 items and five-point Likert. Cronbach's alpha coefficient of the scale was calculated as 0.84. In some sub-dimensions; Cronbach's alpha coefficient for first subscale (constructivist approach 12 items) is 0.88, the Cronbach's alpha coefficient for the second sub-dimension (traditional approach 18 items) was calculated as 0.83 (Aypay, 2011). The Cronbach's alpha coefficient for the traditional approach in this research (18 items) is .85, the Cronbach's alpha coefficient for a constructivist approach (12 items) was found at 0.80.

**Academic Self-Efficacy Scale**

Academic self-efficacy is the perception of the individuals for doing academic tasks that have determined the level of success. For this purpose Academic Self-Efficacy Scale was developed by Owen-and Froman (1988) and validity and reliability studies were carried out by Ekici (2012) in Turkey conditions. The scale was applied to 683 university students. It is a five Likert-type scale and contains 33 items. The scale consists three dimensions: social status (the number of items: 10), cognitive practices (the number of items: 19) and technical skills (the number of items: 4). For overall Cronbach alpha reliability coefficient is 0.86. In this study, the Cronbach's alpha coefficient was found at .91.

In this study, arithmetic mean, standard deviation, Pearson product moment correlation coefficient technique was used to determine the correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy. The multiple regression analysis technique was used to examine the strength of procedure of teaching-learning approach to academic self-efficacy. SPSS 18.0 statistical software package was used for the analysis of the data in the study.

**FINDINGS**

In this part of the research, correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy and the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy is covered

**Table1.** The mean and standard deviation of scores, students obtained from the scales

| Scales | n | $\bar{X}$ | ss |
|---|---|---|---|
| **Traditional approach** | 329 | 3.33 | .66 |
| **Constructivist approach** | 329 | 4.14 | .53 |
| **Cognitive practices** | 329 | 3.42 | .63 |
| **Social status** | 329 | 3.47 | .61 |
| **Technical skills** | 329 | 3.42 | .77 |
| **Academic Self-Efficacy Scale (Total)** | 329 | 3.44 | .59 |

When Table 1 is examined, the mean scores of students constructivist approach (x= 4.14 ± .53), traditional approach mean scores (x= 3.33 ± .66) was found. Students of social status, academic self-efficacy scale Students had mean scores on social status (x= 3.47 ± .61), cognitive applications (x= 3.42 ± .63), technical skills (x= 3.42 ± .77) and total scale (t = 3.44 ± .59) for Academic Self-Efficacy Scale.

Table2. Correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy

| | Cognitive practices | Social status | Technical skills | Academic Self-Efficacy Scale |
|---|---|---|---|---|
| **Traditional** | r=.086<br>P=.120 | r=.070<br>P=.151 | r=.136*<br>P=.014 | r=.118*<br>P=.032 |
| **Constructivist** | r=.374**<br>P=.000 | r=.384**<br>P=.000 | r=.185**<br>P=.001 | r=.349**<br>P=.000 |

*p<.05, **p<.01

Referring to Table 2, the correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy was observed statistically significant. According to the results, correlation between cognitive applications and traditional teaching-learning approach (r = .086, p = .120), and social status (r = .070, p = .151), was observed not significant, correlation between technical skills (r = .136, p = .014) and total self-efficacy (r = .118, p = .032) was a significantly lower level in a positive way. Correlation between subscales, Constructivist-

learning approach and cognitive practices (r = .374, p = .000), social status (r = .384, p = .000), technical skills (r = .185, p = .001) and the total academic self-efficacy scale (r = .349, p = .000), was found significantly in a positive way.

Multiple regression analysis was used to examine the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy. There is the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy in Table 3.

Table3. Multiple regression analysis for the prediction of pre service students' academic self-efficacy

| Variable | B | Standard error | β | t | p |
|---|---|---|---|---|---|
| Fixed | 1.494 | .282 | - | 5.296 | .000 |
| Traditional approach | .105 | .046 | .117 | 2.271 | .024 |
| Constructivist approach | .385 | .057 | .349 | 6.773 | .000 |

R=368, $R^2$=.136, F (2,326)=25.564, p=.000

The predictor variables listed in Table 3 and it was found that the teaching-learning approach is a significant predictor of academic self-efficacy (R = .368 R2 = .136, p = .000). It was shown that teaching-learning approach (traditional and constructivist) explained the student's academic self-efficacy approximately 14%. When the teaching-learning approach was analyzed by considering separately, it was concluded that constructivist teaching-learning approach that the predictor variables (constructivist: R = .349 $R^2$ = .122, F = 45.393 P = .000) was a significant predictor of academic self-efficacy. It was shown that the constructivist approach explained the student's academic self-efficacy 12%. According to the standardized regression coefficients, the predictor variables of the order of importance on academic self-efficacy is; constructivist (β = -. 349) and traditional (β = .117) teaching and learning approaches

## CONCLUSIONS

In this study conducted to examine the relationship between physical education and sports teachers' teaching-learning perceptions and their academic self-efficacy, the following conclusions have been obtained.

Participant students' constructivist approach scores average have been found to be higher than the one of traditional approaches. It can be said that students have the constructivist teaching-learning perception. In the objectives, existing for teaching programs of physical education courses in schools, In the first place, it is expected the course to guide and build up students to improve their competency in movement and get the habit of living active and healthy. At the same time, it is stated that, through physical education and sports, students can improve their social and thinking skills as well (MoNE, 2013). In schools, physical education and sport curriculum (instruction programme) principles are based on learning through "physical activities, games and sports" and students' cognitive, affective and psychomotor improvement are handled as a whole. In student-centered environments, students should be given the opportunity to construct their own learning. When educating students, environment and experiences with other people are important. In learning-teaching environments, individual, pair, and group work are provided in a balanced way. During practices, ensuring students to feel safe physically and emotionally is important. Improving creativity, critical and reflective thinking are in the foreground (MoNE, 2013). As we have seen, the principles are arranged in accordance with constructivist approach. Prospective teachers who will give the courses in question should be educated key to constructivist approach which will form a basis for them to implement the curriculum successfully. Faculty members who work in the prospective teacher education are thought to play a major role in educating prospective teachers well qualified if they give lessons with active and student centered learning methods. In this study, the prospective teachers can be said to adopt mainly constructivist teaching-learning approach. When score averages of prospective teachers' academic self-efficacy were examined (= 3.44 ±. 59), it is found to be above average. According to a literature review, in the studies conducted with physical exercise, it is emphasized that, adolescents participating regular exercise programmes make progress in terms of increase in their social competence expectations, a positive improvement in self-esteem, greater success in taking and fulfilling responsibility, also that exercise influence stress and social factors positively (Ryan and Dzewaltowski, 2002; Öztürk and Koparan Şahin, 2007; Cengiz and Ince, 2013).

In the research, positive significant correlations are found out between students' traditional teaching-learning perceptions (r=.118, p = .032), constructivist teaching-learning perceptions (r=.349, p= .000) and their academic self-efficacy. Pursuant to the result, it can be said that, the correlation between students' constructivist approach and their academic self-efficacy is stronger than the correlation between the traditional approach and academic self-efficacy. Additionally, in the study, it is decided that, students' teaching and learning perceptions are significant predictors of their academic self-efficacy (R= .368, R2=.136, p=.000) and that prospective teachers'

constructivist and traditional perceptions, together, predict approximately 14% of the total variance of academic self- efficacy. When teaching- learning perceptions are examined one by one within the traditional and constructivist approaches; it is found that, whereas the traditional approach predicts academic self efficacy 1%, constructivist approach predicts academic self efficacy 12% in proportion. Hereunder, this result shows that constructivist teaching-learning approach is a significant predictor of student academic self efficacy. When relevant literature was reviewed, in an experimental study conducted by Kaya (2014), in choir training provided through constructivist and traditional approaches, students' self-efficacy was found to be higher with choir training course with a constructivist approach than the one with traditional approach. In that study, it was emphasized that constructivist approach which centralize students and encourage them to be active, changed their self-efficacy perceptions positively. This study supports our research.

As a result, positive significant correlations were identified between students' teaching and learning perceptions and their academic self-efficacy. However constructivist approach, compared to the traditional one, can be said to be more efficient in predicting academic self efficacy. Constructivist teaching-and learning approach provides students with the opportunity to understand the world in compliance with their own experiences and attach importance to working together, appreciating multiple perspectives, taking responsibility in learning and individual's self-awareness in constructing knowledge. Constructivist approach, strategies and techniques which make physical education prospective teachers active in courses and improve their psychomotor, cognitive, emotional and social abilities, can be included in the courses which in turn contributes to the improvement of prospective teachers' self-efficacy. Research can be conducted with different large sample groups. Moreover, experimental studies which investigate the relationship between the *courses* designed with traditional and constructivist approaches *and* students' *self efficacy perceptions* towards the course can be carried out.

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