

WCES 2012

## The relationship between self-efficacy and academic performance

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### Abstract

Most researchers investigating the relationship between self-efficacy and performance have reported a strong correspondence (Pajares and Miller, 1994). The aim of this study is to investigate relationships between self-efficacy and academic performance among a sample of 82 sophomore students who attended Instructional Planning and Evaluation class at the Marmara University Technical Education Faculty. Survey method used in this research. Each student's final grade note was used as a performance measure. The instrument was used to measure self-efficacy is the Motivational Strategies Scale developed by Pintrich and De Groot (1990) and adapted into Turkish by Altun and Erden (2006). Data analyzed by Pearson's Correlation and descriptive statistics. Findings were discussed regarding to the literature.

*Keywords:* MSLQ, Academic performance, Self-efficacy, Material design, Instructional Planning and Evaluation;

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### 1. Introduction

Self-efficacy refers to student's beliefs in their ability to master new skills and tasks, often in a specific academic domain (Pajares and Miller, 1994, cited by Nasiriyani, Azar, Noruzy, Dalvand, 2011). In other words, perceived self efficacy is concerned with people beliefs in their capabilities to produce given attainments (Bandura, 1997, cited by Bandura, 2006). Self efficacy is explained in the theoretical framework of social cognitive theory by Bandura (1986, 1997, cited by Mahyuddin, Elias, Loh, Muhamad, Noordin & Abdullah, 2006) which stated that human achievement depends on interactions between one's behaviours, personal factors and environmental conditions.

Learners obtain information to appraise their self-efficacy from their actual performances, their vicarious experiences, the persuasions they receive from others, and their physiological reactions. Self-efficacy beliefs influence task choice, effort, persistence, resilience, and achievement (Bandura, 1997; Schunk, 1995). Compared with students who doubt their learning capabilities, those who feel efficacious for learning or performing a task participate development of academic self-efficacy more readily, work harder, persist longer when they encounter difficulties, and achieve at a higher level (Schunk, & Pajares, 2002).

In briefly, self-efficacy is said to have a measure of control over individual's thoughts, feelings and actions. In other words, the beliefs that individuals hold about their abilities and outcome of their efforts influence in great ways how they will behave. Therefore, it is not surprising that many research show that self efficacy influences

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academic achievement motivation, learning and academic achievement (Pajares, 1996; Schunk, 1995, cited by Mahyuddin, Elias, Loh, Muhamad, Noordin & Abdullah, 2006). In line with these findings, Schunk and Zimmerman (1994, cited by Mousoulides & Philippou, 2005) reported that there was a positive relationship between self-efficacy and academic achievement and that if students are trained to have higher self-efficacy beliefs their academic performance also improves. Most researchers investigating the relationship between self-efficacy and performance have reported a strong correspondence (Pajares and Miller, 1994). Students with strong senses of self-efficacy tendency involve in challenging tasks, invest more effort and persistence, and show excellent academic performance in comparison with students who lack such confidence (Bong, 2001, cited by Nasiriyani, Azar, Noruzy, Dalvand, 2011).

This study aims, within the theoretical framework outlined above, to examine the relationship between self-efficacy and academic achievement, which appear to be two important characteristics in the learning process.

The problem statement of the study is as follows: “Is there a relationship between the learning styles and self-regulation skills of students?”

## **2. Method**

This study uses survey methodology because it aims to describe an existing situation. Studies using survey methodology aim to provide accurate descriptions of a past or present situation (Karasar, 2005, p. 77).

82 participants selected for study who attended 2010-2011 spring term, “Instructional Planning and Evaluation” classes from Electricity Education and Computer Education departments in Marmara University, Technical Education Faculty (MUTEF). Due to reveal their identities, just volunteer sophomore students were included to research.

A survey which formed two parts, distributed to students. First part included independent variables (department, high school departments and, their parents’ educational level) as well as MSLQ’s (Motivated Strategies for Learning Questionnaire), Motivated Beliefs – Self-efficacy subscale.

Independent variables analyzed via descriptive techniques and tried to observe if MSLQ scores related their gender, department, high school departments and/or their parents’ educational level.

Collected data were analyzed using Pearson’s Correlation ( $r$ ) in SPSS 16.0 (Social Sciences Statistical Package) statistical software. Alpha level determined as .05 for all statistics.

### *2.1. Data Collection Tools*

To identify the academic performance of the students, each student’s final grade notes from the class was used as a performance measure.

To measure the self-efficacy skills of the students, the “Motivated Strategies for Learning Questionnaire” (MSLQ) developed in 1991 by Pintrich, Smith, Garcia, and Mc Keachie was used. The scale, which is a 7-point Likert scale, consists of the three dimensions of Motivational Beliefs, Cognitive and Metacognitive Self-Regulation, and Resource Management Strategies. Under these three dimensions there are 15 sub-dimensions. In this study self-efficacy sub-dimension was used. The scale was adapted to Turkish by Altun and Erden (2006) who also examined its validity and reliability. There are 8 items in the scale and factor scores were calculated between 0.55 and 0.80.

The reliability of the self-efficacy sub-dimension was found 0.89.

### 3. Discussion

Participant group's descriptive statistics show 32 students (39%) from Electricity Education Department versus 50 students were attending Computer Education Department's class. Their parents' education level is shown as Table 1.

Table 1. Parents' Education Level

Groups	Mother		Father	
	Frequency	Percentage	Frequency	Percentage
Missing Value	3	3.7	1	1.2
Elementary/Secondary School	58	70.7	44	53.7
High School	19	23.2	25	30.5
College	2	2.4	12	14.6
Total	82	100.0	82	100.0

As see in Table 1 most parents' education levels were elementary or secondary grade (70.7%). 19 (23.2%) parents have high school and dramatically just two parents (2.4%) have bachelor degree.

59 out of 82 students (72.0%) from vocational high school and 23 of them from senior or technical high school in this research as Table 2 shows.

Table 2. Students' Hig School Departments

	Frequency	Percentage
Senior or Technical High School	23	28.0
Vocational High School	59	72.0
Total	82	100.0

Calculated Pearson's correlation ( $r$ ) were ,45 ( $p < ,01$ ) between academic performance and MSLQ score. Significant correlation may show self-efficacy is an important variable on students' academic performance and effects their achievement positively.

However there is no significant relation between self-efficacy and the other variables ( $p > ,05$ ). Therefore we may say that self-efficacy more efficient on academic performance than socio-economic variables.

Farkota (2003) found the highest levels of achievement in mathematics were reported in those students with the most gain in self-efficacy beliefs. But she couldn't find any significant change in her research about self-efficacy.

As Lynch (2010) indicated, "conduct a task-analysis of the academic knowledge and skills required and support students so they demonstrate proficiency in the sub skills well in advance of the midterm exam".

Parents' education levels got our attention in this research. Look like low education leveled families prefer technical education in colleges in Turkey. Beside of need deeper researches about this situation, self-efficacy scores calculated higher (Mean=5,25) than expected.

There should be more researches designed to predict how effect self-efficacy on academic performance. And need to more researches to determine impacts of socio-economic variables on self-efficacy, self-confidence and related variables.

On the other hand longitudinal researches may light the way for see closer relations between self-efficacy and academic achievement.

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