An investigation into university students' study skills

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Abstract

Students' study skills consisting of different dimensions are regarded as specific indicators of their academic performance. It was aimed to examine if there is a significant difference regarding the students' motivation, time management, preparation for the examination, their score of examination and anxiety management according to their gender, departments and Undergraduate Placement Exam (UPE) scores. The current study was conducted during 2016-2017 academic year with the participation of 117 male and 55 female students of different disciplines at Yildiz Technical University. The information about the ability to study was gathered through a questionnaire developed by Bay, Tugluk and Gencdogan (2005). Data were analysed using One-Way ANOVA, t-test, and Pearson correlation analysis. According to ANOVA results, it was seen that there are significant differences between students' departments and time management. Also, T-test results indicated that there is a significant difference between female and male students in terms of their departments and time management dimension. Yet, the findings showed that there is not a significant correlation between students' UPE scores and dimensions of study skills.

Keywords: Study skills; university students.

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1. Introduction

Learning is the responsibility of the students, although teachers are seen as the most important element of instruction. Students use study skills developed by themselves during their education life. Yet, it can be said these are inefficient and inappropriate for their learning. Many researchers such as Lammers et al. (2001), Atilgan (1998), Jones et al. (1996), Agnew et al. (1993), Lawler-Prince, Slate and Jones (1993), Elliot, Godshall and Shrout (1990), and Schultz (1989) highlight that there is a positive relationship between academic achievement and study skills of students.

Harvey (1995) defines study skills as competence in acquiring, recording, organizing, synthesizing, remembering, and using information and ideas which can be modified for learners. And, many activities such as time management, setting appropriate goals, selecting an appropriate study environment, employing appropriate note-taking strategies, concentrating, selecting main ideas, self-testing, organization, and managing anxiety are included by study skills. According to Bay, Tugluk and Gencdogan (2005), motivation, time management, and exam anxiety are accepted as the factors which influence on success and study skill of students.

2. Literature review

2.1. Motivation

Motivation is explained as the reasons underlying behaviour by Guay et al. (2010). Also, it is defined as the attribute moving us to do/not to do something by Broussard and Garrison (2004). Intrinsic motivation is motivation that is animated by personal enjoyment, interest, or pleasure. According to Deci et al. (1999), intrinsic motivation which is thought that it brings out better learning outcomes than extrinsic motivation by educators sustains activities through the instinctive satisfactions inherent in effective willing action. And generally, researchers diverge intrinsic motivation with extrinsic motivation which is motivation governed by reinforcement contingencies.

It is believed motivation includes beliefs, perceptions, values, and interests which are closely related. And, numerous approaches to motivation can focus on cognitive behaviours including monitoring and strategy use, non-cognitive aspects involving perceptions, beliefs, and attitudes, or both of them. For instance, academic motivation is accepted as enjoyment of school learning characterized by a mastery orientation (Gottfried, 1990). Yet, Turner (1995) defines motivation as cognitive engagement which is believed as using voluntarily high-level self-regulated learning strategies (e.g. paying attention, planning, and monitoring).

2.2. Time management

Today, time is believed as an indefinitely divisible and usable commodity (Nasrullah & Khan, 2015). Macan, Shahani, Dipboye and Phillips (2000) suggest managing time is the secret to achieving success. And, time management is also accepted as the art of arranging, organizing, and scheduling one's time for the purpose of generating more effectiveness work and productivity. (Adebayo, 2015). Alay and Kocak (2003) underline that the competitive environment encourages individuals from as early as the elementary education to manage their time in our world.

According to Brigitte, Claessens, Eerde, and Rutte (2007), in improving student's achievements, time management plays a crucial role. And, it is believed that there is a relationship between time management and performance, ability and motivation which act as a barrier between the students and their academic performance. Also, Indreicaa, Cazan and Truta (2011) highlight that time management has a positive impact on academic performance. Moreover, Gall (1988) and Longman and Atkinson (1988) stress poor time management practices are cited as a main source of poor academic

performance. Because of these, students should learn to organize their activities in accordance with all factors which influence on their performance.

2.3. Exam anxiety and anxiety management

Test anxiety which can be defined as predicting adverse results in exams is another important factor having an effect on motivation. According to Dusek (1980), it includes the undesirable experience of worry in situations where the individual feels she/he is being evaluated. The evaluation of academic achievement by tests is a prime example. Ball (1995) also underline that many variables such as the level of anxiety, the difficulty of the task, and the ability of the student may mediate the effects of test anxiety.

While a small amount of anxiety acts as a motivator, too much anxiety has the opposite effect on the student's performance. That is to say, the first one can enhance performance by encouraging the student to try. But, the second one can disrupt mental processes being needed for the student to perform well. Based on the studies of Cassady and Johnson (2002), Schunk, Pintrich, and Meece (2008), and Zeidner and Matthews (2005), poor test performance is characteristic which is shared by students with test anxiety.

According to the literature, test anxiety is a common problem among university students (Nicaise, 1995; Strumph & Fodor, 1993). Thanks to repeated academic failure, Tobias (1979) state twenty-per cent of test anxious students quit school before graduating. Also, Bryan, Sonnefeld and Grabowski (1983) stress that test anxiety associates with negative attitudes toward school, low self-esteem, disruptive classroom behaviour, and unpleasant feelings stemming from an intense fear of failure.

The purpose of the current study is to explore if the students' studying skills show significant differences in terms of gender, departments and Undergraduate Placement Exam (UPE) scores. For this purpose, answers to the following questions are sought:

1. Are there any significant differences in students' studying skills in terms of their departments?

2. Are there any gender differences in university students' studying skills?

3. Is there a significant relationship between students' studying skills and their Undergraduate Placement Exam (UPE) scores?

3. Method

3.1. Participants and setting

This study was conducted during 2016-2017 academic year with the participation of 55 female (31.97 %) and 117 male (68.03 %) university students studying at Yildiz Technical University. All participants took part in the study voluntarily. The distribution of the sample with respect to departments is shown in Table 1.

Table 1. The students participating in the survey

	Departments	N	%
1	Social sciences teaching	43	25
2	Turkish teaching	33	19.19
3	Science teaching	30	17.44
4	Computer and instructional technologies teaching	30	17.44
5	Classroom teaching	36	20.93

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3.2. Data collecting instrument

This study is based on survey design. Study Skills Scale (SSS) developed by Bay, Tugluk and Gencdogan (2005) was used in order to assess students' study skills. The scale has 26 items. And, it consists of Motivation (eleven items), Time Management (seven items), Preparation for the Examination and Management of Examination Anxiety (eight items) dimensions. Participants choose the answer they feel most represents to extent to which a statement is true of them (1= Very true of me to 5= Not at all true of me).

3.3. Analysis of data

Data acquired by means of the applications of Study Skills Scale (SSS) was analysed using One-Way ANOVA and Independent t-test, and Pearson correlation analysis via SPSS (Statistical Package for Social Sciences) 21.0 software program. One-Way ANOVA was used to define whether there were any significant differences in students' study skills in terms of their departments. Also, the analysis of independent samples t-test was used to define whether there were any gender differences in university students' study skills and their department choices. Moreover, the analysis of Pearson correlation was used to define whether there was a significant relationship between students' study skills and their Undergraduate Placement Exam (UPE) scores.

4. Findings

In this section, the differences in university students' study skills in terms of their departments are examined. And, it intends to explore gender differences in university students' study skills and their department choices. Also, the relationship between students' study skills and their Undergraduate Placement Exam (UPE) scores are analysed.

Table 2 summarizes the following findings which include descriptive statistics on the research's independent variables.

Table 2. Means, standard deviations and maximum scores

	N	Mean	Min.	Max.	Std. D.	Std. Er.
M	172	35.62	13.00	51.00	7.11	.54
TM	172	19.65	7.00	32.00	5.33	.40
PE & MEA	172	22.40	8.00	38.00	6.56	.50
TSSS	172	77.68	43.00	116.00	15.60	1.19
Departments	172	2.90	1.00	5.00	1.48	.11
UPE	172	374.60	236.00	452.00	44.63	3.40

M (Motivation), TM (Time Management), PE&MEA (Preparation for the Examination and Management of Examination Anxiety), TSSS (Total Scores of Study Skills), UPE (Undergraduate Placement Exam Scores)

Table 3 focuses on the differences between male and female students in terms of study skills.

Table 3. Differences between male and female students in terms of study skills

	Gender	N	Mean	S. D.	t	p
M	Female	55	34.34	7.46	1.62	.77
	Male	117	36.22	6.89		
TM	Female	55	19.60	4.68	.08	.05
	Male	117	19.67	5.63		
PE & MEA	Female	55	22.54	6.48	-.18	.70
	Male	117	22.34	6.62		
TSSS	Female	55	76.49	14.68	.68	.36
	Male	117	78.23	16.05		

* The mean difference is significant at the .05 level
M (Motivation), TM (Time Management), PE&MEA (Preparation for the Examination and Management of Examination Anxiety), TSSS (Total Scores of Study Skills), UPE (Undergraduate Placement Exam Scores)

In Table 3, differences between male and female students were shown in terms of study skills. According to analysed data, it is observed that there is a significant difference between female and male students with regard to time management dimension (t=.08; p=0.05). In keeping with this finding, it can be suggested gender is a significant variable on students' time management.

It is focused on the students' departments according to their gender in Table 4.

Table 4. Differences between male and female students in terms of their departments

	Gender	N	Mean	S. D.	t	p
Departments	Female	55	2.80	1.60	.61	.02
	Male	117	2.94	1.43		

* The mean difference is significant at the .05 level

As it can be seen in Table 4, there are statistically significant differences between male and female students in terms of their departments (t=.61; p<0.05). It can be said that gender is a significant variable on students' department choices regarding this result.

One-Way ANOVA test was conducted in order to determine if there were any significant differences in students' study skills in terms of their departments. Table 5 and 6 show the descriptive statistics and findings of One-Way ANOVA analysis.

Table 5. The descriptive statistics of the students' study skills according to their departments

Dimensions	Department	N	Mean	Std. D.	Std. E.	Min.	Max.
M	1	43	36.23	5.38	.82	24.00	46.00
	2	33	35.60	7.88	1.37	17.00	50.00
	3	30	35.40	8.12	1.48	13.00	49.00
	4	30	33.03	7.13	1.30	21.00	46.00
	5	36	37.25	7.06	1.17	21.00	51.00
TM	1	43	19.48	5.31	.80	9.00	32.00
	2	33	19.78	4.80	.83	7.00	28.00
	3	30	19.06	6.25	1.14	11.00	32.00
	4	30	17.63	5.16	.94	9.00	29.00
	5	36	21.88	4.55	.75	12.00	31.00
PE & MEA	1	43	22.60	6.76	1.03	8.00	35.00
	2	33	21.96	7.34	1.27	8.00	36.00
	3	30	22.03	5.62	1.02	12.00	35.00
	4	30	22.66	5.93	1.08	8.00	33.00
	5	36	22.66	7.10	1.18	9.00	38.00
TSSS	1	43	78.32	14.22	2.16	51.00	105.00
	2	33	77.36	17.64	3.07	43.00	113.00
	3	30	76.50	16.95	3.09	43.00	116.00
	4	30	73.33	14.79	2.70	49.00	102.00
	5	36	81.80	14.41	2.40	45.00	106.00

M (Motivation), TM (Time Management), PE&MEA (Preparation for the Examination and Management of Examination Anxiety), TSSS (Total Scores of Study Skills), UPE (Undergraduate Placement Exam Scores)

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Table 6. The findings of One-Way ANOVA analysis of the students' study skills according to their departments

Dimensions	Groups	Sum of squares	df	Mean	f	p
M	Between Groups	313.96	4	78.49	1.57	.18
	Within Groups	8346.47	168	49.97		
TM	Between Groups	314.42	4	78.60	2.88	.02
	Within Groups	4558.64	168	27.29		
PE & MEA	Between Groups	16.63	4	4.15	.09	.98
	Within Groups	7354.88	168	44.04		
TSSS	Between Groups	1242.52	4	310.63	1.28	.27
	Within Groups	40410.88	168	241.98		

* The mean difference is significant at the .05 level
M (Motivation), TM (Time Management), PE&MEA (Preparation for the Examination and Management of Examination Anxiety), TSSS (Total Scores of Study Skills), UPE (Undergraduate Placement Exam Scores)

According to the findings which were shown in Table 5 and 6, it was observed that there was a significant difference in students' time management in terms of their departments (p<0.05). The result of the ANOVA test indicated departments affected students' time management while it did not affect students' motivation, preparation for the examination and management of examination anxiety and total scores of study skills. It was also confirmed that there were not any differences between groups.

The findings regarding the correlation analysis on the relationship between relationship between students' learning and studying approaches and their Undergraduate Placement Exam (UPE) scores are shown in Table 7.

Table 7. Correlation analysis among students' study skills and their Undergraduate Placement Exam (UPE) scores

		M	TM	PE & MEA	TSSS	UPE
M	R	1	.53**	.44**	.82**	.08
	Sig. (2-tailed)		.00	.00	.00	.30
	N	172	172	172	172	172
TM	R	.54**	1	.56**	.82**	.07
	Sig. (2-tailed)	.00		.00	.00	.34
	N	172	172	172	172	172
PE & MEA	R	.44**	.56**	1	.81**	-.01
	Sig. (2-tailed)	.00	.00		.00	.83
	N	172	172	172	172	172
TSSS	R	.82**	.82**	.81**	1	.05
	Sig. (2-tailed)	.00	.00	.00		.48
	N	172	172	172	172	172
UPE	R	.08	.07	-.01	.05	1
	Sig. (2-tailed)	.30	.34	.83	.48	
	N	172	172	172	172	172

** Correlation is significant at the .01 level (2-tailed).
M (Motivation), TM (Time Management), PE&MEA (Preparation for the Examination and Management of Examination Anxiety), TSSS (Total Scores of Study Skills), UPE (Undergraduate Placement Exam Scores)

In accordance with the findings of correlation analysis in Table 7, there was not significant correlation between motivation and UPE scores (p>.01), between time management and UPE scores (p>.01),

between preparation for the examination and management of examination anxiety and UPE scores (p>.01), and between total scores of study skills and UPE scores (p>.01).

5. Discussion

In the current study, the differences between male and female students was analysed in terms of study skills. The findings showed that the female university students had high time management dimension scores than the males. Similar to our research findings, Erdul (2005) and Kaya, Kaya, Pallos, and Kucuk (2012) determined that female students were more successful at time management.

As the results are analysed with regards to the relationship between female and male students in terms of learning and studying approaches, it was noticed that gender had an effect on the students' test anxiety scores. These results are in line with Farooqi, Ghani and Spielberger's (2012), Senel, Yeniyol, Kole, and Adilogullari's (2014), and Toubiana's (2005) studies' findings. They also found that female students had higher test anxiety scores. Also, Ergene (2011) underlined that males had more distressful attitude than females. And, Toubiana (2005) said exam anxiety levels vary by cultures.

According to another finding of the present study, it found that there are statistically significant differences between male and female students in terms of their departments. As a result of this finding, it can be suggested gender is a significant variable on students' department choices. Also, in accordance with the current study's results, it came up departments affected students' time management scores. But, it did not effect on students' motivation, preparation for the examination and management of examination anxiety and total scores of study skills. Moreover, another finding of the study is that there was not significant correlation between motivation, time management, preparation for the examination and management of examination anxiety, and total scores of study skills and UPE scores. As there cannot be found any researches about these subjects, it can be said these findings are new in the literature.

5.1. Recommendations

When the findings of the study are considered, it can be suggested some ideas for the researchers for further research. First of all, this study investigated and evaluated the information of the students by the questionnaires. Because of this, more qualitative data may be collected through observation or interview techniques. Secondly, the current study conducted with the participation of 178 university students. For this reason, further studies may be carried out with a larger sample group.

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