



## Factors Affecting University Students' Achievement

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### Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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### ABSTRACT

**Aims:** This study aimed to investigate the factors that affect students' achievement.

**Study Design:** Quantitative descriptive & qualitative designs were employed in this study.

**Place and Duration of Study:** The study was conducted in Tafila Technical University (TTU), Jordan, during Feb – May 2015.

**Methodology:** The sample of the study consisted of 488 students (219 males and 269 females). The researcher used two methods to collect data; a questionnaire was developed to collect quantitative data, it consisted of 5 sections; the first section includes items for demographic information (gender, academic year, college and students' accumulated average). The other 4 sections were the questionnaire domains; each domain represents the achievement problems from students perspectives related to that domain; domain1 represents achievement problems related to students (10 items), domain 2: problems related to the faculties (7 items), domain 3: Problems related to courses (9 items), domain 4 problems related to test administration (13 items). In order to collect a qualitative data about factors affecting students' achievement, the researcher used focus group discussion (FGD).

**Results:** The results indicated that the following factors affect students' achievement: courses, test administration, students, and faculties. The results indicated also statistical significant differences

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( $P = .05$ ) attributed to gender on the achievement problems associated with test administration, courses and faculties; female students had higher mean in problems associated with courses and test administration, while male students were suffering more from problems associated with faculties. Finally, there are statistically significant differences ( $P = .05$ ) attributed to colleges on the achievement problems associated with students and faculties; humanity college students have more problems related to students domain, while scientific colleges students have more problems associated with faculty domain.

**Conclusion:** This study is aimed to determine the key factors that influencing students' achievement, the study showed that students' achievement was affected by the factors identified by the researcher; faculties, courses, students and test administration. Students vary in the degree of the effect of these factors according to their gender and the college they study in. The student performance would be improved if the academic institution leaders minimize the influence of the proposed factors and taking care of the psychological factors that influence students' achievement by increasing the role of counseling centers at the universities, providing better environment for assessing students' achievement, faculties must be more fair in assessing their students, Faculties Development Centers at Jordanian universities may need to focus on developing the methods of assessment that used by faculties, and faculties and administrators should advise the students about the factors that affect their achievement and how to overcome these factors. The academic achievement of the students depends on many factors; only 4 of them have been identified by this study. There may be other factors which may have a direct effect on students' achievement, such as; the influence of socioeconomic factors, teacher-student ratio, students attendance in the class, and mother and father education. Based on the findings of this study and in order to generalize the results, the researcher suggests that research should be extended to all Jordanian universities.

*Keywords: Achievement; university; test; students.*

## 1. INTRODUCTION

When students transfer from high school life to the university they suffer from different types of problems like methods of teaching and learning, assessment strategies, adaptation to the campus environment, financial and social problems. All these factors could affect their achievement. Students' achievement is considered as the most important issue not only for students' life but also in achieving the educational goals of the academic institutions. The valid and accurate achievement must reflect students' true abilities, and it must be done without any measurements violations, according to test classical theory; the achievement is a combination between students' true abilities and measurement errors [1]. So educators have to minimize those factors to avoid student fail; which affect students and their families not only financially but also psychologically and this will be reflected on university budget and increase the educational costs; which will lead to educational loos.

According to that; educators should concentrate on studying these problems in order to solve them, improve the quality of educational services and to graduate distinguished students, for achieving the quality assurance of education. Providing a good quality of education is one of

the universities' responsibilities. To achieve this goal, universities have to reduce the factors influencing negatively the students' achievements. Educational policy makers must take in their consideration these factors when they construct the educational plans. [2] Indicated that a student's characteristics, university methods of teaching and environment affect students' educational achievements. Ferguson, James and Madeley [3] and Cede and Kuncel [4] realized that study habits, students' attitudes, learning strategies, and motivation affect the students' achievements. Jama, Mapesela and Beylefeld [5] suggested that the following variables contribute to factors affecting students' performance: Academic progression prior to entry into the university, initial entry to the university, progression into actual teaching and learning experience, the ongoing social and academic integration into the university, finance, and language [6]. Found that teachers related factors have the highest effect on students' performance; personal factors have a high effect, while home related factors have a low effect [7]. Realized that students may lack the basic skills required for effective study.

Researchers conducted various studies relating to this domain; Alshawa, Abulaban, Merdad, Baghla, Algethami, Abu Shanab and Balkhoyor

[8] conducted a study in the Medical Faculty of King Abdulazeez University to explore factors that potentially influence excellence of medicine students. 359 undergraduate students participated in the study. The results indicated that there was no statistically significant difference regarding the time spent on outings and social events. 79% of high GPA students prefer to study alone. 68% required silence and no interruption during studying time. 47% revise their material at least once before an exam. 60.7% of high GPA students spend less than 2 hours on social networking per day as compared to 42.6% of the lower GPA students.

Rahman and Malan [9] investigated the factors that led to poor performance in English Subject in Bangladeshi College from teachers and students perspectives. To carry out that investigation 40 students were asked to complete a questionnaire, 4 teachers and 4 students were interviewed. Analysis of the results indicated the following factors revealed poor performance in English: lack of adequate exercise on communicative language teaching in the classroom, faulty assessment system, lack of teachers' training and low basic level of the students.

Mandal, Ghosh, Sengupta, Bera, Das and Mukherjee [10] assessed the reasons behind the Medical Students' performance. The sample of the study consisted of 150 third year medicine students. The result indicated that: self-assessed depression, sleep disorders, perceived parental and peer pressure affect students' performance. They also found that socioeconomic status and regularity in the class were not linked to academic performance.

Demeati [11], conducted a study to investigate academic problems which affect Tiba University female students and relation with these variables: Gender, study level and students' performance. The study sample consisted of 384 students. It indicated that students faced the following problems: Problems related to the faculties, university library, and courses schedule. The results indicated also that the following factors affected students' performance: distance learning using intra T.V. circuits, faculties, and courses.

Ahmed, Previaiz and Aleem [12]. Conducted a study to dig out the factors affecting the student's academic performance. The study sample consisted of 250 students from Islamic University

of Bahawalpur. Multiple regression models recommended the following significant variables: mother's education, graduation mark, daily cafeteria hours, participation in co-curricular activities daily study hours, management solves the genuine problems, innovate thinking, equity and motivation from parents.

The study of Raychaudhuri, Debnath, Sen and Majumder [13] found that factors like students' attendance, mothers' education and presence of trained teacher in the school had a positive impact upon students' academic performance.

In the study of Abu Baker, Tarmizi, Mahyuddin, Elias, Luan and Ayub [14] 1484 students from Patras University in Malaysia were selected to find out the relationship between university students' achievement motivation, attitude and academic performance. The results indicated a positive significant correlation between students' attitude toward learning and achievement motivation and between students' attitudes and academic achievement. However, a negative relationship was observed between student's achievement motivation and their academic achievement.

Ali, Jusoff, Ali, Mokhtar and Salamat [15] identified 5 factors influencing students' performance at University of Technology MARAKedah in Malaysia, 4 factors were positively related to students' performance: demographic, active learning, students' attendance and involvement in extracurricular activities. However course assessment was found to be negatively related to students' performance. This study differs from the previous studies that it took different factors which affect students' achievement, and for the researcher knowledge, it is the first study conducted for Jordanian university students.

Rasul and Bukhsh [16] designed a study to measure the factors affecting students' performance in examinations at university level; the questionnaire they used was administered to 200 students from faculty of science of Bahauddin Zakariya University Multan in Pakistan. The results indicated that psychological, physical, socio-economic, educational factors, change in pattern of question papers, unfair means in examination, and lack of paper guidance affects the student performance.

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achievement, and for the researcher knowledge, it is the first study conducted for Jordanian universities students.

## 2. PROBLEM STATEMENT

Higher educational institutions seek to graduate high qualified persons because they are the future leaders. So, these institutions used different assessment strategies, these strategies were affected by different factors which make them inaccurate and didn't reflect students true abilities, This study will determine the factors that affect students' achievement, precisely; the study will answer the following questions:

- 1- What are the factors that affect the students' achievement?
- 2- Is there any statistically significant difference in the factors that affect students' achievement attributed to the gender and college?

## 3. STUDY IMPORTANCE

The researcher noticed that many students had low accumulated average, so they were exposed to academic warning and some them had to repeat some courses, others had to be fired from the university and this will cause financial problems both to the students and to the university, according to the registration department at Tafila Technical University the failure rate at humanity colleges was 6% and for scientific colleges was 10%; and this rate added additional costs to all stakeholders. The assessment process must be fair, accurate and reflect student real abilities. This study will highlight the problems associated with academic achievement in order to provide the decision makers with the factors that affect students' achievement in order to solve these problems, reduce assessment violations and to provide a better life to the students. The study may benefit the students by providing them with a better understanding about the factors that affect their achievement.

## 4. METHODOLOGY

### 4.1 Design

Descriptive design was applied to collect quantitative data; a questionnaire was used for this purpose, it consists of 39 items and 4 domains: students, faculties, courses, and test administration. Students were asked to respond to the questionnaire by indicating their views

about the problems affecting their achievement Focus group discussion was applied to collect qualitative data; 8 voluntary students representing both sexes and the 2 types of colleges were interviewed to express their point of views about factors affecting their achievement.

### 4.2 Population and Sampling

The population of the study consisted of all Tafila Technical University students in Jordan (TTU) (N= 5000). The Data was collected from 488 undergraduate students. The response rate equals 95%. The participants were chosen from the university general subject classes, 8 out 16 sections were chosen randomly, all students in theses sections participated in the study; the researcher used this method to ensure the participation of students from different colleges and from all academic years. The sample consisted of 219 males and 269 females. The participants represent the scientific colleges (Science & Engineering) (N=230) and humanity colleges (Arts, Business, and Education) (N=258). The sample represented 9.76% of the study population (Table 1).

Table 1. Study sample

	Gender	College		Total
		Scientific	Humanities	
	Male	141	78	219
	Female	89	180	269
	Total	230	258	488

### 4.3 Instrument

A questionnaire was developed using: 1- related literature. 2- researchers' experience 3- open-ended questions were asked to the students about factors that affect their achievement. The survey consisted of 5 sections; the first section includes items for demographic information (gender, academic year, college and students' accumulated average).The other 4 sections were the questionnaire domains; each domain represents the achievement problems from students perspectives related to that domain; domain1 represents achievement problems related to students (10 items), domain 2: problems related to the faculties (7 items), domain 3: problems related to courses (9 items), domain 4 problems related to test administration (13 items). The students were asked to respond to each item using Likert scale (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The researcher checked the

internal validity of the instrument through the following: well preparing for the instrument and making sure to include the suitable psychometric characteristics, in addition, the researcher himself who collected the data and analyzed it by himself. The sample was chosen randomly. There are no effects for the other internal validity threats as maturation, leakage of the sample pretest, and the research duration.

8 students were interviewed to collect qualitative data from the focus group.

**Table 2. Correlation between items and domains**

Domain	Item number	Correlation with domain	Significant
Student	1	0.392	0.01
	2	0.485	0.01
	3	0.451	0.01
	4	0.576	0.01
	5	0.576	0.01
	6	0.381	0.01
	7	0.401	0.01
faculties	1	0.413	0.01
	2	0.502	0.01
	3	0.562	0.01
	4	0.666	0.01
	5	0.625	0.01
	6	0.492	0.01
	7	0.575	0.01
	8	0.720	0.01
Courses	9	0.686	0.01
	1	0.589	0.01
	2	0.568	0.01
	3	0.485	0.01
	4	0.534	0.01
	5	0.510	0.01
	6	0.602	0.01
	7	0.642	0.01
	8	0.549	0.01
	9	0.602	0.01
10	0.559	0.01	
Test administration	1	0.450	0.01
	2	0.438	0.01
	3	0.626	0.01
	4	0.455	0.01
	5	0.401	0.01
	6	0.626	0.01
	7	0.515	0.01
	8	0.593	0.01
	9	0.662	0.01
	10	0.600	0.01
	11	0.610	0.01
	12	0.501	0.01
	13	0.468	0.01

#### 4.4 Validity

Face validation was used to validate the content of the questionnaire. The questionnaire was sent

to 8 experts from educational colleges at Jordanian universities. Three of them are specialized in psychological counseling, two in assessment, and three in educational psychology. They were asked to review the instrument using following criteria: clarity of items, relevance of the items to the domain, and clarity of instructions. The experts reported that the instrument was good and the items belong to domains; according to that the researcher realized that the instrument was valid. Construct validity was checked by calculating the correlation between the items and their domain. Table 2 represents these findings. According to these findings all items were significantly correlated to its domain ( $P = .01$ ); this indicate an acceptable reliability coefficient too.

#### 4.5 Reliability

The reliability was checked using test retest method and internal consistency using Cronbach ( $\alpha$ ) equation and it equals to 0.884 and 0.859 successively. Table 3 represents reliability coefficients for the instrument and its domains.

**Table 3. Reliability coefficients**

Reliability domain	Test retest	Cronbach ( $\alpha$ )
Course	0.870	0.838
Faculties	0.821	0.823
Students	0.821	0.811
Test administration	0.854	0.789
<b>Total</b>	<b>0.884</b>	<b>0.859</b>

#### 4.6 Procedures

The researcher asked a permission from some colleagues teaching in the university general subjects to distribute the questionnaire, students were asked to respond to the questionnaire using flyers; they were informed that answering the questionnaire is not compulsory, although their commitment, accuracy and completion all items will be reflected on the study results which will diagnose the problems associated with testing and their achievement. It took about 20 minutes to complete responding to the questionnaire. In order to collect a qualitative data about factors affecting students' achievement, the researcher used focus group discussion (FGD) as a collection method, the researcher selected 8 voluntary students representing both sexes and the 2 types of colleges (scientific and humanities). Participants encouraged to speak-up freely about factors affecting their achievement. The researcher started FGD by

thanking the students followed by explanation of the study objectives. The discussion started with the question: could you tell me about the factors that affect your achievement in your opinion? Students were also asked to give examples and clarification and expand their responses if needed. The discussion lasted for 2.5 hours; brain storming, justification and debates were used during the FGD, audio recording used mobile phone with prior consent from participants, the researcher also wrote notes during the discussion. The researcher listened to the recorded interviews, then writing and printing it, primary reading for the debate; the researcher used this to get a general idea about the main themes of the discussion, a second reading of the discussion was done in order to conclude the factors affecting students' achievement. All personal and identifiable information were removed for the purpose of confidentiality.

#### 4.7 Analysis

SPSS was used to analyze the quantitative data (means, standard deviations, frequencies and MANOVA were calculated).

### 5. RESULTS

#### 5.1 The 1<sup>st</sup> Question

To answer the 1st question (What are the factors that affects the students' achievement?) Means and standard deviations for achievement problems domains were calculated as Table 4 shows.

The mean for achievement problems domains was (3.53) with a standard deviation equals 0.48. The mean of the course problems domain was (3.79) with a standard deviation equals 0.62. As shown in Table 5 the means for these items were 3.35-4.20. The main problems related to the courses were the huge content requested for

test, the difficulty in selecting the right alternative in multiple choice items, the student feeling that the course is difficult, and the negative attitudes toward the course.

**Table 4. Means and standard deviations of the achievement problems domains**

Domain	Mean	Standard deviation	Rank
Problems related to students	3.46	0.54	3
Problems related to faculties	3.37	0.79	4
Problems related to courses	3.79	0.62	1
Problems related to test Administration	3.49	0.68	2
Total	3.53	0.48	

The second factor that affects students' achievement was problems related to test administration. The mean of this domain was 3.49. The means of the items' domain were: 3.07 – 4.32. The main three problems that affect students' achievement in this domain were: having more than one exam per a day, not having enough time to complete answering the tests, and unsuitable testing environment such as: Bad weather, disturbance caused by students outside testing classroom. Table 6 represents the means and standard deviation of the items of this domain.

The third factor that affects students' achievement was problems related to students themselves. The mean for this factor was (3.46). The mean of items were: (2.20-4.04). The main problems related to this domain were study time management, the difficulty of memorizing and retrieving the knowledge during the exam, and the psychological issues like: feeling boring from studying and test anxiety. Table 7 represents the findings of this domain.

**Table 5. Means and standard deviations of the course problems domain**

Item	Mean	Standard deviation
Mismatch between the questions and the grades	3.77	1.16
The student's negative attitude against the subject (that he hates it)	3.87	1.041
The questions don't cover the whole subject	3.63	1.19
Having more than one answer for the same question	3.35	1.22
The difficulty in choosing the answer in a multiple choice question	3.94	1.07
Ambiguity in questions and not clarifying the request of these questions	3.70	1.16
Giving the questions without difficulty gradation	3.68	1.08
The huge material of the subject requested for the test	4.20	1.04
The difficulty of the subjects	3.93	1.03
Total	3.79	0.62

**Table 6. Means and standard deviations of the test administration problems domain**

Item	Mean	Standard deviation
Delay in marking the exam booklet.	3.27	1.26
Lack of clear and defined instructions for answering the exam	3.07	1.18
The misbehavior of the exam instructors against the students	3.357	1.29
Allowing the Cellphones to be switched on.	3.09	1.35
The huge amount of questions asked by the examinees during the exam.	3.44	1.20
Having too many navigators at the exam.	3.26	1.30
Not having enough time for the exam.	3.97	1.23
Having some difficulties in the atmosphere of the exam such as; too much heat or cool, bad lightening, uncomfortable seats, and disturbance caused by students outside the classroom.	3.98	1.22
The firm instructions during the exam in addition to some bad words that may be said by instructors	3.26	1.40
The bad editing of the exam booklet such as: (bad photocopying, the font size...).	3.22	1.28
Moving students from one exam room to another.	3.47	1.36
Bad means of transportation and arriving late to the exam.	3.71	1.32
Having more than one exam per day.	4.32	1.25
<b>Total</b>	<b>3.49</b>	<b>0.68</b>

**Table 7. Means and standard deviations of the problems related to student domain**

Item	Mean	Standard deviation
Feeling bored of studying.	3.92	1.00
Fear and anxiety of the exam.	3.82	1.16
Difficulties in reading or writing skills.	2.20	1.19
Having social problems like at the family or health difficulties.	3.31	1.38
Having financial problems.	3.11	1.34
Facing too much care from the family that may increase fear at the exam.	3.16	1.27
Competition between students.	3.53	1.15
Lack of studying-time management skill.	4.04	1.05
Memory difficulties (forgetting data and facing difficulty in retrieving it)	3.93	1.03
Mistrusting the answer and changing it.	3.57	1.14
<b>Total</b>	<b>3.46</b>	<b>0.54</b>

The mean of the problems related to faculty domain was 3.37 with a standard deviation equals 0.79. Table 8 represents the means and the standard deviations of the items. The means for these items were 2.48-3.75. The highest item mean is the item asked about frustration; faculties does not encourage students and tell them that the subject is too complicated and it is not easy to pass, also the absence of feedback about the students' performance in the tests and faculty bias in assessment.

### **5.1.1 Analysis of the qualitative data**

The analysis of the qualitative data used the following strategies:

1. Coding the student responses: The researcher coded the students' responses and transformed them to frequencies and

percentages. Table 9 represents the findings for these responses.

- 2- Conducting the main themes from students' responses about factors affecting their achievement. The following main themes were derived:

- 1- Problems related to project assessment: (project is a course usually taught to students in the 4th academic year, in this course student has to conduct a research or a practical project). The students raised several problems, one of them: The criteria for assessing projects were totally undefined and not clear for students. One of the students said: "when we asked faculties about criteria for assessing our work they don't give us any useful information". Another one said: The grades we get did not reflect the huge effort we spent in conducting

the project". Students pointed out that faculties did not check the authenticity of our work; some students buy a project from bookshops; they did not do any effort, others use research engines to get a project and faculties didn't plagiarize that.

- 2- Faculties bias: Students suffer from faculties bias, "some faculties are bias by giving high grades to some students according to the students sex", some faculties put high marks to student according to the relation with student; they biased to their relatives, one student said "I wish if I am from Tafila city not from Amman, faculties from Tafila usually give their relatives higher grades, my colleagues from Tafila get higher marks just because they are from this city".
- 3- Feedback about assessment: The students indicated that most faculties did not provide them with a feedback about tests "they don't provide us feedback about mistakes we made in the test " "sometimes faculties put the mark without referring to any mistake", "if they provide us with a feedback we will learn from our mistakes and we will not do it again". If they provide me with a feedback I will be more convinced with the mark I get.
- 4- Test construction: students highlighted that some faculties put anonymous test items "some test items are not clear so we can't answer" some faculties concentrate on certain units and ignore others".
- 5- Test administration: Student pointed that some students cheat using leaf let or mobiles so they get higher marks. In order to better understand which factors were the most important and prevalent, the researcher counted the frequencies for each factor. Table 8 shows the number of students agreed with each factor.

## 5.2 The 2<sup>nd</sup> Question

To answer the 2nd question (Is there any statistically significant difference in the factors that affect students' achievement attributed to the gender and college?) MANOVA was used; the researcher ensured that these assumptions for using MANOVA were checked: observations are randomly and independently sampled from

the population, each dependent variable has an interval measurement, and dependent variables are normally distributed in the population. The results indicated that there are a statistical significant differences ( $P = .05$ ) attributed to gender on the achievement problems associated with test administration, courses and faculties; female students had higher mean in problems associated with courses and test administration, while male students suffering more from problems associated with faculties. The result indicated also that there are statistically significant differences ( $P = .05$ ) attributed to college on the achievement problems associated with students and faculties; humanity college students have more problems related to students domain, while scientific college students have more problems associated with faculty domain. Finally, the results indicated that there were no significant differences attributed to the interactions between the variables. Table 10 represents the results of this question.

## 6. DISCUSSION

Significant factors identified by students affect their achievement, the most effective factor was the courses taught to the students, this could be due to the fact English is used as the teaching language for most of the subjects at the university and their mother tongue language is Arabic, this result is similar to the previous study of [11]. Quantitative and qualitative data indicate that faculties were bias in evaluating students and they lack the skills of designing achievement tests, this result is similar to the findings of [11] and [6]; which states that: unequal means affects students' achievement, it also similar to the findings of [12,15]; the assessment system used by faculties affects student achievement, and [9]; lack faculty training. Test administration also contributes to the factors that affect students' achievement; students suffer from uncomfortable testing environment: Disturbance inside and outside testing room, having more than one test per a day. Students themselves contribute to the factors that affect their achievement some of these factors were psychological factors like test anxiety, family stress on student to be a highly achiever and the lack of ability to retrieve the memorized information, problems like time management, misunderstanding of the questions and competition between students also affect students' achievement. Faculties also affect students' achievement; the psychosocial factor contributes highly in this domain



especially scientific college students', these results were similar to the findings of [3,4,13,14,16] all of them emphasized on the effect of psychological factors and motivation upon students' achievement. Students' attitudes toward their faculties were negative; also they feel that faculties were unfeared in assessing them and they do not provide them with a feedback regarding their performance in tests.

The driven data from the qualitative part supports the qualitative findings both of them emphasized factors that affect students' achievement like the lack of testing feedback, the faculty bias in assessing students' work, the qualitative part highlighted new issues that affect students achievement, like the problems associated with assessing practical work reports, projects and research proposals.

**Table 8. Means and standard deviations of the problems related to faculty**

Item	Mean	Standard deviation
Having a bad relation between the student and the faculty (the student doesn't like the faculty)	3.40	1.35
The feeling of the students that faculty do not mark their exam papers	2.84	1.26
Frustration caused by the faculty when he / she complicated the subject ( like: the subject is too complicated and you have to study hard to pass)	3.75	1.23
Not giving feedback from the faculty based on the students' performance in the exam	3.65	1.11
Faculty bias based on personal relations with some students.	3.52	1.29
Faculty bias based on student gender.	3.24	1.30
Not giving the student the chance to review his answer booklet after assessment.	3.23	1.33
<b>Total</b>	<b>3.37</b>	<b>0.80</b>

**Table 9. Frequencies for qualitative data**

Factor	Frequency	Percentage %	Description
Project assessment	7/8	87.5	- Absence of assessment criteria - Unfair assessment -Absence of plagiarism check
Faculties bias	4/8	50	-Sex bias -Relationship with student -Geographical bias
Feedback about assessment	5/8	62.5	No feedback
Test administration	5/8	62.5	-Cheating - Anonymous test items
Test construction	7/8	87.5	-Absence of feedback about assessment -Anonymous test items

**Table 10. Manova for the effect of gender and college upon the dependent variables**

Source	Dependent variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Student	.042	1	.042	.146	.703
	Faculty	2.800	1	2.800	4.683	.031
	courses	5.733	1	5.733	15.207	.000
	Test administration	6.960	1	6.960	15.306	.000
College	student	1.634	1	1.634	5.702	.017
	faculty	7.221	1	7.221	12.076	.001
	courses	1.158	1	1.158	.000	.996
	test administration	.001	1	.001	.002	.961
Gender * college	Student	.219	1	.219	.763	.383
	faculty	.113	1	.113	.189	.664
	courses	.331	1	.331	.878	.349
	test administration	1.160	1	1.160	2.550	.111

## 7. CONCLUSION

This study is aimed to determine the key factors that influencing students' achievement, the study showed that students' achievement was affected by the factors identified by the researcher; faculties, courses, students and test administration. Students vary in the degree of the effect of these factors according to their gender and the college they study in. The student performance would be improved if the academic institution leaders minimize the influence of the proposed factors and taking care of the psychological factors that influence students' achievement by increasing the role of counseling centers at the universities, providing better environment for assessing students' achievement, faculties must be more fair in assessing their students, Faculties Development Centers at Jordanian universities may need to focus on developing the methods of assessment that used by faculties, and faculties and administrators should advise the students about the factors that affect their achievement and how to overcome these factors. The academic achievement of the students depends on many factors; only 4 of them have been identified by this study. There may be other factors which may have a direct effect on students' achievement, such as; the influence of socioeconomic factors, teacher-student ratio, students attendance in the class, and mother and father education. Based on the findings of this study and in order to generalize the results, the researcher suggests that research should be extended to all Jordanian universities.

## 8. RECOMMENDATIONS

Identifying factors that would affect students' achievement are of utmost important. I hope that the findings will encourage TTU and other institutions to conduct more studies to further deepen the knowledge on the topic. Also, I hope that the results of this study may be used and implemented to reduce the negative factors that affect students' achievement. Finally, the researcher would like to recommend three types of workshops for faculties:

- 1- Workshop in constructing, implementing, and administering achievement tests.
- 2- Workshop in assessment methods of practical work.
- 3- Workshop in psychological bases in dealing with students.

## CONSENT

For data gathered during qualitative and quantitative survey (questionnaire), where no personal data are collected or where personal identifiers are removed from the data. Anyway, the researcher does not cause to the participants any physical, psychological, or ethical harm. The students had the freedom to be involved in the study and they informed about the study objectives.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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