Assessment Practices Used in Evaluating Learning Outcomes in Higher Education in Jordan as Perceived by Students

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ABSTRACT

The study aims at investigating students' points of view of assessment practices in higher education in Jordan against student level, college, and grading system (Letters and Numbers). Data collected from 924 students from four public universities using 30 item Likert scale questionnaire. The results show that professors from students' points of view still focusing on Expectation and Communicating Assessment Practices and Organizational Assessment Practices while they are not focusing on the New/Modern Assessment Methods and Traditional Assessment Methods practices. The results also show that there is an interaction between student level and college on students' points of view about the assessment practices used in assessing students learning outcomes, and an interaction between grading system (numbers and letters) and college on students' points of view of traditional assessment methods subscale. Besides that, the study finds out that first and second year students in science and engineering colleges perceived the assessment practices differently comparing with third and forth year students, and shows that colleges of education students perceive the assessment practices at the same way despite their level.Also, students of science and engineering colleges whose schools use a letter grading system, have higher scores on Organizational Assessment Practices subscale than those whose schools use number grading system.

Introduction

The interest in assessment of students' learning outcomes in higher education has grown rapidly during the last three decades due to the

great role that assessment plays in improving students learning (knowledge, skills, competences, and values). Therefore, assessment should be utilized to improve instruction and, at the same time, as instructional methods (Stiggins, 1994). As a result of that, it is important to investigate the way the students perceive assessment practices in higher education based on what faculty members do to assess their learning outcomes. Also, investigating students perceptions of assessment practices in higher education could be the start to get the students involved in the assessment process and in the educational process in general. Furthermore, there is a relationship between the way faculty teach and the way they assess their students learning outcomes, so changing the way of teaching could be achieved by looking first at the students' perceptions of teacher implemented assessment practices and consider it as the starting point of change. Therefore, assessment practices used in evaluating learning outcomes in higher education as perceived by students should be studied and investigated to provide higher education institutes with the needed information for developmental purposes.

Assessment Methods:

Paper-pencil assessment or traditional assessment, performance or authentic assessment, oral and personal communication, peer and self assessment, computer based assessment, and students' note books are the assessment methods that could be used to assess learning in higher education. Teachers use all of these methods, and each has its own advantages and disadvantages, and they need to be able to select the most appropriate method according to students' level and age, background, course contents, and the objectives of the course. Also, it is important to use different methods in order to obtain as much student achievement information as possible. Teachers and instructors should always remember that assessment is the vehicle by which we measure students' progress and there are no assessment method that adequately measures all educational goals and objectives (Ramsden, 2003). Also, by looking at all these methods, we can see that they are based on the idea that assessment should be used to enhance students learning and development. This is why we can look at assessment itself as a learning process, which means that assessment is a learning tool as well as a high-stakes large-scale summative outcome.

Assessment and Learning:

Assessment's main concern is the quality of teaching as well as the quality of learning (Ramsden, 2003), and the function of assessment is not only to assess learning, diagnose, and provide for quality assurance of institutions and individuals, but also its tasks and actions give students a message about what they should learn and how they can approach it.

Assessment methods and requirements direct students' learning and influence how and what students learn. It gives the students information about what is important, what counts, how to spend their time, and how they see themselves as learners (Brookhart, 2005). Therefore, changing the way teachers teach or the way students learn can not be achieved without changing the assessment practices that are used by teachers.

Research findings show that assessment has considerable influence on students' approaches to learning and students' learning approaches influence the ways in which students perceive assessment (Ecclestone, 2002).

Using assessment helps providing students with regular feedback about their progress and development in the class (Miller, Imrie, & Cox, 1998; Yorki, 2003), and provides teachers with diagnostic information that must be aimed at improving students' learning, design appropriate teaching/learning strategies, and monitor both curricular effectiveness and refinements (Sims, 1992; Brookhart, 2005). Increase of the use of assessment for learning purposes leads to high quality of learning (William, Lee, Harrison, & Black, 2004), and it helps the students to understand the course's goals and requirements to cope with difficulties, and to know the points needed for correction and improvement (Frank & Barzilia, 2004; Higgins, Hartley, & Skelton, 2002).

Students' Perceptions of Assessment:

Research shows that the most frequent purpose of assessment from students' and tutors' points of view is to grade and rank student achievement while students believe there is an emphasis on final paper examinations in universities, and most of the assessment occurs at the end of the module (Calman et al., 2002; Kniveton, 1996; Maclellan, 2001). Students' descriptions of being assessed fall in two areas: the utility of feedback on assessed work, which is almost below their expectations, and the major effects that resulted with the act of being assessed (e.g., self-perception and level of confidence) (James, 2000).

Faculty gave the students the wrong message in higher education when they appear more concerned with grades than they are with teaching (Taras, 2002). Students prefer individual assessment, but they perform and achieve better in group assessment, and they want guidance and information in all aspect of assessment including the aims, purposes, sources, and marking. Besides that, feedback is needed from students' point of view as of how the answer was wrong and how the answer can be improved (Knight, 2004). From students' point of view, continuous assessment should not be involved in much more than half of their grade measurement (Kniveton, 1996), while they value the formative assessment more than summative assessment (Rees, Sheard, & McPherson, 2002).

Struyven, Dochy, and Janssens (2002) reviewed the written literature about students' perceptions of assessment in higher education for the years 1980 to 2002 using "Students," "Perceptions," "Assessment," and "Higher Education" as keywords. They found 35 documents that met the criteria. The review concluded that students' perceptions about assessment have influence on the students' learning approaches and vice versa, and students prefer conventional assessment and multiple choice items more than essay type questions. In addition, the students see alternative assessments as fairer than traditional assessment methods.

Students' points of view about assessment methods and practices that are used by professors in higher education are very important, and help motivate students to become involved in the educational process. Students' points of view of the learning-assessment environment, based on former learning experiences and their recent experiences, have an important influence on their learning strategies, and affect the quality of their learning outcomes. Students should have a legitimate role in assessment in higher education (Leach, Neutze, & Zepke, 2001), besides the importance of getting the students involved in the assessment process of students' learning. There are several studies that highlight the importance of doing more studies about how to get the students involved in the assessment process (Ecclestone & Swan, 1999; Sivan, 2000; Taras, 2002). Therefore, the research on students' points of view about assessment practices in higher education should be done in order to narrow the gap between students' points of view of assessment and teachers' points of view of assessment. According to Lopez (2004) colleges and universities should continue working to improve the assessment process if they want to continually improve their educational process.

Most of the research on students' points of view of assessment in higher education focused on one or two methods of assessment (Example of such research are: Orsmond, Merry& Reiling,1997; Hanrahan and Isaacs, 2001; Searby and Time, 1997; Sluijsmans, Brand-Gruwel, & Van Merrienbore, 2002, Sivan, 2000; White, 2004; Smith & Tellema, 2003). All of these studies are based on giving the students the chance to go through these methods, and then examine their points of view of these methods. In doing so, searching students' points of view of assessment practices in higher education could show positive points of view of assessment because of the novelty effect. Students might have more positive attitude toward these methods, because this is the first time they were assessed by these methods. Thus, there is a need to investigate students' points of view of assessment practices in higher education, based on what faculty members do to assess student learning outcomes without a focus on one way of assessment or the other. Also, investigating student point of views of assessment practices in higher education could provide motivation for students to become more involved in the assessment process and in the educational process in general. This kind of involvement in the assessment process is required by a constructivist approach. Teachers give assessment tasks to assess student learning and understanding of the concepts, skills, or attitudes they are trying to learn, and then they grade students' responses (well structured feedback) and turn the graded tasks back to the students. This process helps the student to reflect on their responses (think about their thinking) which is the essential element of the constructivism. Based on the constructivist theay, students themselves are the constructors of their own knowledge and their teachers should always be looking for active learning and active assessment practices. Also, there is a relationship between the way faculty teach and the way they assess their students' learning outcomes. Therefore, changing the way of teaching could be achieved by looking first at the students' points of view of assessment practices, and consider it as the starting point of change.

The Problem

The assessment system in higher education in Jordan is governed by regulations of the individual institutions. Teachers are obligated to follow these regulations. The revision at the regulations that are applied

in Jordanian Universities shows that most of the universities ask the teachers to conduct at least three paper-pencil tests every semester; two of them during the semester and the third one at the end of semester, and these tests should form at least 80% of the final grade in each course (Hashemite University, 2006; Yarmouk University, 2006; Al-Hussein Bin Talal, 2006). In practice; most of the teachers dedicate 10% of the final grade to other methods of assessment which indicates that almost about 90% of the final grade in the course comes from traditional assessment methods (paper- pencil assessment).

This paper attempts to study the assessment practices used in evaluating students learning as perceived by students in higher education in Jordan. It could be considered as a start to detailed studies about assessment in higher education in Jordan since there is no study that has been conducted to investigate the assessment practices in higher education in Jordan.

Significance of the Study

This study aims at investigating the most common practices used or not used to assess student achievement from students' point of view, and this will help the leaders and the ministry of higher education and university officials in Jordan investigate the reasons behind using and not using some assessment practices in order to enhance the learning process in higher education institutions.

Since most of the universities in Jordan ask teachers to conduct at least three paper-pencil tests every semester, it is very important to search in detail the assessment practices that are currently being used by teachers in Jordanian universities in order to be able to better understand current assessment process.

Limitations of the Study

1 - The sample was chosen from 4 of the 10 public universities in Jordan. The private universities were not included, and

2 - The study does not take into account the assessment practices as perceived by graduate students.

Methodology

Participants

The sample for this study consists of 924 students from four public universities in Jordan: Al-Hussein Bin Talal University, Yarmouk University, Hashemite University, and Jordan University. A multi-stage sample procedure was used to select the participants. First, the researchers chose the four universities randomly from 10 public universities in Jordan. About 40% of the colleges in each university were chosen randomly. At the last stage, two sections from the course offering for summer 2006 were chosen randomly from each college. A total of 32 sections were chosen from all universities. The survey was administered to every student in the selected sections. Table 1 shows the distribution of the sample according to the independent variables.

Table (1)
Distribution of the Sample According to the Grade System, College, and Student Level

Grading	Student Level	College				Total
		Education	Arts and social Science	Science and engineering	Economic and Business	
By letter	First year	15	22	22	22	81
	Second year	15	64	36	27	142
	Third year	16	35	47	18	116
	Forth year	13	24	34	29	100
	Total	59	145	139	96	439
By numbers	First year	38	68	10	7	123
	Second year	12	38	19	6	75
	Third year	28	44	18	14	104
	Forth year	33	20	13	16	82
	Total	111	170	60	43	384

Instrumentation

Students Perception of Assessment Practices Inventory (SPAP) developed by Alquraan (2007) was used. The educational literature about assessment was reviewed by the researcher, and 67 five scale items were written for the first version of the instrument. Scale points range from strongly agree to strongly disagree 1-5. A panel of experts in educational assessment consisting of seven persons was asked to give their notes about the instrument (adding, modifying, or deleting some items). The panel of experts consisted of five professors from two countries (Jordan and United States), and two graduate students who teach classroom assessment at the University of Alabama. According to the experts' notes some items were deleted, some were modified, and some items were added to the instrument. The second version of the instrument consisted of 44 items. After using some psychometric statistical analyses, the total number of items in the final version of instrument condensed down to 30 items.

Also, the SPAP was validated using exploratory factor analysis with Principle Component solution and Varimax rotation, and the results show that there are five subscales which they were named based on the content of the items that highly loaded on each factor (Planning and Communicating of Assessment Practices, New/ Modern Assessment Methods, Traditional Assessment Methods, Assessment Development and Organizational Practices, Reporting Practices). The five factors xplain 46.8% of the total variance; and the percents of explained variance by each factor are shown in Table 2. The item-to-total correlation (ITC) for the items range from (.386 -.652), and all of them have significant levels ($p < .001$). Cronbach Alpha for the total instrument equals (.90), and for the five subscales range from (.66-.83). The Cronbach Alpha for this sample equals.89, Jordanian sample.91 and US sample.85.

Table (2)
Number of Items and Cronbach Alphas for Each Subscale and the Total SPAP

Factor Name	# of Items	% Explained variability	Alpha
Expectation and Communicating of Assessment Practices	11	26.27	.825
New/Modern Assessment Methods	4	8.07	.720
Traditional Assessment Methods	5	4.80	.749
Organizational Assessment Practices	6	4.10	.734
Reporting Practices	4	3.54	.656
Total SPAP instrument	30	46.80	.900

Research Questions

The research questions of the study are:

1 - What are the most and least used assessment practices in assessing students learning outcomes in higher education in Jordan from students' points of view?

2 - Do SPAP total scores differ based on grading system (Letter and Number), college (Education, Arts and Social Science, Science and Engineering, Economics and Business), and/or student level (first year, second year, third year, and forth year)?

3 - Do SPAP subscale scores (Expectation and Communicating of Assessment Practices, New/Modern Assessment Methods, Traditional Assessment Methods, Organizational Assessment Practices, Reporting Practices) differ based on grading system (Letter and Number), college (Education, Arts and Social Science, Science and Engineering, Economics and Business), and/or student level (first, second, third, and forth year)?

Findings

To address the first question, means and standard deviations for participants' responses to each item and subscale were calculated as shown in Table 3 and Table 4.

Table (3)
The Mean and the Standard Deviation for Each Item in Order According to the Mean

Item Content	Mean	SD
My teacher's tests match what he/she teaches.	4.08	1.06
After the tests scored, my teacher provides an opportunity for students to discuss test item answers.	4.01	1.18
Teacher provides a good environment during tests administration	3.99	1.17
I know what to study for the test in this class.	3.95	1.11
My teacher avoids interrupting students as they are taking tests.	3.92	1.13
My teacher turns back the graded assessment tools in suitable time.	3.61	1.19
My teacher writes in the syllabus the assessment methods to be used during the semester.	3.58	1.13
My teacher presents situations where I can reflect on my work.	3.54	1.08
My teacher uses assessment tools to know what I have learned.	3.53	1.16
My teacher's assessment criteria are understandable.	3.48	1.21
My teacher presents oral feedback on the tests.	3.46	1.18
My teacher helps student know how to do assessment tasks.	3.46	1.23
My teacher uses assessment outcomes to develop our curriculum.	3.39	1.15
My teacher uses assessment to motivate learning.	3.37	1.24
My teacher's standards and criterion are known prior to assessment/ tests	3.36	1.19
My teacher uses assessment to assess higher order thinking.	3.35	1.20
My teacher uses assessment to determine my needs.	3.32	1.17
My teacher gives the students the mean and standard deviation of class grades after each test.	3.23	1.36
My teacher uses papers to assess my learning.	3.22	1.39
My teacher provides assessment tasks that are real life tasks.	3.15	1.27
My teacher presents written feedback on the tests.	3.14	1.27
My teacher assesses students' prior knowledge.	3.12	1.26

Cont. Table (3)
The Mean and the Standard Deviation for Each Item in Order According to the Mean

Item Content	Mean	SD
My teacher uses graded homework to assess my learning.	3.00	1.41
My teacher uses projects to assess my learning.	2.90	1.36
My teacher gives me the percent of students who get scores lower than me.	2.88	1.33
My teacher uses portfolios in assessing students learning outcomes	2.86	1.26
My teacher uses take home exams to assess student learning.	2.81	1.34
My teacher uses the new technology in assessment (e.g. computer based testing)	2.63	1.31
My teacher uses unannounced quizzes.	2.37	1.32
My teacher uses audio/video products to assess students learning outcomes.	2.28	1.34

Note: n = 924

Table 3 shows that the range for the means is from 2.28 to 4.08 and the standard deviation from 1.06 to 1.41. The top five items that had the highest means or endorsement or the most used assessment practices from students point of views are: "My teacher's tests match what he/she teaches," "After the tests scored, my teacher provides an opportunity for students to discus test item answers," "My teacher provides a good environment during tests administration," "I know what to study for the test in this class," and "My teacher avoids interrupting students as they are taking tests." whereas the lowest five items that had the lowest means or endorsement or the least used assessment practices from students point of views are: "My teacher uses audio/video products to assess students learning outcomes," "My teacher uses unannounced quizzes," "My teacher uses the new technology in assessment (e.g. computer based testing)," "My teacher uses take home exams to assess student learning," and "My teacher uses portfolios in assessing students learning outcomes."

These results show that the assessment practices that are commonly used in higher education in Jordan related to some administrative and communication assessment practices whereas the practices that are rarely used related to using the newer methods of assessment. Using

new assessment methods needs new equipment and facilities which might be the reasons behind on using the new assessment methods to assess students' learning.

Table (4)
Number of Items on the Scale, the Mean, Standard Error of Mean, Standard Deviation, and Average Scale Mean for Each Subscale

Factor Name	# of Items	N	Mean	SD	Std. Error	Average Rating
Expectation and Communicating of Assessment Practices	11	924	40.05	7.73	.254	3.64
New/Modern Assessment Methods	4	924	10.91	3.82	.125	2.72
Traditional Assessment Methods	5	924	14.30	4.81	.158	2.86
Organizational Assessment Practices	6	924	20.83	4.50	.148	3.47
Reporting Practices	4	924	12.70	3.61	.118	3.17
SPAP	30	924	98.99	18.71	.615	3.30

Table 4 shows that the highest average rating are (3.64) and then (3.47) respectively "Expectation and Communicating of Assessment Practices" and "Organizational Assessment Practices" subscales, and the lowest average rating are (2.72) and (2.86) for "New/Modern Assessment Methods" and "Traditional Assessment Methods." This may suggest that from students' points of view; teachers focus on planning, developing, and organizational assessment practices more that they do on modern or new assessment practices or even in assessment methods in general. This result agrees previous results and with Frank and Barzilia's (2004) study, which shows that traditional assessment methods are the most commonly used methods in higher education.

To answer the first question, Do students from universities having different Grading System (Letter and Number), in different Colleges (Education, Arts and Social Science, Science and Engineering, Economics and Business), and at different student levels (first, second, third, and forth year) differ on SPAP overall scores? Factorial (2x4x4) ANOVA was used. Table 5 shows the mean and the standard deviations of total SPAP scores by grading system, college and student level.

Table (5)
Descriptive Statistics for SPAP Total Score by Grading System, College, and Students Level

Student Level	College	Grading System	Mean	SD
First year	Education	Letter	107.7	4.67
		Numbers	98.7	2.93
	Arts and social Science	Letter	95.0	3.85
		Numbers	103.8	2.19
	Science and Engineering	Letter	95.7	3.85
		Numbers	91.0	5.71
	Economics and Business	Letter	101.2	3.85
		Numbers	92.4	6.83
Second years	Education	Letter	97.3	4.67
		Numbers	102.5	5.21
	Arts and social Science	Letter	96.5	2.25
		Numbers	102.3	2.93
	Science and Engineering	Letter	91.2	3.01
		Numbers	88.5	4.14
	Economics and Business	Letter	97.0	3.47
		Numbers	92.2	7.37
Third year	Education	Letter	101.2	4.51
		Numbers	95.0	3.41
	Arts and Social Science	Letter	99.6	3.05
		Numbers	99.3	2.72
	Science and Engineering	Letter	103.3	2.63
		Numbers	108.4	4.26
	Economics and Business	Letter	101.8	4.26
		Numbers	98.6	4.83
Forth year	Education	Letter	104.0	5.01
		Numbers	97.4	3.14
	Arts and social Science	Letter	97.3	3.68
		Numbers	92.1	4.04
	Science and Engineering	Letter	108.1	3.10
		Numbers	101.6	5.01
	Economics and Business	Letter	100.4	3.35
		Numbers	100.2	4.51

Table 5 shows that the cell means range from 88.47 to 108.38. Third year Science and engineering whose schools using a number grading system have the highest mean (M = 108.38, SD = 4.26) whereas the second year students whose schools use a number grading system have the smallest mean (M = 88.47, SD = 4.16). The three way analysis of variance (Univariate ANOVA) was used to test the differences among these means. The assumptions of ANOVA were tested at the.01 level, and based on this none of the assumptions were violated. Table 6 shows the results of using factorial ANOVA.

Table (6)
Analysis of Variance for the Total SPAP Scores by Grading System, College, and Student Level

Source	SS	df	MS	F	Sig.	Eta^2
Student Level	2193.861	3	731.287	2.239	.082	.008
College	562.164	3	187.388	.574	.632	.002
Grading	646.841	1	646.841	1.981	.160	.002
S_Level * College	8716.224	9	968.469	2.965	.002	.033
S_Level * Grading	645.714	3	215.238	.659	.577	.002
College * Grading	1373.828	3	457.943	1.402	.241	.005
S_Level * College * Grading	3117.412	9	346.379	1.061	.390	.012
Error	258328.016	791	326.584			
Total	8387798.000	823				

Table 6 shows that the interaction between student level and college is significant at the.05 level [F(9,772) = 2.98, p = .002, Eta^2 = .034]. Table 5 shows the means of SPAP total score by student level and college, and Figure 1 shows a visual view of the interaction; based on that figure, arts and social science students have relatively equal SPAP total scores across first, second, and third year, while forth year students have lower SPAP total scores. Science and engineering students have the lowest SPAP total scores in the first and second year of their study, whereas they have the highest SPAP scores on the third and fort years.

This means that first and second years science and engineering students perceived the assessment practices differently comparing with third and forth year students. This could be due to the fact that the students of these colleges take general education courses that are required by their university and college in the first two years. For example, students at Jordanian universities take at least two courses in the English language and two courses in the Arabic language, and these courses are offered by colleges other than colleges of engineering and sciences. These courses may not meet the expectations they learned from high school. Besides that, science and engineering students do a lot of projects and presentation during their third and forth year of study and the assessment methods that the teachers use are more objective than the assessment methods used in other colleges, which might raise their SPAP total scores during these years. Also, figure 1 shows that colleges of education students have relatively equal SPAP total scores across all the levels which means that they perceive the assessment practices at the same way despite their level (first, second, third, or forth year). These results make sense with the fact that professors of colleges of education had courses on assessment while they were students. This could help explain why the teachers at these colleges use the same assessment practices independent of the level of the courses they teach.

Table (7)
The means of SPAP Total Score by Student Level and College

	Education	Art and Social Sciences	Science and Engineering	Economics and Business
First year	103.189	99.390	93.364	96.828
Second year	99.917	99.444	89.862	94.602
Third year	98.112	99.456	105.843	100.210
Forth year	100.682	94.692	104.837	100.332

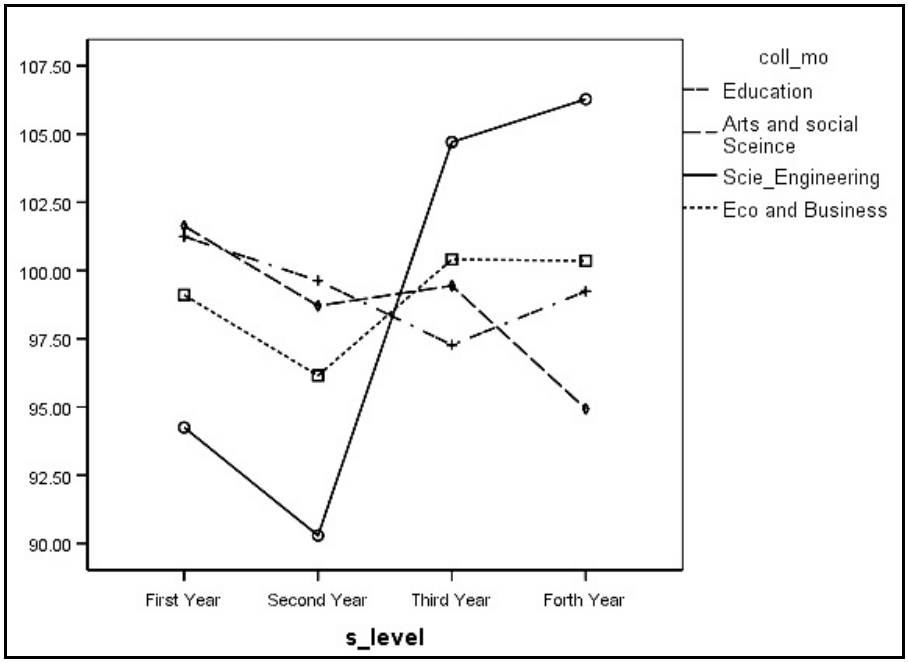

Figure 1 The Interaction Between Student Level and College on SPAP Total Scores.

To answer the second question, ''Do SPAP subscales scores (Expectation and Communicating of Assessment Practices, New/Modern Assessment Methods, Traditional Assessment Methods, Organizational Assessment Practices, Reporting Practices) differ based on grading system (Letter and Number), college (Education, Arts and Social Science, Science and Engineering, Economics and Business), and/or student level (first, second, third, and forth year)?, the MANOVA test was used, and because the Box's Test of Equality of Covariance Matrices was significant (Box's $M = 749.1$, $p < .001$), the Pillai's Test was used to reduce the impact of violating this assumption (Stevens, 2002). The results are shown in Table 7.

Table (8)
MANOVA Test for SPAP Subscales and Grading System, College, and Students Level

Effect	Pillai's	F	Sig.	Eta^2
Grading	.035	5.784	< .001	.035
College	.053	2.815	< .001	.018
Student Level	.023	1.209	.257	.008
Grading * College	.051	2.736	< .001	.017
Grading * S_Level	.020	1.051	.398	.007
College * S_Level	.107	1.919	< .001	.021
Grading * College * S_Level	.073	1.302	.086	.015

Table 8 shows that there is interaction between grading system and college (F (15, 2376) = 2.736, $p < .001$, $Eta^2 = .017$), which indicates that the interaction between grading system and college explain 1.7% of the variance on the combination of Expectation and Communicating of Assessment Practices, New/Modern Assessment Methods, Traditional Assessment Methods, Organizational Assessment Practices, and Reporting Practices subscales. In addition, there is interaction between college and Student Level ($F(45, 3955) = 1.91$, $p < .001$, $Eta^2 = .021$), which indicates that the interaction between college and student level explains 2.1% of the variance on the combination of the five subscales of Expectation and Communicating of Assessment Practices, New/Modern Assessment Methods, Traditional Assessment Methods, Organizational Assessment Practices, and Reporting Practices subscales.

Univariate analyses were used to determine the places of the interactions between Grading System and College and College and Student Level on the dependent variables (subscales) as shown in Table9.

Table (9)
Univariate Analysis for the Interaction Among College, Student Level, College, and Grading System on SPAP Subscales

Source	Dependent Variable (scale)	SS	df	MS	F	Sig.	Eta^2
Student level by College	Expectation and Communicating of Assessment Practices	4.499	9	.500	.537	.848	.006
	New/ Modern Assessment Methods	15.850	9	1.761	1.788	.067	.020
	Traditional Assessment Methods	43.714	9	4.857	5.451	< .001	.058
	Organizational Assessment Practices	9.633	9	1.070	1.089	.368	.012
	Reporting Practices	8.586	9	.954	.995	.442	.011
College by Grading	Expectation and Communicating of Assessment Practices	5.427	3	1.809	1.942	.121	.007
	New/ Modern Assessment Methods	5.314	3	1.771	1.798	.146	.007
	Traditional Assessment Methods	10.286	3	3.429	3.848	.009	.014
	Organizational Assessment Practices	13.298	3	4.433	4.512	.004	.017
	Reporting Practices	4.092	3	1.364	1.423	.235	.005

Table 9 shows that there is significant interaction between student level and college on traditional assessment methods subscale ($F(9, 791) = 5.451$, $p < .001$, $Eta^2 = .058$). Thus, students' scores on a traditional assessment methods subscale are different between the cross-tabulation of the levels of student level and college. Figure 2 depicts the visual interaction in which students of arts and social sciences and economics and business colleges seem to have relatively equal scores on the traditional assessment methods across all levels, whereas students of science and engineering colleges scores on the traditional assessment methods subscale seem to go higher as the student level increased with

the main differences between first year and second years on one side and forth year and third year on the other. The 300 and 400 level courses tend to have smaller classes and have more practical requirements (projects, term papers, presentations) which might lead the teachers a chance to use assessment methods other than traditional testing. This might explain why the following assessment practices are commonly used by teachers of the college of science and engineering in third and forth level courses compared to first year and second year level courses: "My teacher uses papers to assess my learning," "My teacher uses graded homework to assess my learning," "My teacher uses projects to assess my learning," "My teacher uses take home exams to assess student learning," and "My teacher uses unannounced quizzes".

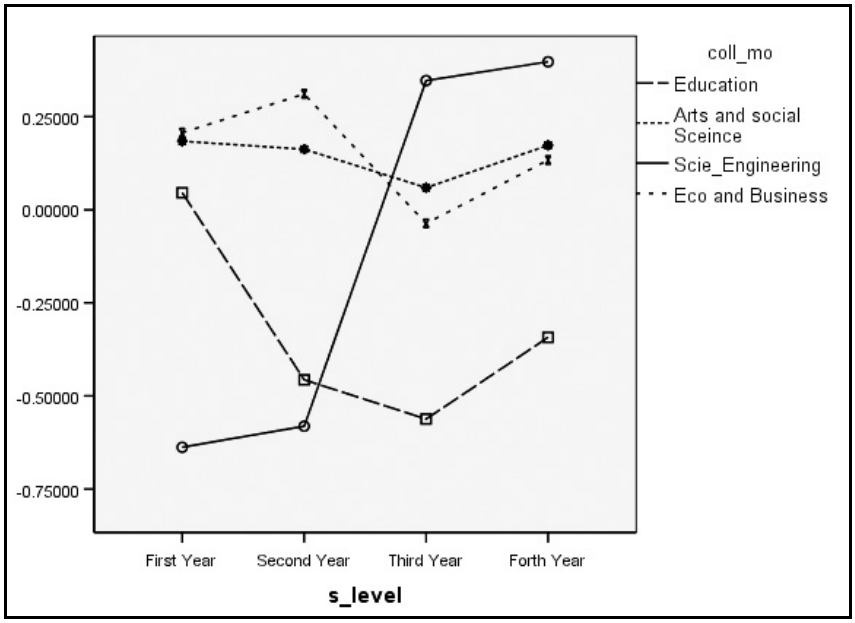

Figure (2) The Interaction Between Student Level and College on Traditional Assessment Methods

Descriptive Discriminant Analysis (DDA) was used to investigate the interaction between student level and college based on the cells of the cross-tabulation of the two variables. The results shows that there is one significant function that explains 56.3% of the variance and the Canonical Correlation equals.32 ($p < .001$). The Standardized Canonical

Discriminant Function Coefficients show that the third factor, which is "Traditional Assessment Methods", has the highest coefficient (.985); this result supports the results included in Figure 2. Moreover, Table 8 shows that there are interactions between college and grading system on Traditional Assessment Practices and Organizational Assessment Practices subscales. Figures 3 and 4 show the visual interaction between college and grading system on both subscales.

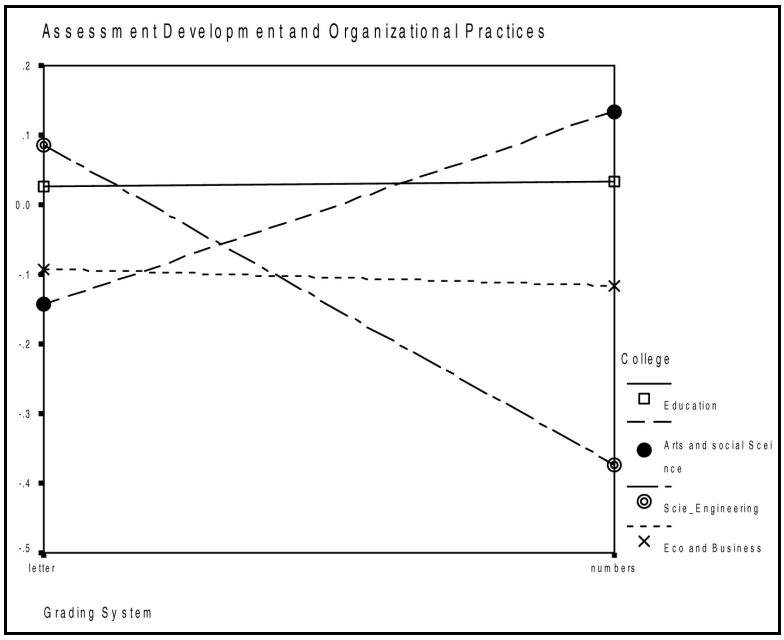

Figure (3) The Interaction Between College and Grading System on Organizational Assessment Practices Subscale

Figure 3 shows that students from education and economics and business colleges from both grading systems (letter and number) have almost the same scores on the Organizational Assessment Practices subscale. Arts and social sciences college students whose schools use a number grading system, have higher scores on the Organizational Assessment Practices subscale than those who their schools use letter grading system. On the contrary, students of science and engineering colleges whose schools use a letter grading system, have higher scores on Organizational Assessment Practices subscale than those whose schools use number grading system.

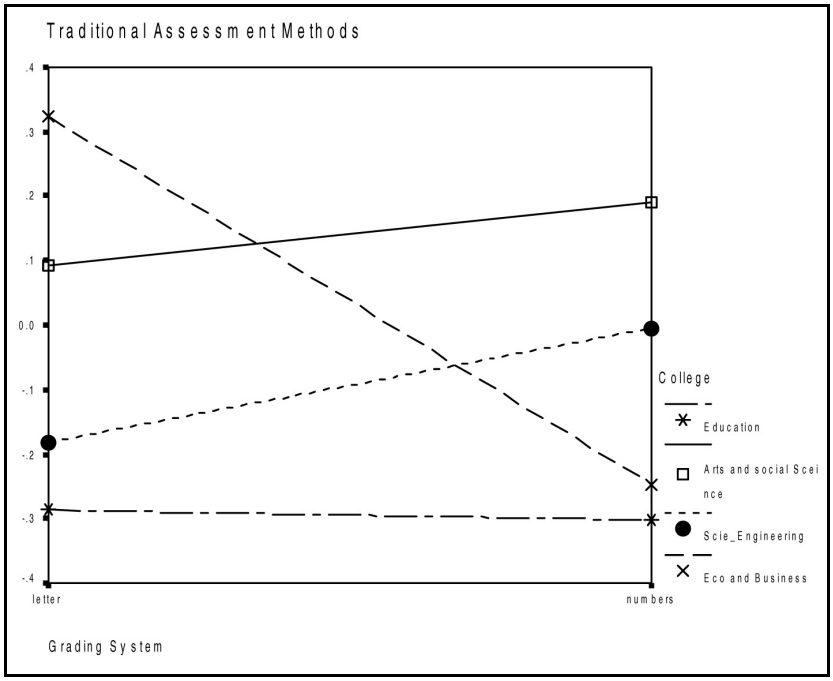

Figure (4) The Interaction Between College and Grading System on Traditional Assessment Methods Subscale

Figure 4 shows that students from education, arts and social sciences, and science and engineering colleges from both grading systems (letter and number) have a very close scores on the Traditional Assessment Methods subscale. Also, students from economics and business whose schools use a letter grading system have higher scores than those whose schools use a number grading system on the Traditional Assessment Methods subscale. This result might due to the fact that teachers from both grading systems use the same assessment practices in assessing students learning whereas they report the final grade differently

Conclusions:

The results of this study show that third year and forth year science and engineering students perceived the assessment practices differently comparing with first year and second years. This means that professors who teach third year and forth year at colleges of science and

engineering use different assessment practices or use them more frequently than professors who teach first year and second years. This result is supported by the results of the second question which shows that professors who teach third year and forth year at colleges of science and engineering use traditional assessment methods differently or use them more frequently than professors who teach first year and second years.

Also, the results show that grading systems (numbers or letters) does not affect students' point of views of assessment practices in higher education other than reporting the final grade differently. Besides that, colleges of economics and business students whose colleges use letter grading system have higher scores on traditional assessment methods subscale. This result suggests that letter grading system is more suitable for colleges of economics and business comparing with number grading system.

Recommendations:

1 - Teachers at higher education need to use different assessment methods beside paper-pencil testing.

2 - Higher education institutions should investigate the reasons why teachers use traditional assessment methods more than modern assessment methods.

3 - Investigate instructors' perceptions of assessment practices in higher education in Jordan.

4 - Investigate the relationship between students' perception of assessment practices and instructors' perceptions of assessment practices in higher education in Jordan.

ممارسات تقييم تعلم الطلبة في التعليم العالي في الأردن من وجهة نظر الطلبة

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الملخص

هدفت الدراسة الى بحث وجهات نظر الطلبة الجامعيين في اساليب وممارسات تقييم تعلمهم واثر متغيرات مستوى الطالب، والكلية، ونظام العلامات عليها.ولتحقيق هدف الدراسة تم استخدام بيانات جُمعت بواسطة اداة مكونة من ٣٠ فقرة من نوع ليكرت الخماسي وُزعت على ٩٢٤ طالبا وطالبة في اربع جامعات حكومية اردنية. اظهرت النتائج تركيز اعضاء هيئة التدريس على مجال ممارسات التقييم الخاصة بالتوقعات والاتصال ومجال ممارسات التقييم التنظيمية مقارنة مع ممارسات التقييم في مجالي الطرق الحديثة والتقليدية في التقييم. كما اظهرت النتائج وجود تفاعل بين مستوى الطالب الدراسي (السنة الدراسية) والكلية في وجهة نظر الطلبة في ممارسات تقييم تعلمهم في التعليم العالي في الاردن، وكذلك وجود تفاعل بين نظام العلامات (ارقام وحروف) والكلية في وجهة نظر الطلبة في ممارسات تقييم تعلمهم في مجال الطرق التقليدية في التقييم. اضافة الى ذلك اظهرت الدراسة ان تصورات طلبة السنة الاولى والثانية في كليات الهندسة والعلوم للمارسات تقييم تحصيلهم الاكاديمي مختلفة عن تصورات طلبة السنة الثالثة والرابعة. كما بينت الدراسة ان استقرار تصورات طلبة كليات العلوم التربوية للمارسات تقييم تحصيلهم الاكاديمي عبر سنوات الدراسة الاربع. وكذلك تبين وجود تفاعل بين نظام العلامات و الكلية على تصورات الطلبة لممارسات تقييم تحصيلهم الاكاديمي في مجال ممارسات التقييم التنظيمية ولصالح كليات الهندسة والعلوم التي تعتمد نظام العلامات الحروف.

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