

STUDENTS' PERCEPTION OF FLIPPED CLASSROOM: A CASE STUDY FOR PRIVATE UNIVERSITIES IN JORDAN

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Abstract

This study examined the male and female students' perceptions of flipped learning system, taking four private universities in the Northern Province in Jordan as the sample of study. Flipped classroom, as an innovative strategy used in higher education, suits the demands of students at a university level, developing their critical thinking and problem-solving skills. A descriptive approach is implemented in order to stem out the analysis of data collected. Besides, the main contribution of this study is characterized here by positioning the survey of flipped classroom in Jordanian universities which finally can be consider as a new innovation in preliminary stage. The current study showed that the students' perceptions of flipped classroom in the Jordanian private universities were high. This study recommended the necessity of using flipped learning technique at universities in Jordan due to its efficiency in developing students' understanding of the curriculum and in motivating them to become active rather than passive participants in the classroom.

Keywords – Flipped classroom, Perception, Private universities, Jordan.

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1. Introduction

The most recent modern learning visions focus on students as the center of learning and teaching process. However, most teachers and lecturers deliver the basic knowledge for their students with less concentration on developing their innovative skills such as, scientific research skills, critical thinking and creative thinking skills (Musallam, 2010). The flipped learning, which means that instructor provides students with basic knowledge before attending classroom, enables both of instructors and students to pay more attention on higher-order thinking skills. To ensure the success of flipped learning, instructors should make a balance between three main areas: content delivery, pedagogical knowledge and technology integration, where instructors integrate technology for educational purposes inside the classroom (Koehler, Mishra & Cain, 2013).

The flipped classroom considered as a new concept in the field of information and communication technology (ICT), attracts many researchers to examine and apply its various educational traits. Inside the

flipped classroom, the interaction between instructors and students will be improved, enabling instructors to invest the time of the lecture for practical issues (Cole & Kritzer, 2009). Flipping model can provide educational opportunities which help students to be more active (Gannod, Burge & Helmick, 2008). Bergmann and Sams (2014) examined other features of flipped classroom, where students can learn depending on “self-paced learning” in any time and place. Such method also meets students’ individual differences and compensates the absence of instructors or students when students can depend on other sources that compensate this absence such as watching videos or multimedia, uploaded by instructors.

The role of instructor in flipped learning is based on guiding and organizing the activities and skills, where students’ roles are developed through following certain techniques such self-learning, preparing lessons at home and getting ready for discussion inside the classroom. According to flipped classroom, the preparation of lesson by students can be achieved through assignments, quizzes, multimedia and websites (Karlsson & Janson, 2016). Despite all of the benefits of flipped learning, only students’ perception is a crucial factor in determining the success of this strategy in teaching and learning process.

Therefore, this paper is structured as the following: the next section presents the literature review pointing out the students’ perception of flipped learning. The next section is the methodology which describes the adopted method in particular descriptive analysis which is highly demanded on the questionnaire in collecting the data, results and discussions. Then, the discussion of the analysis, using figures and tables with all statistics is illustrated. Finally, the conclusion and the recommendation end the study with useful summary and points to figure out the entire outcomes and main contributions.

1.1. Problem Statement

Higher education, represented by universities and colleges around the world, seeks to reinforce the value of innovative thinking and the necessity of shifting from traditional learning techniques into new learning methods like flipped learning strategy. According to the related literature review, there is little ink spelled on flipping classroom at a university level (Roach, 2014). According to the researcher’s experience, the majority of the time of the lecture is wasted in just transferring the basic knowledge without addressing the high thinking skills that the 21st century generation must enjoy. Moreover, flipped learning promotes the collaborative learning, helping students to become more active, compared with the old traditional learning methods (McGoldrick, Rebelein, Rhoads & Stockly, 2010). The performance of students who learn through flipping classroom was better than those who learn through traditional learning (Yamarik, 2007). Accordingly, this study tries to answer the following research questions:

1. What are the students’ perceptions of flipped classroom in the Jordanian private universities?
2. Are there any significant differences in students’ perceptions in the Jordanian private universities based on gender and the year of study variables?

1.2. Objectives of the Study

This study tries to achieve the following objectives:

1. To investigate students’ perceptions of flipped classroom in the Jordanian private universities.
2. To find out whether there are any significant differences in students’ perceptions in the Jordanian private universities according to gender and study year variables.
3. To provide practical recommendations to stakeholders, who are concerned with higher education in general and private universities in the Northern Province in particular, about the importance of utilizing flipped classroom in future.

1.3. Value Research

There are two main contributions; the first one is the methodological contribution which is represented by developing a questionnaire in order to evaluate students’ perception of flipped classroom in Jordanian

private universities. The second one is that the theoretical contribution represented by the survey of flipped classroom in Jordanian university which is considered as a new innovation in preliminary stage.

1.4. Significance of the Study

The significance of the study revolves about the importance of dealing with flipped classroom. This study will help both of instructors and students, providing instructors with new and vital learning styles which can promote and motivate the way in which the content is taught and helping students to become more active once the content meets their needs and preferences. Moreover, this study will draw the attention of decision-makers to the importance of flipped classroom.

2. Literature Review

The value of flipped classroom is derived from some cases when students miss their classes for emergent cases such as sickness or family problems. Moreover, flipped classroom is a good solution for other cases of students' misunderstanding, misconception and content ambiguity in class (Halili & Zainuddin, 2015). The idea of flipped classroom was first practiced by Jonathan Bergmann and Aaron Sams, who developed and created a lot of educational videos to help their students in understanding the main concepts of new lessons and to clarify the ambiguity of topics, developing students' learning throughout imitating their real-life situations (Tucker, 2012).

As reviewed, flipped learning consists of three main types: 1. Traditional flip; which students received the videos that help them to understand the basic knowledge of their new lessons only. However, the classroom time will be intensively determined on the critical and creative thinking as well as problem solving skills (Johnson, Adams-Becker, Estrada & Freeman, 2015). 2. In-class flip, which has the same features of the traditional flip. Basically, students complete watching videos in the classroom and work together, share knowledge and complete given tasks (Brown, 2016). 3. Mastery flip: defined as "Students work either in small groups or individually at an appropriate pace. The teacher formatively assesses students and gauges student understanding. Students demonstrate mastery of objectives on summative assessments. For students who do not master a given objective, remediation is provided" (Bergmann & Sams, 2012).

Thus, Flipped learning is an updated style and technique implemented particularly in private universities in Jordan. Those universities have already applied different flipped learning models in certain courses. However, collaborating formal and informal learning (traditional flip) is embodied in the flipped learning model and adopted in this study.

This type, traditional flip model was assessed and evaluated in the current study throughout exploring students' perceptions towards a new learning strategy (flipped learning). This type is concentrated on conventional lecture mode, in which the students have to practice concepts, exercise higher-order thinking skills, and informal mode. All these are exemplified by sending relevant videos about their lessons to help them preparing their lessons and understanding the basic knowledge (Butts, 2014).

Using flipped classroom as a learning strategy will make students responsible for their learning. Students' information and communication skills (ICT) will be improved if they are given videos related to the topic of the lesson (Overmyer, 2012). In addition, flipped classroom enhances students' problem-solving skills and boosts the relationship between students and their instructors, thus reinforcing most of students' learning styles (Arnold-Garza, 2014). Afrilyasanti, Cahyono and Astuti (2016) conducted a study, which aimed to investigate the impact of flipped classroom on writing skills of students of English as a foreign language (EFL). The sample of the study consisted of (62) students, whom were purposively selected from secondary schools in Indonesia. The experimental group taught English writing skills through flipped classroom strategy, while control group taught the same writing skills through face-to-face mode. The results revealed that the performance of students in experimental group was better than their counterparts in control group.

Flipped classroom positively effects on students' academic achievement (Aşıksoy & Özdamlı, 2016). Students perceived flipped classroom as an interesting learning experience and the performance of female students was better than male students. Flipped classroom has more influence on females in regard to self-efficacy and motivation than on males (Kenna, 2014; Aşıksoy & Özdamlı, 2016). Lee and Liu (2016) conducted a study to assess the impact of flipped learning on students' performance; the results showed that there are no statistically significant differences in students' achievement based on gender variable. Other study conducted by Gross, Pietri, Anderson, Moyano-Camihort and Graham (2015) stated that students' scores increased (12%) through the flipped learning strategy, and it is beneficial for students with low educational performance and for females respectively.

The impact of FL, which is not limited to school students, extends to university students from different study years. FL requires experience with online learning and familiarity with new style of learning. In this context, Adams, Garcia and Traustadóttir (2016) stated that freshmen have fewer positive perceptions toward FL and their performance in genetics and evolution courses was less than the levels of sophomores, juniors, or seniors. Newman, Kim, Lee, Brown and Huston (2016) conducted a study, which aimed to find out the impact of flipped teaching on knowledge acquisition as perceived by students. The results of their study showed that students had a positive perception toward flipped teaching, and it had a great impact on their knowledge. On other words, the students' knowledge and experiences were increased based on flipped teaching model. In addition, their study added that there are no significant differences in students' perceptions toward flipped teaching based on gender, specialization and academic year level.

Clark, Besterfield-Sacre, Budny, Bursic, Clark, Norman et al. (2016) discussed the advantages and disadvantages of flipped classroom and its impact on classroom environment. They found that flipped classroom had a strong effect on students' achievement. Regarding demographical variables such as study level; they indicated that freshman showed lower level of satisfaction with flipped classroom environment in contrast with juniors and sophomores. FL is a mixture of formal and informal learning styles, thus it meets the students' preferences and learning styles, which doubtlessly effect students' educational performance. Yang, Yin and Wang (2018) reported that students who learned English as a foreign language through flipped classroom gained higher scores than their colleagues in traditional classrooms. Also, those students showed a better performance in the three following domains: self-directed learning, amount of time specified for practice inside the classroom, and students' interest to the subject matter.

Students' involvement in given tasks, collaboration with other students as well as with their instructor, meaningful learning, active learning, effective participation and active engagement in the classroom are some advantages of flipped learning as reported by McCallum, Schultz, Sellke and Spartz (2015). According to Glynn Jr (2013), all of these advantages were not noted by students who revealed no positive response toward flipped learning as a mean to deliver and transfer the content of course. In contrary, Phillips and Trainor (2014) stated that students preferred to learn by using (flipped classroom mode) rather than using the listening (lecture mode). This result was supported by Blair, Maharaj and Primus (2015), who indicated that students' perception toward flipped learning positively improved. Moreover, the instructors were motivated to continue in delivering their courses by adopting flipped classroom model because they find more time to develop students' higher thinking skills.

3. Methods

3.1. Research Methodology

The analytical descriptive approach was used in this study. The researcher developed a questionnaire in order to identify the perception of students toward flipped classroom. Mean, Standard Deviation, T-Test, and One-Way-ANOVA were used to analysis data.

3.2. Sample

Simple random sampling was used in this study. The sample of the study consisted of (495) students, randomly chosen from all private universities in the Northern province in Jordan: Jerash University, Irbid National University, Ajloun National University, and Jadara University; they have similar characteristics and circumstances. The participants were chosen randomly from all specializations, study year, and gender. The questionnaire was distributed directly by the researcher in the second semester of the academic year 2017-2018. The participants were asked to give their perceptions towards the flipped learning experience in their universities.

Variable	Categories	Frequencies	Percentage
Gender	Male	197	39.8
	Female	298	60.2
Teaching Year	First Year	128	25.9
	Second Year	161	32.5
	Third Year	79	16.0
	Fourth Year	127	25.7
Type of University	Jerash University	165	33.3
	Irbid National University	101	20.4
	Ajloun National university	93	18.8
	Jadara University	136	27.5
	Total	495	100.0

Table 1. Distribution of sample members according to gender, study year and type of university

3.3. Instrument

The researcher developed a questionnaire with (30) items based on related literature and previous studies such as (Newman et al., 2016; Afrilyasanti et al., 2016; Nouri, 2016 & Khanova, McLaughlin, Rhoney, Roth & Harris, 2015). Five-level Likert item (Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree) was adopted in the questionnaire of this study. The questionnaire consists of two parts: the first part includes demographic information, such as gender, study year and type of university, while the second part includes the students' perception of flipped classroom. The researcher described the meaning of flipped classroom for the subjects of the sample of the study before distributing the questionnaire. The questionnaire was validated by a group of faculty members at educational sciences faculties from Jordanian universities. Their comments were taken in consideration in preparing the final version of questionnaire. The reliability of questionnaire was checked by distributing the questionnaire to (30) faculty members from outside of the sample of study. After two weeks, the questionnaire was distributed again. The Pearson correlation coefficient was (.87), this value indicated that the current study has high degree of reliability.

4. Results and Discussion

4.1. Result Related to the First Question: What Are the Students' Perceptions of Flipped Classroom in The Jordanian Private Universities?

To answer the first question of the study, means and standard deviations of the students' perceptions of flipped classroom in the Jordanian private universities were computed as presented in Table 2.

Table 2 shows that Items 23 & 25 "I feel that watching videos and taking notes contribute efficiently to my learning" and "With Flipped classroom model, I feel more prepared for my exam" receive the highest mean ($M = 4.06$, $SD = .987$; $M = 4.06$, $SD = 1.054$) respectively in regard to the degree of agreement, while item 9 "Flipped classroom learning has reduced my dependency on the instructor" was ranked last with a mean ($M = 3.39$, $SD = 1.138$). This table also shows that the perceptions of flipped classroom mean as a whole is ($M = 3.74$, $SD = .608$). The results of the first question revealed that the students' perceptions of flipped classroom in the Jordanian private universities were high. This means that flipped

classroom is considered as a meaningful learning experience which attracts the attention of students; the flipped classroom also could meet students' needs and preferences. The result of the current study matches previous studies (Blair et al., 2015; Newman et al., 2016). Those findings can be interpreted that most students across the world prefer to learn through multimedia and new innovations. Therefore, we can come to a conclusion that the elements of multimedia such as picture, video and animation have a great effect on students' learning compared with traditional learning. The findings indicate that there are no doubts that engaging the process of learning through video becomes a global issue which occupies the students' attention that finally pours in the progress of their learning process. Then, we can add that the spread of video culture between individuals of the new generation contribute in boosting the use of new technology for educational purposes. Moreover, students in the modern era (digital age) prefer to follow the news of their university as well as receive and submit their homework through the electronic gate of the university rather than traditional tools such as; books, journals, and leaflets. Finally, the results of the first question considered as a natural response to the massive development in the educational technology domain. Those technologies become the tools of new generation to deal with given tasks as well as to solve their daily problems and obstacles.

Rank	N	Item	M	SD
1	23	I feel that watching videos and taking notes contribute efficiently to my learning.	4.06	.987
1	25	With flipped classroom model, I feel more prepared for my exam.	4.06	1.054
3	14	I like watching the lessons on video.	4.00	1.085
4	22	I try to learn as much as possible while watching the videos.	3.96	.963
5	15	I wish more instructors use the flipped or inverted classroom model.	3.91	1.067
6	20	I frequently pause or repeat parts of the videos in order to increase my understanding of the material.	3.88	1.108
7	30	Flipped classroom encourages me to practice critical and creative thinking.	3.86	1.121
8	10	Learning foundational content prior to class greatly enhances my understanding of material.	3.85	1.035
9	5	Flipped classroom gives me the opportunity to ask more questions inside the classroom.	3.84	1.091
10	28	Flipped classroom attracts my attention to learning and teaching process.	3.83	1.035
11	26	With flipped classroom, we have to do more work out of the classroom.	3.80	.949
12	16	Flipped classroom can be a suitable teaching strategy.	3.79	1.019
13	18	Flipped classroom can improve interest in exploring topics.	3.75	1.061
13	24	I felt prepared to complete course tasks in class after listening to the video content.	3.75	1.083
15	2	Flipped classroom is more engaging than the traditional classroom.	3.74	1.049
16	12	Flipped classroom gives me less class time to practice the concepts of course.	3.71	1.043
17	29	Flipped classroom reduces the effort to understand the basic knowledge of the subject matter.	3.70	1.122
18	19	Flipped classroom, along with delivery of content outside class and problem solving in class, is an instructional method appropriate for my specialization.	3.68	1.127
19	11	I am more motivated to learn the concepts of course via the flipped classroom.	3.67	1.027
20	8	Flipped classroom improved collaborative learning.	3.66	1.038
20	17	Flipped classroom can improve interest in class.	3.66	1.017
22	4	I got the ability to self-pace my learning with flipped courses.	3.64	1.043
23	1	Flipped classroom gives me greater opportunities to communicate with other students.	3.63	.955
24	21	I believe that I am able to learn material with flipped classroom instruction better than with traditional lecture-based instruction.	3.61	1.045
25	13	I would recommend flipped classroom to a friend.	3.60	1.090
26	27	Flipped classroom matches my learning style.	3.59	1.026

Rank	N	Item	M	SD
27	7	I feel that mastering learning through flipped classroom improved my academic achievement.	3.58	.947
28	3	Flipped courses did not limit my interaction with instructors.	3.55	1.067
29	6	I feel that mastering learning through flipped classroom improved my course understanding.	3.53	.991
30	9	Flipped classroom learning has reduced my dependency on the instructor.	3.39	1.138
		Perceptions of flipped classroom	3.74	.608

Table 2. Means and standard deviations of the students' perceptions of flipped classroom in the Jordanian private universities, items are ranked in a descending order

4.2. Result Related to the Second Question: Are there any Significant Differences in Students' Perceptions in the Jordanian Private Universities According to Gender, Study Year and University Variables?

To answer the second question of the study, means and standard deviations of the students' perceptions of flipped classroom in the Jordanian private universities as based on gender, study year and university type were computed as presented in Table 3.

Table 3 shows a slight variance in the students' perceptions of flipped classroom in the Jordanian private universities with reference to gender, study year and university type variables. To find out whether there are statistical significant differences in these means, 3 way ANOVA was conducted and the results are shown in Table 4.

Variable		Mean	Std. Deviation	N
Gender	Male	3.82	.602	197
	Female	3.69	.607	298
Study Year	1st year	3.63	.599	128
	2nd year	3.76	.656	161
	3rd year	3.83	.703	79
	4th year	3.77	.465	127
University Name	Jerash University	3.75	.637	165
	Irbid National University	3.83	.629	101
	Jadara University	3.65	.603	136
	Ajloun National University	3.77	.525	93

Table 3. Means and standard deviations of the students' perceptions of flipped classroom in the Jordanian private universities as based on gender, study year and university type variables

Table 4 shows that that there are statistically significant differences in students' perceptions of flipped classroom in the Jordanian private universities due to gender variable in favor of male $F(1,487) = 3.973$, $p = .047$. The results of the second question show that male students' perceptions toward flipped classroom were better than perceptions of female students. This means that male students prefer learning strategy which reinforced informal learning, and male students were more active in using new technology. Our results contradicted with previous studies (Kenna, 2014; Aşıksoy & Özdamlı, 2016) it may refer to the impact of culture, as we know Arab society is considered as a male society. Finally, the results of the second question can be elucidated as that gender differences and gender gap in using technology is still in favor of male. Although significant steps adopted by higher educational institutions in bridging that gap, but male are still the most dominant in using new technology especially in third world countries. From the researcher's experience in teaching flipped classroom, we noticed that female students less active in participating and sharing in online debts, this refers to the simple fact which is female students are shy to express their point of view and perception due to society's belief and culture.

Table 4 shows that there are no statistically significant differences at ($\alpha = 0.05$) in regard to study year and university type variables. The results of the second question also show that there are no differences in students' perceptions of flipped learning in regard to study year and university type. Such result shows that the circumstances faced by students in private universities are almost the same. Moreover, the infrastructure and facilities that students used were the same, contradicting the results of previous studies (Adams et al., 2016) because of the current study followed the descriptive approach while the most of previous studies employed the quasi experimental approach; also there are notable differences between our study and previous studies from various aspects like; sample, circumstances, facilities and culture. In general, students in private university in Northern Province came from the same culture and environment, and their grades in high schools are also the same. This means that they have the same attitudes and perception toward the flipped classroom although they are from different universities as well as from different study year in their degrees.

Source	Sum of Squares	Df	Mean Square	F	Sig.
Gender	1.439	1	1.439	3.973	.047
Study Year	2.413	3	.804	2.221	.085
University Type	1.530	3	.510	1.408	.240
Error	176.334	487	.362		
Corrected Total	182.527	494			

Table 4. 3 way ANOVA results of the students' perceptions of flipped classroom in the Jordanian private universities as based on gender, study year and university variables

5. Conclusion

Flipped classroom is an innovative strategy used in higher education because it suits the demands of students at a university level, developing their higher-order thinking and problem solving skills. The current study showed that the students' perceptions of flipped classroom in the Jordanian private universities were high. Also, it revealed that there are significant differences in students' perceptions from the four different private universities regarding to gender variable in favor of male students. Moreover, there are no significant differences in students' perceptions from the four different private universities due to study year and university type variables. The recent study is limited to descriptive approach. In fact, the main scope of the study was on the students' perception of the flipped classroom from different private universities in Northern Province in Jordan. Further quasi experimental studies about the impact of flipped classroom on students' performance are needed. Also, further studies about real status of using flipped classroom in public university at Jordan are essentially needed. This study recommended that flipped classroom strategy should be applied and adopted in the teaching process of students in its all aspects in higher education. Also they should encourage female students to use flipped classroom strategy through involving them in training courses.

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