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The students attitudes' toward the flipped classroom strategy and relationship to self-learning skills

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ABSTRACT

The study aimed to identify the attitudes of students of open education towards the flipped class strategy of the opposite grade and its relation to self-learning skills. To achieve the goals of the study, the measure of the direction towards education was constructed in the opposite grade and the self-learning skills scale. The sample of the study consisted of 60 male and female students of higher diploma in education studying the decisions of the educational administration and Educational Psychology in the Arab Open University/Jordan. The results of the study showed a positive trend for university students towards education in the opposite grade, with the percentage of the trends as a whole 90%. The results also showed a positive correlation between each of the students' attitudes toward education in the opposite grade and each of the variables (academic motivation, self-monitoring, self-learning skills, self-learning writing skills), and no correlation between students' and skills in dealing with information technology.

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1. INTRODUCTION

Modern information and communication technology has contributed to the development and change of modern education, and the emergence of innovative strategies based on various tools of technology. The most prominent of which has recently spread in education and is the flipped classroom, a form of integrated education that intelligently employs modern technology. It is hoped to provide education commensurate with the requirements and the needs of students today [1].

In a flipped classroom, the 21st century skills are transformed by the student into a researcher, using technology effectively through learning outside the school boundaries, reinforcing critical thinking, self-learning, communication skills, and collaborative work among students, bringing about a change in students' achievement of high educational outcomes [1]. Whereas, the enormous development in the field of information and communication technologies has a great impact in activating the processes of scientific application of modern theories and trends in the field of learning methods and strategies and developing them to help prepare new generations more able to face the developments of the times and the challenges of the future [2].

Several studies [3]-[5] have confirmed that learning does not reach its fullest in achieving the desired goals; except when the learner has an active role in educational situations, and this is only possible through the diversification of learning and teaching strategies. Studies dealing with flipped classroom

strategy [6], [7] recommended activating more than one student's strategy in the same strategy as active learning, cooperative learning, and self-learning.

Strayer in Hamadan, McKnight, and Arfstrom [8] stated that the best types of education, the one that generates the yearning for knowledge, makes the educational process more enjoyable, and more vibrant with few traditional lectures, many projects, readings and knowledge in student-centered learning. With the increase in the use of modern technology in the educational process, the number of teachers who want to teach their students in creative ways has increased.

The flipped class strategy is one of the modern strategies to overcome the traditional of higher education by reaching effective integration of technology due to its huge potential to change the methods and strategies of Internet-based learning and education [1]. Studies also indicated that the model of reverse learning facilitated the process of understanding the chemical reaction process among students, and found positive differences in all assessments in favor of the experimental group that used the reverse classes, where students in the case of the reverse classes benefited from teaching and learning processes because it encourages students to participate directly and actively in learning [9], and one study indicated that the level of components of self-organized learning among students came in the following order (academic motivation "high", self-monitoring "average", adapting the strategy "below average"), and that the strategy positively affected the direction Towards mathematics among students of the experimental group [10].

In applying the flipped classroom, many studies found that it has several benefits. The most important: It promotes self-learning, contributes to raising the level of motivation towards learning, and also gives students social networking skills; through the application of cooperative learning in the classroom when solving activities and exercises [11]. The results of one of the studies showed growth and an increase in self-learning skills, and that the flipped class contributed to taking into account individual differences in students 'learning according to their abilities and capabilities, and bearing them responsible for their learning.

The studies that employed flipped class in education indicated that the majority of students expressed satisfaction with the idea of self-learning at a time that suits them, and support the way in which they were taught, and provided them with more opportunities in terms of interacting with their peers and the teacher in active and fruitful learning, and in terms of completing the completion of homework in The time of separation [12]-[14]. Previous study [15]-[18] also indicated the importance of providing sufficient time for students to work on the devices and equipment available in the classes only, and enabling students who are absent from the classes to participate in the activities to watch what they missed from the lectures, and the reverse learning provides the reinforcement of thinking inside and outside class time for students and increases their interaction in the educational process further.

It is clear from the above that a flipped learning strategy has received the attention of researchers in the developed world scientifically and technologically, as previous studies have confirmed that there are positive trends among students who have learned a flipped class strategy, and to increase their interaction and participation in class time and increase their motivation in addition to their enjoyment of this type of Strategies and their satisfaction with it. Through what the researcher touched on the reality of his teaching of the curricula of educational administration and educational psychology at the Arab Open University/Jordan branch. The researcher saw the necessity of employing modern technologies and applying them effectively in the process of student learning in line with the nature of the decisions and in response to modern global trends in teaching, especially distance education. The matter what justifies the conduct of this study to identify the trends of students of open education towards learning with the reverse class strategy and its relationship to self-learning skills.

The subject literature [19]-[21], indicates that the flipped class is a highly effective strategy to support students' learning processes in higher education and this requires changing the accompanying learning and teaching strategies and concepts [22]. It is not enough to record lectures and present them to students before the time of the educational meeting only [23]. This change can be accessed through good instructional design for learning materials, rich discussion activities, and support for individual and group learning processes among students [24].

The Arab Open University/Jordan branch has worked on developing higher diploma courses in education, as the majority of the students in this diploma are male and female teachers working in public and private schools. Also, they have multiple experiences and various experiences in education, and they have the desire to develop their knowledge, skills and abilities [25].

In order for the university's faculty members to keep abreast of educational developments and innovations, they have to apply modern strategies in teaching. Among these strategies is the flipped class strategy. It is where the researchers noted through their teaching of courses in the past the students' need to develop self-learning skills, and their desire to keep pace with modern strategies in learning and education. In particular, since global standards in education emphasize the need for self-management and sustainable development.

2. QUESTIONS OF STUDY

1. What are the attitudes of students of the educational studies program who are studying the open education system at the Arab Open University/Jordan towards the education strategy using the flipped classroom?
2. Is there a correlation between the attitudes of students of the educational studies program who study in the open education system at the Arab Open University/Jordan and the skills of self-learning?

3. TERMINOLOGY OF STUDY

Flipped classroom strategy: It is the heart of learning tasks between class and home, so that the teacher uses modern technologies and the Internet to prepare the lesson, via a video (video), to inform the student about the teacher's explanation at home, and then perform the activities that were homework in the class, which enhances his understanding of the subject Scientific accurate. The inverted class strategy is also defined as the strategy that employs educational video films to make traditional learning processes that take place inside the classroom occur outside of it, and in return it allows to make activities outside the classroom happen within it [26].

The researcher defines it procedurally as the strategy in which the scientific material and the prerequisite tasks are presented through the educational video, scientific bulletins, and activities and training. They are announced to students on the Learning Management System (LMS) website of the Arab Open University. The aim is to conduct training and discussions in classroom educational meetings. More skills, concepts and ideas were discussed during the class meeting.

Self-learning skills: It refers to the self-management of the knowledge of the student teacher that helps him to increase his awareness of learning by practicing self-reading, and to solve the exercises and exercises published on the website of the e-learning system at the university Learning Management System (LMS) and various forms of review, and self-control of his behavior; to reach the desired learning in the targeted subject.

The researcher defines it procedurally in this study to the degree that the study sample gets on the prepared scale, which measures the skills: academic motivation, self-monitoring, reading skills, writing skills, and skills dealing with technology. It takes three variables, and there are no studies in the Arab environment that addressed the attitudes students of open education towards the strategy of education using a flipped classroom. It relatives to develop self-learning skills, also keeping up with recent trends in university education, especially distance learning, as well the study tackled the Higher Diploma in Education in Arab Open University. The present study is specified on students of Higher Diploma in Education in Arab Open University in Jordan branch, the studying year first term 2019/2020 and the tools and scales that used it.

4. RESEARCH METHOD

4.1. Attitudes scale

The scale of attitudes towards reverse education: it aims to measure the attitudes of students of higher diploma in education towards the strategy of reverse education in teaching the educational management course and educational psychology; in order to know whether or not the strategy affects direction. The scale was built after looking at the theoretical and educational literature on the subject of the study, where the scale consists of 24 paragraphs, and the answer to the paragraphs of the scale is of three degrees, where the student assesses the level of his direction towards the reverse education as follows: Degree three means that the student agrees on the reverse education strategy, grade 2 means that the student is not sure of his direction towards the reverse education, and grade 1 means that the student does not agree with the strategy of reverse education in education. Accordingly, the minimum score that a student can obtain on the scale is 24 degrees,

The scale of attitudes towards education using the inverse class has been validated. The scale of attitudes toward inverse education has been validated by presenting the scale to ten arbitrators who specialize in the fields of psychology, measurement, educational and psychological assessment, curricula, teaching methods, and educational technology. In light of the jury's observations, the researchers have reinstated formulate some paragraphs, and exclude some obscure paragraphs.

The stability of the scale of attitudes toward education using the inverse class. The researcher extracted the stability of the scale using a test-re-test method. It is applying to a sample from outside the study of 30 students, with a time difference of two weeks, after which the stability factor was calculated using the Pearson correlation coefficient. The coefficient of stability as a whole was 0.88, and is appropriate for the purposes of the study.

4.2. Self-learning skills scale

It aims to measure self-learning skills and their relationship to reverse education, and these skills are: academic motivation, self-monitoring, reading, writing, and dealing with information technology. The scale was developed after examining the theoretical and educational literature on the subject of the study. The scale consists of 20 paragraphs, and the answer to the paragraphs of the scale is of three degrees, where the student assesses his level of self-learning on each paragraph as follows: Grade 3 means that the student agrees with his level of self-learning, and score 2 means that the student is unsure of his level of self-learning, and score 1 means that the student does not agree with his level of self-learning. Accordingly, the minimum score that a student can obtain on the scale is 20 degrees, and the maximum degree 60 degrees.

The scale of self-learning skills is validated. The self-learning skills scale was validated by presenting the scale to 10 arbitrators who specialize in the fields of psychology, measurement, educational and psychological evaluation, curricula, teaching methods and educational technology. In light of the comments of the judges, the researchers rewrote some paragraphs, and exclude some obscure paragraphs.

Stability of the scale of self-learning skills: The researcher extracted the stability of the scale by way of test-re-test by applying it to a sample from outside the study of 30 students with a two-week time difference. The stability factor was calculated using the correlation coefficient Pearson. The coefficient of persistence as a whole 0.91, is appropriate for the purposes of the study.

4.3. Procedures of the study

a. Study community and its sample: The study population consisted of students of the higher diploma in education in the first semester of the academic year 2018/2019 at the Arab Open University/Jordan, and a deliberate intention was chosen from the students of the educational administration and educational psychology students who are 60 students and a student.
b. Inquiring the theoretical frame work of Flipped classroom strategy and self –learning skills as well as previous studies.
c. Preparation of the study tools and scales and verify it validity and reliability.
d. Video recording (15 minutes for each clip) that cover the courses in question and post them on the e-learning website of the course at the Arab Open University.
e. Dissemination of studies, responses to Excel software the use of statistical packages of SPSS, arithmetical average, standard deviations, correlation factor and write recommendations.
f. Providing a brief summary of the inverted classroom strategy for students: Flipped classroom strategy was demonstrated to students in the first educational meeting, and a brochure on the strategy was created and uploaded to the university's LMS e-learning website, as well as videos, PowerPoint presentations and summaries. The role of both the student and the faculty member in employing the strategy was clarified.
g. The application of the tools of study and data analysis.
h. The study tools were applied in the twelfth week of the first semester of the academic year 2018/2019 (last week). Then, data analysis, extracting and interpreting results.
i. Study design and statistical analysis used: using of the relational descriptive approach to identify the trends of students of open education towards the reverse education strategy, and its relationship to the development of self-learning skills. To answer study questions, we used arithmetic averages, standard deviations, and Pearson correlation coefficient.

5. RESULTS

5.1. Attitudes of students of the educational studies program who are studying the open education system at the Arab Open University/Jordan towards the education strategy using the inverse class.

Mathematical averages and standard deviations were used for students of the educational studies program studying in the open education system. Arithmetic mean and, standard deviations and percentages for each paragraph of the trend towards the flipped classroom was used as shown in Table 1.

Table 1 shows that the percentage of open education students' attitudes toward the teaching strategy used for higher diploma courses in their wholes was 94%.The average score of 67.33 out of 72 points which is high, as it indicates a high positive trend. This is due to the importance of the teaching strategy used and dependent on the learner's effectiveness and its active role in the advance preparation of study topics and their discussion in the classroom meeting. The strategy used is important in providing resources and support to learners through the Moodle site, and it is necessary to provide educational tools and strategies that keep pace with modern developments and technology. Through a reverse education strategy that provides pre-class

lectures and information before the learner enters the classroom, the learner can learn his strengths and weaknesses, and learn about the problems that he may face during learning.

Table 1. Arithmetic mean and, standard deviations and percentages for each paragraph of the trend towards the flipped classroom

Paragraph	M	SD	Percentage
I feel comfortable in the class meetings where the inverted class strategy is applied	2.9667	.18102	99%
Preparing my pre-course material according to a flipped class strategy helped me understand the course topics well	2.8833	.32373	96%
I feel the pleasure of learning when submitting scientific material according to a flipped class strategy	2.9167	27872	97%
I feel the scientific benefit of understanding the content of a science subject when introducing an inverted classroom strategy rather than memorizing it	2.8667	.34280	95%
Learning with an inverted classroom strategy gave me the opportunity to self-learn	2.8667	.34280	95%
Learning with the inverted classroom strategy gave me the opportunity to engage with technology	2.9667	.18102	99%
I found it easy to answer all my papers LMS For courses that use the inverted class strategy	2.7333	.44595	91%
I feel fun in class meetings that implement the inverted class strategy	2.6833	.56723	89%
I found that teaching inverted classroom strategy requires more effort than I can	2.7333	.54824	91%
I feel that teaching inverted classroom strategy has changed my attitudes toward practicing the teaching profession	2.9167	27872	97%
The worksheets published on the site helped me LMS In understanding the scientific subject you studied with the inverted class strategy	2.8833	.32373	96%
Whatever was said about teaching inverted classroom strategy, it increased my motivation to learn	2.8000	.48011	93%
I feel that teaching inverted classroom strategy corresponds to my needs for the digital world	2.7667	.42652	92%
Teaching with the inverted class strategy contributed to increasing interaction with the faculty member	2.8833	.32373	96%
I take responsibility for learning when teaching inverted classroom strategy	2.9000	.30253	96%
Through teaching inverted classroom strategy, I found an answer to all questions related to the decisions that employ this strategy.	2.7333	.44595	91%
Teaching with an inverted classroom strategy helped me increase my outreach and interactivity with my colleagues	2.8333	.37582	94%
Teaching with an inverted classroom strategy helped me increase contact with the university's faculty	2.8167	.39020	94%
I see a Flipped class strategy as essential for all teachers	2.6833	.53652	%89
Classroom encounters are preferred in which an inverted classroom strategy is employed	2.6667	.57244	89%
The Inverted Row Strategy helped me to develop research and survey skills	2.8000	.44341	93%
The Inverted Classroom Strategy helped me to follow the courses in different ways	2.8000	.48011	93%
The inverted classroom strategy in teaching makes me exhausted	2.6500	54695	88%
Videos posted on LMS In increasing my understanding of the scientific content of the course	2.9333	.25155	89%
Total summation	67.33	3.75	94%

5.2. A correlation between the attitudes of students of the educational studies program who study in the open education system at the Arab Open University/Jordan and the skills of self-learning.

Mathematical averages and standard deviations were used for students of the educational studies program studying in the open education system. Arithmetic mean and, standard deviations and percentages for each paragraph of the trend towards the flipped classroom was used as shown in Table 2.

Table 2. Arithmetic mean and, standard deviations and percentages for each paragraph of the trend towards the flipped classroom

Skill	M	SD	Percentage
Academic motivation	11.18	0.95	93%
Self-monitoring	11.10	0.65	92.5%
Self-learning reading skills	11.06	0.98	92%
Writing skills for self-learning	10.61	0.82	88%
Dealing with information technology	10.05	0.21	83%
Self-learning skills (total)	54.01	2.33	90%

Table 2 displays that the percentage of self-learning skills among students of open education was 90%. The high percentage, and the percentages ranged in the areas of self-learning skills (83%-93%) which are also high percentages in the five fields. To investigate correlation coefficients between trends toward the strategy used and self-learning skills, a Pearson correlation coefficient was used between the two variables as shown in the following Table 3.

Table 3. Coefficients between trends toward the strategy used and self-learning skills

The independent variable	The dependent variable	Significance level	Pearson correlation coefficient
Trends towards strategy	Academic motivation	0.000	0.70
Trends towards strategy	Self-monitoring	0.006	0.35
Trends towards strategy	Self-learning reading skills	0.000	0.74
Trends towards strategy	Writing skills for self-learning	0.005	0.36
Trends towards strategy	Dealing with information technology	0.301	0.04
Trends towards strategy	Self-learning skills (total)	0.000	0.81

Table 3 shows that the correlation coefficient between the trends of students of open education toward the strategy used and self-learning skills was 0.81, which is statistically significant at the level of ($\alpha \leq 0.05$).Also, the coefficients of correlation between the direction of the trend towards the strategy used and sub-skills (academic motivation, self monitoring, reading skills for self-learning, writing skills for self-learning, (respectively, 0.7, 0.35, 0.74, 0.36, 0.04). All of which are statistically significant at ($\alpha \leq 0.05$) except for dealing with information technology, the correlation coefficient was not statistically with dealing information technology.

This result is attributed to the influence of students' open education attitudes towards education using the inverse class strategy and self-learning skills. The use of the flipped class strategy in terms of providing computerized means through the learning management site such as presentations, educational videos and summaries, and worksheets stimulated learners to follow, and increased their motivation to learn. Also, students were provided with lectures in advance in their sites, which led to increased student interest and active participation in classroom discussions. It provided them with the necessary and necessary skills of self-reading and writing, and monitoring their progress towards achieving their goals.

6. DISCUSSION

Results of study showed that the attitudes of students' of the higher diploma in education towards employing flipped classroom strategy were high. Their level of possession of self learning skills was also high. The relationship between attitudes to flipped classroom strategy and self learning skills were positive and statistically significant**.**

The results of the current study agreed with many of the results of previous studies, such as study [11], [12], [8] on the effect of flipped learning in improving student achievement, and with studying. This indicates that building knowledge in the flipped class room strategy basically benefits the learner. It is also a strategy that lets the students influence the teacher. As a consequence, this contributes in developing their self-learning skills.

In the importance of this strategy in improving the educational process for students and increasing the effectiveness of learning, and with studying [10] in the effect of the flipped classroom strategy on increasing efficiency self-study for students, and studying [15] on the impact of a flipped learning strategy on postgraduate students' education. The results of this study with regard to self-learning can be explained by saying that the flipped learning strategy provides the student with knowledge that fits his comprehension, and improves his integration in learning tasks. Implementing this strategy using modern technologies also provides students with an opportunity to review and follow-up lessons relying on their own. Also, it assists the student to appreciate the time in accordance with themselves, whether at home or in class.

This strategy can reinforce the effect of positive learning on the student. Since it is scalable as an educational strategy that blends modern technology with self-learning patterns that help take into account the individual differences among students, their independence and their self-learning support. This strategy can also provide students with sufficient attention to follow-up lessons, and increase their appetite for learning different courses. Accordingly, it raises their self-learning skills level.

7. CONCLUSION

From the findings of the study, it is concluded that employing the flipped classroom strategy in teaching contributes to forming positive attitudes towards learning among students. It works on acquiring self-learning skills.

The researcher recommends for using the reverse class strategy when teaching open education students. It provides various sources of support, whether computerized or not, and encouraging students to follow up on televised publications and lectures, and to emphasize the importance of the learner's role in discussion and thinking in presenting educational issues and important problems, the need to integrate technology in education and provide the necessary tools. The researcher also recommends the necessity of using strategies that have an active role in developing self-learning skills, and increasing the ability of learners to be independent in thinking and learning and following their activities.

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