The Effectiveness of Flipped Classroom for Developing Achievement Motivation in Third Preparatory Grade Students

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Abstract
The current research aims to verify the effectiveness of flipped classroom in developing achievement motivation in a sample consisting of (40) students from third preparatory class in Al-Minshawi Preparatory School. The importance of this study lies in its being the first In this field in Egypt (according to the researcher's knowledge), in addition to providing decision makers, and Responsible for the educational process with basic information related to the effectiveness of using modern teaching methods, then developing the educational process in line with Requirements of the modern era. The Descriptive method approach based on the design (Pre x post) of two groups (experimental x control) was followed. The experimental group consisting of (20) students studied course using flipped classroom, while the control group consisting of (20) students also studied the same course in the traditional way, and to achieve research aims the achievement motivation scale was applied before and after. The data were collected and statistically processed, and the results revealed a statistically significant difference at the level of (α ≤ 0.05, 0) in the post measurement in favor of the experimental group in the achievement motivation, the researchers refer to teaching in the flipped classroom.

Keywords: flipped classroom, achievement motivation, preparatory grade

Introduction
Recently, interest in flipped classroom has increased and spread to all stages of education, from primary to university, and perhaps the reason for this interest is the large number of studies that confirm the effectiveness of this model in improving student outcomes. [1].

flipped classroom is one of the modern methods of learning, as it is an educational strategy that aims to use modern technologies and the Internet in a way that allows the teacher to prepare the lesson in advance through video clips, audio files or other media, for students to view in their homes or in any other place using their computers or phones Smart phones or their tablet devices before attending the lesson, while class time or lecture time is devoted to discussions and exercises. Video is an essential element in this mode of education where the teacher prepares a short video clip for the lesson or unit of study of a duration not exceeding (10: 5) minutes, and participates Do it with students on a website or social media [2].

Figure (1) illustrates the concept of flipped classroom:

Fig. 1. Concept of Flipped Classroom

Thus, flipped classroom is only an educational strategy that relies on the principle of active learning, which aims to develop students achievement motivation so that they can learn by doing, researching and experimenting, relying on themselves to obtain information, acquire skills, and build values and trends, so they do not depend on memorization and instruction, but rather on the
development of thinking Criticism and Ability to Solve Problems, Teamwork, and Collaborative Learning [3]. This is the conclusion of the study [4] that flipped classroom increases student’s achievement motivation by harnessing modern technology that adds excitement, excitement, and curiosity to the elements of the educational environment and meets the individual and special needs of each student, as the video clip is an essential element in this mode of learning.

The results of many studies such as [5], [6], [7], [8] and [9] showed that the video is considered one of the best The means that directly address the student’s mind, and motivate him to interact with him as a private teacher, and make him live an atmosphere full of enthusiasm and seriousness that may not be available using traditional teaching methods, as it contains sound, static and moving images, and appropriate colors, that help to support the main ideas, and motivational stimulation The student for self-learning.

In short, flipped classroom strategy is a form of Blended Learning in which modern technology is cleverly employed as it reflects the skills of the twenty-first century and through which the student turns into a researcher by using technology effectively to learn from outside the school’s boundaries, thus reinforcing critical thinking, self-learning, communication skills and collaborative work with Peer, in a manner that ensures improvement in educational outcomes [11].

Methodology
According to the results of these studies and what they have indicated, and as a result of the lack of studies on this topic in relation to its importance in the Arab world, especially in Egypt, where no similar study has been conducted in this topic until now, the researchers believe that conducting such a study has become an urgent need, so this study aimed To verify the effectiveness of flipped classroom in developing achievement motivation in a sample of third-grade middle school students, the research problem can be formulated in the following questions:

1. What is the suggested educational design for flipped classroom?
2. What is the effectiveness of the proposed educational design for flipped classroom in developing achievement motivation for the third preparatory grade students?

Chief Examiners report on the West African Senior School Certificate on students’ weaknesses in balancing of chemical equations. For example, the WAEC Chief Examiners report on the May/June 2012, 2015 and 2018 reported that candidate’s weakness included poor knowledge of symbols, formulae and equation and inability to balance equations correctly. It is in view of this that the study determined the effect of virtual laboratory instructional strategy on achievement in balancing of chemical equation among senior secondary school students in Minna, Metropolis.

Instructional design
In order to implement flipped classroom experiment, the two researchers followed the following model design for the flipped classroom:

- Determine the topic or lesson that wanted to be flipped it.
- Analyze the content into important skills and concepts should know
- Designing an educational or interactive video that includes the scientific subject with sound and image for a period not exceeding (10) minutes.
- Direct students to watch video from the Internet or CD at home at any time.
- Applying the concepts that students learned from the video in the class through active learning activities and projects.
- Evaluate students learn in the classroom with appropriate assessment tools

Fig.2. Flipped Classroom Design Model

Sample Group:
A sample consisting of (40) students was chosen from the third preparatory students at Al-Minshawi Preparatory School for girls, and they were divided into two groups, the first group experimental include (20) students and the other group control include (20) students as well

Data Collection and data collection tools
The researchers used achievement motivation scale prepared by Ahmed Abdel-Khalq and Maysa El-Nayal (1980).

- The scale consists of (20) items, the scale follows the way the grades are graded according to the degree of positivity of the paragraph and the phrase, in positive paragraphs the phrases are given: (rarely, sometimes, frequently) grades (2,1,0) respectively, and in negative paragraphs items (7, 16) The previous order is reversed, where the phrases are given: (rarely, sometimes, frequently) degrees (0,1,2), and according to this system the maximum score that the examiner can obtain in the whole test is (40) degrees, and the lowest score is (zero) The test does not have a specific time for application, but it was found that ordinary individuals can answer it in a period ranging between (15:10) minutes, after giving instructions and resolving For examples.
- The scale was applied previously to the two groups (experimental, control) on 16/2/2016, with the aim of making sure the two groups are equal before application and also determining the level of motivation for achievement in them. It was also applied dimensionally to the two groups (experimental and control) to identify their level of motivation after conducting the research experiment, on 12/4/2016, then the degrees of all students were monitored and statistically processed data using the t-test.
Results

Table (1) shows the results of T-Test to compare pre-and post-average and gain scores for achievement motivation scale in control and experimental groups.

Table (1) T-Test Results To Compare The Mean Scores For Achievement Motivation Measure Pre, Post And The Gain For The Two Groups (Control N1 = 20 And Experimental N2 = 20)

<table>
<thead>
<tr>
<th>Test</th>
<th>Comparative Groups</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>T Value</th>
<th>Level Of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Control</td>
<td>56.29</td>
<td>25.4</td>
<td>47.0</td>
<td>0.962</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>61.29</td>
<td>62.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>Control</td>
<td>55.65</td>
<td>55.11</td>
<td>5.9</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>9.92</td>
<td>73.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain</td>
<td>Control</td>
<td>65.59</td>
<td>9.26</td>
<td>16.11</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>9.85</td>
<td>99.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the previous table, Table (1), it is clear that:

1) The value of (T) = (47.0), which is not significant at the level of (α ≤0.05). This confirms the equivalence of the two groups (control and experimental).

2) That the value of (T) = (5.9) is a function at (α ≤0.05) and this confirms that there is a significant difference between the mean of the two groups (control and experimental) in the achievement motivation in favor of the experimental group, where the average was (0.92) with a standard deviation It is (73.4), while the average of the control group was equal to (55.65), with a standard deviation of (55.11).

3) That the value of (T) = (16.11) is a function at the level of (α ≤0.05), and this confirms that there is a significant difference between the mean of the two groups (control and experimental) in the achievement motivation in favor of the experimental group, where the mean was (9.85) with a standard deviation It is (99.4), while the average of the control group was equal to (65.59), with a Standard Deviation of (9.26).

Discussion

Table (1) shows the high level of achievement motivation in favor of the experimental group after studying the course in flipped classroom. This result can be explained in light of the following considerations:

- The students ‘feeling of frustration decreased. In the past, they felt frustrated when they were performing the exercises and duties on their own.
- Presenting the content of the lessons through short interactive videos that enabled the students to view it several times, to enable them to understand the new concepts, which raised their achievement motivation as they come to the class and are fully prepared to apply those concepts that I learned from the video.
- The opportunity for every student to ask her colleague and seek her assistance instead of the researcher, which increased the motivation of shy students to participate in the educational process.
- The student’s use of various methods and methods to reach the desired educational goals, such as participation in team work and independent study, research and survey, makes her active during learning; and gives her a space to add excitement and excitement to the elements of the educational environment and raise her achievement motivation.
- Individual tracking of troubled students by the researcher, which increased their achievement motivation (learning difficulties).
- Each student takes responsibility for her learning, making her more integrated in the educational situation and raising her achievement motivation.
- The students cooperated together to improve the individual performance of each of them, improving the relations between them inside and outside the classroom, which increases their feelings of satisfaction with their learning and develops the positive trends they have, thus increasing their achievement motivation.
- Availability of sufficient time for activities and homework, so that time is not a stressful element for the student or the researcher.
- Employ the environment that is popular with female students of this age, as they do not imagine life without their mobile phones, tablets, and laptop computers, as well as social media, especially YouTube, which increased their motivation to learn and achieve.

In This Current Study, The Results of The Current Study Were In Agreement With Most Of The Results Of Previous Studies That Were Referred To In This Research.

Conclusion

Flipped classroom increases the students’ motivation to learn by providing an educational environment full of fun, suspense, challenge, competition and promotion

Recommendations

1) Holding training sessions to educate teachers and encourage them to use flipped classroom in education.
2) Every teacher has a YouTube channel, who uploads a brief video of the lesson by explaining it, so that students can watch it, and communicate with him, before attending the official class.
3) Teaching this strategy within the curricula of Faculties of Education and Quality Education.
4) Increase interest in using flipped classroom in education in its various stages, and its various decisions, in order to reduce educational problems that display the educational process.
References


