



Full Length Research Paper

The effectiveness of using the flipped class learning strategy on the achievement and linguistic self-concept among 9th grade students in public schools at Jerash Governorate

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The aim of this study was to investigate the effect of using the Flipped class learning strategy on the achievement of the ninth grade students and their linguistic self-concept in Jarash governorate. The study attempted to answer the following main question: What is the impact of the use of the Flipped class learning strategy on students' achievement in English language and on the linguistic self-concept among the ninth grade students in Jerash governorate? In order to answer the study question and test its hypotheses, the semi-experimental design was used. The study was applied to a sample consisting of (86) students from the ninth grade students. They were divided into two groups, experimental: consisted of (38) students who were taught using the Flipped learning strategy, and control group (48) students were taught the same course using the Normal way during the second semester of 2017/2018. The researcher prepared a guide to teach English language according to the Flipped learning strategy, in which the researcher used the teaching of the experimental group, according to the Strategy. A post achievement test was also used to measure the students' achievement of the material they studied, in addition to the linguistic self-concept scale which was applied before and after the treatment, the validity of the tools was verified by judging them by the arbitrators, and the calculation of their reliability through the equation Kronbach Alpha, where the reliability coefficient of the achievement test was (0.92) and for the linguistic self-concept was (0.76). The results of the study were statically significant at ($\alpha=0.05$) based on the post achievement test, and the linguistic self- concept scale of the ninth grade students, in favor of the experimental group who used the flipped learning strategy to learn English language. Based on the results of the study, the researcher recommended activating using the flipped learning strategy in teaching different subjects in English language, as well as the possibility of using it for different courses and different stages of education.

Keywords: Flipped learning strategy, Linguistic self-concept, students' achievement, ninth grade students, Jerah Governorate.

INTRODUCTION

Flipped classroom is a pedagogic approach that reflects the nature of learning activities that take place in the classroom or home, leading to a change in the traditional roles of learning. The justification for this new pedagogy

is non-formal learning, which has become more and more part of every person's experience in his life, during the twenty-first century, which undergoes rapid changes requiring individual lasting and continuous self-learning.

In addition, to modern technology that has changed our way of life and the nature of our thinking, which requires not only formal learning which is taught in schools and which in many cases has become inadequate of the new social and cultural life of the century .

Thus, the concept of "Flipped classroom" has gained widespread popularity among teachers in many countries of the world, making them change the "organization of their classrooms" moving to a more practical, more humane and learner-centered learning model. So what is the Flipped classroom? What is its basic premise? What are the benefits to the teacher and learner?

This educational model is based on the simple idea that the precious time of the semester is best to use for interaction and teamwork, rather than leaving one person speaks. It is a pedagogic approach that "the student is the one who learns" and hence the conditions that encourage him to sustainable learn.

In other words, the flipped classroom makes students review their homework so that the learning activities in the classroom are clear and tangible to them, during their classroom "for learning", they will only carry out practical exercises and related discoveries that is to deepen understanding. The teacher is no longer preparing the information, but is helping the student understand basic concepts. And the teacher will have more time to follow each student's case. So the teacher then plays the role of tutor during the pupils' learning. <https://www.new-educ.com>

Several studies have concluded that different strategies are effective in developing habits of the mind. Ali (2006) study has demonstrated the effectiveness of the use of multiple thinking strategies in raising attainment (the higher cognitive level), and the habits of the mind of thinking flexibly, thinking about thinking Knowledge(Meta cognitive), and thinking cheerfully in mathematics for fourth graders. The results of Ubaida (2011) study showed the effectiveness of using the studio to think about the development of the habits of the mind in the teaching of mathematics in the first grade students. The results of the study of Sawwah (2011) revealed the effectiveness of a training program in the development of some habits of mind produced by a group of female kindergarten teachers.

In recent years, the "Flipped classroom" strategy has emerged and paved the way for it in the educational field, (Maureen J. Lage, Glenn J. Platt, and Michael, 2000" In a paper titled " Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment " Then in the same year, Wesley Baker presented it as an input to teaching and he experimented it in reality. They start with this strategy from the need to provide education more effectively and even to motivate the students so the results are more meaningful, which enhance them to offer them the strategy which is based on reflecting the reality of education, where the students watch a video clip on their mobile devices before the lecture as a homework, its nature is (a recorded voice explaining the cognitive

material supported by pictures and slides, or educational video),The lecture is then a time to apply and work together with the teacher of the material through a series of activities she prepared previously, and interact with students in direct guidance (Marco, 2010).

The teaching of the English language requires a more effective and interesting course. Such strategies provide an opportunity to create a realistic environment for the exercise of orthodontic competencies in an almost natural way through active learning activities within the classroom. It also allows the students to rely more on themselves for learning and build various evaluation tools. Teaching these rules and knowledge in a traditional way is no longer feasible, especially as they are fixed and non-renewable. Many students can know the steps of the specification table and prepare an achievement test, but in practice they fall into many malpractices. Hence the researcher finds that the teaching method is highly reliable in the success of the education process. Therefore, she tried to experiment with one of the modern and innovative teaching strategies in the field of education, which is the strategy of inverted learning, and came keen on experimenting with that strategy from several educational starting points, including:

1. Flipped class strategy is one of the solutions of modern technology and its optimal use to treat the weakness of traditional learning, and to develop the level of thinking skills among students, inverted learning is a teaching strategy includes the use of technology to take advantage of learning in the learning process, so that the teacher can spend more time interacting, conversing and discussing with students in class rather than lecturing, where students watch short video presentations of lectures at home, the most time to discuss content in the classroom is under teacher supervision. According to Bloom's classification, students achieve inverted learning the minimum level of the cognitive domain (knowledge acquisition and assimilation) at home, and focus on the higher level of the cognitive domain (Application, analysis, synthesis, evaluation) at the time of the lesson (Brame, 2013).
2. The flipped class works to break the rigidity and monotony of the traditional lecture and invests the house's potential and educational role to become more interactive with the teaching and learning process by reviewing the lesson sent by the faculty member, and the search for solutions with the help of parents sometimes, in addition to the use of audio and video means that contribute in the raising of curiosity or imaginary questions that revolve in the mind of the student.
3. The flipped class turns the student into a researcher or scientist, increases his motivation for learning, and It breaks the monotony of the traditional educational process.
4. Flipped learning gives faculty members more time to help students and receive their inquiries.

5. Build stronger relationships between student and faculty member.
6. Creates a collaborative learning environment in the classroom.
7. Provides opportunities to apply active learning easily, <http://www.manhal.net/art/s/2003>.
8. Improve students' achievement and the development of their absorption.
9. Students are given the incentive to prepare before the lesson, by doing short tests, writing short assignments online or solving worksheets versus grades.
10. Provides a mechanism to assess the absorption of students, the tests and the short duties of students are an indication of the weaknesses and strength in their absorption of content; which helps the teacher to focus on it.
11. Students are given the ability to "repeat the lesson" more than once, and the freedom to choose the time, and speed at which they learn, based on the individual differences between them.
12. Provides immediate feedback to students from the faculty member at the time of the lesson. (Al Zain, 2015)

Questions of the study and its hypothesis

This study is concerned with answering the following main question:

1. What is the impact of using Flipped learning strategy on the achievement and linguistic self-concept among the ninth grade students in Jerash governorate?

Two sub questions are stemmed from the previous main question:

- What is the impact of using Flipped class learning strategy on the achievement of 9th grade students in English language in Jerash governorate?

Where the following hypothesis was emerged:

There were no statistically significant differences at the significance level ($\alpha=0.05$) between the mean achievement scores between the experimental group (Flipped class learning strategy) and the control group (The normal method) of ninth graders.

- What is the impact of using Flipped class learning strategy on the linguistic self-concept among ninth grade students in English language in the Jerash governorate?

Where the following hypothesis was emerged:

There were no statistically significant differences at mean level (0.05) between the mean self-concept between the experimental group (Flipped class learning strategy) and the control group (Normal strategy) among ninth grade students.

Objectives of the study

The present study seeks to achieve the following objectives:

1. To identify the impact of using Flipped class learning strategy on the achievement of 9th grade students in English Language in Jerash Governorate.
2. To identify the impact of using flipped class learning strategy on the linguistic self- concept among the ninth grade students in English language in Jerash governorate.

The importance of the study

The importance of the present study is theoretical and practical:

- The theoretical importance of the study

The theoretical importance of the study is summarized by what it might add from a recent teaching strategy that activates technology, it may develop the cognitive side presented by high achievement as well as on the skill aspect by improving communication skills between students and educational material presented, and between students themselves as well as between students and teachers, in addition to the emotional aspect related to improving the linguistic self-concept among students, and this is what the study did by focusing on measuring the degree of achievement of students when applying the strategy.

- The practical importance of the study is summarized as follows:

1. The results of this research may help educational staff to use a modern strategy that will increase the effectiveness of the outcomes of the educational process.
2. Teachers may benefit from various educational courses and all educational stages, with a realistic view of the extent to which students are able to use Flipped class learning actually.
3. It may help the authors of the curriculum reconsider the possibility of including some of the curriculum subjects that could be taught within this strategy.
4. It may encourage educational supervisors to develop training programs and materials based on this strategy, and train teachers on it.

The limits of the study

The study is limited to the following limits:

- First: Human limits

This study is limited to ninth grade students.

- Second: time limits

This study was conducted in the second semester 2017/2018.

- Third: Spatial limits

This study is limited to ninth graders in the public schools in Jerash Governorate.

Previous Studies

Several studies have addressed the effectiveness of inverted classes. Johnson's study has found its effective-

ness (Johnson 2012) in academic achievement, and there is a positive tendency among students to use this strategy. While the Marlow 2012 study found that there were no significant differences in the test scores between the experimental group and the control but the level of anxiety among students has declined (Tune, Sturek and Bassel, 2013) reached the effectiveness of the inverted classes in the achievement of the first year students of the Life Sciences course.

Al-Fuhaid study (2014) showed the effectiveness of the inverted classes in achievement and in the development of the attitudes of students of preparatory programs in the course of English grammar at Imam Muhammad bin Saud Islamic University, towards the university classroom environment for the benefit of the experimental group, there is also a correlation between the trends of students in preparatory programs at the University of Imam Muhammad bin Saud Islamic towards the classroom environment and academic achievement.

The study of Al-Kahili (2015) showed the effectiveness of the inverted classes in the academic achievement of theoretical and applied materials, and in achieving the interaction between the teacher and the student and the student and her peers in the eighth and ninth grades of the intermediate stage using social media for scientific discussion after watching the video at home.

The study of Al Zain (2015) has shown an impact on the use of the inverted learning strategy in the academic achievement of the students of the Faculty of Education at Princess NouraBint Abdul Rahman University, Al-Mutairi (2015) proved the effectiveness of the inverted classes strategy in the achievement of using the educational learning platform (Edmodo) according to the levels of TIMSS as a whole and in the levels (knowledge, application, reasoning) and in the development of self-learning skills in the biology curriculum for first-grade secondary students.

The Zahrani study (2015) resulted in the effectiveness of the flipped class strategy in developing the level of cognitive attainment according to the six levels of Bloom as a whole, at the higher levels (application, analysis, synthesis, and evaluation) especially in the e-learning course of the students of the Faculty of Education at King Abdul Aziz University.

Gomez jeong, Rodriguez & Canada (2016) pointed to the effectiveness of flipped class strategy in the performance of undergraduate students in Spain. In his study about the flipped class, Ralph pointed out the role of the student, what he did in the class of traditional learning, and does the duty at home; he is now attending the lesson at home, and conducts activities and work papers at school.

Through the review of literature and previous studies, the current research agreed with previous studies in the independent variable, the flipped class; the previous studies dealt with the effectiveness of several dependent variables, such as achievement according to the levels of Bloom, and achieving the interaction between the teacher

and the student. It also studied its effectiveness in reducing the students' anxiety and the trends of the students of preparatory years towards the university classroom environment, and self-learning skills. However, a program based on flipped class strategy has not been built, and its effectiveness in the development of assessment competencies has not been studied, or the habits of the mind as in the current research.

METHODOLOGY OF THE STUDY

Study Approach

In this study, the researcher adopted the experimental approach with semi-experimental design, which is based on the use of practical experience and the investigation of the causal relations between the variables which have an impact on the formation of the study. And in view of the objectives that the researcher sought to achieve in the application of the study on a sample of the ninth grade students in Jerash governorate, he divided them into two groups as follows:

- Control group: The group that studied English language according to the normal strategy.
- Control group: The group that studied English language according to the flipped class strategy.

The study population

The study population consists of all ninth grade students in public schools (1420) students in the second semester of 2017/2018 according to the statistics of the Directorate of Education in Jerash Governorate.

Sample of the Study

The study sample consisted of (86) male and female students, divided into two classes; One of the two groups was randomly assigned as a control group, (48) students were enrolled in this group, the other was experimental, and the number of students was (38).

Study Tools

The researcher used two tools to achieve the study objectives:

1. Achievement test in the English grammar (post-test), where it was applied after finishing teaching the unit.
2. A linguistic self-concept scale, which was applied before and after teaching the unit (pre/post test).

Achievement test

The researcher sought to prepare the post-achievement test to measure the impact of using the flipped class learning strategy in the English grammar in the achievement

of ninth grade primary students, the test items were formulated based on the English language book for the second semester, and the personal experience of the researcher as a teacher of English language. The test consisted of (25) objective and essay paragraph, and its total score of (50).

Validity of the achievement test

The test was presented to nine arbitrators with expertise and experience in both the field of English language methods, and linguistics to arbitrate and make observations about the test of relating its correctness of the wording of the items and its measurability, its comprehensiveness and its conformity with the specification table. Some of the test items were modified based on their observations. A question of yes or no was deleted.

Reliability of the achievement test

The reliability coefficient was calculated using the Kronbach alpha formula after the application of the test to the students of the ninth grade, the value of the reliability factor (0.901), and this value is acceptable educationally and valid for the objectives of the study because it falls within the period (0.60 -0.90) (Lord, 1980).

Linguistic self - concept scale

The researcher aimed to prepare a scale of the linguistic self- concept to find out the impact of using flipped class learning strategy in changing students' perception of their ability to learn language skills, and through their adoption on their own access to knowledge; since this strategy allows to provide educational content in the hands of students in advance before taking the lesson,giving them an opportunity to rely on themselves to write down their observations about what they have seen, and to raise questions about what they have seen, which motivates them to make an effort to complete their knowledge. Every time a student succeeds in reaching answers to his questions, on their abilities and potentials to access knowledge.

Description of the linguistic self-concept scale

The researcher designed a scale to study the linguistic self-concept of the ninth grade students through reference to educational literature and previous studies, which was formulated in the form of a questionnaire according to five-level Likert scale of responses (strongly agree, agree, neutral, disagree, strongly disagree),It consisted of (20) items containing items formulated in positive form that will enhance the capabilities of students and their potential in dealing with the English grammar as in the items(2,3,4,6,8,9,10,16,20), In addition to other negative items that would reduce their self-concept as in

items (1,5,7,11,12,13,14,15,17,18,19) of the linguistic self-concept scale.

Validity of the linguistic self-concept scale

After reviewing the educational literature and previous studies and phrasing of the paragraphs of the scale, the scale was presented to nine arbitrators and specialists in the field of methods of English language and English, in addition to teachers teaching the ninth grade,The views and suggestions of the arbitrators were to amend the language of some items, and after the amendment based on their suggestions and views, the scale was re-harmonized in its final form.

Reliability of linguistic self-concept scale

After applying the scale of the linguistic self-concept to the ninth grade students, and collecting the data, the reliability coefficient was calculated using the Kronbach Alpha formula using the SPSS statistical package for social sciences, and the stability coefficient was (0.742) which is an educationally acceptable value (Lord, 1980).

Study variables

The study included the following variables:

Independent variables

Method of teaching used to teach the members of the experimental and control groups and it has two levels:

- a. Teaching through flipped class learning.
- b. Teaching using normal way

Dependent variables

- a. The achievement of ninth grade students in English grammar.
- b. The linguistic self-concept in the ninth grade students

Adjusted variables

Grade: Grade 9 students in schools at Jerash Governorate, for the academic year (2017/2018)

Teacher: The same grade teacher is the one who taught both groups (control and experimental) as he is the teacher of the material and the same school, and this was a factor to control the external factors such as teaching experience and academic qualification of the teacher.

The age of the students: it ranged between (15-17) years.

Statistical treatments

The following statistical treatments were used to analyze the data of the study and to reach its results:

1. The statistical averages and standard deviations, to study the achievement of the ninth grade students in the control and experimental groups in the achievement test, as well as to study the scale of the linguistic self-concept among students in both groups.
2. (One-Way ANCOVA) Analysis of variance to examine the difference between the mean of the achievement of the experimental and control groups and the significance of the difference between the average of the linguistic self-concept of the control and experimental groups.
3. Kronbach Alpha formula to find the reliability coefficient for both the achievement test, and the linguistic self-concept scale.

RESULTS OF THE STUDY

Results related to the first question: What is the impact of using Flipped learning strategy on the

achievement and linguistic self-concept among the ninth grade students in Jerash governorate?

To answer the first question, the following hypothesis was examined:

The results of the first hypothesis

The first hypothesis states:

There were no statistically significant differences at the significance level ($\alpha=0.05$) between the mean achievement scores between the experimental group (Flipped class learning strategy) and the control group (The normal method) of ninth graders.

In order to test the first hypothesis, the arithmetical averages and standard deviations were obtained for the achievement of the students of the control group (studied in the normal way) and the experimental group (which was studied using the flipped classes learning strategy) in the pre-test (the school score in English to test the second month exam for the second semester) and the post-test results were as in table (1).

Table 1: The arithmetical averages and standard deviations of the students' scores in the pre-and post-test tests according to the two study groups

Group	N	Pretest (school marks in English = 40)		Posttest	
		Arithmetic mean	standard deviation	Arithmetic mean	standard deviation
Control	48	16.00	11.35	16.45	11.65
Experimental	38	21.84	11.64	24.37	9.04

Table (1) shows apparent difference in arithmetical averages of the students' achievement in the post-test, the arithmetic average of the control group reached (16.45), while the arithmetic mean of the experimental

group (24.37), to illustrate the significance of the statistical differences between the arithmetic averages, the analysis of the (ANCOVA) variance was used the results were as in Table (2).

Table 2: Results of the analysis of the One-Way accompanying analysis of the effect of using flipped class strategy on 9th grade students in the control and experimental groups on the post-achievement test

Source of variance	Sum of squares	Degree of freedom	Mean of squares	F	Statistical significance
Pre/ test	4433.360	1	4433.360	1087.814	0.001
Teaching method	68.061	1	68.061	16.700	*0.001
Error	163.019	40	4.075		
Total	4664.44	42			

*A statistically significant at the significance level ($\alpha=0.05$)

Table (2) shows the rejection of the null hypothesis, and therefore there is a statistically significant differences at

the level of significance ($\alpha= 0.05$) between the average achievement of the students of the experimental group

and the control group due to the teaching method (normal, flipped class learning strategy), for the benefit of the experimental group that studied English grammar of the book of the ninth grade using an flipped class learning strategy.

From the above it is clear that the answer to the first question of the study is represented with a positive impact on the use of flipped class learning strategy on the achievement of the ninth grade students.

Results related to the second question

What is the impact of using the flipped class learning strategy on the linguistic self-concept among ninth Grade students in English language in Jerash Governorate?

To answer the second question, the following hypothesis was examined:

The results of the second hypothesis

The second hypothesis states: There were no statistically significant differences at the significance level ($\alpha=0.05$) between the average self concept between the experimental group (Flipped class learning strategy) and the control group (Normal way) among students in the tenth grade.

In order to test the second hypothesis, the arithmetic mean and the standard deviations of the linguistic self-concept were extracted. For the control groups who were taught using the normal way and the experimental group who were taught using flipped class learning strategy, the results were as follows:

Table 3: Mathematical averages and standard deviations of students' scores in the post self-concept scale according to the two study groups

Group	N	The pre/ Scale of the linguistic Self-concept		The post/ Scale of the linguistic Self-concept	
		Arithmetic mean	standard deviation	Arithmetic mean	standard deviation
Control	48	2.97	0.32	3.05	0.31
Experimental	38	3.06	0.34	3.46	0.63

Table (3) shows an apparent difference in the arithmetical averages of the students' scores in the post linguistic self-concept scale. The arithmetic mean of the control group was (3.05) while the mean of the experimental group was

(3.46). In order to demonstrate the significance of the statistical differences between the arithmetic averages, the One-Way accompanying analysis (ANCOVA) was used. The results were as follows:

Table 4: Results of the One-Way accompanying analysis (ANCOVA) of the effect of using flipped class learning strategy on 9th grade students in the control and experimental groups on the linguistic self-concept

Source of variance	Sum squares	Degrees of freedom	Mean squares	F	Statistical significance
Pre/ test	0.040	1	0.040	0.170	0.682
Teaching method	1.678	1	1.678	7.199	*0.011
Error	9.322	40	0.233		
Total	11.04	42			

* Statistically significant at the level ($\alpha=0.05$)

Table (4) shows the rejection of the null hypothesis, and therefore there is a statistically significant difference at the level of significance ($\alpha=0.05$) between the average of the linguistic self-concept for the experimental group and the control group due to the teaching method (Flipped class learning strategy) for the benefit of the experimental

group that studied English grammar of the ninth grade book using the flipped class learning strategy.

It is clear from this that the answer to the second question of the study is that there is a positive effect of the flipped class learning strategy on the self-concept of 9th grade students.

Discuss the Results of the First Hypothesis

The first hypothesis: There were no statistically significant differences at the significance level ($\alpha=0.05$) between the mean achievement scores between the experimental group (Flipped class learning strategy) and the control group (The normal method) of ninth graders.

The results of the hypothesis test indicated a statistically significant difference at the significance level ($\alpha=0.05$) between the average achievement of ninth grade students who studied English grammar using flipped class learning strategy (experimental group), and the ninth grade students who studied the same unit in the normal way (the control group) in the overall score of the post-achievement test, and for the benefit of the experimental group.

The researcher explains the superiority of the use of flipped class learning strategy on the normal way in teaching, in the development of the achievement of the ninth grade students in English grammar for many reasons, the most important of which is that flipped class learning strategy is a pattern of integrated learning patterns, in which the use of technology in learning is activated, in a way that enables learners to receive conceptual knowledge in educational methods and from different educational sources, such as repeating a video several times, or accelerating the section to bypass the particles with experience, with the possibility of taking notes, it also has the ability to constantly change to meet the needs of students, learning is mixed with fun and vitality, with little explanation in the classroom, and a lot of collaborative learning and discussions and educational projects.

It is also useful in helping students with low achievement, by receiving assistance from the teacher who walks among students helps them acquire concepts and assimilation on the one hand, and that works to increase interaction between the teacher and his student on the other hand, and watching the educational videos at home contribute to make the teacher focuses in the class on who needs more time to learn, and in directing him towards improving his performance.

Discuss the Results of the Second Hypothesis

The second hypothesis states that: there are no statistically significant differences between the mean of the self-concept between the experimental group (teaching using the flipped class learning strategy) and the control group (teaching in the normal way) among the ninth grade students.

The results of the hypothesis test indicated that there was a statistically significant difference at the level of ($\alpha = 0.05$) between the mean of the linguistic self-concept of the ninth grade students who studied the English grammar using the flipped class learning strategy and the ninth grade students who studied the same unit in the

normal way (Control group) on the scale of the linguistic self-concept, and for the benefit of the experimental group.

The researcher believes that the positive impact of the use of flipped class learning strategy in raising the linguistic self-concept of the 9th grade students, due to several reasons, including this strategy allowing students to rely on themselves to access information, and they raise questions which motivates them to search for information, and makes them try and repeat the attempt to reach the result, and in every time a student reaches the information based on himself, this will enhance his self-confidence and his capabilities and potential and educational preparations.

On the other hand, the availability of educational content through educational videos enabled students to return to the information at any time, which helped to take into account the individual differences among them, especially students with low achievement, it helps them to gain more information and thus enhance their self-confidence and ability, thus raising their self-linguistic concept.

The use of this strategy was an opportunity for students to break out of the usual class in which the teacher is the source of the information and the student is a negative recipient of it, but here the student has a part of the responsibility to learn, he has to access the Internet and access to the video tutorial before the class time, watch and record his observations about what he saw that the material is new to him and that he must participate in the activities of the class distributed to them, through the groups in which the teacher distributes tasks on all students, here the role of the teacher has become a facilitator of the educational process only, and most of the time of the lesson is devoted to the activities and interactions of students mainly, which focused on the subject of English grammar in which students are usually face difficulty, to a favorite subject they do not have an obstacle to study and understanding, which increased their self-confidence and their potential learning English language and rules.

SUGGESTIONS

There are a number of important recommendations including:

1. Design courses with training and models inspired from flipped classes, and expand the application of such programs at the national level in all educational stages.
2. Training faculty members on strategies and programs to develop the habits of mind and the competencies of the evaluation, and the strategy of the flipped classes.
3. Include teacher training programs, training on the flipped classes' strategy.
4. Conduct research on the effectiveness of a program based on flipped classes in skills development, such as

self-learning, problem solving, inquiry, self-structured learning, and cognitive and creative thinking.

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