

Inquiry-Based Flipped Learning and Developing Self-Empowerment Skills for Prep School Pupils

By
Fatma Abd El-Hakim Ahmed Ali

Computer teacher at Nag Hammadi Instructional
Administration - Qena Governorate

Email: fatmahakim87@gmail.com



مجلة البحوث في مجالات التربية النوعية

معرف البحث الرقمي DOI: 10.21608/JEDU.2024.317422.2108

المجلد العاشر. العدد 54 . سبتمبر 2024

الترقيم الدولي

P-ISSN: 1687-3424

E- ISSN: 2735-3346

موقع المجلة عبر بنك المعرفة المصري <https://jedu.journals.ekb.eg/>

موقع المجلة <http://jrfse.minia.edu.eg/Hom>

العنوان: كلية التربية النوعية . جامعة المنيا . جمهورية مصر العربية



Research Abstract

The aim of the current research is to reveal the effectiveness of inquiry-based flipped learning in developing self-empowerment skills among middle school students. The research sample consisted of (30) prep school students at Elshaheed Mahmoud Abdel Fattah Preparatory School, Nag Hammadi Instructional Administration - Qena Governorate. Following the one-group experimental design approach in the research experiment, A measurement tool was prepared in the research experiment, which is the self-empowerment scale, to be applied pre- and post-application to the inquiry-based flipped learning group. The research results resulted in a statistically significant difference at the level of $\leq (0.01)$ between the average scores of the pre- and post-application of the research tool (the self-empowerment scale).

Key words: Flipped Learning _ Inquiry _ Self-Empowerment.

Introduction

In what the world has witnessed of revolutionary technological progress and dark technology in all fields Shereen Fahmy (2022) says that Countries have begun to rely entirely on the services provided by technology that contribute to creating the qualitative shift that countries hope for in various fields.

Perhaps one of the most important requirements for achieving effective use of technology for students is the availability of self-empowerment skills, which means the student's self-confidence and constant feeling of his ability to accomplish his instructional tasks efficiently and effectively, Gehad Hasan (2020:137) believes that self-empowerment is one of the contemporary concepts that elevates the human element to high levels of progress, the essence of which is centered around giving the individual the freedom to perform, participate in bearing responsibility, and greater awareness.

In the same context Ahmed Abd-Elaleem (2021: 198) confirms that Self-empowerment is not just a subjective feeling, but rather requires appropriate structural components and organizational factors such as confidence, knowledge, skill, information, support, motivation, and strength, all of which constitute the important foundations in the formation of empowered individuals.

Nour El-Sobhy, Aliaa El-Jendi (2023: 145); Mashary Al-Harthy (2018: 372) believes that Flipped learning is one of the modern instructional trends that calls on educators to use teaching strategies that are centered around the teacher inside and outside the classroom, which calls for taking into account individual differences and helping teachers to prepare the instructional situation in a better and more effective way for learners inside and outside the classroom. It is one of the strategies that depends on providing... Videos and other learning materials.

A sense of the research problem: The sense of the research problem came from several sources, including:

First: Field observation: It was observed that students lacked self-confidence through their lack of participation in class and their avoidance of expressing their opinions about what they were learning, in addition to their lack of feeling of the importance of their learning and their weak ability for self-learning.

Second: Analysis of computer and information technology courses for prep school grades: After reviewing the courses in cooperation with my fellow teachers, the result of the review was that there is no academic content that supports the self aspect of students at this stage in terms of developing self-confidence, achieving positivity in learning, achieving mastery, and self-management.

Third, the results and recommendations of previous studies and research:

A- Regarding flipped learning: From the reality of students' integration into the flipped learning environment, the study Saria Al-Talhy,(2019); Marwa Soliman (2019); Gada Ebrahim (2018); Mohamed Tolba (2019)

Bergman .J, Sams .A (2017); Overmyer, G. R. (2014) recommended that the need to encourage teachers to employ flipped learning in teaching subjects appropriate to this strategy, because of its effective impact on the teaching process in terms of organizing time and effort inside and outside the classroom, as it transforms the instructional environment from a recitative environment that depends on the learner to an interactive environment that depends on the learner and with supervision and follow-up. The teacher also recommended employing flipped learning to address the learning difficulties of some learners. She also recommended training those in charge of curricula to design the curricula in a way that is compatible with the use of flipped learning, in addition to holding courses and workshops for

teachers on how to plan the application of flipped learning and the procedures for its application, follow-up and evaluation.

B- With regard to self-empowerment:

Sprietzer (2007); Jordan,G., Miglic,G., Todorovic.,I& Maric, M. (2017); Laith Abo Tabeekh (2018); Kareem Asran (2018); Shery Halim (2017) recommended the importance of studying self-empowerment as a self variable that has not received adequate study of its various dimensions and its relationships with instructional variables, and to enhance self-empowerment among individuals by maintaining the appropriate administrative environment where learning is decentralized and not centered around the teacher, and by supporting and enhancing students' behaviors and instilling the values of empowerment in students, which enhances their sense of With happiness and enthusiasm for life.

Research problem: In light of the above, the research problem can be identified in the extent of benefiting from flipped learning (inquiry) to address the shortcomings of prep school students in self-empowerment skills.

“How can flipped learning (inquiry) be designed to develop self-empowerment skills among prep school students?”

The following questions branch out from this question:

- 1- What is the appropriate instructional design for the two types of flipped learning (investigation) and self-empowerment skills among prep school students?
- 2- What is the effectiveness of flipped learning (inquiry) in developing self-empowerment skills for prep school students?

The importance of research: It is hoped that the current research will benefit in:

- Developing inquiry-based flipped learning and confronting the shortcomings when applying them.

- Directing the attention of researchers and specialists in curricula and teaching methods to develop a flipped learning strategy to serve the teaching of various curricula.
- Directing the attention of researchers and specialists to developing strategies that work to develop self-empowerment among students.

Research limitations: The current research was limited to the following limits:

- **Time limits:** The basic research experiment was implemented during the first semester of the academic year 2023/2024 AD for a period of (4) weeks from (10/25/2023) to (11/22/2023).
- **Spatial boundaries:** Elshaheed Mahmoud Abd Elfattah prep school, Nag Hammadi Administration - Qena Governorate.
- **Human limits:** A sample of prep school students at Martyr Mahmoud Abdel Fattah prep School in Nag Hammadi Education Administration - Qena Governorate.
- **Content limits:** Self-empowerment skills that included sub-measures of the dimensions of self-empowerment (time management, self-management, positivity, and mastery).

Data collection tools:

- List of self-empowerment skills for prep school students.

Measuring tools:

- Self empowerment scale: To measure the self-empowerment skills of prep school students.

Research methodology:

- **Descriptive analytical approach:** to describe and analyze the skills required to achieve self-empowerment.
- **Quasi-experimental approach:** to measure the effect of the independent variable, which is the flipped learning style (inquiry), on the dependent variable, which is the self-empowerment skills of prep school students.

Research Variables:

- **Independent variable:** Flipped learning style (inquiry).
- **Dependent variable:** Self-empowerment skills among prep school students.
- **Experimental design of the research:** The current research depends on the single-group experimental design, as shown in the following figure.

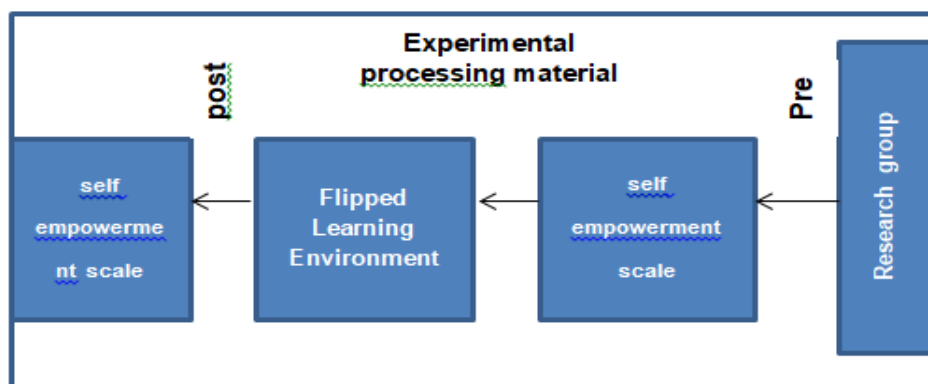


Figure (1) Experimental design of the research

Research sample: (30) students from Al-Shaheed Mahmoud Abdel Fattah Preparatory School, Nag Hammadi Education Administration.

Research hypotheses:

- There is a statistically significant difference at the level \leq (0.01) between the average scores of the flipped learning group (investigation) in the pre- and post-application of the self-empowerment scale in favor of the post-application.

Research procedures:

- 1- Analytical and descriptive study of the literature related to the research variables in order to develop an appropriate theoretical framework, prepare research tools, determine its procedures, and interpret its results.
- 2- Preparing a list of self-empowerment skills.
- 3- Choosing the appropriate instructional design model for the research and work according to its stages.

- 4- Preparing the self-empowerment scale and presenting it to the arbitrators to ensure its validity.
- 5- Conducting the exploratory experiment, which includes:
 - Selecting a random sample of prep school students.
 - Modifying the research experiment in light of the results of the exploratory experiment.
- 6- Applying the basic experiment, which includes:
 - Selecting the research sample for the basic experiment.
 - Applying the research tool preliminarily to the research groups.
 - Conducting the basic research experiment.
 - Applying the research tool postliminally to the research group.
 - Conducting the statistical processing of the data obtained.
 - Discussing and interpreting the results, and presenting the recommendations and proposed research.

Search terms:

1- Inquiry Flipped learning.

The researcher defines it procedurally as: A teaching method based on reversing instructional tasks between home and classroom to develop electronic security skills, relying on the inquiry learning method.

2- Self Empowerment.

The researcher defines it procedurally as: The student's ability to gather his sources of strength and employ them in his learning.

Theoretical framework for the research The first topic (Flipped Learning)

Flipped learning concept:

Saria Al-Talhy (2019); Weaam Esmael (2017: 225); Abd Elgawad Abo-Donia (2017: 36); Bergman .J, Sams .A, (2017: 2) Agree upon The purpose of flipped learning is to make good use of class time and invest it in dialogue, discussion, and practicing activities and performance tasks. In doing so, it transforms the classroom

learning environment into a dynamic, interactive environment in which the teacher guides his students while implementing activities.

The difference between traditional learning and flipped learning:

Rana Hamdi (2016) adds that flipped learning tends to take advantage of technology to facilitate learning. On the one hand, it enables learners to receive concepts in different forms from multiple sources, and on the other hand, it adds flexibility to learning, enabling the learner to repeat the video clip many times until Learning occurs and he can take notes easily, Rana Hamdi (2016) adds that flipped learning tends to take advantage of technology to facilitate learning. On the one hand, It also enables him to scroll the video to skip the parts he has previous experience with. Flipped learning also enables learners to share new lesson concepts through group conversations on social networking sites or on educational platforms.

The researcher summarizes the difference between traditional learning and flipped learning in the following figure:



Figure (2) The difference between traditional learning and flipped learning

Characteristics of flipped learning:

Flipped learning is characterized by a set of characteristics identified by Nour Al-Subhi, Alia Al-Jendi (2023: 145); Overmyer, G, (2014: 3-4); Marwa Suleiman (2019); Bishop. J, Verlager. M (2013), which are:

- Reversing the instructional process: where lessons are divided and videos are recorded outside the classroom, so home time is allocated to explaining the content.
- Preparing instructional content: by showing the flipped learning video to the learner to view it outside the class time, and allocating class time to apply what was learned in the video.
- Saving time: by transferring information outside the classroom via video, which allows enough time to benefit and interact face-to-face.
- Changing the role of the teacher: where the teacher's role has gone beyond the stage of indoctrination to guidance, observation, direction and coordination of all components of the instructional process.
- Changing the role of learners: learners have become active instead of being information vessels.

Flipped learning styles:

Flipped learning has a set of characteristics identified by Nour El-Sobhy, Aliaa Al-Jendi (2023: 145); Overmyer, G, (2014: 3-4); Marwa Suleiman (2019); Bishop. J, Verlager. M (2013):

- **Traditional flipped learning:** It is the first and most widely used form of flipped learning by teachers. It begins with learners watching recorded lessons in the form of video files from their homes, then heading to the classroom to participate in implementing instructional activities.
- **Flipped learning for mastery:** It is an individual type only, so that each learner's grades are calculated based on the amount of goals he has achieved according to the specified criteria.
- **Peer-based flipped learning:** In this, learners watch pre-recorded video lectures, so that the videos explain the concepts. When learners go to class, they are presented with questions

revolving around the main concepts in the content, so that each learner answers them individually. The teacher compares the learners' answers with the correct answer to determine which of them is correct and which is wrong. Then, he directs learners who answered correctly to help their peers who have a misunderstanding.

- **Inquiry-based flipped learning:** In this, video-recorded lectures are presented, so that they include only basic information about the topic being studied, and in the classroom, activities are presented, providing them with the inquiry tools that they use to uncover the details of the content.

- **Discussion-oriented flipped learning:** In this, the teacher produces video clips on the topic of the lesson to be explained or chooses appropriate videos from YouTube and other sites that provide instructional videos. The class time is allocated to conducting discussion, dialogue, and exploring various information about the topics that were watched.

- **Advantages of flipped learning:**

Learning flipped learning is distinguished from other features, as determined by: Mohamed Tolba (2019: 165); Gada Ebrahim (2018: 2014); Weaam Esmael (2017: 226-227); Wagoner. T (2016:4); Bergmann.J, et al (2012: 5) Bergmann& Sams (2012: 50)

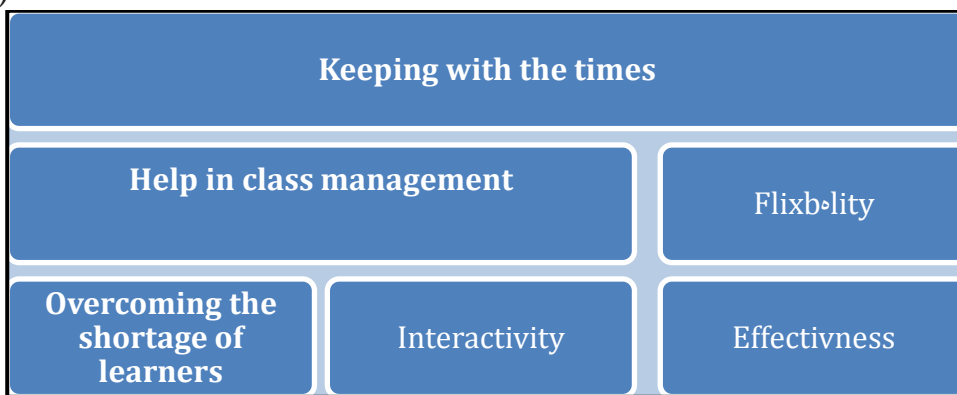


Figure (3): Advantages of Flipped Learning

Steps to implement inquiry-based flipped learning:

The steps for applying flipped learning according to the inquiry approach are mentioned by Hanaa Gamal El-Deen, Talal Al-Anzy, Ahmed Fakhry (2019: 299-230)

- Setting goals.
- Presenting the instructional video in the form of questions or problems.
- The student documents the proposed solutions and then conducts free research to test the validity of those solutions.
- The student goes to the questions page to test himself and then get feedback.
- When attending class, the student submits a report on his assumptions and how he tested their validity.
- The teacher provides reinforcement.
- The student shares the information he has obtained with his colleagues.
- Analyzing the learner's investigation of solutions to problems by revealing to others the procedures for that investigation.
- Learners evaluate themselves under the supervision of the teacher.

The steps for implementing flipped learning (inquiry) from the researcher's point of view are explained as follows:

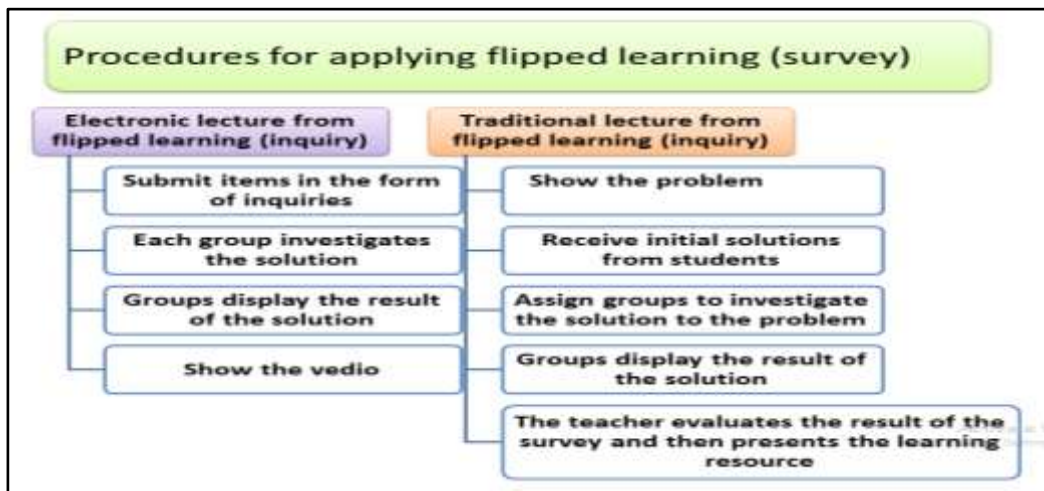


Figure (4): The steps for implementing flipped learning

Criteria for applying flipped learning according to the inquiry approach:

The researcher believes that when applying flipped learning according to the inquiry approach, some standards must be taken into account, which are:

- An initial session must be held for the students in which the teacher explains the steps for practicing flipped learning (investigation).
- The duration of the video display should not exceed 10 minutes.
- The video is presented to students via an instructional platform or via a social media platform.
- Reinforcements must be positive so that students are not deterred from practicing this strategy.

The second topic (Self-Empowerment)

The concept of self-empowerment:

Ganle, J. K; Afriyie, k.& Segbefia, A. Y (2015); Whitaker& Morrison (2014: 33); Ahmed Abd El-Haleem (2021:200); Yazan Mohamed, Saleh Mohamed, Eleo Husein (2020); Fatma Khashaba, Afaf Albedewy (2018: 230); Almogam Alwageez (2008: 587) Are agree with The concept of self-empowerment includes the following aspects:

- Self empowerment is a relatively recent topic in the field of human and instructional sciences, and it means utilizing the maximum potential of the student.
- Self-empowerment is a positive feeling that results in the individual intervening in imposing his authority over himself and his work, and the ability to make his own decisions on his own.
- Self-empowerment is not only achieved through training, but is gained through developing personal effectiveness.
- Self-empowerment gives the ability to improve the quality of life by enhancing, organizing and developing the student's abilities and overcoming feelings of frustration and despair.
- Self-empowerment is a mental state of the student's confidence and conviction in the abilities he possesses and his

belief that his time and effort are of value and benefit that qualifies him to achieve mastery.

Dimensions of empowerment:

Laith Abo-Tabekh (2018:190); Kareem Asran (2018: 149); Shery Halem (2017:64); Eman Al-Harthea (2016: 16-21) Jordan.G et al (2017) were determined The dimensions of self-empowerment include the following elements:

- **Meaning:** It means individuals' awareness that the tasks they perform have meaning and value for others, and their feeling that others respect their knowledge and experiences, and this perception affects their ability to work by balancing their values and beliefs and the work they do.

- **Influence:** This means the student's belief in his ability to influence the learning outcomes that he undertakes at the academic level, and also his belief that he has the conviction and understanding of what contributes to the completion of his work and the tasks assigned to him, which is the student's awareness at school that he has an influence on the various academic tasks that he performs.

- **The importance of work:** It means feeling the feasibility and value of work through the compatibility of students' goals and beliefs on the one hand, with the requirements and roles of school work on the other hand.

- **Competence or merit:** It is the student's belief that he has the skill required of him to perform what is required of him with mastery, efficiency and high effectiveness. It also means the individual's ability to carry out tasks in a way that reflects his confidence in himself to meet or exceed work requirements.

- **Independence and adequacy:** Independence is represented by the student's awareness of his freedom to decide whether to complete his work and choose appropriate alternatives in accordance with his inclinations, trends, and his own self-esteem.

- **Self-determination:** It is the degree of freedom and independence that students enjoy in choosing the methods of carrying out their school tasks. It is also considered the degree of self-control that allows the student to choose the methods and

procedures that he follows in completing his tasks, or what is called the right of personal management.

- **Self-determination:** It is noteworthy that self-determination refers to the individual's control over the way in which work is accomplished, which is directly linked to individuals' awareness of choosing their method of making decisions about their work based on self-independence and personal knowledge.

The importance of self-empowerment:

Eman Al-Harthea (2016:23); Talaat Mansour (2014:839-840); Mohamed Alzaeem (2014:18-19) Are agree with the Self-empowerment is of great importance, which can be summarized in:

Firstly, its importance for the teacher: It is summarized in achieving satisfaction for the teacher, achieving the effective participation of the teacher, increasing the teacher's control over his daily tasks, the teacher's acquisition of knowledge and skills, the teacher's sense of the meaning of the teaching profession, and an increase in the teacher's creative and innovative capabilities.

Secondly, its importance for the student: It is summarized in the learner's self-control, speed of decision-making, belonging, creativity and innovation.

Thirdly, its importance to the school is summarized in: the school's exploitation of resources, loyalty and belonging to its employees, mastery, independence of the institution, cooperation, and taking into account the characteristics of the students.

The researcher believes that self-empowerment would improve the student's level of self-esteem through his positive participation in his instructional environment, which makes him feel capable of accomplishing what adults do. Thus, the student is assigned daily tasks and responsibilities, which reduces pressure on the school administration and makes it focus its efforts on preparing improvement plans. Instead of focusing the strategy on solving daily instructional problems, self-empowerment also

works to enhance the student's feeling of liberation, independence, and lack of dependence on others, which develops their creative behavior, raises their level of performance, and increases their feelings of belonging to the institution.

Experimental processing material

Instructional design for the experimental treatment subject:

The first stage (preparation stage) or analysis: in which the learners' experiences towards developing self-empowerment skills were analyzed by conducting an introductory session for the researcher to ensure that they did not have some self-empowerment skills.

The second stage (analysis): includes:

- **Determining the general objectives of the content:** "Developing self-empowerment skills among prep school students."

• Analyzing the needs of the learners and their general characteristics: The researcher found that the students' self-empowerment skills are limited in a way that makes them unable to take responsibility for self-learning and time management, and that there is homogeneity among these students in terms of mental and skill maturity.

The second stage (design):

- **Formulating the procedural objectives:** which emerged from the general objectives, as they were understandable, clear, specific, and expressed what was required to be learned. The number of procedural objectives reached (24), each of which describes the behavior of the learners after they gain selfmastery.

- **Designing learning strategies for flipped learning (investigation):** This was implemented by presenting some problems to them on the Google Classroom platform and asking them to provide solutions to those problems in a cooperative manner among themselves that shows their behaviors in their interaction together, which gradually develops their self-empowerment skills, and then they interact. Together with the

traditional lecture discussing these problems and how they solved them.

The third stage (design):

- **Formulating the procedural objectives:** which emerged from the general objectives, as they were understandable, clear, specific, and expressed what was required to be learned. The number of procedural objectives reached (24), each of which describes the behavior of the learners after they gain selfmastery.
- **Designing learning strategies for flipped learning (investigation):** This was implemented by presenting some problems to them on the Google Classroom platform and asking them to provide solutions to those problems in a cooperative manner among themselves that shows their behaviors in their interaction together, which gradually develops their self-empowerment skills, and then they interact. Together with the traditional lecture discussing these problems and how they solved them.

The fourth stage (production): This is done through:

- **Production of instructional content and activities:** Content is produced in the form of instructional resources that they use to solve problems.
- **Producing interaction interfaces:** consisting of the home page, chapter pages, and flipped learning activity pages (inquiry).
- **Producing evaluation tools:** the self-empowerment scale, which was prepared according to the following steps:
 - **The aim of the scale:** to measure the availability of self-empowerment skills for prep school students in its four dimensions: (positivity, self-management, time management, and mastery).
 - **Sources for derivation of the scale:** The items of the self-empowerment scale were derived by reviewing the literature and studies that dealt with self-empowerment.
 - **The initial form of the scale:** The scale's axes were identified in its initial form for presentation to the arbitrators, which consisted of (4) dimensions including (24) items, and the percentage for

each dimension was determined based on the number of its items as follows:

Table (1): Items of the self- empowerment scale

Items	sentences Number	Percentage
Positivity	6	25%
Self-management	6	25%
Time management	6	25%
Perfection	6	25%

The maximum score that the student obtains is = 3 * the number of statements on the scale = 72, and the minimum score is = 1 * the number of statements on the scale = 24.

- **Validity of the scale:** To ensure the veracity of the scale, it was presented to the arbitrators to confirm the degree of importance and linguistic accuracy. The validity of the scale was calculated, which reached 92% regarding the rate of agreement of the arbitrators using the Cooper equation.

- **Internal consistency validity:** The internal consistency validity of the scale was calculated by calculating the degree of correlation between the score of each statement and the score of the axis, and calculating the degree of correlation between each statement and the score of the scale as a whole, at the significance level of 0.05.

- **Calculating the reliability of the scale:** After calculating the validity of the scale, the scale was applied to a inquiry sample consisting of (10) students with the same characteristics as the basic sample. Then the reliability coefficient was calculated by dividing it by half, where the reliability coefficient reached 0.8, and this confirms the stability of the scale.

- **The final form of the scale:** The final form of the self-empowerment scale was reached, which consisted of (4) axes from which (24) statements emerged.

Phase (evaluation):

- Testing the flipped learning environment (inquiry): This was done by conducting a reconnaissance experiment that was carried out according to the following:

- ❖ Obtaining the approval of the supervisors to implement the exploratory experiment.
- ❖ Obtaining letters of approval to implement the experiment.
- ❖ Selecting a random sample of (10) students.
- ❖ Applying the pre-evaluation of the self-empowerment scale.
- ❖ Applying the research experience using the flipped learning style (investigation).
- ❖ Applying the self-empowerment scale remotely and monitoring the results.
- ❖ Hold a class session with the students to record their observations and make modifications to the experiment.

Fifth stage (application):

- **The final use of flipped learning (inquiry):** It was as follows:

- ❖ Choosing a research sample consisting of (30) students.
- ❖ Applying the self-empowerment scale to students beforehand.
- ❖ Apply the search experience.
- ❖ Applying the self-empowerment scale laterally.
- ❖ Analyzing the results of statistical treatments to ensure the effectiveness of flipped learning (Inquiry) and to test the validity of hypotheses.

- **Publishing and making available for expanded use:** In this step, after the end of the research, the research is published with the aim of using flipped learning (investigation) in the instructional process, and providing recommendations regarding its use.

Research results, discussion, and recommendations and proposed research

Testing the validity of the hypothesis:

The hypothesis states: “There is a statistically significant difference at the level of \leq (0.01) between the average scores of

the research group in the pre- and post-application of the self-empowerment scale in favor of the post-application.” To test the validity of the hypothesis, the value (t) was calculated to indicate the difference between the average scores of the research group in the two applications. Pre and post using SPSS V22 as follows:

Table (2): Descriptive statistics for the pre- and post-applications of the self-empowerment scale

Application	The group	mean	Standard deviation	T Test	T Table	Significance level
Pre	30	21.27	6.395	26.540	2.756	0.01
Post		62.90	4.759			

It is clear from the table that the T value for the research group is statistically significant at the level $\leq (0.01)$. This means that there is a statistically significant difference between the average scores of the group in the pre- and post-applications of the self-empowerment scale in favor of the post-application, **and this result indicates acceptance of the hypothesis.**

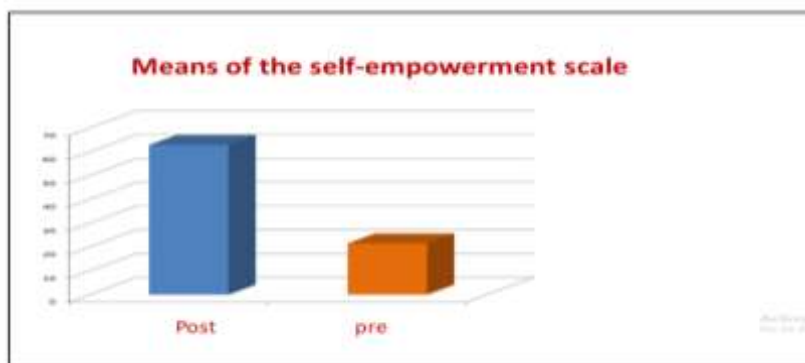


Figure (5): Means of the Self-empowerment Scale

Measure the proposed effectiveness of Black's Statistical average equation:

To measure the effectiveness of flipped learning (inquiry) in developing self-empowerment skills, Statistical average equation was used to compare the average scores of the pre- and post-self-empowerment scale.

Table (3): The statistical average gain value for measuring the effectiveness of flipped learning (inquiry) in developing self-empowerment skills

Application	group	Mean	Maximum degree	Statistical average	Significance level
Pre	30	21.5	72	1.394	0.01
Post		62.90			

By applying the previous equation, the value of the statistical average gain for the research group becomes = (1.394), so we can say that flipped learning (inquiry) is effective in developing self-empowerment skills.

Effect size of flipped learning (inquiry) “Self-empowerment Scale”:

To demonstrate the size of the effect in the difference between the pre- and post-applications of the self-empowerment scale for the research group in measuring the extent of developing self-empowerment skills, a test (D) was created in the form shown in the following table:

Table (4) Cohen's D value and the effect of flipped learning (inquiry) on developing self-empowerment skills

group	T Test	D Cohen	Significance level
30	26.540	4.846	0.01

The results shown in the previous table indicate that the size of the effect between the two applications (pre/ post) is large because the value of (D) is greater than (0.8).

Discussing the results related to the hypothesis:

- Flipped learning (Inquiry) was effective in developing self-empowerment skills among middle school students, as a statistically significant difference was found at the level of $\leq 0.01\%$ between the average scores of the students in the research sample in the pre- and post-applications of the self-empowerment scale in favor of the post-application.

This is due to the fact that practicing research and investigation activities and watching flipped learning videos individually during electronic lectures led to the development of their independence and self-control, which prompted them to develop their skills while practicing these activities and enhanced their sense of responsibility towards the objectives of the training program, and thus contributed to raising the level of their self-esteem. When practicing activities collectively in a traditional lecture, it led to effective participation in learning.

Third: Research recommendations

- Incorporating the investigation style into instructional strategies in order to make the most of the strategy in targeting higher levels of thinking among learners.
- Analyzing the content of preparatory school curricula and working to develop them with the aim of integrating e-learning with traditional learning to benefit from their different styles.
- Holding training courses and workshops for teachers to learn how to employ flipped learning in education.
- Including self-empowerment skills within the curricula and paying attention to training students in these skills using electronic platforms.

Fourth: Proposed research

- Conduct further research on flipped learning in its various types and how to make the most of it.
- Conducting further research on methods of integrating traditional and electronic learning and their relationship to self-empowerment.
- Conducting comparative studies between different flipped learning styles.
- Studying the impact of using flipped learning styles in developing self-empowerment among people with special needs.

English references:

- Bergman .J, Sams .A (2017) . flipped learning – gateway to student engagement , international society for technology in education , Eugene , Oregon and Washington , CEPS Journal,

vol7, N3.

- Bergman J., Sams, A. (2012). Flip Your Classroom. Reach Every Student in every Class Every Day, Eugene, OR.ISTE.
- Bishop, J.L& Verlager M. A (2013). The flipped classroom. A survey of the research, 120th Annual ASEE Annual Conference& Exposition available, atlanta, USA, 23-26TH June.
- Ganle, J. K; Afriyie, K& Segbefia, A. Y (2015). Microcredit. Empowerment and dis empowerment og rural woman in Ghana, university of Oxford, UK.
- Jordan,G., Miglic,G., Todorovic.,I& Maric, M. (2017). Self-empowerment, Job satisfaction and organizational commitment among lecturers in higher education. Comparison if six CEE, vol50.
- Mazur, E (2013). Peer instruction. A user's manual, Person new international education, UK.
- Sprietzer. G, M, (2007). "Taking stock. a review of more than twenty years of research on empowerment at work" , the handbook of organizational behavior , C. cooper &J. Barling eds, sage publications.
- Whitaker, B. G& Westerman, J, W (2014). Linking spirituality and values to personal initiative through self-empowerment, Journal of management, Spirituality& Religion.

Arabic references:

- عبد الحليم، أحمد عبد التواب محمد. (2021). الخصائص السيكومترية لمقياس التمكين النفسي لدى عينة من المعلمين بالمدارس المصرية. مجلة كلية التربية. جامعة عين شمس، عدد 5، الجزء4.
- المعجم الوجيز. (2008). المعجم الوجيز الطبعة الخاصة بوزارة التربية والتعليم. القاهرة: الهيئة العامة لشؤون المطابع الأميرية.
- الحارثية، إيمان بنت سليمان بن عامر. (2016). التمكين النفسي لدي معلمي التعليم الأساسي وعلاقته في الثقة بالمشرف التربوي في سلطنة عمان. رسالة ماجستير. عمان. جامعة السلطان قابوس.
- حسن، جهاد جمال علي. (2020). العوامل المسهمة في بناء التمكين النفسي

في مرحلة المراهقة "نظرياً". مجلة دراسات تربوية وإجتماعية، كلية التربية. جامعة حلوان، مجلد26، عدد يونيو 2020 ج2.

- الطلحي، سارية بنت احمد. (2019). أثر استراتيجية التعلم المقلوب في التحصيل الدراسي لطالبات الصف السادس الابتدائي في مدينة الرياض. ورقة عمل. مؤتمر تربية وتعليم الطفل. المملكة العربية السعودية.

- فهمي، شرين محمد. (2022). الجهود العربية لمواجهة مخاطر الإرهاب السيبراني الواقع والمأمول. مجلة شؤون عربية. الأمانة العامة لجامعة الدول العربية، عدد191.

- حلیم ، شيري مسعد. (2017). التمكين النفسى لدى أعضاء هيئة التدريس والهيئة المعاونة لهم بجامعة الزقازيق وعلاقته بالرضا الوظيفى. مجلة دراسات تربوية ونفسية. كلية التربية بالزقازيق، مج95، ع1.

- منصور، طلعت؛ إسماعيل، تامر؛ زريق، إبراهيم. (2014). التمكين لطلاب كلية الشرطة (دراسة مرجعية). مجلة الإرشاد النفسى، ع39.

- أبو دنيا، عبد الجواد حسن عبد الجواد. (2017). فاعلية اختلاف نمطي ممارسة النشاط فى بيئة التعلم المعكوس فى تنمية مهارات إنتاج قوائم البيانات البليوجرافية لدى طلاب المكتبات والمعلومات وتكنولوجيا التعليم. رسالة ماجستير. كلية التربية. جامعة الأزهر. مصر.

- إبراهيم، غادة شومان الشحات. (2018). فاعلية برنامج قائم علي التعلم المعكوس باستخدام نظارة إدارة التعلم لتنمية الأداء التدريسي والإتجاه نحو التعلم عبر الانترنت للطالبات معلمات الرياضيات لمرحلة التعليم الأساسي. مجلة تربويات الرياضيات. الجمعية المصرية لتربويات الرياضيات. مج 21، ع7.

- خشبة، فاطمة السيد حسن؛ البديوي، عفاف سعيد فرج. (2018). مستوى التمكين النفسى لدى أعضاء هيئة التدريس ومعاونتهم وعلاقته بالذكاء الروحي والتفكير الابتكاري لديهم. مجلة كلية التربية، مج29، ع116.

- عسران، كريم منصور محمد. (2018). فعالية برنامج إرشادي قائم علي الدعم النفسى الإيجابي فى تحسين التمكين النفسى لدي الأمهات وأثره علي السلوك التكيفى

- لدي أطفالهن ذوي الإعاقة الفكرية. مجلة التربية الخاصة. جامعة الزقازيق، ع25.
- أبو طيخ، ليث شاكر محسن. (2018). تأثير التمكين النفسى فى إنعدام الأمن الوظيفى. دراسة تطبيقية. مجلة مركز دراسات الكوفة. جامعة الكوفة، ع48.
- خلاف، محمد حسن رجب. (2016). أثر نمطي التعلم المعكوس(تدريس الأقران/ الاستقصاء) علي تنمية مهارات استخدام البرمجيات الاجتماعية فى التعليم وزيادة الدافعية للإنجاز لدي طلاب الدبلوم العامة بكلية التربية جامعة الإسكندرية. مجلة دراسات عربية فى التربية وعلم النفس، عدد72، السعودية.
- الزعيم، محمد عبد الرحمن. (2014). درجة ممارسة مديري المدارس الثانوية بمحافظات غزة للإدارة بالتمكين وعلاقتها بمستوى أداء معلميهم. رسالة ماجستير. كلية التربية. قسم أصول التربية- الإدارة التربوية. الجامعة الإسلامية. غزة.
- طلبة، محمد علام محمد. (2019). فاعلية استخدام الفصل المعكوس فى تنمية العمليات المعرفية العليا ومهارات التنظيم الذاتي لتعلم الرياضيات لدي طلاب المرحلة الثانوية. مجلة تربويات الرياضيات. مج22، ع4، ابريل 2019.
- سليمان، مروة سليمان احمد. (2019). نمطا التعلم المعكوس (تقليدي/ تدريس الأقران) وأثرهما فى تنمية الأداء التدريسي لدي طلاب الدبلوم العام نظام العاميين. كلية التربية. جامعة عين شمس.
- الحارثي، مشاري حسين رجا. (2018). أثر استخدام التعلم المعكوس فى تنمية التحصيل وبعض عادات العقل لدي تلاميذ الصف السادس الابتدائي فى مادة الرياضيات. مجلة كلية التربية ببورسعيد. عدد23، جامعة بورسعيد.
- الصبحي، نور عبد العزيز سلطان؛ الجندي، علياء عبد الله. (2023): استخدام استراتيجية الفصل المقلوب في العملية التعليمية: دراسة ببلومترية ومراجعة منهجية. المجلة العربية للنشر العلمي AJSP. اصدار6، عدد52، فبراير 2023.
- جمال الدين، هناء؛ العنزى، طلال طراد مريجب فرحان؛ فخري، أحمد محمود. (2019). أثر اختلاف أنماط التعلم المقلوب(حل المشكلات- التقصي) علي تنمية مهارات ما وراء المعرفة لدي طلاب المرحلة المتوسطة بدولة الكويت. مجلة تكنولوجيا التعليم.

- علي، هيثم عاطف حسن. (2017). التعليم المعكوس. القاهرة: دار لسحاب للنشر والتوزيع.
- إسماعيل، وئام محمد السيد. (2017). تقويم نموذج التعلم المقلوب من وجهة نظر الطالبات بجامعة نجران. المجلة التربوية. ع48.
- محمد، يزن سالم؛ محمد، صالح مهدي؛ حسين، عليوي علي. (2020). دور القيادة الأخلاقية في التمكين النفسي للعاملين: الدور الوسيط للتشخيص التنظيمي، بحث تحليلي لآراء عينة من المديرين في مجموعة قنوات كربلاء الفضائية. مجلة كلية الإدارة والإقتصاد للدراسات الإقتصادية والإدارة المالية، جامعة بابل. مجلد12. عدد2. يونيو 2020.

Electronic references

- Wagoner, T. (2016) . CEHD flipped learning guide , digital education and innovation , college of education + human development , Cehd academic technology services. Available at. <http://www.cehd.umn.edu/academics/>
- Overmyer, G. R. (2014). the flipped classroom model for college algebra . effects on student achievement. (Doctoral dissertation), Colorado state university fort Collins, Colorado. Available at. <http://flippedlearning.org/cms/lib07/>
- حمدي، رنا محفوظ. (2016). ابدأ التعلم بالمنزل بمنظومة التعلم المعكوس. مجلة التعلم الإلكتروني. ع14. نسخة الكترونية متاحة علي: <http://emag.mans.edu.eg/index.php?page=news&task=show&id=444>