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Research Article

The Impact of The Use of Educational Platforms on The Attitudes of Students of The College of Basic Education in The Subject Of Mathmatics

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Abstract:

The aim of the research is to identify the attitudes of the students of the three experimental research groups: the first experimental group using the Classroom Google educational platform, the second experimental group using the Edmodo educational platform, and the third using the Easyclass platform (Educational trend towards the use of educational platforms, in the College of Basic Education).

As to achieve the objectives of the research, the researcher adopted a quasi-experimental design with a pre and post scale, and the research experience was applied in the academic year (2020/2021), and over an entire semester with two lectures per week, where The first experimental group, consisting of (44) male and female students, was taught using the educational platform (Google Classroom), the second experimental group using the educational platform (Edmodo), and the third experimental group using the educational platform (Easyclass).

After building the trend scale tool for using educational platforms After completing the teaching of the scientific material and applying the scale before and after, the data were processed statistically by Statistical package for social sciences version (spss-26), which showed that there were statistically significant differences in favor of the second experimental group with the largest arithmetic mean in the trend scale, and it became clear that there is a statistically significant difference between the two tests (pre and post) using the (Google Classroom) platform and in favor of the test The post test in the attitude scale, and there is a statistically significant difference between the two tests (pre and post) using the (Edmodo) platform, and in the interest of the post test in the attitude scale, there is no statistically significant difference between the two tests (pre and post) using the (Easyclass) platform in the attitude scale .

Key Words: Educational platform, Google Classroom, Edmodo platform, and Easyclass platform.

First:The problem of research

The recent increase in the need for e-learning in general and educational platforms in particular due to the emergency health conditions that the world is experiencing today and due to the spread of the Corona virus epidemic, after millions of students in the world stopped receiving their lessons due to the measures taken by the authorities to limit the spread of the virus, the most prominent of which was The closure of schools, and the way for a number of foreign and Arab countries, including Iraq, was to activate the e-learning system, which is somewhat a new experience for both teachers and learners alike, and based on the directives of the Ministry of Higher Education and Scientific Research to improve higher education in Iraq, it has confirmed The Ministry must implement the (e-learning management system in Iraqi universities), which contributes to the development and improvement of higher education and to keep pace with the tremendous development in information and communication technology and its use to reduce the gap between Iraqi universities and international universities, as well as contribute to training the minds of students on sound thinking and purposeful learning, makes them active participants rather than being passive tutors during the learning process, they are the main focus in the process Educational and they are the builders of knowledge .

Also, the remarkable and rapid development that we are witnessing today in communications and information technology, and the acceleration of knowledge in various fields, and the use of computers and the Internet, push many societies to adopt e-learning in education. The education sector has become required to search for new ways to provide education service for a generation called “the generation.” “Digital” which we cannot interact with and force him to receive information in the traditional way only because he may become accustomed to the subject of technology. Technology is present in the home and the car. Therefore, the method of education must be in line with these means, so traditional methods are no longer useful in providing learners with the necessary and sufficient experiences they need (Al Rawadiya et al., 2011: p. 210).

When reviewing the educational literature available in the field of e-learning, we find that there is a lack of information about learners’ attitudes towards e-learning in general, and in educational platforms in particular. Iraqi

schools and universities This study came to know the impact of educational platforms on student achievement and to identify students' attitudes towards them. Therefore, this research came to answer the following question:
-What is the effect of educational platforms on the achievement in mathematics of students of the College of Basic Education and their attitudes towards using them?

Second: The importance of research:

Enhances the importance of self-learning for students, using modern technologies, and activating studentcentered learning .

-Fruitful learning through educational platforms may contribute to the formation or development of positive attitudes towards e-learning for students and the achievement of educational goals with high competencies and an economy of time and effort.

-This research reinforces the importance of e-learning in motivating the teacher and the learner to keep pace with the times and the continuous progress in technology and science and to communicate with developments in various fields .

Third: Research Objective:

The current research aims to identify the attitudes of the students of the three experimental research groups: the first experimental group using the Classroom Google educational platform, the second experimental group using the Edmodo educational platform, and the third experimental group using the Easyclass platform. educational trend towards the use of educational platforms.

Fourth: Research Hypotheses:

There is no statistically significant difference between the mean scores of the students of the three experimental groups: the first experimental group that was taught using the Classroom Google educational platform, the second experimental group that was taught using the Edmodo educational platform, and the third experimental group that was taught using the Edmodo platform. (Easyclass educational) in the trend towards the use of educational platforms remotely .

Thus, there is no statistically significant difference between the mean scores of the students of the first experimental group who were taught using the Classroom Google platform in the trend towards using educational platforms before and after .

There is no statistically significant difference between the mean scores of the students of the second experimental group who were taught using the Edmodo platform in the trend towards using educational platforms before and after .

So, there is no statistically significant difference between the mean scores of the third experimental group students who were taught using the Easyclass platform in the trend towards using educational platforms before and after .

Fifth: Limitations of Research:

The current research was limited to the first course of the academic year (2020-2021) on first-stage students / Department of Computers / College of Basic Education / Al-Mustansiriya University, in the vocabulary of the differential subject prescribed for first-stage students in general mathematics.

Sixth: Defining Terms:

Attitude is defined by (Zahran, 2003) “as a hypothetical, variable, or mediator formation, which is a psychological preparedness or a learned nervous mental preparation for the positive or negative response (acceptance or rejection) towards people, things, subjects or situations (dialectical) in the environment that provokes this trend. response.” (Zahran, 2003: 172).

It is defined procedurally as “the attitude that the individual takes or the response he shows towards a certain thing, a certain talk, or a specific issue, either by acceptance, rejection, or opposition, as a result of passing through a certain experience or by virtue of the availability of circumstances or conditions related to that thing, event or case” .

Ismail, (2009) defined educational platforms as “a means of flexible learning using technological educational innovations and information network equipment via the Internet based on multi-directional communications and providing educational material concerned with interactions between learners and faculty, experiences and software at any time and anywhere.” (Ismail, 2009: p. 233).

So, the educational platforms were defined procedurally as “an interactive learning environment in which students coexist with the teacher. In this environment, computer network technology combined with visual and

audio multimedia technology is employed for the purpose of the learning process taking place and enriching it as effectively as possible. Classes are similar to the traditional class, but are not restricted to time or place. a certain."

Theoretical Framework and Previous Studies

First: Educational platforms and their characteristics:

Platforms are known as platforms for remote training based on web technology, and they are the arenas in which business and all things related to e-learning are presented, including electronic courses and activities, and through them the learning process is carried out using a set of communication and communication tools that provide the opportunity for the learner to obtain what he needs from Courses, programs and information. (AlHilah, 2007: pg. 289(.

Second: The characteristics of electronic educational platforms

The e-learning platform is a system designed to create a virtual learning environment. It is an integrated set of interactive services, and it has many characteristics, the most important of which are:

1-Content management: The tools used by the educational platform allow access to electronic educational content, whether it is purchased commercially or added by users. Thus, teachers, university professors and trainers can create educational materials and courses, store and repurpose them, while providing access to this content via the Internet .

2-Curriculum planning: The platform provides the tools and storage capacity necessary to provide and support lessons or lectures and to draw up a plan for the learning process.

3-Communication: Educational platforms facilitate the process of communication and communication, as the various tools integrated into their system provide the process of communication via e-mail, discussion forums, advertising units and blogs.

4-Administration: The educational platform system includes a teaching and learning management system through which the progress of students, users and trainees is tracked through application tests. It is also possible to find out a set of information about students, such as their attendance dates, schedule, and access to their electronic portfolio (Thomson, 2010).

Third: Obstacles to using educational platforms

By looking at many sources, it was found that the obstacles to e-learning may apply to educational platforms, and these obstacles include the following:

a) Weak infrastructure in terms of availability of hardware and auxiliary tools for creating platforms .
b) Some learners are unfamiliar with the skills of using modern technologies such as computers and browsing in international communications networks .
c) Some faculty members do not accept the use of modern technologies in teaching or training .
d) Sometimes it is difficult to connect to the Internet due to the lack of network quality or network malfunctions . (Abdul Naeem, 2016: p. 265).

Fourth: Types of educational platforms:

There are many educational platforms, some of them are free (open source) and some are commercial (closed source), the most important of which are:

1-Google Classroom platform:

It is a platform that provides a free educational service to manage e-learning via the Internet in order to simplify the process of sharing files between teachers and learners by helping teachers to create a classroom in it. This platform is an electronic application that contains many Google services such as email and Google Forms to create tests and files uploaded to the cloud and Google Slides presentations.

It allows the creation of virtual classrooms to display the educational material, assignments and activities, discuss students and obtain their responses and questions by entering the classroom from anywhere. (Clark & Mayer, 2011:4).

Al-Shahat and Awad, (2008) mentioned that Google Classroom is an application that has many advantages, such as Google applications in general, so we will talk about the advantages of the Google Classroom application:

•Follow-up of assignments and study tasks, as the Google Classroom application provides teachers with a feature that enables them to assign students to assignments and tasks, distribute and correct them electronically, and enables students to perform these duties, as well as the teacher has several options in those duties, such as reusing the same assignment more than once, and submitting Assignment due, adding links, documents, and files to help students solve their assignments.

•The Google Classroom program is available on mobile devices that support the Android operating system and the Apple operating system .

•Follow up with parents: The Google Classroom application provides a great possibility for teachers to send their assessments of students' performance to parents via e-mail, where they can add several details such as the assignments that the student has not completed as well as the activities that the student is doing .

•Providing direct communication between the professor and the students as well as the possibility of opening the door for discussion between the students and the teacher .

The diversity of sources and advertisements is one of the advantages of the Google Classroom program, that it may be considered as a store for resources and exchange of study materials between the teacher and his students, as it allows teachers and students to share files from their devices, whether they are images, documents, videos or links, the teacher can also identify himself as the only one Able to post in the group and students are not allowed to comment or post. (Al-Shahat and Awad, 2008: pg. 247).

•Google Classroom was directly linked with the rest of the sites supported by Google such as (Google Drive, Google Calendar, Sheets Slides, Google Docs, and Gmail) to facilitate e-learning without using papers .

•Automatic storage: When there are any files in the Google Classroom application, they are automatically stored in (Google Drive) files under the name (Classroom), this file includes any assignments that the teacher has distributed, and the teacher can also save the students' answers in (Google Drive) and choose the best one as a template for the ideal answer.

•Easy to use for students and teachers: One of the advantages of the application is that it is easy to use and has a simple interface. It is characterized by the ease of giving assignments and tasks (Assignments) by the teacher or the teacher. It also allows students to share files, answer teachers' questions, and easily answer all assignments and send them again. To the teacher, correct the answers at a high speed and send the grade directly to the students.

•The possibility of archiving lessons at the end of the semester, and there are no advertising paragraphs within the content . (Tsai,2009: 422).

Disadvantages of Google Classroom platform:

•It does not support group chats or communication with the teacher in general, but supports communication for the teacher through private comments on the practical application, in addition to its support for public comments on alerts and official announcements.

•It does not allow those who do not have Gmail to join the electronic class. (Rabah, 2004: pp. 248-249).

2-Edmodo:

It is a free social learning platform that provides teachers and students with a secure virtual learning environment to connect and collaborate, share educational content, participate in educational activities and discussions, as well as homework, tests and grade monitoring. Edmodo combines the advantages of the Facebook network and the Blackboard Learning Management System LMS, and it uses Web 2.0 technology, and it deserves the title of the first and largest social learning network in the world (Edmodo.com). (Al-Muqrin, 2016: p. 133).

Edmodo platform features

This platform has the advantages of being a network dedicated to education, including:

•The possibility of archiving messages and keeping them all.

•Supports all the operations we need .

•Easy to use and enhances social communication .

•The mobile application is easy and beautiful, i.e. the ability to access, whether through smart devices or through personal computers .

•It includes multiple features such as chat groups, private and direct communication with the teacher .

•Individualizing classroom instruction by allowing teachers to provide their students with personalized learning experiences .

•Providing teachers with advanced programs in training and professional development .

•Raising the rates of parents' participation in the educational process, as it became easier for the teacher to communicate with the students' parents, and the ease of informing the parents of the level of their children .

Disadvantages of Edmodo platform

1-The platform did not provide the Arabic language for users, but this obstacle can be avoided by using the interpreter for the Google Chrome browser.

2-The platform is not suitable for the primary stages of education due to the difficulty of dealing with that stage, which is attracted by simple graphics and easy language .

You need to register learners. (Salmon, 2002: 180).

3-Easy Class platform:

The Easy Class platform is an effective e-learning tool. It is a learning management system that empowers teachers to create digital classes and enables them to store subject lessons on the Internet, manage class discussions, give homework and tests, monitor deadlines, as well as evaluate results and provide students with feedback in one location.

The Easy class website allows teachers and students to communicate with each other and also to participate and learn through a safe and easy-to-use platform, used by teachers to provide multiple teaching capabilities directed to teachers and students and does not include advertising links and supports the Arabic language and is similar to the social networking site Facebook in communication and participation by replying, commenting or liking and sharing files Or links and the creation of groups, but it differs from it in that it is directed to education and contains additional tools that are important for the teacher, such as submitting assignments and designing tests Correct and provide feedback to students. (Jawad and Abboodi,2018:47-56).

Features of the Easy Class platform

•Fun and easy to use anytime, anywhere .
•Provides a closed learning environment between the teacher and the students .
•Gives the teacher the full ability to manage the class and educational materials.
•Facilitate communication and participation between the teacher and students, where the teacher can add links and videos, create student groups, conduct discussions and put tests...etc.
•Supports the Arabic language.
•Contains the electronic library.
•Provides online discussion forums as part of its main features.
•Classes are created and managed by professors.
•The discussions on the Easyclass platform promote collaborative exploration and critical thinking, thus providing a deeper understanding of the lesson topic. (Suha Hamdi, 2017: pg. 89).

Disadvantages of Easy Class platform:

•The guardian cannot view the student's grades.
•There is no application for smart systems (iPhone – Android).
•The need to write the student's email and code upon each entry .
Mohammed Radwan, (2016: p. 81).

Fifth: Attitudes

Attitudes are one of the important topics that psychologists have studied, as it is a mental, nervous and psychological organization of the individual, or a willingness to respond to situations, individuals, things or ideas in a certain way, and it also directs and controls the individual's various responses, meaning that each of us feels a positive or negative feeling. Towards certain foods, drinks, fashion, mathematics, works, principles and ideas, and it may be towards the individual himself, such as self-love and respect, or discontent with it and lack of confidence in it, and such feeling or conscience is called the psychological trend. (Khader, 2003: pg. 358).

Sixth: Conditions for trend formation

The result of integrating three components into it is:
A - Cognitive Component: It includes the individual's beliefs, ideas and information about the trend .
B - Affective Component: It refers to the individual's feelings and emotions about the direction .
C - Behavioral Component: It means the individual's willingness to perform certain actions and responses that are consistent with the subject of the trend. (Abu Jado, 2008: pg. 182).

Seventh: Evaluation of Attitudes Scales

The value and usefulness of any test or scale depends on its reliability, validity, standards, ease of conduct, correction, and interpretation. Below is a summary of how these factors relate to trend measures.

Reliability: The stability coefficients of attitude scales are generally about 0.75, and this is much lower than the coefficients of stability of cognitive scales, so the results of attitude scales should be used mainly for group counseling, based on discussion.

Validity: Attitude scales are generally less valid than other non-cognitive measures, due to the problems inherent in measuring trends, and because many scales build a foundation for research purposes. The links between the

scale scores and the observed behavior are basically low. Nevertheless, knowledge of the differences between apparent trends and actual behavior is useful in understanding and dealing with the individual .

Standards: There are no standards that accompany the measures of codified trends in most cases, and therefore caution must be taken when interpreting test scores, and although local standards can be prepared for these measures, and even if the normative data are efficient, they must be reviewed constantly, and use standards Very recent because the conditions affecting the trends are rapidly changing .

Procedure, Correction and Interpretation: Trend gauges are easy to perform, apply and correct and do not require any training, and they can be easily handled by the user. On the other hand, the interpretation of trends test scores is a completely different matter, and the user should be careful in his interpretations due to psychometric problems. (Mahmoud and his colleagues, 2010: pp. 329-330).

Previous Studies :

1-Study (Al Jarrah, 2016)

Abdul-Mahdi Ali Saad Al-Jarrah, Jordan, 2016, the title of the study (Attitudes of University of Jordan students towards the use of Moodle software in their learning), and the sample size was (131) male and female students for the undergraduate level. He followed the descriptive approach and the study tool was the questionnaire, and the results showed the presence of positive trends The study sample has a tendency to use Moodle software in their education. The study members also indicated that Moodle software helped them facilitate the learning process and increase their class participation .

2-Enriquez Study (2014)

The effect of using Edmodo as a supportive and complementary tool for learning from the students' point of view in the study courses of the College of Social Sciences. Research Tool Questionnaire and Group Interview The results showed that the collaboration tools in Edmodo enable students to improve the quality of their work online. This is done when these students receive notes published in Edmodo and feedback from teachers and fellow students. The study also indicated that the majority of undergraduate students participating in the study considered Edmodo tools to be effective complementary tools to their learning .

3-The Carolina and Lewis study (2011)

Students' attitudes towards using online support in chemistry using the MOODLE system, and the sample size was (42) students for the preparatory stage, in chemistry, and followed the descriptive approach. Learning management systems to support learning and the results showed that the use of Moodle was useful not only for students to communicate with teachers, but to help solve questions and activities, and inquiries of other students in the same course, and to exchange exercises among them, which indicates that students' attitudes towards teaching using Moodle were positive.

Research Methodology and Procedures:

To achieve the research objective, the following procedures were followed:

First: Experimental design: The two researchers adopted the selection of the tight quasi-experimental design with three groups of pre- and post-test to test the trend scale. The experimental design of the student groups can be clarified according to the following table:

Table (1)

Quasi-experimental design of the research

Research tool	Independent variable	Dependent variable	Equivalence of groups	Group
A measure of attitude towards elearning	Trend towards e-learning	Teaching using the Google Classroom platform	-Chronological age calculated in months IQ score - -Previous achievement in mathematics -Testing previous knowledge	First experiment
		Teaching Using Edmodo Platform		Second Experimental
		Teaching using the Easy Class platform		Third Experiment

Second: The research community and its sample:

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The research community was determined by the students of the first stage / Department of Computers / College of Basic Education in the academic year (2020-2021), and the research sample was selected according to the following: (Division (A) was chosen randomly to represent the first experimental group, while the division represented (B) The second experimental group, and Division (C) was chosen to represent the third experimental group .

Third: The equivalence of the research groups: The research groups were rewarded in the variables (chronological age in months, intelligence degree, previous achievement in mathematics, previous knowledge test, as shown in the following table:

Table (2)
Group Equivalences

Statistical Significance	Level Of Test Significance	Calculated TValue	Mean Of Squares	Degree Of Freedom	Sum Of Squares	Source Of Variance	Variables
Not Significant (Equivalence)	0.365	1.017	180.008	2	360.015	Between Groups	Chronological Age
			177.010	129	22834.250	Within Groups	
Not Significant (Equivalence)	174.0	1.773	91.636	2	183.273	Between Groups	Intelligence
			51.681	129	6666.909	Within Groups	
Not Significant (Equivalence)	0.228	1.495	66.098	2	132.197	Between Groups	Previous Achievement
			44.223	129	5704.795	Within Groups	
Not Significant (Equivalence)	0.602	0.509	6.280	2	12.561	Between Groups	Prior Knowledge
			12.332	129	1590.773	Within groups	

Fourth: The measure of students' attitudes towards educational platforms:

The measure of attitude towards educational platforms was applied to the students of the three experimental groups at the beginning of the experiment on Monday (1/2/2021), and when obtaining the scores of the students of the three experimental groups, the Statistical Package for Social Sciences program, version (26) (spss-26) was used, from which an analysis One Way Analysis of Variance.

Table (3)
The arithmetic mean and standard deviation of the degrees of the trend scale towards educational platforms before, for students of the three experimental research groups

Standard deviation	Arithmetic mean	Number of students	Group
11.604	122.250	44	The first experimental group (Classroom)
12.676	119.296	44	Experimental group II (Edmodo)
24.384	120.296	44	Experimental Group Three (Easy Class)

Table (4)
Results of the analysis of the first variance of the scores of the scale of attitude towards educational platforms before, for the students of the three experimental research groups

Significance Level	Level Significance Test	T value Calculated	Mean of squares	Degree of freedom	Sum of squares	Source of variance

Not Significant (Equivalence)	0.716	0.335	99.364	2	198.727	Between groups
			296.640	129	38266.568	Within groups
			-	131	38465.295	Total

Fifth: Controlling the extraneous variables and the following is a presentation of some of these variables: 1- Experimental extinction: The experiment was not subjected to abandonment, interruption, or transfer of any student from the three experimental groups during the duration of the experiment .

2-Maturity: due to the fact that the duration of the experiment is unified between the three experimental research groups, which is an entire semester, in addition to the fact that the approved design had only three experimental groups, the growth that occurs will return to the members of the groups at the same level, so it had no effect on current search .

3-Conditions of the experiment and associated accidents: The experiment was not exposed, during its application period, to any accident that hinders its functioning and affects the dependent variable besides the effect of the independent variable.

4-Measurement tool: This variable was controlled using a unified tool to measure the dependent variable among the students of the research groups. The trend scale test was used. The tool was characterized by honesty and reliability, and it was applied to the research groups at the same time.

5-The effect of experimental procedures: In order to protect the experiment from some procedures that affect the dependent variable, the researchers tried as much as possible, to limit the impact of this factor on the course of the experiment, and represented in:

A- Confidentiality of the experiment: ensuring the confidentiality of the experiment, in agreement with the subject professor, not to inform the students of the nature of the research and the application of the experiment, so that the activity or interaction of the students with the researcher does not change .

B - Teaching: The two researchers taught the three experimental groups, which imparts accuracy and objectivity to the results of the experiment and to avoid the experiment being affected by the differences resulting from the personal characteristics of the teachers and their teaching methods .

C- Duration: The students of the three experimental groups exhausted the same period of time in the experiment. The time period for studying mathematics was a full semester for the academic year (2020-2021) and was equal for all groups (the three experimental), as teaching began on Monday on 1/2 /2021 and ended on Sunday 11/4/2021 .

D- Lessons: The weekly schedule was organized in agreement with the Presidency of the Computers Department at two hours per week for each of the research groups on Mondays .

Sixth: Research Accessories:

1-Determining the educational subject: The scientific subject was determined according to the specific course of mathematics (calculus) in the Computers Department .

2-Formulation of behavioral objectives: The behavioral objectives of the vocabulary included in the experiment were formulated in the light of Bloom's classification of the cognitive domain for the six levels (remember, comprehension, application, analysis, synthesis, evaluation). The behavioral objectives reached (106) behavioral objectives, which were presented to elite the arbitrators in the field of mathematics and methods of teaching mathematics, and based on their proposals, it was agreed to amend some of them .

3-Preparing teaching plans: A set of teaching plans has been prepared, numbering (48) teaching plans, with (16) plans for each of the experimental research groups. Samples of them were presented to a number of specialists in mathematics and their teaching methods. They were modified according to their opinions and came out in its final form. .

4-Preparing educational platforms: The literature and previous studies for the preparation of educational platforms agreed on the basic stages that the platform designer must follow through the Internet, which are (analysis, design, production, experimentation, presentation, presentation), and after reviewing many design models such as: "Model" Dick and Kerry (1996), Ryan et al. (2000), Ruffini (2000), Jolev et al. (2001), Mouse (2002), Jawdat (2003), Musa and Mubarak (2005)), and others, and among the steps that you go through in preparing educational platforms are:

a. Determine the characteristics of the target group. T. Analyzing and organizing academic content . B. Student characteristics analysis the preparation stage.

5-Training students to use the platforms: The students of each of the three experimental groups were introduced to the platform of their group and the way to access it. They were introduced to the password of each electronic class, the importance of the electronic classes, and the interface of each platform was introduced to each group separately, with a guide for students on how to use Platform.

Seventh: The search tool:

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Scale of students' attitudes towards educational platforms:

a. Determining the objective of the scale: The objective of the scale is to measure the pro- and non-supportive attitudes towards the use of educational platforms in teaching mathematics to first-year students/computer department .

B. Description of the scale items: (40) items were formulated for the scale and the five-point scale of Likert scale was adopted (strongly agree, agree, neutral, disagree, strongly disagree) with weights (1,2,3,4,5 for negative items, and (5.4) ,3,2,1) for the positive paragraphs, respectively, where the scale consists of (40) items divided into five dimensions:

(displaying content using educational platforms, using educational platforms in learning mathematics, features of using educational platforms in teaching mathematics, the necessary skills The use of educational platforms in learning mathematics, the obstacles and challenges facing the use of educational platforms). C. The validity of the measure of the tendency towards the use of educational platforms:

The measure of the tendency towards the use of educational platforms was presented to a group of experts in the field of education and educational psychology to judge its validity in measuring the attribute to be measured, and using Cooper's percentage of agreement equation, a percentage of (88%) was adopted regarding the validity of formulating items The scale was not omitted from any of the scale's paragraphs, but some of the paragraphs were modified according to the instructions of the specialists obtained for the purpose of arriving at a unified formula for the scale. Thus, the scale of the trend towards using educational platforms is ready to be applied to the pilot sample .

A. The first exploratory application of the trend scale towards the use of educational platforms: The exploratory experiment was conducted, the purpose of which is to identify the clarity of instructions and paragraphs and the appropriateness of the proposed alternatives; By applying

a. By applying the scale to a sample of (60) male and female students within the research community, consisting of (30) male and (30) female students, five alternatives were identified for the scale, and for each level, a value was placed in the scale for positive expressions inverse of negative expressions, as follows:

(Strongly agree, agree, neutral, disagree, strongly disagree) .

1-These alternatives are (5, 4, 3, 2, 1) for the positive items, while the weights of the alternatives for the negative items are (5,4, 3, 2, 1) Where the students choose one alternative from the five alternatives in each of the (40) paragraphs, and in this formula, the students' total score will be calculated through the algebraic summation of the scores on the scale items, and in theory, the highest score a student can get is (200) And the lowest degree is (40) degrees.

D-Statistical procedures for analyzing the scale items: The current research questionnaire was applied again on the research sample for the statistical analysis of (200) male and female students, with the aim of analyzing the items and extracting the distinction of all the items of the scale, and for the purpose of conducting the analysis through the two extreme groups method and achieving the objectives of the current research. **A. The two extreme groups:**

For the purpose of conducting the analysis in light of this procedure, the following steps were taken:

1. Giving a score for each paragraph of the scale.
2. Determining the total score for each (200) form.
3. Arrange the forms from highest to lowest score.
4. Determining the (27%) of the forms with the highest scores (highest scores), which are (54) questionnaires, and the (27%) of the forms with the lowest scores (lower scores), which are also (54) forms, and with this formula it became We have the two largest groups of possible size, with their distributions close to the normal and with the greatest possible variance. (Anstansi, 1988, p. 17).
5. The application of the t-test for two independent samples to test the significance of the differences between the upper and lower group scores. The t-value was considered an indicator to distinguish the paragraph by comparing it with the tabular value, and that the items that obtain a calculated t-value (1.98) or more are distinct items; Because it is statistically significant less than the significance level (0.05) with a degree of freedom (106), which is statistically significant, and thus it became clear that all the items of the scale of students' attitudes towards educational platforms were distinct and statistically significant.

B. The relationship of the paragraph's degree with the total degree (internal consistency): The Pearson correlation coefficient was used to extract the correlation between the degrees of each paragraph of the scale with its total degree, and one of the advantages of this method is that it provides a homogeneous measure in the paragraphs, as the higher the paragraph correlation coefficient In the total score, the probability of being included in the scale was greater, and for this purpose, a number of (200) forms were used for the students, and the statistical treatment showed that all the scale items were statistically significant at the level (0.05) and the degree of freedom (198) and with the tabular value (0.138), in addition to that, the scale was

calculated The correlation of the degree of the paragraphs with the domain to which it belongs, and all the paragraphs were statistically significant, and the matrix of internal correlation between the domains and the degree of the total scale was extracted. Pearson's correlation coefficient was all positive and this indicates the validity of the construct.

C. Indicators of the validity of the scale of students' attitudes towards educational platforms:
Indicators of the validity of the current scale were verified through:

a. Apparent honesty: This type of honesty is achieved when the scale was presented in its initial form to a group of arbitrators specialized in psychology and psychometrics.

B. Construction validity: The construction validity was verified through the following indicators, the relationship of the paragraph degree with the total degree of the scale, the relationship of the paragraph degree with the dimension to which it belongs, and the use of the internal correlation matrix, all of which indicated that the paragraphs are significant and distinctive, and this indicates the validity of the construct.

C-(T. Scale) stability indicators: For the purpose of extracting the stability of the students' attitude scale towards educational platforms, the (Alpha-Cro-Nbach) method was used, and by applying the scale of students' attitudes towards educational platforms on the stability sample of (200) students, the researcher used the alpha-CroNbach equation, as The reliability coefficient was (0.83), which is a good indicator of the scale's stability. Crowe-Nbach stresses that the test that has a high reliability coefficient is a good and accurate measure.
(Cronback, 1964, p. 298)

D. Describe the scale of students' attitudes towards educational platforms in its final form: The scale of students' attitudes towards educational platforms in its final form consisted of (40) items, distributed over five dimensions.

Experimental application procedures:

The three experimental groups were taught using the three educational platforms, each platform designated for an experimental group (the first experimental group used the Classroom platform, the second experimental group used the Edmodo platform, and the third experimental group used the Easy Class platform).

Eighth: Statistical Means: Appropriate statistical means were used for the research. **-Presentation and interpretation of results:**

First: Presentation of the results/ 1- The first hypothesis:

To verify the first null hypothesis, the researchers used the Statistical Package for Social Sciences program, version (26) (spss-26), including the One Way Analysis of Variance, and after testing the differences between the arithmetic averages, it appeared that the differences were statistically significant, as the results of Analysis The calculated t-value (63.991) is at a significance level of the test (0.000) and when the significance level of the test is less than (0.05), this means that there are statistically significant differences between the three experimental groups, and this led to the rejection of the first null hypothesis, we will resort to using a test Scheffe dimensional comparisons to detect the direction and significance of differences. **Table (5)**

The arithmetic mean and standard deviation of the scores of the attitude scale toward educational platforms dimensionally for the students of the experimental research groups

Standard Deviation	Arithmetic Mean	No. Of Students	Group
5.957	152.955	44	The First Experimental Group (Classroom)
15.679	167.273	44	Experimental Group II (Edmodo)
26.539	124.341	44	Experimental Group Three (Easy Class)
25.387	148.189	132	Total

Table (6)

Results of the one-way analysis of variance for the degrees of the measure of attitude towards educational platforms dimensionally for the students of the three experimental research groups

Statistical Significance	Level of test significance	Calculated t-value	Mean of squares	Degree of freedom	Sum of squares	Source of variance

Statistically significant i.e. There are differences between the three experimental groups	0.000	63.991	21023.871	2	42047.742	Between groups
			328.547	129	42382.523	Within groups
			-	131	84430.265	Total

Post-comparisons using Scheffe's test between the three experimental groups (to find out the direction of the differences for the trend variable dimensionally):

Using the statistical package for social sciences as well (spss-26) to find out the direction of the differences that appeared in the one-way analysis of variance test, three two-dimensional comparisons were made between the three research groups, and it appeared that the second experimental group that was studied using the Edmodo platform is superior to the first two experimental groups that were studied. Using the Classroom platform, the level of significance for Scheffe's test was (0.001) when comparing the second and first groups in favor of the second group, while when comparing between the second and third groups at the level of Scheffe's significance reached (0.000) in favor of the second experimental group, and when comparing the first and third groups with a level of significance For the Scheffe test, it amounted to (0.000) in favor of the first experimental group, which means if the value of the significance of the Scheffe test is less than the level (0.05), then this means that there are statistically significant differences in favor of the experimental group with the largest arithmetic mean .

Table (7(

Explains the dimensional comparisons between the three experimental research groups using Scheffe's postcomparisons test for the variable of students' attitudes towards educational platforms

Significance of Comparison	Scheffe significance level *	standard deviation of the error	arithmetic mean of the difference	arithmetic mean of each group	The comparison between
statistically significant in favor of the second experimental group: Edmodo	0.001	3.864	14.318-	152.955 167.273	The first experimental group: class room The second experimental group: Edmodo
statistically significant in favor of the first experimental group: class room	0.000	3.864	28.614	152.955 124.341	The first experimental group: class room The third experimental group: Easy Class
statistically significant in favor of the second experimental group: Edmodo	0.000	3864	- 42.932	167.273	The second experimental group: Edmodo The third experimental group: Easy Class

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-2The second hypothesis: To verify the second null hypothesis, the researchers used the Statistical Package for Social Sciences program, version (26) (spss-26), including the T-test for two correlated samples, and it became clear that there is a statistically significant difference between the two tests (pre and post). For the benefit of the post-test.

Table (8)
Shows the results of the T-test of two correlated samples of the students' attitudes of the first experimental group towards educational platforms

favor of the dimen sional applica tion of the trend scale										

-The third hypothesis: To verify the third null hypothesis, the researchers used the Statistical Package for Social Sciences program, version (26) (spss-26), including the T-test for two correlated samples, and it became clear that there is a statistically significant difference between the two tests (pre and post). For the benefit of the post-test.

Statistical significance	T-test significance*	Calculated T value	Degree of freedom	Standard deviation of the difference	Arithmetic mean of the difference	Difference between the two tests	Sum of scores	Arithmetic mean	No.	Application
Statistically significant in	**0.000**	**14.319-**	**43**	**14.223**	**30.705-**	**1351-**	**5379**	**122.250**	**44**	**Before**
							6730	**152.955**		**After**

Table (9)
Shows the results of the t-test of two correlated samples of the students' attitude of the second experimental group towards educational platforms

Statistical significance	significance of the t test	Calculated t-value	Degree of freedom	Standard deviation of the difference	Arithmetic mean of the difference	Difference between the two tests	Total scores	Arithmetic mean	**No.**	Application
Statistically significant in favor of the dimensional application of the trend scale	**0.000**	**14.353-**	**43**	**22.173**	**47.977**	**2111 -**	**5249**	**119.296**	**44**	Before
							7360	**167.273**		After

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Fourth hypothesis: To verify the fourth null hypothesis, the Statistical Package for Social Sciences program, version (26) (spss-26), was used, including the T-test for two correlated samples, and it turned out that there was no statistically significant difference between the two tests (pre and post).

Table (10)

Shows the results of the t-test of two correlated samples of the students' attitudes of the third experimental group towards educational platforms

Statistical significance	The significance of the t-test	Calculated t value	Degree of freedom	Standard deviation of the difference	Arithmetic mean of the difference	difference between the two tests	Total scores	Arithmetic mean	No.	Application
Statistically not significant	0.081	1.789-	43	14.998	4.045-	178-	5293	120.296	44	Before
							5471	124.341		After

-2Effect size for the second, third and fourth hypotheses: In order to find out the effect size of the independent variable (educational platforms) on the dependent variable (the trend), the value of (η2) was found. Determine (Afaneh, 2000) the values of the effect size and the Eta coefficient, and it was found that it is significant in the second and third and average in the fourth . **Table (11)**

The calculated (t) value and (η2) and the effect size of the hypothesis (2,3,4**)**

Impact Effect	η^2 Value	Degree of freedom	Calculated t-value	Hypothesis
Large	**0.826**	**43**	**14.319-**	Second
Large	**0.827**	**43**	**14.353-**	Third
Medium	**0.069**	**43**	**1.789-**	Fourth

Second: Interpretation of the results:

Interpretation of the results of the first hypothesis regarding the trend towards the use of educational platforms: The results resulted in the presence of statistically significant differences between the three experimental groups, which led to the use of the Scheffe test to find out these differences in favor of any platform and when comparing between the first experimental group and the second experimental group that I studied the same subject using the Edmodo platform.

It was found that there were statistically significant differences in favor of the second experimental group, but when comparing between the first experimental group that studied mathematics using the Classroom platform and the third experimental group that studied the same material using the Easy Class platform, it was found that there were statistically significant differences in favor of The first experimental group that was studied using the Classroom platform, and when a comparison was made between the second experimental group and the third experimental group, there were statistically significant differences in favor of the second experimental group, and from the comparisons made, the second experimental group outperformed the first and third groups, and in the second place the first experimental group outperformed the The third experimental group in the trend scale Ah, the results can be interpreted as follows-:

1-The design of the Edmodo platform, similar to the design of Facebook, and the way to use it, and to determine its objectives and scientific content, in light of the set of educational goals that were set for learning, helped the students of the second experimental group to acquire the target experiences, which had a good effect on increasing the motivation for self-learning and the attitude of the second experimental group to learning Via the Edmodo platform .

2-The Edmodo platform contains a set of features and characteristics that help students to clarify any ambiguity or query or to enrich them with a set of enriching questions for the subjects of the subject, which left a positive impact towards their tendency to use the Edmodo platform to obtain information .

3-The difficulty of entering the Easy Class platform and the difficulty of using it, as students are required to enter it each time the personal email and secret code, which may lead to forgetting the email or the secret code, so it is prevented from entering it with this account because it is a website and not an application as in the Class platform Rom and Edmodo, which can be accessed easily, just download the application and take the electronic class code from the teacher .

4-The difficulty of downloading large files in the Easy Class platform and the lack of video downloading as in the Edmodo and Class platform.

Interpretation of the results related to the second, third and fourth hypotheses: The results resulted in the presence of statistically significant differences between the pre- and post-test in the first experimental groups that studied the subjects using the Classroom platform and the second that studied the same subject using the Edmodo platform, and there were no statistically significant differences between the pre- and post-test In the third experimental group, which also studied the same material using the Easy Class platform in the trend scale, the results can be interpreted as follows- :

1-The ease of designing the Classroom platform, as well as its ease of use, since most of the other study materials have adopted this platform, which leads to students getting used to using it .

2-Easy access to the platforms Classroom and Edmodo at any time. The application can also be downloaded on smart devices (mobile) and accessed.

3-The difficulty of designing the Easy Class platform and the difficulty of accessing it as it is a website and not an application, which led to students complaining continuously and forgetting the secret code sometimes, and the inability of students to access it without the approval of the professor, which led to their lack of direction in using this platform .

4-Students on the Easy Class platform were unable to communicate with each other except with the approval of the professor, which also led to their reluctance to learn and use this platform .

Third: Conclusions In light of the results, the researchers reached the following conclusions:

1-Students' tendency to free learning using educational platforms.

2-Enhancing the students' self-confidence, so their learning was effective and continuous, and away from them the boredom they feel when they study mathematics in the usual way.

Fourth: Recommendations:

In light of the foregoing, the researchers recommend the following set of **Recommendations :**

3-Encouraging students to use educational platforms to develop self-learning skills.

4-That the Ministries of Education and Higher Education provide the necessary equipment to use educational platforms in schools and universities to improve educational outcomes .

5-The necessity of spreading the culture of e-learning and the role here lies with the media units in all colleges and universities for the purpose of disseminating the activities of the teachers who employ e-learning .

Fifth: The proposals :

To complement the current research, the researchers suggest the following:

1-Studying the attitudes of teachers towards the use of educational platforms .

2-Studying educational and technological requirements in employing educational platforms for mathematics teachers.

3- Studying the effectiveness of educational platforms in teaching other subjects and stages.

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