The effect of the cloud learning management system on developing the level of technological acceptance among instructional technology students

Provided by

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مجلة البحوث في مجالات التربية النوعية
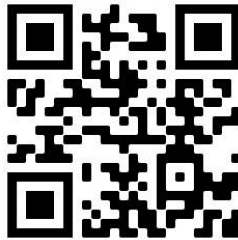
Abstract:

The aim of the current research is to reveal the impact of the cloud learning management system on developing the level of technological acceptance among instructional technology students to employ it in the instructional process and benefit from its advantages. The content in the experimental treatment material was based on the topics related to the Moodle cloud, and its use skills (skills for dealing with: the system, users, course, resources, activities, testing, blocks). The research tool was a measure of technological acceptance while experimental processing material is represented in an e-learning environment based on the Moodle cloud. The results indicated that the Moodle cloud has effectively contributed to raising the level of technological acceptance among instructional technology students.

Among the recommendations of the research: The need for universities to use the technology acceptance model before adopting any new technology in education and spread awareness of the importance of cloud learning management systems especially in academia and its role in the instructional process through open meetings and seminars, Establish a time plan by decision makers to accelerate the implementation of the Moodle cloud in education and work to develop the Internet infrastructure to increase its speed and avoid interruption, A mechanism must be adopted to motivate teachers financially and morally to use the Moodle cloud system for teaching and organizing training courses for faculty members at the university, To train them to use the Moodle cloud to build successful courses.

Key words: cloud learning management system, level of technology acceptance.

Introduction

The development of the Internet infrastructure has led to the emergence of cloud computing that relies on transferring the processing operators and the storage space of the computer to servers accessed via the Internet without restrictions related to a specific device or location, this has helped instructional institutions to overcome many problems associated with high storage costs, data processing and retrieval, Installation issues, software upgrades and compatibility.

Angel ova, Kiryakova & Yordanova(2015)1Indicates that cloud computing system imposed on institutions the need to provide new opportunities for e-learning in line with the expectations and new needs of learners, Combining the features of traditional education systems with the benefits of cloud services will give instructional organizations a powerful and effective tool in terms of cost, accessibility and interactive availability among teachers and learners, As a result of the previous, cloud learning management systems have showed up (Cloud L.M.S) The systems combine features of traditional learning management systems with the advantages of cloud services it provides the learning management system as a (software as a service) from the cloud learning management services.

The quality of cloud learning management systems can be judged to the degree that they are accepted by learners, Acceptance is one of the criteria used to determine the success of a cloud learning management system, it is also one of the comprehensive quality indicators of the Cloud Learning Management System. Fouad Ayad (2015) indicates that the acceptance or rejection a technological system is based on their success or failure to deal with it or use it, And that success or failure depends on internal factors related to the learner, and external factors related to the nature of the system and the conditions of its use.

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[1] The American Psychological Association (APA) sixth-generation documentation system was used, with the name indicating the author, then the year of publication, then the page, and he mentioned the first and last name of the Arabic names.

Feeling the problem

The sense of the research problem stemmed from several sources, including:-

- In response to the call made by many specialists in the field of instructional technology of the necessity of incorporating modern technologies in education to keep pace with technological developments, including the cloud learning management system, To provide an interactive learning environment, to attract the interest of learners, and to encourage them to interact and exchange their opinions and experiences. The tendency of many instructional institutions to use cloud computing services.
- The scarcity of studies dealing with cloud learning management systems and their effectiveness in education.
- Many conferences recommended the use of cloud computing to serve instructional goals and the need to train students to use their various services because it has many advantages in education, one of these conferences is the third annual global conference on cloud computing (2012), The Third International Conference on E-Learning and Distance Education (2013), International Conference on Cloud Computing (ICCC15, 2015), The 18th International Conference on Learning Management Systems was also addressed (ICPME, 2016) different types of learning management systems and how to use them in the instructional process, recommend that all new developments in the field of learning management systems should be followed.

Research problem

The research problem crystallized in revealing the impact of the cloud learning management system on developing the level of technological acceptance. Therefore, the current research attempts to address this problem by answering the following question:-

"What is the impact of the cloud learning management system on developing the level of technological acceptance among instructional technology students?"

Research hypotheses:

There is a statistically significant difference at the level (0.01) between the mean scores of the experimental group in the pre and post measurement of the technological acceptance scale in favor of the post measurement.

Research objective:

The current research aims to reveal the impact of the cloud learning management system on developing the level of technological acceptance among instructional technology students to employ it in the instructional process and benefit from its advantages.

Research importance:

The importance of the current research has been given to both the learner and the instructional institution:

According for the learner: Current research may contribute to:- Increasing the level of technological acceptance

According for the instructional institution: The current research may contribute to:-

- Reducing costs by not having to buy software and maintain hardware.
- Simplification the learning process.
- Improving the organization's ability to manage multiple systems from a single instructional electronic system.

Search limits:

The current search was confined to:-

1- Human confines: - The research experiment was applied to a voluntary random sample of the second year students, Department of Instructional Technology, Faculty of Specific Education, Minia University, due to the availability of the tribal requirements in the research sample from the skills of dealing with computers and the skills of dealing with the Internet.

2- **Temporal limits**: - The research experiment was applied in the second semester of the academic year (2019 / 2020).

3- Content limits: - current research experience is based on some topics related to:

- The knowledge side of the skills of using the Moodle cloud learning management system.

- The performance aspect of using the Moodle cloud system Includes: basic skills to deal with the Moodle cloud system, Interpersonal skills, Skills of dealing with a new course, Skills of dealing with sources, Skills of dealing with activities, Skills of dealing with the test and skills of dealing with blocks.

Research Methodology:

The present research used the semi-experimental approach, to detect the effect of the independent variable (Moodle cloud) on the dependent variable (the level of technological acceptance).

Research variables:

The search included the following variables:-

A- Independent variable: represented in the cloud learning management system (Moodle cloud).

B- Dependent variable: represented in the level of technological acceptance.

Experimental design:

In view of the nature of the research, experimental design known as one group design with pre and post application.

The research sample:

A sample of the second year students, Department of Instructional Technology, Faculty of Specific Education, Minia University, consisting of (35) male and female students, and (20) male and female students for the exploratory experience.

Research tool:

The tool used in the research was: Technology acceptance scale.

Experimental treatment material:

Experimental processing material is represented in an electronic learning environment based on the Cloud Learning Management System (Moodle cloud).

Research terms:

After reviewing the previous research and literature, procedural concepts for the search terms were reached as follows:

Cloud learning management system:

The Cloud Learning Management System is procedurally defined as a program to manage and track the learning process for second year students of instructional technology
Based on cloud computing represented by the Moodle cloud management system of cloud learning.

Technology acceptance:

Procedurally known as a set of factors that can influence the actual use of education technology students in the cloud learning management system (Moodle cloud) measured by a technology acceptance scale.

Theoretical framework and previous studies:

The first chapter - the cloud learning management system (Moodle cloud):-

Advances in technology have led to changes in a number of sectors, including education, with the development of mobile devices and the availability of services or applications low-cost or free online the traditional learning management system no longer meets the student's preferences and needs. The development of cloud computing and demand-driven payment model is a potential solution to the problems higher education currently faces in terms of low budget and lack of computing power, and despite the benefits of cloud computing, universities are late to adopt them.

Cloud computing technology is growing rapidly, it attracts great interest from instructional institutions and cloud learning management systems are nowadays a major tool for planning and promoting e-learning, It introduces the true concept of e-learning

represented by learners accessing information at any time and from anywhere, and combines learning management system functions with the benefits of cloud computing, Then it helps solve many of the problems of proven traditional learning management systems With regard to high hardware costs, limited storage capacity, length of implementation and maintenance problems.

1- The instructional return of cloud learning management systems:-

The instructional return of Cloud Learning Management Systems is as indicated by the studies of each:- (Aldheleai.; Ubaidullah.& Alammari ،2017 ؛Qwaider،2017 ؛ Angelova; Kiryakova.& Yordanova ،2015 ؛Gurunath,R; AnilKumar,K،2015) for the following:-

- Large storage capacity:- Cloud computing provides users with much storage with no maximum total storage.

- Low cost:- Cloud computing user does not need to purchase any software and some other service providers offer free accounts, but if users need more storage space or more tools, they should pay for those services.

- Improved accessibility:- Cloud learning management system provides better access to learning content regardless of the location or device used.

- Rapid deployment:- Cloud learning management systems provide easy course posting so all a user has to do is click on the post command and then they can see their own learning course available all over the world, The learner can access scientific subjects from everywhere.

- Ability to predict costs:- In cloud learning management systems the fees are clear, This means that the cost is known and determined for every month, every three months, or half a year.

- Automatic software **updates:-** One of the best things about using a cloud learning management system is instant software updates, The platform service provider will be responsible for updating the software to maintain competition in the market and win more subscribers.

- Enhanced data protection:- In the cloud computing model, data is widely stored and preserved, It relies on one or more data centers and managers manage consolidated data, program deployment, and security monitoring, Thus, data security and user protection are ensured to the greatest extent possible.

- Fully customizable and development:- Most of the cloud based learning management system platforms give the user the ability to customize his page interface and Designing the scientific material for the training course, and conducting tests and surveys.

- Improved document formatting:- Cloud learning management systems applications open various documents through which cloud based computing opens the file.

2- Cloud learning management system (Moodle cloud):-

Study indicate (Doshi, 2018) the advantages of this system with regard to communication, cooperation and learning resources, including:-

*Ease of use: It is easy to use functions in this system this makes teaching and learning easier, and has an easy-to-navigate interface.

*User profile: Users can create their profile with photo, email, Telephone number, address, availability, and training courses in the area of interest.

*Create a resource-based course: Teachers can create their own courses in the cloud-based learning system, they can upload course flyers, instructional lectures, assignments, tests and video recordings.

*Fully customizable: It can be customizable according to the organization's own logo, design, and theme and specialist area.

*Possibility to use it on mobile devices: The cloud system provides the advantage of mobility, so users can fully access all its features through mobile devices, Learners can easily access their content from their PDA devices such as mobile phones, tablets and other smart devices.

*Virtual Learning Environment (VLE): provides a set of learning and teaching tools designed to enhance a student's learning experience by including computers and the Internet in the learning process, with the help of these features, students can

attend the virtual classroom to gain knowledge and skills in their subjects.

*Simulation and Design: Students want practical implementation and they can do it using the platform and perform simulation and design in real-time practical.

*24/7 assistance and support: Cloud service providers provide 24/7 support for institutional actors from initial preparation, to maintenance, development requests, and general questions.

*Conferencing or teleconferencing (audio / video): Has the ability to hold a teleconference between teacher and student or multiple students as the cloud learning system can be easily integrated with video conferencing platforms, for example: Skype, Adobe Connect, Cisco WebEx Google Hangouts, This will help students and teachers to stay in touch.

*Social learning: The learning system includes features that help students learn from each other, this not only enhances the learning process, but is also a great way to reduce stress on those doing the training.

*Rich library content: It is fully integrated with databases, such as research databases: IEEE, Springer, Elsevier, ACM, E-learning, edX, MIT Courseware, MOOCs, Khan Academy, and Discovery Channel.

*Discussion Forum: It contains a forum where the teacher and students can conduct the discussion, and students can chat with their peers, the chat allows for accurate and easy communication through text responses.

*Event notification: The system is sufficiently able to give notification or notifications of upcoming events on the user's Dashboard, It also informs institutional actors of various academic activities, such as: class schedules, tests, ongoing assessments, conferences, seminars, workshops, and conference sessions remotely it also has the ability to report events via mobile phones via social media.

*Marking / Outcomes / Reverting: Students can see their grades and results in the current semester and previous results, Based on the result, the trainer is also given a feedback to improve student level.

*Exam: The system platform can provide scheduled, scheduled tests, and allow students to have automatic and immediate scores, and so they get their results as soon as the exam is completed.

*Graphic analysis: graphic analysis provides the ability to help students, teachers, and institutions make better choices that improve learning outcomes.

*Download and upload: Users can easily download and upload course content and other necessary documents.

*Integration with some applications: Enables integration with Google Drive and Google Docs to maintain databases for students and teachers, they can share files using this platform.

*Scalability: the system is expandable, which means it can accommodate the number of users on the platform, the number of users can be increased without performance being affected.

The Dashi's (2018) study aimed to discover Moodle cloud and its accreditation at the university to assess opportunities and challenges, where a survey of trainers and students was conducted through post-workshop questionnaires and interviews conducted to obtain practical training experience in the system and to evaluate important features. The results concluded that there is a positive attitude by university representatives and students towards the system because it contains many advantages, Such as: ease of use, continuous communication, speed of work, ease of obtaining exam results, the presence of study material sources, and comparison of work between peers.

Bhushan(2017) performed an analytical study between traditional assessment and electronic evaluation using Moodle Cloud learning management systems, It was found that in the final achievement evaluation, it was found that the students who were trained on the cloud learning management system platform achieved better results than others.

Kumar & Sharma (2016) study indicated that the cloud learning system supports the cooperative and appropriate environment to facilitate achieving long-term learning goals in the new wave of higher education, As It provides support to teachers, administrators, and students the opportunity to coordinate with one another to maintain interaction during the learning process,

Where they can easily collaborate and advance on a joint project while reducing time, cost, and effort, It provides access and flexibility in terms of space and time, It is easy to use multiple devices at low cost, It supports collaboration for students, teachers, and administrators, Integration and compatibility features are also available in the Moodle cloud learning management system and the benefits of reusing components or programs, reducing the burden on teachers to recreate existing units.

Buhu & Buhu study (2016, 468-469) pointed out the main features of the cloud learning management system, as follows:
- Free hosting (supported with minimal advertising).
- Ease of use, and immediate registration can be made using a mobile phone.
- A full version of Moodle with almost no restrictions.
- It always has the latest version.
- It provides up to 50 users and 200MB space free of charge.
- Unlimited training sessions, unlimited database size.
- Contains a big blue button video conferencing system (discussions) for free.
- The ability to modify the user's Moodle site.
- Available in more than 100 languages with the ability to Multilanguage.
- Enable full support for the official Moodle Mobile app.

The results of the Buhu & Buhu (2016) study showed that the cloud system provides a solution for hosting cloud computing for teachers, trainers or anyone to easily publish Moodle as an instructional environment without any installation or hosting fees, This solution allows anyone to get a free Moodle site in seconds, by This way, the instructional institutions do not need to purchase expensive web servers to host their own learning management systems, the Moodle Cloud program is ideal for individual classrooms and other learning environments, It offers all the benefits of the latest version of the Moodle instructional technology program, and has the ability to hold integrated web conferences, Which is provided on a dedicated cloud system that uses Amazon Web services.

The second chapter: technological acceptance:

1. What is technological acceptance?

(2011) Al-Harbi states that the technological acceptance of any new technology is one of the most important factors that must be studied in order to work on the success of this technology and increase the people's appetite for it, Therefore, understanding the factors that affect users' acceptance of e-learning in general and cloud learning management systems in particular is important for improving the implementation and use of e-learning.

Raed Abdel-Hadi and Othman Al-Turki (2018) believes that accepting or rejecting new technology by users has become one of the most important challenges facing researchers in the field of studying the integration of technology in the instructional process, These new technologies and systems may fail to reach the goal for which they were set and to achieve the most competition as a result of the user's lack of acceptance of them, So many models and theories have emerged that are concerned with studying how users accept new technology, Among the most famous of these models is the Technology Acceptance Model (TAM). Cloud learning management systems are a type of modern technology, It can be said that technological acceptance is carried out in actual use, And the belief in the usefulness of the use means the degree to which the user believes that his use of technology can improve his performance, Convincing ease of use means the degree to which a user believes that using the technology does not require much effort.

Masrom (2007) refers to technological acceptance as a psychological state of the individual indicating the degree of voluntary or compulsory use of technology, Davis (1989) developed a model as a way to measure technology acceptance, As a model developed to monitor user perceptions of any new technology through specific factors included in it that affect the desire to use that technology in the future.

2- Technology acceptance model factors:

Expected ease of use Perceived Ease of use: Fathallah Ahmed and Suhad Othman (2019) indicate that it is the degree to which a person believes that his use of a particular system will be with minimal effort, And there is a direct and indirect impact of the expected ease of use on the behavioral intention of a potential system user, The more the user views the new technology as easy to use and useful , Whenever there is a positive trend towards it and then provides the desire and motivation to use it.

Expected benefit Perceived Usefulness: Wael Mohamed (2015) explained that a person's expectations of using technology will help improve his tasks or the degree to which a person believes that using a specific system will improve his job performance, Whereas, individuals tend to use a certain system when they believe that this system will enable them to perform their jobs better, And Leila Al-Jahmi (2016) notes that the expected high level of benefit and ease of use foreshadows a positive trend towards technology, This in turn predicts the intentions of their use, , One's actual use of any technology is directly or indirectly affected by his behavioral intentions and direction, The expected instructional return and ease of use.

3. The importance of the technology acceptance model:

There have been many studies that dealt with the technology acceptance model, which confirms its importance, where the study (2016) Ababneh aimed to predict the use of cloud computing by linking the technology acceptance model to the model of information systems success factors, The study found the need to build trust between users and new technology, and notice the need to pay attention to systems and their quality, because of their impact on users 'perceptions of cloud computing in terms of ease of use and perceived benefit.

Cowan & Earls (2016) study demonstrated the validity of the technology acceptance model to determine the direction of high school teachers in using tablets in the classroom, Dizon's (2016) study revealed the validity of the technology acceptance model in investigating the satisfaction of Japanese college students in using Internet-based electronic tests in English

language teaching, The results showed that students had a high degree of satisfaction with Internet-based tests.

The results of the (2016) Gyamfi study also showed that the technology acceptance model can be an effective tool for predicting user acceptance of systems that support electronic courses for student teachers, and found that the students 'direction towards future use of e-courses was positive.

Souad Al-Fareej (2015) study aimed to investigate the intentions of female teachers in adopting the applications of the second version of the Web in their future teaching using the explanatory theory of planned behavior, and used a quadrilateral scale in a previous study with its development, which included 9 factors, including: perceived benefit Perceived ease of use and self-efficacy, The results showed that the factors tested provided a strong predictive indication of female students 'intentions to adopt web applications (2.0) in their future teaching.

Omar Al-Saidi (2015) study aimed to evaluate the factors affecting students' use of the e-learning management system (Design Tolerin) in light of the TAM technology acceptance model and relied on factors such as ease of use, benefit, expectation and direction of students, The study found a positive effect of both the ease of use factor and the expected benefit factor, and the trend factor on the actual use of the system, The study ended with a set of recommendations related to the application of e-learning management systems, Including: the importance of an ease of use factor when choosing a learning management system, and should be paid to the expected benefit factor in using learning management systems when designing e-courses , Especially with regard to activities, and the need to train students in the learning management system.

Fouad Ayad (2015) study aimed to reveal the effectiveness of an instructional blog for the charter of teaching techniques in developing cognitive achievement, deep learning style and the degree of acceptance of the blog Based on the technology acceptance model, the study used a five-digit scale prepared by the researcher, which includes 3 factorsIncluding: Perceived interest, perceived ease of use, and results showed that perceived benefit and perceived ease of use had a positive impact on the

trend towards the instructional blog, And the results also showed that the attitudes of the learners positively affected its continued use.

The Acarli & Seglam (2015) study aimed to investigate pre-service teachers 'intentions to use social media sites in instructional activities based on the technology acceptance model, the study used a five-digit scale prepared by researchers that included 6 factors, including: perceived benefit, perceived ease of use. The results showed an increase in the awareness of the value of social media sites in instructional activities and their ease of use.

A study (2015) Alqahtani & Mohammed aimed to know the impact of mobile applications on the students 'perceived performance, satisfaction, and behavior, based on the technology acceptance model and I used a questionnaire that included 8 factors, Represented in the perceived benefit and perceived ease of use, and the results showed a positive relationship between the perceived benefit from the application and the perceived ease of use, Perceived Performance, Student Satisfaction and Behavior while Learning.

A study (2015) Koutromanos, Styliaras & Christodoulou aimed to use the technology acceptance model in order to study the factors that influence the behavior of student teachers in using the high media application in their educationThe results showed that the technology acceptance model in general is a useful model for predicting and exploring the factors that affect teachers 'intent during service in the use of high media in their education in the future.

A study of Ngafeeson & Sun(2015) aimed to know the impact of and exposure to technical innovations on the acceptance of e-textbooks based on the technology acceptance model, Five-way questionnaire, which was developed in a previous study, included factors including perceived benefit and perceived ease of use, The results showed that technical innovations have an effect on perceived benefit and behavioral intent in their use.

A studyby Shin & Kang(2015) that aimed to reveal students' acceptance of learning via a mobile learning-based learning management system and its impact on satisfaction and

academic achievement, the results showed that students showed acceptance of a mobile learning-based learning management system and its direct impact on academic achievement.

A study (2015) aimed at Tarhini; Hone & Liu analyzes the impact of social, organizational, and individual factors on students' acceptance in British and Lebanese universities of instructional technology, and, it depended on using the technology acceptance model to analyze students' attitudes towards using e-learning, The study found that ease of use, social habits, and the self-efficacy of computers affect the students 'attitude towards using e-learning.

The study of Souad Al-Fraih and Ali Habib (2014) aimed to investigate the effectiveness of using the Blackboard Learning Management System to support face-to-face learning and teaching. It relied on the technology acceptance model and used six factors to assess the effectiveness of the course, it included (ease of use, trends, level of technology use, previous technology experience, extent of benefit, and technology effectiveness) The results showed that technology utilization and ease of use have had a positive impact on the trend towards technology.

In light of previous studies, it is clear the importance of the technology acceptance model, as several studies have guided it, and has proven to be a technology for measuring the technological acceptability of any new technology, And by reviewing the literature and studies that dealt with technological acceptance Know what it is, the technology acceptance model, its factors and its importance. It is clear the importance of technological acceptance and its effect on the actual use of any new technology.

Research procedures:

1- Access to many studies, references, books and periodicals related to the topic of research in order to prepare the theoretical framework and experimental material processing, and research tools.

2- Designing, producing and submitting experimental treatment material to a number of arbitrators for approval and making amendments thereto.

3- Preparation of the measuring instrument (technological level of acceptability), and the opinion of the arbitrators

on the validity of the tool for application, then calculating the statistical constants for it.

4- Conducting the exploratory research study to adjust the study tools, to find out the suitability of the experimental treatment material ad determining the time plan for the completion of its study, and listing problems or difficulties that may arise during the implementation of the basic experiment of research.

5- Conducting the basic experiment for research according to the following steps:

   - Selection of a voluntary random sample from the second year students, Department of Instructional Technology, Faculty of Qualitative Education, Minia University for the academic year 2019/2020.
   - Apply the pre-measurement (technological acceptance) tool to the research sample.
   - Apply experimental treatment material to the research sample.
   - Apply the measurement tool (Technology Acceptance Scale) dimension to the research sample.

6- Obtaining and statistically processing data to test the validity of hypotheses and to arrive at, discuss, and interpret results.

7- Providing recommendations and proposed research in light of the results of the results.

Building a technological acceptance scale

Whereas, the current research aims to reveal the relationship between the cloud learning management system and the technology acceptance of instructional technology students, therefore, it was necessary to prepare a measure of technological acceptance, and this scale went through its preparation in the following stages:

1- Determining the goal of the technology acceptance scale: The goal of the scale is to know the extent to which instructional technology students accept the use of the

Moodle cloud system, and relied on the Likert quintet method to design the scale.

2- Scale building sources:

- Examination of several measures of technological acceptance, including a study: (Raed Abdul Hadi and Othman Al-Turki, 2018; Amani Muhammad, 2017; Nasr Hassan and Majdi Abdel-Hakim, 2017. Mehta & Doshi, 2017; Omar Al-Saidi, 2015 Wael Muhammad, 2015, Souad Al-Fraih and Ali Habib, 2014.
- Views of some professors in the field of instructional technology.
- Analyzing models and theories related to technological acceptance, such as the theory of justified action, the theory of planned behavior, and the acceptance model of TAM technology.

3- Measuring the severity of response: Five response possibilities have been established for each of the metric terms, the severity of which varies between full approval and total opposition, These probabilities were set for the five-year term, the extent to which Likert method relies, and these possibilities, They are: (Strongly Agree, Agree, Neutral, Opposed, Strongly Opposed).

4- Defining the scale axes: In light of the review of previous studies, the axes of the technological acceptance scale were defined as follows: The first chapter - expected ease of use, The second chapter - the expected benefit, the third chapter - the trend and tendency towards use, The fourth chapter - actual use. And associated with each chapter of the scale a certain number of phrases that require a specific response from the members of the sample.

5- Formulation of scale phrases: Take into account the formulation of scale phrases the simplicity of formulation for ease of response, and its relation to the subject of the scale field, and the inclusion of each phrase on one idea.

6- Calculation of scientific coefficients for the technological acceptance scale:

- Validity of the scale: The validity of the internal consistency of the scale was calculated by applying it to a sample of (20) learners from the research community outside the main group. And enable the correlation coefficient between the degree of each of the vocabulary items of the scale and the total degree of attorneys to which they belong, The correlation coefficient between the score for each scale item and its total score, The correlation coefficient was also calculated between the sum of the scores of each chapter and the sum of the scores of the scale as a whole. It turned out the following:-

 * Correlation coefficients between the degree of the technological acceptance scale and the overall degree of the chapter to which it belongs ranged between (0.31: 0.94). They are all statistically significant correlation coefficients at the significance level (0.05), which indicates the internal consistency of the scale axes.

 * Correlation coefficients between the score for each item of the technological acceptance scale and the overall score for the scale ranged between (0.38: 0.95). They are all statistically significant correlation coefficients at the significance level (0.05), which indicates the validity of the internal consistency of the scale.

 * Correlation coefficients between the scores of the scales of the technological acceptance scale and the overall scale of the scale were between (0.82 and 0.91). They are all statistically significant correlation coefficients at the significance level (0.01), which indicates the internal consistency of the scale.

- Stability of scale: To calculate the stability of the scale of technological acceptance, the Alpha coefficient of Cronbach was used on a sample of (20) learners from the research community and outside the original sample. It was found that the coefficients of stability extended between (0.81: 0.92) and reached the total score (0.87), both of which are statistically significant coefficients at the level of

significance (0.01), which indicates the stability of the scale.

Research results:

Regarding the imposition of the research which states:

"There is a statistically significant difference at the level (0.01) between the mean scores of the experimental group in the pre and post measurement of the technological acceptance scale in favor of the post measurement."

To verify the validity of this hypothesis, the scores of the members of the research group were compared in the pre and post applications of the scale of technological acceptance, then calculating the value of (T) and reaching the results shown in Table (1):

Table :(1) the value of) v (between the average J degrees students group research in the application pre and post scale technological receptivity) end Great 150 = degrees) ،(n 35 = learner a).

Effect size	ETA box	Type of indication	Significance level	The value of " T"	Degree of freedom	scale deviation	Average arithmetic	the group
Big	**98 .0**	**D.**	**0.000**	**23.54**	**34**	1.94	33.98	**Tribal**
						2.43	136.54	**after me**

The results of Table (1) showed that there is a statistically significant difference at the level (0.01) between the average scores of instructional technology students in the research group in the pre and post measurement of the technological acceptance scale in favor of the post measurement. As the value of "T" reached (23.54) at the degree of freedom (34), then the assumption is accepted. Given that the concept of statistical significance reflects the degree of confidence that we attach to the results of differences Regardless of the magnitude of the impact of these differences; so the effect size of the "ETA squared" was calculated, and by comparing the results in Table (1) with the reference table for determining the effect

size levels, The effect was found to be large, with an ETA value of (0.98).

Interpretation of the results:

By imposing the search, and from the reality of the data reached and statistically processed, and in light of the results presented, It has been interpreted and discussed based on personal vision, experimental treatment material, previous studies and instructional theories in this field As the results concluded that the Moodle cloud system contributed to increasing technology acceptance among instructional technology students These results are due to several reasons, the most important of them:-

- The two factors provide ease of use and the expected benefit of the Moodle cloud management system it had a positive impact on the trend towards use, which was reflected in the actual use of the system this has led to increased technological acceptability.

- Students' positive attitude towards Moodle cloud by training them on the skills of using it on the one hand and taking into account their future needs and aspirations On the other hand, it has increased the technological acceptance of the system.

- Self-learning provided by the system, each student learns according to his own pace and can study the content more than once in line with his capabilities.

- Giving students the opportunity to view the content anytime and anywhere, which helped increase their technological acceptance of the system.

- The method of designing the course was a degree of organization and ease of access to its content, which is considered one of the main ingredients for increasing the technological acceptance of the system.

- The goals of the content provided through the Moodle cloud are linked to reality The association of the method of learning with practical specialization for students is an incentive to use the system and increase technological acceptance.

- The diversity of activities within the Moodle cloud system stimulates the learner and increases the technological acceptance of learners.

- Availability of multimedia, such as pictures and video, which contributed to the instructional situation As a result, it attracted students' attention, increased their motivation towards learning, and increased their technological acceptance.

- The Moodle cloud system focuses on effective communication, interaction and sharing between the learner and teacher, And between some learners and others through simultaneous and asynchronous means of communication, this helped increase students' technological acceptance of the system.

- In light of the communication theory on which the Moodle cloud depends, the learner's role has become more positive while it became the role of the teacher to design education and facilitate the learner's access to information, guidance and guidance for learning this led to increased technological acceptance.

- The results of the research confirmed the role of modern technology in developing technological acceptance among learners, as indicated by the study of: Amani Mohamed, 2017; Mai Ahmad, 2015; Hanadi Anwar, 2015; Wael Mohamed, 2015.

Research recommendations:

1- Setting a time plan by decision makers to accelerate the implementation of the Moodle cloud in education.
2- Working on developing the internet infrastructure to increase its speed and avoid interruption.
3- Adopting a mechanism to motivate teachers financially and morally to use the Moodle cloud in teaching.
4- Organizing training courses for university faculty members to train them to use the Moodle cloud system to build successful courses.
5- Courses in instructional colleges include detailed topics on cloud learning management systems, including the Moodle

cloud, and training students to use them, so that they can benefit from them during practical education, and when they are appointed to schools.

6- The need for universities to use the technology acceptance model before adopting any new technology in education.

Suggested research:

1- Conducting similar studies for the current research while changing the instructional content, the learning content may have an impact on the research results.

2- Conduct similar studies for the current research on graduate students.

3- Study the effectiveness of the independent variable (Moodle cloud) on dependent variables other than technological acceptance.

4- Study the impact of the different tools and activities used within the Moodle cloud on learning outcomes.

5- Study the effect of some variables, such as (age, gender, experience) on the technological acceptance of the Moodle cloud management system.

6- Conduct studies in the design and dissemination of scales of curricula through the Learning Management System Cloud Moodle cloud.

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