

The Impact of Different Design Style of Training on Plickers App to Improving E-Assessment Skills of Teachers of Al-Manara School and Their Attitudes Towards Using of Mobile Learning.

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Abstract

The purpose of this study was to measure the effect of different design patterns on Plickers' training in improving the electronic assessment skills of Al Manara School teachers and their attitudes towards the use of mobile learning. The researcher used the semi-experimental method on a sample of 30 teachers, randomly divided into two experimental groups. The training program was the main tool in the study with a notecard to measure the improvement in electronic assessment skills and a measure of direction to measure the attitudes of school teachers towards the use of mobile learning of all kinds. The results of the study showed a clear improvement in the electronic assessment skills of the two experimental groups, with a slight difference to the training according to the inverted learning strategy, which is a positive trend Towards mobile learning for both experimental groups..

Keywords: Training Program, Training Design Patterns, Augmented Reality Technology, Plickers Application, E-Assessment, E-Assessment Skills, Mobile Learning.

1. Introduction

1.1. The Studies confirm that pre-service or in-service teacher training is one of the most important necessities of professional development, as in the study of (Mervail,2016) and (Koura, 2016) which achieve effective and effective success in developing teachers' skills in various aspects. (Shahin, 2017) emphasizes that training is one of the most widespread tools within the various institutions for professional development and performance development. Planning and training of the training process is one of the most important necessities of the curriculum. The educational assessment is one of the most important pillars of the educational process. It evaluates the performance of

the learner to stand up In terms of achievement and treatment of areas of weakness at this level and strengthen the strengths and improve the performance of the learner in terms of skills, cognitive and emotional as the study (Shahry, 2017) the need to strengthen the skills of evaluation of teachers to improve methods of assessment within the classroom Language

1.2. Sensation of the problem:

The researcher noted that as a principal of Al Manara School, the methods and tools of assessment among the teachers of the school are characterized by traditional and mostly rely on paper tests, oral questions, short written questions, quizzes and other tools and methods that no longer fit the educational process in this digital age. To integrate technology in education, where the researcher realized the difficulty of continuing to use these tools for more assessments within the school, and the researcher also noted the lack of motivation of students in school towards those tools and methods of evaluation In addition, it was the duty of the researcher to work out a plan for the professional development of the school, including the aspects of the training needs of teachers, including the development of electronic evaluation methods, and in the presence of applications that support the learning process, including augmented reality applications that are available on many mobile devices and smart devices, Which reflects the use of augmented reality technology in the evaluation process that is fast and accurate and provide immediate and statistical reports of the results of the performance of learners, the researcher chose the application of Plickers to design a training program to enable teachers to use the application and employ it In the evaluation process.

1.3. Study Problem:

In light of the researcher's previous sense of the problem and based on previous data, the researcher can formulate the problem of the study in: Lack of teachers of Al-Manara school of electronic assessment skills, which negatively affect the pattern and nature of the process of educational assessment that takes place within the school where it is still done by traditional methods and tools, The disadvantages of the slow completion and need to double the effort of the teacher in the preparation and compilation and ways to correct them, unlike electronic assessment methods that are characterized by speed and accuracy and raise the motivation of the learner and attract his attention and availability easily in mobile devices through many applications Such as augmented reality applications, and the comparison of inverted learning strategy vs. demonstration strategy to present the training of plickers app to Al-Manara school teachers.

1.4. Study Questions:

After formulating the problem of the study, the researcher can formulate the main question of the study as follows:

What is the difference between the design style of training and the application of Plickers in improving the electronic assessment skills of Al Manara School teachers and their attitudes towards the use of mobile learning?

The main question of the study is divided into two sub-questions:

1. What are the educational design standards for Plickers training to improve e-assessment skills?

2. What is the impact of training on the application of Plickers in the development of positive attitudes towards mobile learning among teachers of Al-Manara school?

1.5. Objectives:

This study aimed to:

- Design and construction of a training program for the use and application of the Plickers application in the electronic assessment process of teachers of Al Manara

School in the State of Barka.

- Measuring the impact of the different design style of the Plickers training program (based on the inverted learning strategy / style based on the demonstration strategy) in improving the electronic assessment skills of teachers at Al Manara Scientific School in the Wilayat of Barka.
- Building a list of criteria that contribute to improving electronic assessment skills.
- Measure the attitudes of the teachers of Al Manara Private School about mobile learning.

1.6. Significance of study:

- The study aims to improve and enhance the skills of the electronic assessment through interactive digital applications based on augmented reality technology, in the absence of a few studies that focused on improving the skills of the assessment through augmented reality applications such as the application of Plickers.
- Represents the nucleus of future studies on the impact of employing digital applications in enhancing the skills of assessment, tools, methods and types, and contribute to the construction of an educational assessment that keeps pace with technological progress in educational sciences.
- Attempts to shed light on the design patterns of the training programs for teachers, which are based on the application of technology applications and modern purification concepts to choose the optimal design style suitable for each target group in these programs.
- Draws the attention of teachers to the importance of electronic assessment and how to improve the skills and features that facilitate the teacher evaluation process in quality and effectiveness contrary to the traditional assessment.
- Highlights the importance of choosing the style of designing training programs for teachers according to the principles of educational design and its different strategies.

1.7. Conceptual/ Theoretical frameworks of the Study:

In this framework, the researcher will discuss some of the previous literature, theoretical studies, and the theoretical elements together in a single format, including commentary on the elements related to the study variables. The researcher defined them in training design patterns,

augmented reality applications, Plickers application, electronic evaluation skills and mobile learning as follows:

First: Training Design Patterns: The training is based on specific plans drawn up by the educational institution within the framework of a professional development plan for the employees. The training is designed according to the strategies of providing the content and the training strategies, including the presentation methods such as presentation and demonstration. Also, participatory methods such as brainstorming, role playing, discussions, dialogue, games and groups. Activities outside the training rooms such as projects, assignments, training trips and field visits, including inverted learning strategy and others.

Second: Augmented Reality Applications: (Frydenberg & Andone, 2018) emphasizes that Augmented reality is indispensable in the transformation of traditional learning into digital learning that contributes to increased achievement and motivation among learners (Chandrasekera & Yoon, 2018). Hence, the researcher points to the importance of relying on the rich diversity of these applications to transform and integrate technology in learning primarily and with high quality.

Third: Plickers Application: The researcher finds that the application of the Plickers one of applications that belong to the augmented reality technology, which is used in the work of a digital assessment can be collected through the cards with the codes can be read and the analysis of the choices of the target in answering the questions raised, and study (Wuttiprom, Toedhanya, Buachoom, & Wuttisela, 2017) suggests that the application of Plickers has various benefits when employed in peer learning, encouraging learners to debate and contributing to driving motivation and learning through a strategy of learning and evaluating peers. Krause, O'Neil, & Dauenhauer, 2017) The difficulty of making a formative assessment of grades at a stage The study of Chan and (Gurvitch, 2018) examined the difficulty of traditional editing tests compared to its digital theory In terms of cost, effort and speed of achievement, the study adopted the application of Plickers as one of the tools of digital assessment and is used in the survey and survey of physical education teachers. Mahoney & Hall (2017) emphasized the need to employ technological applications to assist students with disabilities, (Chou, 2017) was based on the rapid response rate of Taiwan's fourth-grade students by measuring the response speed to the questions asked about the students' The application of Plickers showed their results improved the responsiveness of students to those questions and the composition of the positive direction they have towards this method.

Forth: electronic assessment and mobile learning skills: The researcher believes that the concept of assessment change from previous times and shift from a traditional assessment depends on the normal questions and translation as in (Shahry, 2017) and (Omar, 2017) refers to the interdependence of mobile learning in modern electronic assessment, Applications that support this effectively (Xie, Basham, Marino, & Rice, 2018) emphasized that mobile learning has shown a quantum leap in the shift to digital learning for easy access to content through digital devices available to users and learners, especially in higher learning stages. The close link between mastering e- assessment e-skills and learning between the mobile learning applications that must be` teacher training them to raise their professional competence.

2. Study Procedures

The researcher will address the procedures that he carried out in this study, including the study methodology, the sample, its variables, its limits, the tools used, the practical application, and the statistical treatments, as follows:

3. Study Methodology

The researcher used the semi-experimental approach to the nature of the study through experimental design of the two experimental groups.

4. Study Sample

The sample of the study was 30 teachers and teachers from Al-Manara School in the Wilayat of Barka their department, which was equally divided into two experimental groups in a random manner, each of which had 15 teachers.

5. Limitations of the study

This study included the following limits:

- Human Boundaries: Teachers of Al-Manara Private School, male and female, with 30 teachers and teachers.

- Time Limits: Part of the second semester of the academic year 2017/2018

- Geographical boundaries: Al Manara school in the state of Barka Sultanate of Oman.

6. Study variables

Independent Variable: The Plickers-based training program is followed by two different designs: the first is training design according to the inverted learning strategy and the second according to the demonstration strategy.

dependent variables: - Electronic assessment skills - Teachers' direction towards mobile learning.

The researcher conducted the tribal and remote measurement of the two groups, and this is illustrated by the following table: Table (1) shows the experimental design of the two experimental groups

Experimental Groups	Tribal measurement	Experimental processes	Telemetry
First Experimental Group	O1	(Training Program)	O1
	O2		O2
Second Experimental Group	O1	Conduct training on the application of Plickers designed according to the inverted learning strategy	O1
	O2		O2

The experimental design table of the study shows that O1 represents the observation card for performance Electronic assessment skills O2 represents the measure of direction towards mobile learning.

7. Study Tools:

The researcher designed three tools for the study were as follows:

1. The program represents training through two modes of design according to (inverted learning strategy / demonstration strategy) the main tool of study.
 2. Note the performance of the skill to measure the improvement in the skills of electronic assessment in the sample study
 3. A measure of direction to measure the attitudes of school teachers towards the use of mobile learning.
- Experimental design of the study:

The design of the training program: The researcher designed the training according to the general educational design model (Azmi, 2016) in its five stages (analysis - design - development - implementation - evaluation) as for both types of experimental design of the program inverted learning strategy /

8. Analysis phase

The researcher analyzed the characteristics of the targeted study sample from the teachers of Al Manara Private School, and identified the training needs for them to develop the skills of e-evaluation and to identify their previous experiences about these skills and their attitudes towards the mobile and electronic learning in general.

The teachers from Al Manara School have a variety of specializations. They do not have previous experience in e-assessment skills. Training on applications that enhance e-learning skills is one of the most important training needs of the sample members and they have a desire to learn such an application with a desire for a positive direction that can be augmented by training and practice. Towards mobile learning in its different ways.

9. Design phase

At this stage, the researcher prepared the training content targeted to the training of the application of Plickers and was presented as two experimental experiments according to experimental design of the variables of the study as follows:

- First experimental treatment: In this treatment, the researcher prepared the training program according to the inverted learning strategy. He defined the training objectives for the training and the target content and employed the inverted learning to achieve these goals according to the following schedule:

Table (2) First experimental treatment according to the inverted learning strategy:

Training Content	Training Objectives	flipped Learning Strategy
- Use the Plickers application - Applying the application of Plickers in the stages of e-assessment	1. The trainees should be familiar with the application of the Plickers. 2. The trainees will use the application of Plickers in the electronic assessment through several training activities during the training. 3. The trainees will employ the application of the plickers in the	Inverted learning strategy 1. The trainees are provided with the Plickers application download link 2. Three videos were sent explaining the application and how to use it 3. During application training, the trainees used and applied the application in the assessment through

	different types of assessment (tribal - formative - final)	a set of activities prepared by the researcher. 1. Discussions were conducted between the trainees themselves under the supervision of the researcher and between them and the researcher
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- Second experimental treatment: In this treatment, the researcher prepared the training program in accordance with the practical demonstration strategy. He defined the training objectives for the training and the target content and used the demonstration to achieve these goals according to the following table:

Table (3) Second experimental treatment according to the demonstration strategy:

Training Content	Training Objectives	Strategy demonstration
- Use the Plickers application - Applying the application of Plickers in the stages of e-assessment	1. The trainees should recognize the application of the Plickers. 2. The trainees should use the application of Plickers in the electronic assessment through several training activities during training. 3. The trainees should employ the application of the plickers in the different types of the assessment (tribal - formative - final)	1. Introduction to Plickers application and its importance in the evaluation process. 2. Provide trainees with Plickers application download link 3. Explain the application elements to the trainees 4. Practical application by the trainer (researcher) 5. Application by trainees to use and employ the application in the assessment through a set of activities prepared by the researcher.

10. Development phase:

The researcher has built the training program according to the outputs of the previous design stage through the inverted learning strategy and the demonstration strategy. The application loading link, the introduction of the application, the video clips to explain the application and the preparation of the applied activities to be used In the two strategies, the director of this stage was to build a training program ready for training according to the above mentioned strategists, and then submit it to the sample members.

11. Implementation phase: The researcher presented the first experimental group according to the inverted learning strategy and the accompanying procedures. The researcher presented the second group training in the next day according to the practical demonstration strategy in all stages of the training room in the school.

12. The evaluation phase: The evaluation phase in this model is a continuous stage during all stages of the model from the analysis and design and development to implementation to ensure the accuracy, quality and effectiveness of the design process. The researcher investigated the accuracy during the stages of educational design and the experience of both strategies on a similar category to the study sample through training Outside the school, modify some notes and make sure the researcher is suitable for both strategies for applying to the study sample.

a. The design of the skillful note performance of the study sample in electronic assessment skills:

Objective of the note card: Objective of the researcher to use a note card to measure the extent of improvement of the skills of the study sample in the skills of electronic assessment after training on the application of Plickers

b. Design steps of Note card : After examining a set of previous studies that used observation cards to measure similar skill performances in different samples of teachers, the researcher designed the card by formulating behavioral skills that can be measured. The observation card prepared by the researcher has two main areas: (0) If the teacher did not achieve the required skill and score (1) in the case of performing correctly, and each field includes five skills and thus the achievement of To the number of skills to be measured through the card ten skills

Table (4) Note card skills to perform electronic assessment skills:

Main areas of the note card	Skills to be measured
Build assessment questions using the Plickers application	Build a library of questions within the Plickers application
	Build multiple choice questions consistent with Plickers cards
	Build Valid or False Questions Consistent with Plickers Cards
	Connect the phone directly to the computer to review the questions
	Review the results reports through Plickers
Diversify the application of Plickers application in different assessment stages	Applying the Plickers application in the tribal assessment phase
	Apply the application of Plickers in the diagnostic evaluation stage
	Recruit the application of the Plickers at the boot stage
	Applying the Plickers application in the formative assessment phase
	Apply the application of the Plickers in the closing stage
Total	10 skills for electronic assessment

13. Initial Experimentation of the Note Card: The card was tested on a sample outside the sample of the study, consisting of 8 parameters from the kindergarten stage of the school to achieve the following:

14. The mean time of the observation card was calculated to measure ten skills by the time it took to achieve these skills with the survey sample. The time of completion of the first parameter was 35 minutes and the last parameter was 43 minutes. The time was calculated divided by the time of the first and last completion and divided the total on the number two is as follows: $(35 + 43) / 2 = 56.5$

13. The validity of the note card: The validity of the card was calculated by presenting it to 3 researchers in the field of education technology and for the short time it

was supposed to be presented to external arbitrators, and some amendments were made to parts of it.

14. Calculating the stability of the observation card: By calculating the correlation coefficient between the sample of the survey sample with which the card was used for two consecutive periods and calculating the mean of the correlation coefficients (82.0).

15. Third: The design of the trend scale towards mobile learning:

16. Objective: To know the trends of the teachers of Al-Manara school (sample of study) towards the use of mobile learning in teaching.

17. Design of the Scale: After the researcher learned a series of previous studies on the importance of mobile learning and its advantages and methods of employment in the learning process, the scale was built through the following stages:

18. Identify aspects of trends and their components to be measured by teachers.

19. Build the scale in its initial image consisting of ten items.

20. The scale was presented to three researchers in the learning technology.

21. Modify some of the options in the answer to the scale.

22. Submit the scale in its final form.

23. Ratification of the scale: The coefficients of the agreement between the opinions of the arbitrators according to the formula of "Losh" ranged from 0.89 to 0.96, which shows the veracity of the terms of the scale.

24. Stability of the Gauge: The stability coefficient was calculated from the (Kornberbach) coefficient on a survey sample of 8 parameters and the stability coefficient was 0.86 indicating the stability of the scale.

25. Study Experience:

The study experience in several stages as follows:

Experimental Groups	Number of group members	Differences between tribal and post measurement		Average	standard deviation	Value of T	degree of freedom	Level of significance	Direction of significance
		Tribal	Post						
First group	15	7.864	15.045	7.182	1.5927	-21.150	14	0.0001	In the direction of
Second group	15	8.182	11.727	3.545	1.5954	-10.423	14	0.0001	In the direction of

Prior to the study experience, the researcher prepared for this experiment by holding a descriptive meeting with a sample of 30 teachers and teachers for half an hour in preparation for the experiment. It was confirmed that all the smart phones were available and that they were connected to the main school internet network.

Tribal measurement: The use of the observation card was applied to the skillful performance of the electronic assessment skills for all the sample members as well as the measure of the direction towards mobile learning.

26. Experimentation: Training was provided to the first experimental group according to the inverted learning strategy, where the group was presented with videos about the application and its uses a day before the training. This was done in isolation from the second experimental group and the researcher asked the first group not to talk to the group And the next day training was provided for the second experimental group according to the demonstration strategy.

27. Post-Measurement: The researcher applied the observation card for the skillful performance of the electronic evaluation skills for all the sample as well as the measure of the trend towards mobile learning. This was done over two consecutive days of the two groups

28. Statistical methods used in the study

The SPSS program was used to analyze the statistical results of the observation card for the skill

performance and the results of the trend scale and to use the following statistical methods:

29. T-Test Paired Sample: To calculate the differences between the average scores of the two experimental groups before and after the training to measure the rate of improvement.

30. Study results and comment

First: Analysis of the results of the study on improving the electronic assessment skills of teachers of Al Manara school

Table (5) The differences between the average scores of individuals in the experimental groups before and after the training to measure the percentage of improvement in the performance of electronic assessment skills

31. It is clear to the researcher through this table that there is an improvement in the skills of electronic assessment for the benefit of telemetry regardless of the type of design of the training program on the application of Plickers, and the researcher confirms that the training of teachers on the application of Plickers allowed them to experience the practical applications used in the process of electronic evaluation.

32. To answer the main question of the study: What is the difference between the design style of training and the application of Plickers in improving the electronic assessment skills of Al Manara School teachers and their attitudes towards the use of mobile learning? It is clear from the previous table that there is a slight difference between the models of the training design for the application of the Plickers for the benefit of the first experimental group, which provided training according to the strategy of inverted learning, which confirms the effectiveness of this type of design and it represents more interaction by the trainees and

increase the opportunity for partnership and dialogue and enhance their role in building Their training skills are better than the design style according to the demonstration strategy.

33. To answer the sub-questions of the study are as follows:

1. What are the educational design standards for Plickers training to improve e-assessment skills?

34. From the point of view of the researcher, the criteria of good educational design for training is the application of Plickers to improve the skills of electronic assessment in the adoption of a model of design is accurate and flexible as in Ramadan (2017) and referred to (Azmi, 2016) and to rely on an effective strategy to provide training through a strategic example Inverted learning proved to be effective through this study.

3. What is the impact of training on the application of Plickers in the development of positive attitudes towards mobile learning among teachers of Al-Manara school?

35. This question can be answered by analyzing the following table:

Table (6) The differences between the average scores of individuals in the experimental groups before and after the application on the scale of the trend toward mobile learning

Experimental Groups	Number of group members	Differences between tribal and post measurement		Value of T	Level of significance	Direction of significance	Atia 2	Size of the effect
		Tribal	Post					
First group	15	14.19	5.34	14.55	0.0001	In the direction of	0.87	strong
Second group	15	15.96	5.55	15.99	0.0001	In the direction of	0.89	strong

It is clear from Table 6 that there is an impact of training on the application of Plickers in the development of positive attitudes towards mobile learning among teachers of Al-Manara School where the impact ranged between 0.87 and 0.89 indicating the strength of this effect in the development of trends towards mobile learning, (2017) and Mahoney & Hall (2017).

Study Recommendations:

The researcher recommends that several studies be conducted to improve and develop the skills of electronic assessment, and to address the various augmented reality applications that support this research trend, and to increase the design of training programs for teachers interested in mobile learning types. This study is considered the nucleus of several studies measuring the impact of different patterns Design of training programs to improve skills and increase the educational and technological knowledge of teachers in various magazines, as confirmed (Chng & Gurvitch, 2018) The researcher emphasizes the need to take advantage of the results of this study and disseminate it to school communities similar to the society and sample of the study to achieve the highest improvement and development of electronic assessment skills and improve trends towards augmented reality applications and applications of mobile learning as in (Ibrahim, 2017)

Supplements: Training Photos:





Image (1) Training the application of Plickers according to the demonstration strategy



Image (2) Plickers training in accordance with the inverted learning strategy

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