

Research Article

A Study on Effectiveness of mLearning through Task Based Approach

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A B S T R A C T

There is an increased use of mobile learning in all the sectors of society. People want learning to be part of their work-flow and prefer formats that engage them better. mLearning is the answer to meet the demands of today's learner. Hence there is a need to experiment with learning strategies in mLearning environment. The present study investigates the effectiveness of Task Based Approach, a pedagogical approach designed for the purpose of this study, in terms of achievement of participants of the mLearning course. The mLearning course comprised of several tasks to be done using provided mLearning material and quizzes based on the content. It was deployed using WhatsApp. The sample of this study included 60 teachers teaching in state board and CBSE schools. The Tasks and the mLearning material were developed systematically by following instructional design principles. They were found to be effective in attaining significantly high achievement. Motivation of the participants was also found to be high after going through the mLearning course. The participants appreciated the mLearning material and the learning strategy of Task Based Approach. Participants also demonstrated higher order thinking skills while performing the tasks. The learners found the mLearning material and the tasks to be engaging as well as relevant to their professional life. They were also confident of using the learned skills in their professional life.

Keywords: Mlearning, Task Based Approach, Whatsapp Learning, Achievement of Mlearning, Mobile Learning

Introduction

"As the 'born in the net' generation COVID-19, the pandemic forced people to stay indoors, smartphones became their window to the world, helping them stay connected with friends and work from home. Learners have found mobile learning to be motivating and engaging.¹

mLearning is defined as learning using handheld devices such as smartphone or tablets, that are connected via wireless or mobile phone networks on which participants communicate with the help of mobile apps. They also

acquire feedback from the instructor and solve quizzes. It is also expected that the participants refine their own understanding by reading the feedback given to other fellow participants.

Task Based Approach is defined as a pedagogical approach in which learner is expected to perform small tasks, which have real-world relevance, need exploration of resources, make learner reflect on and relate to previously and newly learned knowledge, create a small product, which is different for each learner.

Effectiveness for this study is defined in terms of achievement in the Post-test administered at the end of the implementation of the mLearning course.

Motivation is defined as a participant's willingness, need and desire to learn using the mLearning material and complete all related tasks, with respect to Attention, Relevance, Confidence and Satisfaction.

Objectives of the Study

Following objectives are designed for the research

- To study the effectiveness of Task Based Approach in mLearning on academic Achievement of participants after mLearning
- To study the level of Motivation of the participants after mLearning
- To study the relationship in terms of association between Motivation and Achievement of participants
- To study the preference of device, time, place of accessing mLearning content
- To study the opinion of participants about mLearning material and quizzes
- To study the opinion of participants about Task Based Approach
- To study the opinion of participants about mLearning environment
- To study the relationship between Mobile Literacy and Achievement of the participants
- To study the relationship between Screen Size of Mobile Devices and Achievement of the participants
- To study the relationship between Age and Achievement of the participants

Hypotheses

- There will be no significant difference in the post-task scores of the participants of Task Based Approach to mLearning
- 60% participants will not achieve more than or equal to 60% score in Achievement
- The observed values of frequency of participants will be equally distributed across various aspects of Motivation with respect to Attention
- The observed values of frequency of participants will be equally distributed across various aspects of Motivation with respect to Relevance
- The observed values of frequency of participants will be equally distributed across various aspects of Motivation with respect to Confidence
- The observed values of frequency of participants will be equally distributed across various aspects of Motivation with respect to Satisfaction
- There will be no relationship in terms of association between Motivation and Achievement of participants in mLearning

- There will be no significant relationship between Mobile Literacy and Achievement of the participants in mLearning
- There will be no significant relationship between Screen Size of the mobile device and Achievement of the participants in mLearning
- There will be no significant relationship between Age and Achievement of the participants in mLearning

Significance of the Study

India is a highest consumer of mobile phone data in the world. Mobile phones are being used for the purpose of learning, inadvertently and intentionally. Mobile, personal, wireless devices are now radically transforming societal notions of knowledge and traditional learning. With increased popular access to information and knowledge anywhere, anytime, learning and education has become more dynamic. mLearning is gaining significance. It is challenging traditional classroom learning and adding quality to Distance Learning. It is demand of time that research be done in the area of mLearning, especially to exploit the mobile technology for learning. Experiments based on pedagogies in mLearning need to be conducted. Various aspects related to mLearning need to be explored and studied by conducting experiments. The present study helps to investigate Task Based Approach proves to be effective for mLearning:² Task Based Approach and the mLearning material motivates learners and presents them with success and satisfaction. It will also throw light on relationship between parameters such as age, literacy towards using mobile device and its screen size of have a role to play in learning.

Research Methodology

The purpose of the present study was to

1. Study the effectiveness of Task Based Approach in mLearning
2. Study level of motivation after mLearning and
3. Study opinion of participants with respect to Task Based Approach, mLearning material and mLearning environment

Hence, Experimental research has been used in the present study. Pre-experimental design is followed for the present study, where a single group is provided an intervention during the experiment. That group is then studied for the relationship between the independent and dependent variables.

Subjects

- **Population:** Total of 60 teachers participated.
- **Sample:** Teachers from ages 22-40 was 85%, Where Female Teachers of 91.7% from CBSE school and State board participated.

- Sampling Technique: Convenience sampling will be employed for the selection of the sample.

Procedure

Information of the mLearning course along with form will be sent. In the form various information will be gathered that are used in mLearning platform. Then pre-task will be administrated in online mode. Then the During task/treatment will be conducted. and finally, post-task will be administrated in online mode to measure the achievement of the participants.

Tools to be used: Following tools will be used to collect data:

Achievement tests on "Knowledge Dimensions of Bloom's Taxonomy."³ The questions of the Achievement Tests were of Objective type. The Objective Type of questions were of following types,

1. MCQ
2. True or False
3. Fill in the Blanks

Instructional Materials Motivation Scale (IMMS) from Keller's ARCS Model⁴ The categories of motivation, namely Attention, Relevance, Confidence and Satisfaction were considered for creating the scale with 19 questions that included positive and negative statements.

1. Opinionnaire about Time and Places of Access, Materials and Quizzes, Tasks on WhatsApp and mLearning Environment.⁵
2. Mobile literacy Tool was developed to understand level of comfort and familiarity of the participant.⁶

Pilot study was conducted for 60 secondary education teachers in various schools located in Chennai. The questionnaire (Motivation Scale and Opinionnaire Scale) consists of 47 statements which are 5-point and 4-point Likert scale respectively and Mobile Literacy Tool consists of 12 statements. The highest score of 15 Secondary Education Teachers and the lowest score of 15 Secondary Education Teachers are taken as High Groups and Low Groups. Both the groups are selected and used those score each group was substituted in the formula, thus 't' value of each statement was calculated. The statement was arranged in the rank order according to the t-value of 47 items. Those statements with t-value less than 1.75 were accepted. Statements with t-value greater than 1.75 were rejected. According to the calculated t-value, 1 statement was rejected. The remaining 46 statements are accepted as items for the present study.⁷

Findings

- The hypothesis gathered at the beginning of the investigation has been examined in the light of data gathered. The following major findings of the study

- The Effectiveness of Task Based Approach In Mlearning On Academic Achievement Of Participants After Mlearning

There is very high significant difference in the pre-test and post-test scores of the participants of Task Based Approach to mLearning. Therefore, it leads to high academic achievement of participants. Whereas mathematically it was observed that 80% participants achieved more than 60% marks

- The Level of Motivation of the Participants After Mlearning

Motivation is measured through Attention, Relevance, Confidence, Satisfaction. The high values of chi-square imply that participants' level of Motivation with respect to Attention, Relevance, Confidence, Satisfaction is significantly high. The quality of interactions in mLearning which was mainly caused due to tasks, helped in holding their motivation.

- Terms of Association Between Motivation And Achievement Of Participants

It can be inferred that there is a significant association between Motivation and Achievement of participants in the mLearning environment. that there is a strong positive relationship in terms of association between Motivation and Achievement of the participants of the mLearning course.

- The Preference of Device, Time, Place of Accessing Mlearning Content

It is found that 57 participants of them used Smartphones over tablets as it is pocket friendly, easy to carry anywhere and anytime. MLearning material was mostly accessed in the evening and Early morning as everyone was a working professional. The mLearning course was mainly accessed at home followed by work place.

- The Opinion of Participants About Mlearning Material and Quizzes

Opinionnaire reveals that the participants rated the mLearning materials (PDF, VIDEOS etc.,) and Quizzes are of Very Good Quality and found Engaging. (8)

- The Opinion of Participants About Task Based Approach

Opinionnaire reveals that the participants about task-based approach are of Excellent and Very Good. These included Cognitive Activity, Tasks related to real life, immediate and constructive feedback, Task as Strategy.

- The Opinion of Participants About Mlearning Environment

Opinionnaire reveals that the participants felt Excellent about the Application used for mLearning course, Good about the handling of various difficulty with the device and

finally Very Good with process of learning that happened through mLearning Environment.⁹

- The Relationship Between Mobile Literacy And Achievement of the Participants

There was no significant relationship between Mobile Literacy and Achievement of the participants in mLearning.

- The Relationship Between Screen Size of Mobile Devices and Achievement of the Participants

There was no significant relationship between Screen Size of the mobile device and Achievement of the participants in mLearning.

- The Relationship Between Age and Achievement of the Participants

There was no significant relationship between Age and Achievement of the participants in mLearning.

Conclusion

The present study conducted to study the Effectiveness of mLearning through Task-Based Approach of 60 Secondary School Teachers of Chennai. This study highlighted various aspects that mLearning majorly depends upon. The Mobile Literacy Tool which highlighted that most of the teachers are aware about the latest technology and how to use them. It also highlighted that mobile device/platform was not a hinderance for the teaching-learning process. Motivation Scale showed us the statistical proof that mLearning Platform was able to hold the attention of the participants, synchronous with the relevance of the content, boost up the confidence for knowledge building as well as for implementation in practical life and finally they were satisfied with the mLearning Course.

This clearly implies that post-pandemic has given a heads up to all the teaching faculties that they must be up to date with the technology because eLearning and mLearning pedagogical strategies will play a strong role in future educational field. It is a high time for us to prepare and equip ourselves with the modern and technological pedagogy. This may also help us to enhance our 21st Century Skills.

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