

Effectiveness of Mobile Learning Applications in Education

Sanjivani Raut

Computer Science, Mumbai University
Keraleeya Samajam Dombivali's Model College
Dombivali - India

ABSTRACT

The core purpose of this analysis paper is to check how the mobile learning applications area unit effective in each student's life. Whether it's for primary students or faculty students or in everybody's life that's willing to learn, whoever is willing to gain knowledge. I have created one on-line survey form to raise the opinion of responders whether or not they use mobile learning applications in their education and if they use these applications then however it's helpful to find out simply. Supported the responses that I have received from responders, the end result that I have seen is increasing the demand for mobile learning applications in our day to day instructional life. Students and lecturers area unit aware of mobile technologies therefore it's very user friendly to them to find out from these applications. Students have become additional active, lecturers will offer up to-date data to the scholars. They additionally wish additional learning applications ought to be introduced within the future. This study can facilitate our education system, our learning applications developers to form additional possible platform for the scholars by knowing their needs. This study can guide you on the recognition of mobile learning applications within the student's instructional life. As well as, this study can tell you the way we will use our growing mobile technology to grow ourselves additional in each aspects of our life.

Keywords: - Applications, Mobile learning, Students

I. INTRODUCTION

Nowadays the planet is encircled by the sensible phones, tablets. Everyone seems to be having their mobile phones with them each time, everywhere. Therefore, content should be versatile and conscious of consume on the go. whether or not simply to look for little data or to find out a course on-line with only 1 bit, you'll pair on simply your mobile. Currently days everyone tries to find out one thing new alongside their day to day activities and need cross- device accessibility. So it's very important that each one the organizations, colleges and schools tend to shift their learning technique into the fashionable mobile learning technique. M- Learning is that the quick growing coaching technique in education field compare to the standard e-learning. It's developing in no time as everyone desires to take a seat reception and learn reception while not losing time to travel outside. So, mobile learning is that the next sort of learning exploitation mobile technologies for all the learners anyplace and anytime per their wants. The advantages of mobile learning includes value savings, quick access to the content, it's Convenient, worldwide communications, convenience and location-based services. Across the planet because the technology is growing , each government is attempting to encourage their colleges to alter from paper pattern to the digital notebooks and textbooks to induce comfy with the growing and dynamical technology .Mobile applications are used as a study guide or the study materials rather than the big and massive books . For each totally different subject's students and lecturers doesn't have to be compelled to carry all the books by themselves. Rather than that in a very single transportable they'll store all the topic connected knowledge with facilitate of various mobile learning applications.

II. LITERATURE REVIEW

A. Mobile Learning

Mobile learning is extended version of e- learning by using mobile technology. E- Learning provides support to each individual to find out varied pc technologies. Thus mobile learning options are same because the e-learning like access to the varied multimedia system contents likewise as communication with different students and academics and it's terribly distinctive in term of the time and also the location. Faculties and colleges are supporting m- learning and e-learning across the planet. Colleges and schools are providing the mobile phones and tablets to students and academics so that they will use them for the tutorial purpose. It's the simplest manner for teachers/ instructors to find out the new topic and additionally they will give notes and prep likewise as they will refer these applications to the scholars once it's required. There are several academic applications are obtainable on-line and that they are gaining large quality between students and academics. The simplest good thing about the mobile learning is, if you're looking for a 1 topic from a specific web site and if you are doing not get any data relating to that topic, you'll simply search constant topic on completely different on-line platforms. You'll even find the total application relating to that topic. All the connected data you'll access from there.

III. THE CHARACTERISTICS OF THE MOBILE LEARNING

A. Access anyplace and anytime

Since it's concerning the mobile learning, you'll study through mobile using the internet from anywhere at any time. With anytime and anyplace access, education is

extending on the far side the boundaries of the room and also the ancient establishment. Students will produce, track and access their study materials per their wants. Rather than carrying the heavy work books everywhere, it's additional helpful for them to access all the workbooks through varied mobile learning applications [1].

B. Variety of contents

A lot of content is gift on-line. Thanks to the presence of form of contents on-line it's simple to access varied topics and from anyplace you'll add your own content likewise [1].

C. Encourage Students

There are several academic applications that keep track of their learner's progress. Varied on-line quizzes and tests they check however the scholars are increasing their data daily or weekly or monthly relying upon the each firm. The study is presents in such manner for the scholars, so that they get simply interested in learn from their applications. Several applications use recreation quizzes therefore students will get pleasure from learning, when they will score higher and higher [1].

D. Covers an enormous distance

Distance isn't a problem whereas learning through mobiles. Notwithstanding you're within the completely different country, you'll still access constant content there additionally. There are not any boundaries to your learning; you simply want your mobile with you [1].

E. Tests your data

As mentioned within the earlier purpose, there are varied on-line academic quiz games, riddles, puzzles and multiple selection queries are obtainable on-line for college students and academics, so that they will take a look at their data and expand their data likewise [1].

IV. PROBLEMS OF MOBILE LEARNING AND THEIR SOLUTIONS

A. Less attention span

You can scroll through social media, hear the music and look on-line through the mobile. Multi tasking will save your heap of your time; however once it involves learning it would have an effect on your concentration on the study. The continued social media and diversion will scale up your specialize in the study [2].

Solution:

You can create the program of applications as have interaction and engaging as attainable. So, whereas learning through applications, it'll cause less distraction by social media and diversion. User will specialize in the educational program if the educational application is fun to explore.

B. Content compatibility/ package problems

Content that's created for the desktops seldom works on the mobile phones. File sizes and formats of the document that is compatible with desktop typically end up in the compatibility issues once we run them on the mobile phones. Recreating the desktop content for mobile phones will disturb your mobile programs. Thanks to the distinction between file formats and file sizes, it will cause the confusion for college students whether or not to run it on

mobile phones or desktops. It becomes less user- friendly. Despite the fact there are several external factors will have an effect on the software's era? These external factors are package compatibility problems, day by day changes happens within the IT trends, not upgrading to the new versions of the program, system crashes ,etc. These problems will have an effect on your learning expertise through mobile [2].

Solution:

You can use best authoring tools to create the content simply for varied mobile phones and varied digital platforms. Make certain to spot each wants of the mobile learning module at the first stage of the event part; therefore it'll not cause any issues once beginning the developing of mobile application.

C. Data privacy and security

Mobile learning applications makes necessary for the folks to use their own devices to undertake the educational program. Likewise as these applications asks users to fill their personal data before starting the educational program. Coaching programs would possibly contain the sensitive data concerning the corporate and may expose the company's network to the surface world; it will increase the prospect of information thievery. Before beginning any learning application, company has got to take care concerning the protection challenges for each company and user likewise [2].

Solution:

Mobile security protocols are rising day by day. We can make necessary for the users to put in antivirus package to secure their knowledge system.

D. Small screen, big pains

Smaller screens of mobile phones will hurt your eye sight, it will cause headaches, neck issues, and additionally it will hurt your entire body [2].

Solution:

The screen size of the mobile phones is increasing additionally the screen resolutions and quality of mobile phones is rising day by day. Additionally we can make certain that the coaching fundamental measure for the user should be less and effective so longer won't cause the health issues.

E. Questionable impact

Developing multimedia system and also the digital content for the mobile learning is a good deal .However desegregation mobiles into your current academic system is difficult .While scrutiny to the e-learning, m-learning still lacks into that. Lack of clarity will lead whether or not to use m-learning or not [2].

Solution:

M-learning will improve your performance through the short courses. It will provide support to your main courses. These short courses will greatly improve your data. M-learning is the good supply to deliver your short coaching courses trough apps.

V. METHODOLOGY

The online survey methodology was used for study. A structured form was ready and distributed among teams, families and friends. Form was enclosed as responder’s age, education background, their affiliation sort, Students awareness and usage of mobile technologies, and web, additionally it investigates the notice and usefulness of mobile learning applications.

A. Data analysis and results

1) Responders profile

The first question that I have a tendency to asked responders is concerning their “age, study level, affiliation type, and area of study”.

As shown in Table. I, total 62 responders have taken participation in survey. As per the survey, most (37.10%) of the responders were PG students, primary students counted as (30.60%), UG students counted as (24.20%) and professors counted as (8.10%), the bulk (53.20%) of the respondents was aged between 21-30 years, (35.50%) responders were aged below twenty one years, (6.50%) responders were on top of forty and last (4.80%) responders were between 31-40 years. In terms of their streams of education the bulk (53.20%) responders were from science and technology , (12.90%) responders were from commerce stream, arts students created up the little cluster of respondents with (8.10%), and except from these 3 fields ,(25.80%) responders were from different streams of education additionally. In terms of affiliation sort most of the responders (79%) were from college, (16.10%) responders were from school and remainder of (4.90%) responders were from different affiliation sort. This generated information indicates the various opinions on the idea of their different ages, completely different streams and different study levels.

TABLE I. RESPONDER’S PROFILE

Sr.no	Profile	Classification	Total N=62	Percentage%
1	Study level	Primary Students	20	30.60%
		UG students	16	24.20%
		PG students	22	37.10%
		Professors	5	8.10%
2	Age Group	Below 21 years	22	35.50%
		21-30 years	33	53.20%
		31-40 Years	3	4.80%
		40 above	4	6.50%
3	Stream	Science & technology	33	53.20%
		Arts	5	8.10%
		Commerce	8	12.90%
		other fields	16	25.80%
4	Affiliation Type	College	49	79%
		School	10	16.10%
		other	3	4.90%

In stream field (25.80%) responders choose other fields , those other fields includes pharmacy, History, College subjects, Electrical engineer, English, science, Engineering, Hindi, Computer science, GS, Microbiology, Social science, Geography Hotel management etc.

2) Learning Module Availability

The next question that I have asked responders is concerning “Which device does one use for learning?”.

These mobile phones offers students associate degree open access to the tools and applications which will facilitate them to focus and air the highest of their category work .These tools may facilitate academics to show students to develop their higher study habits and time management. To understand concerning what quantity individuals use mobile phones for his or her education, we have a tendency to enclose this question within the survey type. As shown in Table. II, the information that I have collected from survey indicates that majority(91.90%) responders uses mobile phones for his or her learning, merely (4.80%) responders uses tablet and (3.30%) responders uses E-book reader. This knowledge indicates that however mobile learning can grow additional within the future.

TABLE II. LEARNING MODULE AVAILABILITY

Sr.no	Device Type	Responder	Percentage%
1	Mobile Phone	57	91.90%
2	Tablet	3	4.80%
3	E-book reader	2	3.30%

3) Operating system availability

The next question that I have asked responders is concerning “Which operating system does one use in their mobile phones?”.

The options that I have a tendency to give them are Android, Blackberry, Windows, and iOS. The responders had to settle on between those choices. As shown in Table. III, In line with the information that I received, it shows that majority of the responder’s uses android OS in their mobile phones. The (93.50%) responders select the android OS. As a result of all most of the common people can’t afford the I-phones that use iOS. Android offers you wider choice to choose between and conjointly at lesser prices because of competitive evaluation. They need conjointly got a large budget margin to settle on from (Ranges from ₹3000 - ₹70000). Worth for cash is additionally abundant nice compared to the other operative systems. Android is extremely straightforward to be told and comfy to use. It doesn't have any restriction to transfer any applications or to use any applications that is that the best feature of mobile phones having android [3]. Remainder of the (3.3%) responder’s uses blackberry, (1.60%) responder’s uses iOS and in conclusion (1.60%) responder’s uses windows OS in their mobile phones.

TABLE III. OPERATING SYSTEM AVAILABILITY

Sr.no	Mobile Operating system	Responder	Percentage%
1	Android	58	93.50%
2	Blackberry	2	3.3
3	Windows OS	1	1.60%
4	Ios	1	1.60%

4) Internet Availability

The next question that I've asked responders is regarding the “Do you've have web accessible on your device?”

Nowadays internet and mobile phones each are essential. Without internet these mobile phones are useless as a result of most of the sensible phones options we are able to access on condition that we've web association in our mobile. In terms of mobile learning, without internet we tend to cannot transfer and access these learning applications. So, it's significantly essential for the learners' to possess internet.

As shown in table. IV, With the information received, it shows that majority with (98.40%) responders have internet availability in their mobile phones ,that shows that there are far better possibilities to grow mobile learning platforms like varied engaging and useful applications as well as sensible phones ,tablets and e-book reader. From all the responders, only 1 communicator says he/her don't have internet availability in his/her mobile.

TABLE IV. INTERNET AVAILABILITY

Sr.no	Available internet facility	Responder	Percentage%
1	Yes	61	98.40%
2	No	1	1.60%

5) Purpose of Internet

The next question that I've asked responders is regarding "What are the purpose of using the internet?"

The main purpose of internet is to produce international access to knowledge and communications. Internet has become the backbone of the fashionable education system. The tutorial community uses internet to satisfy its various needs; be it data, education, communication, or analysis. The scholars, who were born throughout full bloom of net revolution, extensively use internet to satisfy their varied wants.

I have measured their purpose of using internet by allowing them to settle on multiple choices. As per the Table.V, the study disclosed that the bulk of individuals use the internet for study 62%, (53.20%) for social networking purpose. 35.50% folks use internet for news, (43.50%) for e-mail, (38.70%) for analysis, (59.70%) for learning purpose, and (51.60%) use for entertainment purpose.

TABLE V. PURPOSE OF USING INTERNET

Sr.no	Purpose of using internet	Responder	percentage%
1	Study	39	62%
2	Social Networking	33	53.20%
3	Learning Purpose	37	59.70%
4	News	22	35.50%
5	E-mail	27	43.50%
6	Research Purpose	24	38.70%
7	Entertainment	32	51.60%

6) Awareness about mobile learning applications

The next question that I've asked responders concerning "Are you aware of mobile learning applications?"

As our main goal of analysis is to search out how much place confidence in these mobile applications, however they use it or however it's helpful, first we want to search out regarding awareness among them regarding the mobile

learning applications .To measure the attention of mobile learning applications I actually have asked our responders that area unit they aware of mobile learning applications? .I have given them four choices like, Aware, Not aware, very aware and unsure.

As shown in Table.VI, among all the responders majority with (65%) responders said that they're aware of these applications, (11.30%) responders were very aware, (17.70%) wasn't certain regarding these applications, and (6%) responders weren't aware of mobile learning applications. It concludes that over (70%)people area unit aware of these applications and it's an excellent sign that additional and additional people are becoming aware of mobile learning .At time and technology will increase I'm certain, the remainder of the people may get like these mobile learning applications in their education.

TABLE VI. AWARENESS ABOUT MOBILE LEARNING APPLICATIONS

Sr.no	Awareness about apps	Responder	percentage%
1	Aware	40	65%
2	Not Aware	4	6.00%
3	Not Sure	11	17.70%
4	Very Aware	7	11.30%

7) Time given for mobile learning applications

The next question that I've asked responders regarding "How abundant time they consume for mobile learning applications?"

From, on top of observations I've got conclude that almost all of the individuals uses mobile applications for learning. To understand regarding what proportion time they furnish to their studies through these applications I have given them bound choices like 1-3 hours per day, 3-6 hours per day and 6-10 hours per day. As shown in Table. VII, in keeping with the information that I have received (66.10%) responders use mobile learning applications for 1-3 hours per day, (27.40%) responder's uses for 3-6 hours per day, and with less (6.50%) responders use mobile learning applications for 6-10 hours.

TABLE VII. TIME CONSUMED FOR MOBILE LEARNING

Sr.no	Duration	Responder	Percentage%
1	1-3 hours	41	66.10%
2	3-6 hours	17	27.40%
3	6-10 hours	4	6.50%

8) Different forms of mobile learning applications

The next question that I've asked responders concerning "What forms of mobile learning applications does one use?"

There are totally different classes of applications out there on-line .It's up to the people's selection that what reasonably application they desires to use .There are instructional applications, style applications, social media applications, entertainment applications etc. Now, we have a tendency to measure the concerning learning thus, mobile learning applications are extremely popular among

individuals for obtaining facilitate from these applications and gaining totally different data.

I actually have given responders a allow to settle on multiple choices to grasp what kinds of applications they use for various purpose. From Table.VIII, as per the information collected, most of the responders i.e. (62%) responders uses course materials applications, (48.40%) responders uses analysis connected applications,(41.90%) uses language learning/online course applications, (35.50%) responders uses quiz and news connected applications, (33.90%) responders uses science and arithmetic applications, (32.30%) uses reference and wordbook , and rest (16.10%) uses organize and alternative helpful applications.

TABLE VIII. FORMS OF MOBILE LEARNING APPLICATIONS

Sr.no	Type of mobile learning apps	Responder	Percentage%
1	Research related apps	30	48.40%
2	course materials	39	62.00%
3	Dictionary And encyclopedia	20	32.30%
4	language learning/ online course	26	41.90%
5	Organizer/ Other useful apps	10	16.10%
6	Quiz and news	22	35.50%
7	Science and mathematics	21	33.90%

9) Mobile learning applications usage

The next question that I've asked responders regarding “Which mobile learning applications do they use?”

There are numerous standard applications out there on-line for education purpose. They're growing day by day and serving students to learn simply and responsively. I actually have given them some kind of choices of applications that quite popular among students. They are permissible to decide on multiple choices.

From the collected information in Table. IX, it shows that 61% responders uses Wikipedia to learn, (32.30%) uses Unacademy and wordbook applications, (11.30%) uses Diksha application, (1.60%) answerer uses Udemey app, and remainder of the (40.30%) responders uses different helpful learning applications. To understand additional of regarding totally different apps that responders uses, I had mentioned a separate question additionally like “what are the opposite apps does one use for academic purpose?”

TABLE IX. MOBILE LEARNING APPLICATIONS

Sr.no	Which mobile learning app you use	Responder	Percentage%
1	Unacademy	20	32.30%
2	Udemey	1	1.60%
3	Dictionary	20	32.30%
4	Wikipedia	38	61.00%
5	Diksha	7	11.30%
6	test book	15	24.20%
7	Other apps	25	40.30%

Table. X, shows that other than the given options, what all are the applications that responders uses.

TABLE X. OTHER MOBILE APPLICATIONS USED BY RESPONDERS

Sr.no	Other apps
1	Classroom
2	Byju's
3	Subject related mobile apps
4	Zoom
5	My Homework
6	khan academy
7	YouTube
8	Java Questions
9	History quiz for kids
10	Gmeet
11	Office suite
12	GDC
13	Buzz Math
14	SSC exam test
15	Sanfoundry
16	Microbiology
17	Programming hub
18	Grasshopper
19	White hat jr
20	Evernote
21	Drop box
22	Genius scan
23	Accounting
24	Programming hub

10) Effectiveness of mobile learning applications

The next question that I've asked responders regarding “Do you feel these mobile learning applications are effective?”

Mobile learning applications offers benefits such as quick access to information for students, diverse ways of learning, contextual learning, control over own learning, supporting and encouraging learning, therefore it is very effective. As per the Table. I, In terms of effectiveness, almost (25.80%) of respondents find mobile learning applications very effective whereas (32.30%) of them find it effective. (19.40%) of them find it somewhat effective, (16.10%) respondent has not a clear idea and they were neutral and (6.50%) responders were not sure.

TABLE XI. EFFECTIVITY OF MOBILE LEARNING APPLICATIONS

Sr.no	Measure of effectiveness	Responder	Percentage%
1	Effective	20	32.30%
2	Very effective	16	25.80%
3	Somewhat effective	12	19.40%
4	Neutral	10	16.10%
5	Not sure	4	6.50%

11) Impact of mobile learning applications

The next question that I've asked responders relating to “Do you are feeling mobile learning applications will have nice impact on the education?”

Mobile learning in education makes it easier for learners to have interaction and collaborate towards establishing a

strong on-line learning community. This is, in fact, one in every of the most important blessings of mobile learning because the ancient method of learning usually lacks any quite collaboration among learners. Learners will transfer applications freely and use them at freed from value thus it becomes simple for additional and additional individuals to use these applications .It additionally produces nice impact on education furthermore.

We have a tendency to ask individuals concerning integration of mobile learning applications in education and most of the individuals (69.40%) responders feel that it will build nice impact on the education, while (1.60%) responder’s responds with No and (29%) responders were neutral.

TABLE XII. IMPACT OF MOBILE LEARNING APPLICATIONS

Sr.no	Impact factor	Responder	Percentage%
1	Yes	20	69.40%
2	No	16	1.60%
4	Neutral	10	29.00%

12) Future scope

The next question that I've asked responders concerning "Do you feel a lot of and a lot of mobile learning applications ought to be introduced within the future?"

I have asked responders regarding what's their opinion regarding these applications; ought a lot of academic applications to be developed in future? As a response seen in Table XIII, there on (72.60%) responders feel that, a lot of learning applications ought to be introduced in future, while (3.20%) responder’s responds with no and (24.40%) responders were neutral.

TABLE XIII. FUTURE SCOPE OF MOBILE LEARNING APPLICATIONS

Sr.no	Future scope	Responder	Percentage%
1	Yes	20	72.60%
2	No	16	3.20%
4	Neutral	10	24.20%

VI. CONCLUSION

The purpose of the analysis was to supply a summary regarding the quality of M-learning methodology (Mobile learning applications) in up the teaching and learning processes of scholars. One amongst the foremost potent factors is teachers’ technological and pedagogic information of mobile applications. Empowering students and involving them in their own learning method is essential, as some way to encourage self-learning and increase motivation. Stimulating the employment of mobile devices as a more in-depth communication tool is another positive consider the employment of M-learning. Another purpose to contemplate is that the easy use of mobile devices shown by students. students can see the advantages of these learning tools and serving to them to urge accustomed .This new understanding of learning can create them develop self-easy with mobile technology. Overall, there was accord in stating the advantages of mobile applications in teaching and learning processes. Though various applications are found, it's become evident that applications targeted on up

communication within the schoolroom and out of doors is that the most generally used worldwide. Different info areas like science tend to use a large diversity of mobile applications. The character of the given paper has created potential to supply a summary from the literature on however Mobile learning applications absolutely impacts on students’ accomplishment increasing their motivation and empowering them to a mass autonomous and present learning.

ACKNOWLEDGEMENT

I am over helmed in all humbleness and gratefulness to acknowledge my depth to all those who have helped me to put these ideas, well above the level of simplicity and into something concrete.

I would like to express my special thanks of gratitude to Asst.Prof.Gauri Ansulkar who gave me the golden opportunity to do this wonderful research on the topic "Effectiveness of Mobile Learning Applications in Education", which also helped me in doing a lot of Research and I came to know about so many new things. I am really thankful to her. I express my deepest gratitude towards our research paper guide for her valuable and timely advice during the phases in research. I would like to thank her for providing all the facilities and support as the co-coordinator.

Any attempt at any level can't be satisfactorily completed without the support and guidance of my parents and friends who helped me a lot in gathering different information, collecting data and guiding me from time to time in making this paper, despite of their busy schedules, they gave me different ideas in making this project unique.

REFERENCES

[1] James Thomes,"On Mobile Learning: Advantages and Disadvantages", July 17 2019
[2] By CommLab India Bloggers, Facing These Challenges with Mobile Learning? , May 12 2017
[3] By Quora, Which is the best operating system?