

Integration of Mobile Application in Education

Prajakta Pahade¹, Rutuja Akarte², Prachi Kanugo³, Sachin Deshmukh⁴

^{1,2,3}Student, ⁴Professor, Department of computer Science & Engineering, Prof Ram Meghe College of Engineering & Management-Badnera, Amravati, Maharashtra, India.

Abstract:- Mobile phone has become an integral part of our lives in 21st century. Mobile phones have already replaced the calendar, typewriter, music player, clock, pager and many more and soon it is about to replace the teachers in the education system! The mobile phones might not have been so much useful if it didn't have enhanced the functionality by the use of the apps. The apps or the application in the mobile from its inception has been the backbone of the mobile phone to increase its usability. The earlier mobile phone applications were just based on the basic functionality like customized theme, customized icon size and font etc. But if we see the mobile application market like Google Playstore and iStore, we find the application available from a messenger to the application which can help you to transfer money directly in person's bank account. This paper discusses about such integration of the mobile application the education system with study to do a comparative analysis of the different apps available and the work done by the different research scholars in this area.

Keywords: Mobile app, Education system, integration, study material, application, technology, features, learning system.

Exclusive:

The educational system around global arena has gone through a sea change over the last decade. Undoubtedly, the online learning education is the order of the day. And, to be precise, one of the key players that has brought this revolutionary transformation is the educational mobile application which assist the learners in their learning process.

Most mobile applications claim to offer their optimum features, but in reality only a handful educational mobile app features are able to supersede over the rest. This you know with your own practical experience. Some educational apps will offer the best explanation of various topics in different subjects; provide informative content with live tutorial interaction, while others fail to meet the expectations of the users.

According to the recent statistics, the educational mobile apps are the third most frequently downloaded applications on the mobile phones with the current rate at 8.47%. So, if you are planning to develop a learning app, adding these indispensable features will enhance your chances of reaping the best profits for your business.

1. Developing A Powerful And Supportive Database.

Whether you believe it or not, an architecturally powerful and supportive database will place your educational app in the driving seat. This is because all the information related to the study material and guide is uploaded onto a database. It needs to be updated on a regular basis with latest information, videos, content, facts, figures, and statistics.

The database should smooth the progress of process of learning and as such the students should get a quick access to all the wanted information with the tip of a finger. The database should not hang even if it is running on a slow internet speed.

2. Comprehensive And Valuable Content

Content that instantly arrests the attention of the learner in one glance will allow your educational mobile app an opportunity to be downloaded several times more than the other apps. Just keep an eye on these vital factors:

- Content should be comprehensive and worthy of reading.
- The content should be developed specifically for the targeted audiences.
- Keep in mind that all learners do not have the same grasping power; so, use the simplest of languages that can be easily understood.
- The content should be mobile friendly as well.

3. Interactive Session With Tutors With Live Tutorials

This is another essential asset which you can bank upon to promote your app amongst the different users. Interaction with the teacher can always help the students in solving out their problems and clearing their doubts. You can create a virtual atmosphere as a classroom in addition to providing live tutorials by adding 'chat now' which will be the icing on the cake.

You can also ask the learners to give their valuable feedback on whether they have benefited from the interactive session. Based on the response, you can decide on what needs to be improved in the app.

4. Providing That Personal Element or Individual Space

While developing the educational app it is very important to keep in mind the specific individual needs of the customer. This means providing a one stop shop app where the user can find everything in a single mobile application.

On the other note it is also crucial to offer individual freedom where the students and the teachers can hold free discussions and choose their own method of learning. Simplifying the topics, which is a hard nut to crack for most of the students, will help in increasing the popularity of the app.

5. Using the Powerful Social Media Platform to Good Effect

Now this needs to be understood very evidently: Your app cannot progress or flourish without the support of various social media tools. How effectively can you use the tools to maximize benefits simply lies in your hands. Whatever information or content on a particular subject or topic you are uploading into your app, you can share the details on Facebook, Twitter, Instagram, etc. You can create a YouTube channel where you can post tutorial videos related to your educational app.

On one hand you are directly getting in touch with the new users and also promoting your app as well.

6. Integration to Reach Targeted Audience

Integration in an educational mobile app has its own significance as it helps to reach out the targeted audiences. You can share information with your users and categorize them into different segments that include the school by school or grade by grade. You can manage the flow of information with this effective feature of the app. If you have a website, the user can browse it on your mobile app.

As we know that, this is the century in which there are number of mobile users. We find every people using mobile. So, why can't we use mobile for learning. At present universities around the world are finding the application of mobile learning to be boundless, and that mobile phones are now becoming the most commonly used devices amongst students. This paper includes

some important features of mobile phone Apps to support education in higher educational institutions [1]. Also the rapid and recent developments of mobile Apps for education purposes with mobile phones are growing on a daily basis, but students are ready to apply these Apps in their daily professional work? Are they prepared to integrate them? This will provide a balanced learning environment that meets the current digital learner's needs and supports learning experiences that are collaborative, portable, flexible, easily accessible, and can be integrated with the world globally, beyond the traditional classroom [1].

1.1 Current problems:

The major issues are the reusability of content on different devices and also the usage of different applications such as (BYJU'S, Amazon Kindle, etc.) on different devices. It is time consuming, costly and sometimes it is impossible for lecturers to create content for all different platforms separately. Therefore there are still difficulties in implementing applications for small compact mobile devices. Some technological issues are due to the limited resources with the device itself, such as screen size, memory, power consumption and storage capacity. As of today, mobile Apps are the best solution to overcome these technological limitations. Apps are being developed at a rapid speed and are intensively used by students. Apps can be easily downloaded and used on a mobile phone device. Today, Apps which could be implemented in teaching and learning environments are widely available for most of the communication and social platforms, such as BYJU'S, Amazon Kindle and all of these could be downloaded and used on mobile phones. Hence the main purpose of this paper is to investigate effective and proper integration methods and approaches which can be adapted by Students so that they can make the learning environment by bringing and applying these Apps into the learning curriculum and use them effectively to meet students'

needs. They want to stay connected and be reachable, they also want to experiment and have community oriented personalities and characteristics.

1.2 Current System available:

Apps for education, as mobile devices which are available among students do vary from hi-tech smart devices to the low-tech ordinary mobile device. Apps can be easily downloaded and used on a mobile phone device. Today, Apps which could be implemented in teaching and learning environments are widely available for most of the communication and social platforms, such as BYJU’S, Amazon Kindle and all of these could be downloaded and used on mobile phones. YouTube, MySpace, Blogs etc. They belong to the new digital mobile world. While on the other hand teachers and educators are still reluctant to use these technologies and in particular mobile phones for teaching and learning, and some of them even view these technologies as a distraction for students. They still argue on the use of mobile devices especially mobile phones in class environment! Why teachers don’t take this opportunity to use the technology to improve student’s collaboration, and interaction thus making the learning environment effective, fun and challenging.

As we all know that there are many Indian as well as foreign apps are available for learning, here are some of them with its use.



Fig 1.Benefits of E-learning

Table 1: Apps & its usage.

APPS	USE
BYJU’S	Any brief animated information for students.
SIMPLILEARN	Provide training to professional.
PROZO	Digital notes distribution.
NCERTSOLUTION	It provides NCERT Solution for CBSE Students.
Udacity	Offers offline courses with certification.
Top ranker	Provide Short notes to revise along with test papers.

1.1Benefits:

At present mobile technologies are pushing themselves into the education system in most universities, and mobile learning is forming a focal point where mobile technologies and web-based learning intersect to offer anywhere anytime instant on-demand educational information. The use of mobile phones for learning in a classroom setting is also effective as it can promote greater interaction; enhance feedback for both students and teachers, thus allowing teachers to adapt their teaching based on

this feedback. Their findings showed also that mobile phones if used for teaching and learning purposes can act as a catalyst for change in learning and teaching approaches, and it can provide benefits for both teachers and students.

2.1 Aspects for Apps Design and Integration

The implementation of mobile Apps and technologies as a whole, can offer many benefits to the classroom learning.

Environment [1]:

- Fast, easy, convenient, efficient and accurate mobile access to learning content.
- As a supplement to the traditional and online learning presentations.
- As a means of offering teachers and students a sharing collaborative learning environment.

As a means of taking topic notes anywhere they like, without being attached to a wired computer.

- As a method of proper mobile integration within the current learning environment.
- Portability, flexibility and availability of the learning content, when this content is saved on the mobile Device and can be transferred, shared and copied.

2.2 Advantages:

1. **Accessibility:** It allows Students to learn on a flexible basis be

anywhere [2].

2. **Supports self-paced learning:** People learn at different rates, and mobile learning allows people to learn in their own way at their

individual pace [2].

3. **Motivation:** By gratification method, it motivates to learn more and more [2].

2.3 Disadvantages:

1. **Small screen:** It affects the eyes of the children.

2. **Disturbance:** his may lead to disturb by SMS or news notification [2].

3. **Outpacing technology:** It reduces the mobile batteries quickly and struggle in areas of poor connectivity [2].

Literature review on findings

Table 2. Findings on literature review

Sr no.	Paper Title	Author	Our Findings	Their Findings
1.	Mobile app integration for teaching and learning	Ferial Khaddage, Christoph Lattemann, Eric Bray.	The app should be first used and learned by teacher so to have better explanation to students.	The procedure of apps combination can shape and extension between two controls: Educational technology & computer.
2.	Teaching and learning with mobile technology.	Ruben Vanderlinde, Tammy Schellens, Lieven De Marez.	It helps the children to take interest in learning and practise the diagrams.	The outcomes demonstrate that the acquaintance of inventive innovation appears with preservationist rehearses among instructors with an instrumental view as they embrace a stringent

				job & give customary courses with a tablet gadget.
3.	Mobile computing devices in higher Education.	Joanne Gikas, Michael Grant.	It access the information quickly along with the variety of ways to learn.	The motivation behind this exploration was to investigate educating & realizing when portable registering gadgets, for example: cellphones where executed in advanced education.
4.	Mobile learning: small devices, big issues.	Mike Sharples, Inmaculada Amedilla-sanchez, Marcelo Milrad, Giasemi Vavaoula.	Nature of learning outside the classroom.It also help children to take interest in learning.	An increasibly broad outcome of investigation into versatile learning has been an open discussion about the idea of learning inside & outside classroom.
5.	llearning: The future of higher Education student perceptions on learning with mobile tablets.	Jonathan Rossing, Willie Miller, Amanda Ceccil, Suzan Stamper.	Education using ipads or mobile devices in classroom must be committed to learn how to use device effectively in classroom instruction.	This examination utilized comfort inspecting, the degree to which results can be summed up might be constrained by the idea of the populace & the interesting setting.
6.	Moodbile:A framework to integrate m-learning application with LMS.	Marie Jose Casany, Marc Allier, Enric Mayol, Jordi Piguillen, Nikelas Galanis.	It aims to propose an interoperability solution to integrate m-learning.	An approach to co-ordinate cell phones & instructive applications with the LMS through webservices presenting the Moodbile venture.
7.	Investigating attributes toward use of mobile.	Mostafa Al-Enran, Hatem Eleherif, Khaled Shaalan.	To explore attitudes which supports to design M-learning infrastructure.	Diverse elements have been analyzed to test where there is a huge distinction among understudies & instructors dispositions towards the utilization of adapting, major As far as understudies & age, & cellphone proprietorship as far as teachers.
8.	Mobile application for learning: Effects for simulation design.	June-Yi Wang, Hsin-Kai Wu, Ying-Shao Hsu.	Mobile apps could narrow the performance gap between students with different levels of spatial ability.	The outcomes propose that portable applications could limit the execution hole between understudies with various dimensions of spatial capacity, with the multi-contact interface of applications with new aptitudes.

1. Survey:

In this section we will briefly describe a preliminary investigation and analysis we performed in order to support and validate the findings from our theoretical considerations. The required elements of methodology, data collection and data analysis are beyond the scope of this paper, and should be available thoroughly in our future publication. We are living in an unparalleled time for technological progress. In 10 years, it will be almost impossible to describe to any child in India what life was like before the Internet. Internet users in India have reached to 150 million counts making the country holding world's third largest Internet population, after China which has 575 million internet users followed by U.S. with 274 million. According to the latest study one out of four students from Metro cities browse Internet in India over their mobile phone. The level of access is much higher as the majority of students across the country spend 1 to 2 hours accessing Internet every day. It's an era of internet and mobile and social networking sites are the most popular online hangout place for majority of internet users in India, including students.

However, due to the nature, maturity, interest and preferences, each social network has got its own market and community. In India 83.38% students have already registered themselves on Facebook and the trend of almost the same in Metro and Mini Metro cities. Others social networking sites like Twitter, LinkedIn and Orkut are way behind compare to Facebook.

However, the rise of Pinterest and LinkedIn in Metro cities clearly states the difference in mindset and online activities between students in Metro and Mini Metro cities. The study conducted by TCS over more than 17,000 students in India, highlights various startling facts about “Generation Y” and how they are adopting Internet and get expose to information access. While 72% students access Internet from Home, penetration of mobile Internet is also on the rise as nearly one fifth of students are making use of mobile Internet, reducing their dependencies on School and Cyber Café. However, the slow infrastructure growth in Mini Metro cities is still pushing students to Cyber Café making it the best source of Internet access. Despite of the fact that schools in Metros are constantly improving their infrastructure and making education more digital, resulting in higher number of internet access points, nearly 83% students are still voting for Home as their favourite place to access internet

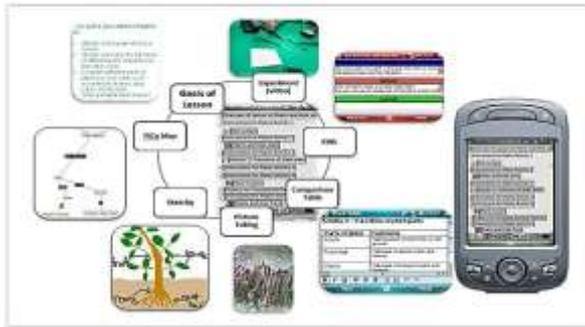


Fig 3. Usage of Mobile app in education.

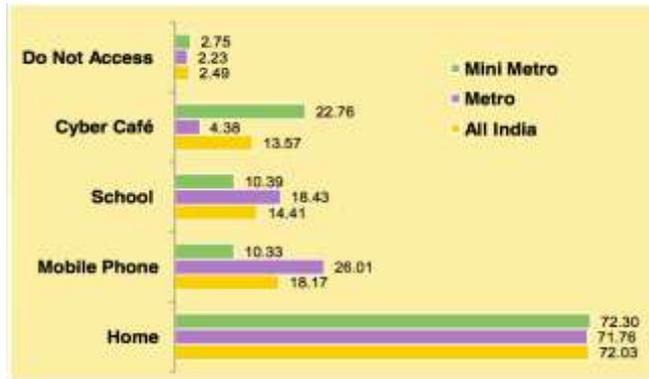


Fig 4. Amount of internet access on different things.

2. Future scope:

As we are in 21st century, the use of mobile is moved from Nokia 128. Today uneducated people also handle it easily. The use of mobile is increasing day by day due to the functioning. They use not only for chats and calls but also for learning. With the help of educational apps like Drona, Byju’s and many more to have easy learning and short understanding summary with images.

Children are eager to know about more apps. They are taking interest in learning as these apps make easy learning and also they are trying to practice by solving test papers. Whatever is seen through video is easily understood by them. They are occupying their time in learning something new instead of chats and tweets. But as we know that demand increases as need increases. So, they are demanding something new in learning. Now, according to the future scope, the children should get more information with images and videos for better understanding. The app should include test paper after every chapter and a common test after completion of all chapters. It must include a dotted diagram for practice and step by step diagram drawing method. One should get proper solution in less time. It should be handled easily. It should give idea of expected questions. They should get Certificate so that they get the knowledge easily about Certification Courses.



Fig 5. Mobile app integration.

Conclusion:

The main purpose of this research paper is to describe the steps necessary to construct an effective educational mobile learning environment and to discuss the process of a meaningful Apps integration which can prompt collaboration and coordination among students and teachers. This paper is designed for students and teacher for classrooms to help them develop understanding of mobile Apps and educational mobile multimedia and social networking, and to help them build knowledge and confidence for proper integration which can promote an effective and flexible learning environment.

The process of Apps integration can form a bridge between two disciplines: Educational Technology and Computer Science. Collecting and combining knowledge from these two disciplines can be very useful and meaningful during the integration process. Also the outcomes can be relevant not only to universities but also to other education sectors, such as VET (Vocational Education and Training) secondary, and elementary schools. In this respect this paper is broad as we have tried to raise many crucial issues, challenges and ideas, as we strongly believe that mobile Apps integration is considered effective, efficient and multidisciplinary for education globally.

Acknowledgement:

We wish to express our sincere gratitude to Dr. Priti Khodke, Head of Department, Prof Ram Meghe College of Engineering And Management, and Badnera - Amravati for providing us an opportunity to do the work on Integration of mobile apps in education. This paper bears an imprint of many people. We sincerely thank our guide Mr Sachin Deshmukh faculty member of Prof Ram Meghe College of Engineering And Management, Badnera-Amravati for guidance and encouragement in carrying out with research paper work. We also wish to express our gratitude to the officials and other staff members of Prof Ram Meghe College of Engineering And Management, Badnera -Amravati, who rendered their help during the period of our work. Last but not least we wish to avail us for this opportunity to express a sense of gratitude and love to our friends and our beloved parents for their support, strength, help and everything else.

References:

- 1] www.ericbray.com/wordpress/wp-content/uploads/2012/12/site2011
- 2] <https://www.skillshub.com/advantages-disadvantages-mobile-learning/>
- 3] <https://dazeinfo.com/2013/07/01/83-students-in-india-facebook-internet-home/>
- 4] <https://www.mulesoft.com/resources/api/mobile-application-integration>.
- 5] www.inurture.co.in/role-of-mobile-apps-in-education.
- 6] www.iamwire.com/2017/09/apps-classroom-learning/159117
- 7] <https://www.instancy.com/mobile-learning-platform.html>.
- 8] https://www.researchgate.net/publication/280006941_Review_Paper_Mobile_Learning.
- 9] <https://www.sciencedirect.com/science/article/pii/S0360131515300804>.
- 10] journals.plos.org/plosone/article?id=10.1371/journal.pone.0144008