



## Study of Use of Android Applications in Education

*Mayur Nikalje*

*Ashwini Wadegaonkar*

**Department of education & Extension,  
University of Pune, Pune**

### *Abstract*

*Modern technology is playing very important role in educational sector. Educational Android applications are helping to improve the student's ability of study. The Android is really a latest as well as revolutionary Operating System that is filled with plenty of fantastic applications for the users. Regarding academic requirements, Android provides a vast range of efficient applications. Thus it is interesting to know views of students about use of Android application in education. With this sole purpose the research was undertaken to collect data from the Post Graduate students from University of Pune, Pune campus, through survey. The data was collected using Questionnaire.*

*The students strongly felt that Android applications are useful for increasing knowledge base and knowledge sharing. They have opined that Android is useful to students in learning and for teachers in teaching and improving student interaction. Students felt that androids are useful in teaching learning as they are useful for the students to improve knowledge, current awareness, connecting with people, easy access, user-friendly, fast and innovative, in spite of difficulties in their using.*

***Key Words: Android applications, Education***

### **Background of the study**

Modern technology is playing very important role in educational sector. Getting a head start in education goes a long way toward a lifetime success. With a little game and lot of learning, Android apps are a great way to snag an educational boost. The rapid development of electronic devices and network communication provides a foundation for improving learning and teaching environments through technology.

Educational Android applications are helping to improve the student's ability of study. The Android is really a latest as well as revolutionary Operating System that is filled with plenty of fantastic applications for the users. Regarding academic requirements, Android provides a vast range of efficient applications. Educational apps can have a profound impact, and they are close to the users. Video education, e-books, and even games can help people around the world learn how to read or do math or invest or program. . Using mobile devices for educational purposes is becoming a common expectation of learners (Lan & Huang, 2012).

**Android:**

Android is an open source Linux-based operating system designed primarily for touch screen mobile devices such as smartphones and tablet computers. It is a mobile operating system developed by Google. The Android Operating System (OS) is based on the open Linux kernel. (Rajendran D.K.,2012). The name 'Android' comes from the term android, which refers to a robot designed to look and act like human. Android phones typically come with several built-in applications and also support third-party programmes. Developers can create programs for Android using the free Android Software Developer Kit – SDK. Android programs are written in Java and run through Google's 'Davlik' virtual machine, which is optimized for mobile devices. Users can download Android apps from online Android market.

An application is a software program that runs on computer. Web-browsers, e-mail programmes, word processors, games and utilities are all applications. Android application is a software program that gives access to photos, videos and other files stored in Android device.

**Need and importance of the study**

"Knowledge is power," and because of mobile technology, knowledge is available to more people throughout the world than ever before. With the advancements in technology students in school or at any level of education just seeking a little self-improvement, a plethora of Android apps are available easily to enhance knowledge base, expand skill sets, improve memory and more. Teachers as well as students can make use of a few of the top applications in a number of categories, including math, music, geography, astronomy. (O'dell Jolie2011).

The core communication features: text messages, calls, and Internet browsers, are the primary features driving this global access to information. Smartphones (primarily Android) and regular cellphones are being used to improve agriculture, finance, emergency services, and other areas in developing nations across the globe. Smartphone adoption continues to grow at an amazing pace,

and Android's affordability and hardware independence have catapulted it to the lead in this rapidly growing space. (Jakuben, Ben.2012)

Valk, Rashid, and Elder (2010) demonstrated how mobile phone-facilitated learning can give students in developing countries increased access to educational materials and services, particularly in rural and remote regions. The research work done by Daesang Kim et.al.(2013) suggest that mobile technologies have the potential to provide new learning experiences. In these experiences, students can engage more frequently in learning activities outside of class, providing them with more learning opportunities in their community of practice.

It is thus interesting to know that how students are making use of Android applications in their education. With this sole purpose the research was undertaken to collect data from the Post Graduate students from University of Pune campus, about their opinion on use of Android application in their education.

### **Objectives of the study**

- To find out views of post graduate students on use of Android application in education studying in University of Pune, Pune campus.

### **Assumptions**

1. Students of higher education use Android applications
2. Android applications are educationally important

### **Delimitations**

Present research is delimited to students of Computer science department of University of Pune, Pune, only.

### **Limitations**

Results and findings of the study are based on the opinion of the respondents.

### **Research question**

What are the views of students regarding use of Android applications in education?

### **Methodology**

- **Method of the research**

For collecting opinions of students, Survey was conducted.

- **Population and Sample**

A population for the present study are all Android users studying in Pune University, in higher education.

For the present research 36 post graduate students from University of Pune, Pune campus, which are using Android applications were selected by purposive sampling method.

• **Tools for the study**

For the present research, Questionnaire was used with both closed (Yes/No type) and open-ended questions.

**Procedure of the study:** Post graduate students studying in various departments of University of Pune, Pune campus were considered for the survey and only Android application users were selected as a sample. Tool for data collection i.e. Questionnaire was prepared and administered on the selected sample. The data was analyzed and interpreted.

**Analysis and interpretation:** The data was analyzed in two parts as-

- A. Analysis of closed ended (Yes/No type) questions
- B. Analysis of open ended questions

The data analyzed is presented as follows-

**A. Analysis of closed ended (Yes/No type) questions**

Following scale is used for analyzing this data –

- 0-20% – Very less
- 21-40% – Few
- 41-60% – Many
- 61- 80% – Most
- 81-100 % – Majority

The data is presented in T-1

**T-1**

**Analysis of closed ended Questions**

SN	Issue	Observation	Interpretation
1	Do you think that android application help you in your education	83% of the students gave positive response while 17% gave negative response.	Majority of the students strongly felt that the android application helps in education



2	Do you think that android application will help in increasing your knowledge base?	86% of the students gave positive response while 14% gave negative response.	Majority of student thinks that android application will help them in increasing the knowledge base.
3	Do you think that android can be a virtual teacher?	In this case 64% of the student said no to android as a virtual teacher while 36% of students positive for the same application.	Most of the think that android cannot be a virtual teacher though it is helpful in teaching and learning.
4	Do you think that android gaming application will help in self-learning process?	56% of the students gave positive response while 44% gave negative response.	Many of the students opined that android gaming application will help in self- learning process.
5	Can android be used as a substitute for teacher in classroom?	81% of the students gave negative response while 17% gave positive response.	Majority of students think that android cannot be used as a substitute for teachers.
6	Do you think that android apps help in knowledge sharing?	89% of the students gave positive response while 11% gave negative response.	Majority of the students think that android applications are helpful for knowledge sharing.
7	Can android be used as a substitute for textbooks?	47% students gave positive response while 53% gave negative response.	Many of the students said that textbooks cannot be replaced by android.
8	Can android help to achieve more interaction with students?	69% of the students gave positive response while 31% gave negative response.	Most of the students responded that android is useful for interacting with students.
9	Do android games	67% of the students gave	Most of the students think that

help in improving concentration?	positive response while 33% gave negative response.	androids games are useful in improving concentration.
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**Findings**

1. Majority of the students strongly felt that android applications are useful in education specifically for improving knowledge base and knowledge sharing.
2. Most of the students felt that android cannot be a virtual teacher and cannot substitute teacher in a class room.
3. Most of them opined that gaming applications are useful to improve concentration and helpful in self learning.
4. Also most of them said that android apps are useful in improving interaction with students.

**B. Analysis of open ended questions**

The qualitative data obtained from the responses of the students is analyzed using frequency and presented in T-2 as follows –

**T-2**

**Analysis of open ended questions**

SN	Issue	Major responses
1	Merits of using Android in education	<ul style="list-style-type: none"> <li>• Useful for the student</li> <li>• Improve knowledge, current awareness</li> <li>• Connect people through apps like what's app</li> <li>• User friendly</li> <li>• Easy to access</li> <li>• Free applications</li> <li>• Immediate use of internet</li> <li>• Help to get some educational application</li> <li>• Very fast and quick application</li> <li>• Knowledgeable</li> <li>• Lot of learning things, maps, location</li> <li>• Innovative</li> </ul>

		<ul style="list-style-type: none"> <li>• Easy graphic user interface easy to upgrade</li> </ul>
2	Difficulties facing in using android application	<ul style="list-style-type: none"> <li>• Connect with internet</li> <li>• Slow operating system</li> <li>• Battery problem</li> <li>• Lack of basic knowledge</li> <li>• Virus and hang</li> <li>• Limited downloading</li> </ul>
3	Help provided by android apps in school curriculum	<ul style="list-style-type: none"> <li>• Online downloading of syllabus, books, topics</li> <li>• Using internet for learning</li> <li>• Quiz and easy learning games</li> <li>• Using educational apps</li> <li>• Surfing, downloading video</li> <li>• For Mathematical formulae</li> </ul>
4	Usefulness of android apps in different academic subjects	<ul style="list-style-type: none"> <li>• Languages</li> <li>• Mathematics</li> <li>• Geography</li> <li>• History</li> <li>• Science</li> <li>• Social science</li> <li>• Physics</li> </ul>
5	Use of Android application in sports related activities	<ul style="list-style-type: none"> <li>• Apply the speed time</li> <li>• Apps like daily cardio application, chess games</li> <li>• It is like artificial intelligence</li> <li>• By providing basic of games</li> <li>• As a timer you can use the stop watch</li> <li>• By engaging player in simulation sceneries</li> <li>• By applying the rules of the games, video of skills and training</li> </ul>

6	Usefulness of android apps in competitive exam to study current affairs	<ul style="list-style-type: none"> <li>• Downloading current affairs</li> <li>• Newspaper</li> <li>• Live quiz completion</li> <li>• Tutorials</li> </ul>
7	Usefulness of android apps for effective management	<ul style="list-style-type: none"> <li>• Scenario planning , online meetings</li> <li>• Time management</li> <li>• Communication social networking and messaging</li> <li>• Systematic presentation</li> </ul>
8	Use of android to include moral values in student	<ul style="list-style-type: none"> <li>• Learn every time</li> <li>• Apps like moral values shoes of Mahabharata and Ramayana</li> <li>• Developing moral values apps</li> </ul>
9	Usefulness of android for teachers in their class	<ul style="list-style-type: none"> <li>• Verbal apps</li> <li>• PPT over the android</li> <li>• Introduce more apps</li> <li>• Teacher can instantly transfer data to student in the class itself</li> <li>• Managing conference</li> <li>• Math's puzzle and purpose for you dictionary</li> </ul>
10	Development of android apps that can more useful by student	<ul style="list-style-type: none"> <li>• It available educational application for free</li> <li>• Student friendly interface</li> <li>• Download power point and pdf file should be develop</li> <li>• Apps best on math's</li> <li>• By making educational apps for student by adding interesting a game like SUDOKU having scientific calculators inside</li> </ul>



		<ul style="list-style-type: none"> <li>• Make it more in informative</li> <li>• Better accessibility</li> <li>• Advanced android apps</li> </ul>
11	Ways to use android to overcome the bridge of education between Rural and urban areas	<ul style="list-style-type: none"> <li>• By communication bringing equality</li> <li>• It will be very efficient</li> <li>• Its sharing of knowledge</li> <li>• It can improve only if widespread data network</li> <li>• Android education must be common for all</li> <li>• Develop apps in regional languages</li> <li>• Good planning, management, strategic and implementation</li> <li>• Global connectivity</li> </ul>

### **Interpretation**

1. Students felt that androids are useful in teaching learning as they are Useful for the student to improve knowledge, current awareness, connecting with people, easy access, user-friendly, fast, and innovative, in spite of difficulties in their using.
2. Students felt that Android applications may be helpful to the students in school curriculum for Online downloading of syllabus, books, topics, using internet for learning, activities like quiz, educational games, downloading educational videos, and for surfing learning material.
3. Students felt that android is useful for students in different academic subjects and also for teachers in their classroom teaching.
4. Students responded that Android applications can be effectively used in sports related activities, improving moral values, studying current affairs for competitive exams and for effective management.
5. Students have suggested various advancements to develop Android applications so that it can be more useful to the students and also suggested various ways of using Android applications to minimize the gap in education between students in Urban and Rural areas.

### **Major findings**

From the data analysis, the major findings of the study found, are as follows -

1. Majority of the students strongly felt that android applications are useful in education specifically for improving knowledge base and knowledge sharing.
2. Most of the students felt that android cannot be a virtual teacher and cannot substitute teacher in a class room.
3. Most of them opined that gaming applications are useful to improve concentration and helpful in self learning.
4. Also most of them said that android apps are useful in improving interaction with students.
5. Students felt that androids are useful in teaching learning as they are useful for the students to improve knowledge, current awareness, connecting with people, easy access, user-friendly, fast and innovative, in spite of difficulties in their using.
6. Students felt that android is useful for students in different academic subjects and also for teachers in their classroom teaching.
7. Students responded that Android applications can be effectively used in sports related activities, improving moral values, studying current affairs for competitive exams and for effective management.

### **Conclusion**

This piece of work is focused on finding out opinions of students regarding use of Android applications in education. Post graduate students from various departments in University of Pune, Pune campus, strongly felt that Android applications are useful for increasing knowledge base and knowledge sharing. They have opined that Android is useful to students in learning and for teachers in teaching and improving student interaction. Students felt that androids are useful in teaching learning as they are useful for the students to improve knowledge, current awareness, connecting with people, easy access, user-friendly, fast and innovative, in spite of difficulties in their using.

These findings are thus useful to increase use of Android applications in education and bring out changes in the traditional teaching learning process. Also, the results from the study calls for development of more advanced applications that can help students in their learning and overall development.

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