

## INTEGRATING SMARTPHONES INTO EDUCATION

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### **Abstract**

*Technology is rapidly growing in all aspects of modern societies, and education is no exception. The use of smartphones is gradually becoming a compelling learning tool used to enhance teaching and learning. Its usage ensures flexible course delivery, and makes it possible for learners to access online learning platforms, access course resources and interact digitally. In this article, I have focused on integrating smartphones into education. For this purpose, I have selected forty (40) activities and features of smartphones that are worth using in educational setups.*

### **Keywords**

*Smartphone, Smartphone apps.*

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## Introduction

The world has been invaded by Smartphone owners, and the profound impact of smartphones on education caused adjustments in both teaching and learning activities.

**Mobile telephone:** also called **mobile phone**, portable device for connecting to a telecommunications network in order to transmit and receive voice, video, or other data. Mobile phones typically connect to the public switched telephone network (PSTN) through one of two categories: cellular telephone systems or global satellite-based telephony.

**Smartphone:** A **Smartphone** is a portable computing device that combines mobile telephone and computing functions into one unit. They are distinguished from feature phones by their stronger hardware capabilities and extensive mobile operating systems, which facilitate wider software, internet (including web browsing over mobile broadband), and multimedia functionality (including music, video, cameras, and gaming), alongside core phone functions such as voice calls and text messaging. Smartphones typically contain a number of metal–oxide–semiconductor (MOS) integrated circuit (IC) chips, including various sensors that can be leveraged by pre-included and third-party software (such as a magnetometer, proximity sensors, barometer, gyroscope, accelerometer and more), and support wireless communications protocols (such as Bluetooth, Wi-Fi, or satellite navigation).

### Comparison between Mobile phones and Smartphones

S. No.	Mobile phone	Smartphone
1	Make calls, send texts, take photos, has a real keyboard and access the <b>2G</b> internet.	Make calls, send texts, and take photos, access the 2G, 3G, 4G, and 5G internet, play games, and use apps.
2	Cheaper alternative to a Smartphone.	Costlier than mobile phones
3	Straightforward, simple interface.	Sophisticated operating system with customization options.
4	Simple and basic.	Robust and customizable. Support for apps, reminders, and more functionality Accessibility options.
5	Nowadays very less popular	Almost every phone on the market is a Smartphone. More design and form options.
6	Minimum work will be carry out	Works like a computer and more than that.

### **Use of Smartphones in education**

Along with the development of the living standard, the number of people who access mobile phones increase steadily. A high number of Smartphone owners have been reported in the world. Accordingly, using smartphones for teaching and learning is the current and future of the education industry. Instead of a type of entertainment device, smartphones bring effective learning solutions to teachers and students in many ways. Indeed, the impact of smartphones on education can be experienced in many aspects. In so many ways a Smartphone is helpful in teaching and learning. A few of them are:-

- Completing assignments
- Recording Lectures
- Used in Note-taking
- Listening to Podcasts
- Using Videos to record presentations
- Keeping track of calendar
- Reading books in electronic form
- Solving research problems
- Setting timer
- Contacting friends and professors

### **Useful Smartphone Apps for Students**

Despite the great built-in features of a Smartphone, a student can only explore its full potential by using apps. Here are some of the useful Smartphone apps for studying.

- ❖ **Google Chrome:** Among all Android browsers, Google Chrome is the best because of its smooth user interface. If students have problems with a website, they can just check “Request Desktop Site” to view the site the way it is on the desktop. This feature makes Chrome the best.
- ❖ **Team Viewer:** If a student forgets an assignment on their computer at home they can use this app to control their Windows, Mac or Linux computer.
- ❖ **Dropbox or Google Drive:** It is very important for students to have their files synced across all their devices. Using Dropbox or Google Drive on their smartphones, students can rest assured that their files will always be available.
- ❖ **Recordroid:** Students who are tired of transcribing their teacher’s lessons can use Recordroid to create audio recording notes. Files created will be

sent to their desktop computer via e-mail, so they can review what the teacher said at home.

- ❖ **myHomework:** This app lists the deadlines for homework. It also tracks the difficulty level of assignments, so students can do the easier ones first.
- ❖ **Dictionary.com:** Some dictionaries are too thick to carry. The smaller ones are not even complete. Download the Dictionary.com app and a student can have about 2 million words available with just a swipe of a finger.
- ❖ **Instapaper:** If a student finds something very useful on the Internet but doesn't have the time to read it now they can get Instapaper. This app turns any webpage into readable offline content, so students can read it later, even without an Internet connection.

#### **Useful Smartphone Apps for Teachers**

What teachers need are the right apps. Here are some Smartphone apps that teachers can use inside and outside of the classroom.

❖ **A Personal Assistant:** This can help organize thoughts, make a to-do list, and prepare a lesson plan.

❖ **Teacher Aide Pro Lite:** Just like A Personal Assistant app, this app can help teachers in many ways in class. It provides all the organizational help a teacher needs.

❖ **TeacherKit:** This app turns a teacher's Smartphone into a full-fledged personal digital assistant. It can record the grades of students, rank the students according to their grades, keep track of their attendance, and anything else a teacher needs. TeacherKit is quite useful!

❖ **Margins:** This app helps teachers prepare for class faster and easier. It lets teachers take notes about what they read. This is very helpful when relating news and media to the class.

❖ **WolframAlpha:** This app is a search engine, but it is not the same as Chrome or Opera Mini. WolframAlpha lets teachers search for questions and offers direct answers, charts and graphs for many topics like mathematics, sociology, finance, history and geography.

❖ **Attendance Countdown:** If teachers want to track students' attendance, they can just download Attendance Countdown. It offers a countdown board and a calendar. This Smartphone app also helps teachers keep on track with their curriculum.

❖ **Flashcards Deluxe & Flash Card Maker Pro:** Although there are many educational apps out there that can help with flashcards, these two for iOS

and Android is the best. Teachers or students can download about four million flashcard sets to help with teaching. They even have text-to-speech features, making the class lecture multisensory, instead of just a visual presentation.

### Methodology

The methodology which I have adopted in completing this article is experimentation and observation. Personally, I have tried the below given forty (40) activities and features in education and got meaningful results.

#### Integrating Smartphones into education

S. No.	Activity using Smartphone	Explanation
1	Check facts	when explaining and debating topics
2	Take photos	Smartphones can be used as cameras to illustrate work and presentations.
3	Make videos	Videos can be used to record experiments and later include them in projects.
4	Carry out tests	Students can now take quizzes and tests on their Smartphones
5	Read the news	One can bring news and current affairs into the classroom in an instant.
6	Dictionary	There is a multitude of dictionary applications that allow you to check the meaning of a word instantly.
7	Translator	Google translate can translate any language to any other language.
8	Calendar	Smartphone has applications that allow you to synchronize calendars.
9	Take down ideas	Smartphones allow us to take down notes any time, any place.
10	Listen to music	Music is available 24/7 on sound cloud
11	Images	Mind Maps are a good example of a tool that helps in this regard.
12	Review	Allows you to access resources and material quickly before an exam through App
13	Stopwatch/timer	Practice your time management by using your mobile phone's stopwatch.
14	Read eBooks	For this reason, applications like Kindle allow us to read books and manuals from anywhere.

15	<b>Voice Recorder</b>	These recordings can be referred to later on and can save a great deal of time instead of writing.
16	<b>Browsing subject material</b>	In detail, information can be had from the internet.
17	<b>Document scanner</b>	Smartphone has the ability to scan. Teachers support the delivery of class work through photos (for example, Math exercises).
18	<b>Calculator</b>	All the operations of a scientific calculator can be performed.
19	<b>Edit videos</b>	Not only we can make videos, but we can also edit them, add text, filters, effects and more
20	<b>Edit pictures</b>	The same can be done with images as with videos
21	<b>Publish in the class blog</b>	Class blogs are an increasingly common exercise these days and help develop writing skills. Thanks to your mobile phone, you can write and post articles at any time.
22	<b>Track blog visits</b>	The implementation of <b>Google Analytics</b> allows you to check the progress of your class blog from anywhere.
23	<b>Make presentations</b>	We can carry presentations on smartphones and can connect to the projector in the classroom.
24	<b>Remote control</b>	There are applications that enable you to use our Smartphone as a remote control.
25	<b>Communicate</b>	One can communicate with anyone at any time by text messages or by voice call.
26	<b>Store Formulae</b>	Smartphones allow us to store mathematical and scientific formulas close to hand. There are applications that already contain hundreds of commonly used formulae.
27	<b>Controlling noise</b>	Reward the students by keeping the noise at an agreed level. Recommended application: <b>Too noisy.</b>
28	<b>Updates</b>	<b>Remind</b> is an app designed to send notifications to parents and/or students without knowing their phone numbers.

29	<b>Using maps</b>	Location-based apps can help when introducing students to a region or country. Applications such as Google Maps help us to locate ourselves and are great in History and Geography classes.
30	<b>Tweet</b>	Twitter is a social network that has <b>many educational uses</b> . The mobile phone is probably the best way to access it to read and write Tweets about education. Don't forget to follow ExamTime on Twitter.
31	<b>Study Vocabulary</b>	In foreign language classes, vocabulary is crucial. Quite often students don't pay enough attention and can get left behind.
32	<b>Control Attendance</b>	There are many applications that can help keep track of the attendance of students direct from our mobile phones.
33	<b>Assess Students</b>	Smartphones can be used to monitor and keep track of a student's coursework and exam results.
34	<b>Clock</b>	This is vastly used for time management and also for checking the weather.
35	<b>Inspire</b>	Smartphone provides a window to the world where you can discover topics and ideas that are otherwise limited by traditional books and encyclopedias.
36	<b>Share Notes</b>	Notes provided by teachers to photocopy large amounts of paper are required, your mobile phone allows you to easily perform this function. Again, the <b>ExamTime App</b> can help with that.
37	<b>Digital Whiteboard</b>	Many apps are available which do the job of digital whiteboard. Some that can be used directly from your phone and allow you to project everything you create.
38	<b>Weather</b>	For those teachers who like to move the lesson outdoors and want to know the weather conditions, there are many apps available that can show the weather of the region.

39	<b>Measure Productivity</b>	There are applications, such as <b>Time Recording Pro</b> , that allow you to measure the time you have dedicated to a particular task. This can be very useful for teachers and students when taking on a project that is divided into several phases.
40	<b>Play</b>	The gamification of the educational process, i.e. the need to transform learning into a game as much as possible. So many Apps are available.

#### Advantages of Smart Phones

- **Low Cost:** Because fewer materials were used for smartphones, they are less expensive than desktop computers.
- **Portability:** Smartphones are small and lightweight when compared to laptops and tablet computers. They can easily be carried by anyone, anytime and anywhere. Mobile learning is now convenient and flexible because of the Smartphone's portability Smartphone's portability.
- **Connection:** Along with their portability, smartphones also have Bluetooth and/or Internet connectivity. Internet connectivity enhances student performance because students have easy and fast access to information, making Smartphones supportive tools.
- **Energy-Saver:** Smartphones run on smaller amounts of power than desktop and laptop computers.
- **Personal Feel:** Smartphones are the closest gadgets that anyone can have. They are more personal. Teachers or students might share a laptop or desktop computer with their whole family and with their friends, but they will find it hard to share their phones.
- **Engagement:** A lot of people find smartphones delightful, because of their touch screen. They're very engaging, so learning can last for a long time. Moreover, students have different ways of learning. With hundreds of educational apps available in the app libraries, students can personalize their smartphones and will be encouraged to study.
- **Good Use of Time:** Most students do not know what to do during "dead time like when traveling or just waiting for a bus. With smartphones, they can now learn even when they are just sitting on a bus waiting for the next stop.



### **Disadvantages of Smart Phones**

- **Size of Device:** Despite the fact that small smartphones are good for portability, their size adds to the possibility of getting stolen or lost. Moreover, their screen is so small; some users might find texts hard to read.
- **Cost:** Although smartphones are cheaper than desktops, laptops and tablet computers, they still cost a lot. Besides, technology changes very fast so a user has to upgrade their Smartphone frequently. Moreover, mobile providers charge monthly data use depending on the size of the files downloaded, so large files may cause the cost to skyrocket.
- **Usability:** The keypad is too small on some Smartphones making it hard for some users to type. Yes, detachable keyboards are available, but that will just add to the cost.
- **Battery Life:** Most Smartphones can last only about two to four hours. Once the power runs out, it has to be recharged, making it immobile.

### **Conclusion**

There are really a lot of ways to learn using a Smartphone. Mobile learning is a gateway to tools and resources. It makes learning more personalized and creates bridges over the gaps between teacher and student. The great thing is that it gives users access to tons of content anywhere, anytime. Mobile learning opens up the opportunity to learn all the time. Mobile learning is not the same as e-learning. E-learning focuses on disseminating educational knowledge through the Internet. Therefore, if there is no Internet connection, e-learning is impossible. Mobile learning is only a part of it. E-learning incorporates mobile learning through conducting learning activities on the Internet.

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