

Development of Cell phone-Android applications for the execution of Teacher Education

Curriculum

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Abstract

Teacher Education is the vital training centre for the future Teachers of the Nation. In this paper, the procedure adopted for the development of the Mobile Application has been given. The features of the developed android mobile application has been explained.

Introduction

Teacher Education is the determining factor of quality of future education. Teacher education refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviors and skills they require to perform their tasks effectively in the classroom, school and wider community. India has a large number of teachers and needs many more.

Generally, Teacher Education curricula can be broken down into major areas as:

- Imparting foundational knowledge in education-related aspects of Philosophy of education, Educational psychology and Sociology of education.
- Content and Methodology of teaching of various subjects, supporting teacher trainees to prepare lesson Plans, to create teaching aids, using technology to improve teaching and learning.
- Practice with micro teaching and macro teaching, teaching practice- usually supervised and supported by experienced teachers.
- During Teaching Practice - conducting Case study, Action research, tests and interpreting the test scores and recording of all the activities (In Practical component Record preparation itself occupies 400 marks out of 600 marks).

Technology in Teacher Education

Technology ushers in fundamental structural changes that can be integral to achieving significant improvements in productivity. Used to support both teaching and learning, technology infuses classrooms with digital learning tools, such as computers and hand held devices; expands course offerings, experiences, and learning materials; supports learning 24

hours a day, 7 days a week; builds 21st century skills; increases student engagement and motivation; and accelerates learning. Technology also has the power to transform teaching by ushering in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning. Online learning opportunities and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time.

Android applications for Cell phones and Tablets

Android is a Linux-based operating system designed primarily for touch screen mobile devices such as smart phones and tablet computers.

Android is an open source which is freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers. Additionally, Android has a large community of developers writing applications ("apps") that extend the functionality of devices, written primarily in a customized version of the Java programming language. Nowadays lakhs of apps are available for Android, and the estimated number of applications downloaded from Google Play, Android's primary app store, was more than 25 billion. A developer survey conducted in April–May 2013 found that Android is the most popular platform for developers, used by 71% of the mobile developer population.

These factors have contributed towards making Android the world's most widely used smart phone platform, overtaking Symbian in the fourth quarter of 2010, and the software of choice for technology companies who require a low-cost, customizable, lightweight operating system for high tech devices without developing one from scratch. Android's open nature has further encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community-driven projects, which add new features for advanced users or bring Android to devices which were officially released running other operating systems.

Android has a growing selection of third party applications, which can be acquired by users either through an app store such as Google Play or the Amazon App store, or by downloading and installing the application's APK file from a third-party site.

Breaking down application boundaries

Android breaks down the barriers to building new and innovative applications. For example, a developer can combine information from the web with data on an individual's mobile phone - such as the user's contacts, calendar, or geographic location - to provide a more relevant user experience. Android provides access to a wide range of useful libraries and tools that can be used to build rich applications. For example, Android enables developers to obtain the location of the device, and allows devices to communicate with one another enabling rich peer-to-peer social applications. In addition, Android includes a full set of tools that have been built from the ground up alongside the platform providing developers with high productivity and deep insight into their applications.

Android applications for Teacher Education

With Android applications for Education, Teacher Educators, Teacher Trainees, Teachers and administrators can be able to browse content by curriculum, grade, and standard-discovering the right content at the right time for their students. Educators can set up and deploy large numbers of devices in just minutes or hours rather than days. Powerful browsing tools let educators quickly discover apps, books, videos, and other content-with many recommended by teachers and categorized according to familiar Core Curriculum standards.

After finding apps they want to use, educators can push them instantly to student devices over the air. They can send the apps to individuals or groups of any size, across classrooms, schools, or even districts. Every day number android applications are aired free of cost as well as of rated. There are certain android apps in the field of Teacher education also available. But they are not more specific and are not free to all.

Android applications for Teacher Education in India

Teacher Education in India are conducted in regular and distance mode to prepare teachers for the students of Primary, Secondary and Higher Secondary schools as well as for Higher Education too. The Teacher Education curriculum contains Theory classes, intensive teaching practice programme and record works too. The student teachers are getting practiced to prepare suitable teaching aids too. But, still records are prepared manually; Conduct of test, data analysis and interpretation are also done by the traditional paper-pencil method only.

Smart phones or Tablets with android software are boon to this Teacher Educators as well as to the teacher trainees too. Suitable applications for the preparation of Lesson Plans, Execution and recording of Micro Teaching, Case study, Action Research, Tests, Interpretation

of Test scores and surveying can be prepared and used. This will reduce time; cost and the data can be compared and maintained for future use too. This will simplify and the Teacher Education Curriculum's execution will go to the next - techno generation.

International Status of Android apps usage in Education

As lakhs of apps are available for different fields, many countries are making use of them. Institutes and individuals also prepared android apps for their own utility and made available in the android market.

National Status of Android apps usage in Education

Though lakhs of apps are available, there is only very few apps are available free of cost and their suitability to our needs also are not satisfactory. Particularly to make use of Android in Teaching Learning Process, the application should be prepared in accordance with the way of execution of the curriculum in India and first it should be made available for Teacher Educators, Teacher trainees and Teachers.

Significance of this study

Cell phones become every one's unavoidable property nowadays in our country. The development of android-smart phones and its usage is spreading with great momentum. Its compatibility and user friendliness shows a great utility of its applications 24 hours a day. Particularly in the field of Education, using Android - smart phones and Tablets are much easier for the teacher educators and teachers than Computers. Android apps are easy applications which can be learned by every one very quickly. Smart phones are available from Rs.1500 onwards, hence cost wise also its utility dominates.

Potential contribution to knowledge in the field of social relevance or national importance

Android apps prepared for Teacher Educators and Teacher trainees in India can be made available to everyone by placing them on internet, which will facilitate the needs of more than 20000 Teacher Education Institutions and its 120000 Teacher Educators. It will enhance the quality of Teacher training of more than 2000000 (Twenty Lakhs) Teacher trainees every year in our country.

Objectives of this study

Objectives of this study are:

- a. to develop and validate Cell phone-Android applications to prepare Lesson plans by the teacher trainees,

- b. to develop and validate Cell phone-Android applications to prepare, practice and recording Micro Teaching by the teacher trainees,
- c. to develop and validate Cell phone-Android applications to execute and to record Action researches by the teacher trainees as well as by in-service teachers,
- d. to develop and validate Cell phone-Android applications to execute and to record Case Study by the teacher trainees as well as by in-service teachers,
- e. to develop and validate Cell phone-Android applications to conduct tests and to interpret Test scores
- f. to develop and validate Cell phone-Android applications for survey questionnaire construction and execution.
- g. to develop and validate Cell phone-Android applications for the preparation and maintenance of Students attendance register in Teacher Education Institutions.

Methodology

To develop and to validate Cell phone-Android applications for the execution and recording of Teacher Education curriculum covering planning, execution and recording of Lesson plans, Micro Teaching, Action research, Case Study, Tests and Interpretation of Test scores and Survey questionnaires,

- ✓ a basic requirement analysis has been conducted among Teacher Educators to finalize the exact components of the above said activities and records.
- ✓ a draft with data for the preparation of software has been prepared.
- ✓ with the help of experts in the field of Android development, suitable application software has been prepared.
- ✓ an alpha test has been conducted for the prepared software with the help of android software developers and subject experts.
- ✓ All the applications have been uploaded to a specially launched website for beta testing (at the real users- Teacher Educators, Teachers and Teacher Trainees).
- ✓ The feed backs have been carefully analyzed and the software has been modified/enhanced according to the feedbacks and the needs.

Conclusion

With the user friendly features the Android Application has been developed and it is placed in the Google play store. The faculties and students can download and take part in the activities.

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