



## The Mode of 3G Mobile Telecommunication Technology in Educational Learning Systems

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### ABSTRACT

*Mobile phone based educational learning system has the basis of Educational Technology Competency Standards for Teachers, tracing by demand of improving teachers' educational technology and with the focus of making up knowledge and capacity building. Mobile Learning has become another very important complement to the traditional ways of learning after digital learning. The development of the third generation mobile communication technology 3G provides a more adequate technical basis for mobile learning. This article describes the 3G based mobile learning, where mobile device is used for educational activities. The goal of this innovative method is to create flexible teaching solutions, which will enable the accessing of information with all kinds of devices, and to support learning in a variety of situations.*

### KEYWORDS :

### INTRODUCTION

Mobile technologies are developing rapidly, and the functionalities available on mobile devices grow more numerous and complex every day. These technological advancements, coupled with the widespread availability and relatively low cost of mobile devices, represent a tremendous opportunity to leverage the power and ubiquity of mobile technologies to enhance learning and extend educational opportunities. In 3G systems, it can be realized between the mobile end-user data, audio, video, multimedia communications which makes anything anytime, anywhere "easy face to face" communication is possible. Students who are not in classroom can learn the teachers' lectures, as long as opening mobile terminals, students will be able to carry visual communication with the teachers and enable teachers to guide their learning. A third-generation mobile communication (3G) technology has greatly accelerated the convergence of mobile communications and the Internet, the combination of mobile communication and education, greatly enhance their learning efficiency. The rapid development of new technologies in the context, 3G communications technology will be widely applied into education.

### MOBILE LEARNING

Mobile learning takes place when a student uses portable devices, such as smart phones, notebooks or tablets, or handheld gaming devices, to access learning materials and systems, create content and interact with other students, teachers, learning systems and the world around them. Mobile devices enable learning to take place at any time in any location, at a pace chosen by the learner whilst enabling teachers to easily provide personalised and motivating learning experiences relevant to location and context. Mobile learning can be individual or collaborative and transformational. Mobile learning is not only the use of mobile technology to support learning, to the excessive emphasis on technology rather than to emphasize teaching and learning tasks. Mobile learning is not intended to discover a new kind of mobile technology use, but the emphasis on the teaching and learning process. Mobile learning is the content of learners use the possession of any equipment and technology, in any place, any time, can have the opportunity to enrich their learning.

The size, ease of use, portability, prevalence, and advanced features of mobile technologies (e.g., voice, display, internet access, interactivity) have sparked interest in integrating these technologies into instructional environments. However, the educational applications of m-technologies are still poorly understood, as is what constitutes good m-learning. The value of deploying mobile technologies in the service of learning and teaching seems to be both self-evident and unavoidable. The development of the third generation mobile communication technology 3G provides a more adequate technical basis for mobile learning. With the continuous development and improvement of the Internet, Mobile Education Network and Mobile Telecommunications' Equipment and the gradual increase in the level of the teachers, mobile learning becomes tools for teachers to devel-

op and improve their educational setup. With the developing trends in mobile communication technology, transmission of real time audio and videos takes a giant leap. It is more than e-learning in which we only view already stored data

### MOBILE EDUCATION

Mobile Education is an extension of mobile learning, including the full range of opportunities mobile technologies and systems offer for improving learning, teaching, assessment and educational administration and management. Mobile education incorporates access to e-books and online learning materials and systems, collaboration, learner tutor communication, evidence collection, e-portfolios, e-assessment, attendance monitoring, task planning, curriculum and device management.

### BENEFITS OF MOBILE EDUCATION

A mobile device to deliver education has a wide range of benefits including:

- ❖ Learners have continuous access to the latest textbooks, podcasts, videos and multimedia learning experiences sourced from around the world and can choose when and where to work.
- ❖ Assignments and coursework, combining text, images, audio and video, can be created on a mobile device and can be all gathered together in an online portfolio by the learner.
- ❖ Students (and educators) are able to connect with each other anywhere and at any time to discuss and explore their learning together.
- ❖ Using mobile devices to introduce topics and run assessments means teachers can reduce the amount of time they spend in front of a class presenting and testing knowledge, freeing up more time for discussion and exploration.
- ❖ Information and feedback can be easily sent directly to learners, teachers, tutors, parents, etc., and quickly acknowledged and followed up.
- ❖ Online planning systems can use mobile devices to co-ordinate and send reminders about classes, workshops, events and vacations.
- ❖ Test papers can be assessed, collated, aggregated and graded safely and securely when students are ready rather than at set times during the year.
- ❖ Mobile education can be more cost-effective than traditional approaches, enabling the efficient use of accommodation and staff time, and saving money, for example, on photocopying, printing, postage, textbooks and staff travel.
- ❖ Mobile technologies make it easier for teachers to provide more differentiated learning experiences and formative assessment for learners of different abilities and with different learning styles or preferences.
- ❖ Mobile connected equipment can make data collection by students, inside or outside of the classroom, easier and more accurate.

### 3G PHONE-BASED EDUCATIONS

3G phone-based educational learning system has the basis of “Educational Technology Competency Standards for Teachers (for trial implementation)”, tracing by demand of improving teachers’ educational technology and with the focus of making up knowledge and capacity-building. We should gradually increase and sub - implement.

#### A. General idea of system design

The system is designed learning environment where learners not only can choose learning but also share real-time and non real-time discussion among students or between students and teachers anytime and anywhere. Therefore, we should take full account of teachers’ characteristics when designing mobile learning system, combining with mobile learning model:

#### 1) System location:

Mobile Learning System services for teachers. They can escape from the shackles of time and space and study and work based their need by themselves flexibly.

#### 2) Providing real-life situation.

That is, providing authentic learning tasks and problems for teachers. So teachers can put together study and practical work and life to enhance their knowledge migration and the ability of solving practical problems.

#### 3) Supporting a variety of learning mode.

Mobile learning system should be learner-centered and be able to support individualized learning, collaborative learning and discussion-based learning modes.

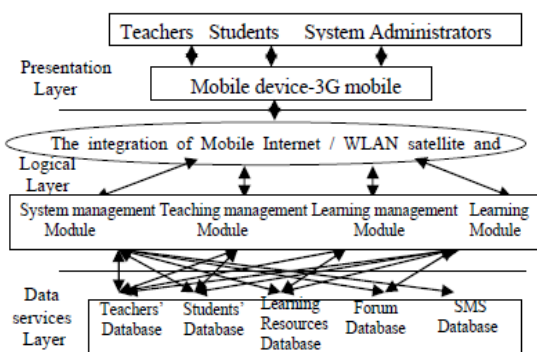
#### 4) Providing different levels of learning content.

Teachers’ educational Technology skills are in different level. Some are lack of theoretical knowledge, some are lack of capabilities of instructional system design, others are lack of the skills to master advanced technology. It should meet the needs of teachers in different levels.

#### 5) Providing learning content of different disciplines.

Teachers teach different disciplines. Mobile learning system should design based on the characteristics of different disciplines to meet the different needs of educational technology in different disciplines.

### 3G Phone-based educational learning system



### EASY WAY OF ACCESSING LEARNING MATERIALS FROM VARIOUS LOCATIONS

Schools can store electronic textbooks and other educational materials in dedicated online repositories, which children can access from anywhere using connected tablets, notebooks or e-readers. Pupils are able to easily find accurate information and explanations, regardless of their location. Further benefits of making educational materials accessible from mobile devices include:

- A consistent learning experience: A pupil can access the same educational materials from everywhere.
- Reduced need for students to carry around heavy textbooks.
- Children can access e-books for personal reading and development during holidays.
- Many children will become more engaged with school work if they can use “cool” mobile devices.

- Where appropriate, the device can be used for fun as well as learning and this encourages feelings of ownership which increases willingness to use the device.

### DIFFERENTIATED LEARNING

Rather than handing out paper worksheets, which can easily get damaged or lost, teachers, can send homework directly to their pupil’ mobile devices. That makes it easier for teachers to set different tasks for different children, depending on their abilities. They can also send extended homework to children who fail to attend school on a particular day directly to their mobile device. Further benefits of using mobile devices to set homework include:

- Easier to personalise homework materials and action plans for individual learners.
- Reduced requirement for printing and copying paper worksheets.
- Simple to update or amend homework, where necessary.
- Presentation of materials to suit the learner’s needs/preferences - for example, the background and text colours can be adjusted for dyslexic students.

### OUT OF CLASSROOM EDUCATION AND COLLABORATION

Across a wide range of subjects, such as biology, history and geography, school and university students benefit greatly from field trips that enable them to get hands-on with a particular topic or see real-life examples for themselves. Mobile education solutions can make out of - classroom learning even more valuable by enabling students to access contextual information in real-time and immediately upload measurements, photographs and notes into folders or a virtual learning environment on institutional servers or to where appropriate to online blogs or social networking sites. Students on field trips can also use mobile devices to collaborate with students and teachers in other locations.

### ACCESS TO CONTEXTUAL INFORMATION IN THE FIELD

Students in outdoor geography lessons, for example, can use a Smartphone or a tablet computer to access information about topography, sea level, rock formations and other contextual material on-site in real-time. GPRS-enabled mobile devices can tag photographs with location data, can be used to locate sites to be studied and can provide data such as the longitude, the latitude and the altitude of areas of interest. Biology students can use their mobile devices to take pictures of plants or animals and identify them by comparing their photographs to images online.

Augmented reality applications running on Smartphone’s or tablets could show history students what a ruined castle, for example, looked like when it was first built. Language students can use similar applications to translate signs on trips abroad or they could use voice recognition software on their mobile devices to help them interview local people and then immediately check any words they did not understand. The potential benefits of using mobile devices to access contextual information on field trips include:

- The real-time combination of observation and theory enables students to learn more than they otherwise would.
- It becomes easier for teachers to tailor contextual information to different learning styles and preferences and provide better support for learners with disabilities and/or learning difficulties.
- To further engage younger students, mobile devices can be used to find and unlock clues and information hidden in real locations using GPRS-enabled devices.
- Mobile devices allow time in transit to be used for additional reading and study.

### 3G - TECHNOLOGY OF MODERN EDUCATION

3G can provide the blended for personal communication, including text, voice, video, animation, graphics, etc. Various information, can integrate the network transmission smoothly on the platform. People can also interact with meeting television in great way to communicate, reduce the cost of meetings at the same time to realize the remote collaborative work. But distance education which used in the media, such as television, network video, still need we use camera teachers teaching process and real-time transmission to streaming media coding machine, after acquisition card after the acquisition

tion, coding to flow again real-time ground media server, again by streaming media server real-time release to other classroom of the terminal computers. They lack the interactive multimedia technology, the whole information production and layout is a sequence, students cannot to choice according to need time and demand. In most situation, students must on time watching, so the students learning process still at a passive position, learning rise also has the certain difficulty.

3G reduces the process, can use 3G phones real-time shooting teachers teaching process and real-time transmission contacted students or to resource demand. Meanwhile now adult distance education platform also affected by the place limit, can be in only have computers and the Internet place, then can login school course website announcement, view the course selection and related information. The advantage of using 3G network is the fast transmission rate of voice and data, it can realize seamless roaming globally better, and images, music, streaming video etc. Various media forms, including web browsing, telephone conference, e-commerce and so on many kinds of information services, these services can be provided for students' learning higher standards of service and convenience.

#### **ADVANTAGES OF 3G PHONE BASED MOBILE LEARNING**

Mobile learning, through the use of mobile technology, will allow citizens of the world to access learning materials and information from anywhere and at anytime. Learners will not have to wait for a certain time to learn or go to a certain place to learn. With mobile learning, learners will be empowered since they can learn whenever and wherever they want. Teachers can use the mobile technology for just-in-time training where learner's access and applies the information right away rather than learns the information and then applies the information at a later time. Mobile learning just can meet the need to learn anything, anytime, anywhere. Mobile learning which is based on E-learning is a new type of learning relying on Mobile Communications Technology or Wireless Network Technology and using mobile devices to get educational resources, educational information and education services anytime and anywhere. Mobile learning devices must be able to render learning content effectively and provide communication between users, which means that learning institutions are no longer confined to a classroom, a library. With the help of wireless network and communication technologies, mobile learning will allow learners to personalize learn when needed anytime and anywhere.

Learners here are not only students, but also including teachers, farmers, workers and other trades' personals. Under the concept of life-long education, not just young people, but elderly people can enjoy the learning anytime and anywhere. Therefore, mobile learning has characteristics of wireless mobility, high portability, extensive, interactive, and sharing. This provides a broad space for mobile learning to improve teachers' educational technology. However, mobile learning should be achieved by mobile learning system which composed of three parts: the Internet, mobile education network and mobile communication devices. The Internet is a global information system and also an effective carrier of educational resources. Mobile education network is a platform which enables individuals and institutions communicate through the sharing of information (such as curriculum support service system, course content).

#### **SAFE USE OF ICT BY CHILDREN**

The Internet can now be accessed on many mobile devices opening up a world of opportunities for communication, interaction, entertainment and learning, but also certain risks for children. These risks include access to both illegal and legal, but potentially harmful, or inappropriate, content. Many mobile operators have taken active steps to reduce the risk of children being exposed to this content. Mobile operators provide Internet filtering which blocks access to material deemed inappropriate for children. Being registered as a child user means you cannot access material provided by your mobile operator, or its partners that has been rated only appropriate for people over 18. All mobile phone users are considered to be children by mobile operator unless or until they have proved to their mobile operator that they are 18. Recognising the need to safeguard mobile networks from being misused to access illegal content, the GSMA has created the Mobile Alliance Against Abuse Content. The Alliance aims to stem and reverse the growth of online abuse content around the world. Through a combination of technical measures, co-operation and information sharing, these operators are creating barriers to the misuse of mobile networks for hosting, accessing or profiting from illegal content

#### **CONCLUSION**

In the support of mobile learning resources and mobile learning network teachers will develop their expertise. The current era of learning is 3G phone-based mobile learning. Under the influence of the life-long learning and education, teachers will be the first to join the ranks, raising their professional skills to meet the developing information society. Then, the modern farmers, workers, students will gradually join the ranks of mobile learning. This will improve information literacy of our overall national people.

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