Research Paper E-ISSN NO : 2455-295X | VOLUME : 3 | ISSUE : 7 | JULY 2017

IMPACT OF MOBILE PHONE USAGE ON THE COGNITIVE STYLE OF COLLEGE STUDENTS

G. MAHADEVAN [1] | Dr. R. VADIVELU [2]

[1] M.Ed Research Scholar, GRT College of Education, Tiruttani – 631209.

[2] Asst Professor in Education, GRT College of Education, Tiruttani – 631209.

ABSTRACT

Keywords:

INTRODUCTION

Now a day's technology in education brings improvement in the process of teaching – learning. Scientific invention and electronic devices play an important role in our day – to – day life. Everyone wants to do something new including the students. So the teacher must make the students to learn with interest and innovation. Also the advancement of technology has changed the face of education. Students use mobile phones that they use it to;

- Contact Parents, relatives and loved ones.
- Browse, check and send e- mail.
- Contact other students by text/ SMS about assignments, tutorials and other class work.
- Liaise with Lectures/ Project Supervisors.

With a Willingness to experiment, teachers might be able to create classrooms where the cell phones currently tucked into students' back packs function as important tool instead of incessant distractions.

Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by materializing the thought. Cognitive process involves changes in the thinking, intelligence and language.

The process of mental growth and development is responsible for the development of an individual's cognitive, mental or intellectual abilities like sensation, perception, imagination, memory, reasoning, understanding, intelligence, generalization, interpretation, language ability, conceptual ability, problem-solving ability and decision-making ability and these abilities are interrelated and interdependent. Therefore, mental development of an individual at any stage of his development includes the overall development of these abilities.

MOBILE PHONE

A **Mobile phone** is also known as a **Cellular phone**, **cell phone**, and a **hand phone.** It is a device that can make and receive telephone calls over a radio link while moving around a wide geographic area. It does so by connecting to a cellular network provided by a mobile phone operator, allowing access to the public telephone network. By contrast, a cordless telephone is used only within the short range of a single, private base station.

In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, MMS, email, Internet access, short-range wireless communications (infrared, Bluetooth), business applications, gaming and photography. Mobile phones that offer these and more general computing capabilities are referred to as smart phones.

EVOLUTION OF MOBILE PHONES

Early predecessors of cellular phones included radio communications from ships and trains. The race to create truly portable telephone devices began after World War II, with developments taking place in many countries. The advances in mobile telephony have been traced in successive generations from the early "0G" services like the Bell System's - Mobile Telephone Service and its successor, Improved Mobile Telephone Service, to first generation (1G) analogue cellular network, second generation (2G) digital cellular networks, third generation (3G) broadband data services to the current state of the art, fourth generation (4G) native-IP networks.

The first handheld mobile phone was introduced by Motorola in 1973. The first commercial automated cellular network was launched in Japan by NTT in 1979. In 1981, this was followed by the simultaneous launch of the Nordic Mobile Telephone (NMT) system in Denmark, Finland, Norway and Sweden. Several other countries then followed in the early to mid-1980s.

In 1991, the second generation (2G) cellular technology was launched in Finland by Radiolinja on the GSM standard, which sparked competition in the sector as the new operators challenged the incumbent 1G network operators. Ten years later, in 2001, the third generation (3G) was launched in Japan by NTT DoCoMo on the WCDMA standard. This was followed by 3.5G, 3G+ or

turbo 3G enhancements based on the high -speed packet access (HSPA) family, allowing UMTS networks to have higher data transfer speeds and capacity.

By 2009, it had become clear that, at some point, 3G networks would be overwhelmed by the growth of bandwidth-intensive applications like streaming media. Consequently, the industry began looking to data-optimized 4th-generation technologies, with the promise of speed improvements up to 10-fold over existing 3G technologies. The first two commercially available technologies billed as 4G were the WiMAX standard and the LTE standard, first offered in Scandinavia by TeliaSonera.

ADVANTAGES OF MOBILE PHONE

- We can carry a mobile phone to any where 24X7
- We listen to music, text, play games when you're bored.
- Most mobile phones have a calculator and a note book.
- We can surf Internet & Connect with the whole world by mobile.
- We can Chat and Video Conference.
- Keep in touch with friends and family.
- Good for emergencies
- Employees can keep in touch in all times.
- More work available.
- Can be used world wide
- It can fit our pocket.
- We can connect even from other country to another by using roaming serve.

MOBILE LEARNING

'Mobile Learning is commonly abbreviated to "m-learning", has different meanings for different communities. Mobile learning is the learning accomplished with the use of small, portable, computing devices. These computing include Smartphone, Personal Digital Assistants (PDA) and similar hand –held devices. Learning that happens across locations or that takes advantage of learning opportunities offered by portable technologies which is named as "Mobile learning"(M.L). M.L. focuses on the mobility of the learner, interacting with portable technologies and learning that reflects a focus on how society and educational institutions can accommodate and support an increasingly mobile population.

THE SCOPE OF M-LEARNING

In the fast developing Technological and Communication world, learning through Mobile phone is inevitable and it has wide scope across boundaries. The Scope of M-learning includes:

- Using Mobile devices in the classroom to enhance group collaboration among students and instructors using a Pocket PC.
- On the job training for someone who accesses training on a mobile device "just in time" to solve a problem or gain an update.
- Learning outdoors, that is during travel and other free time.
- Use of personal technology to support informal or life long learning, such as using hand – held dictionaries and other devices for language learning.
- Improving levels of literacy, numeracy and participation in education amongst young adults.
- Provide audiovisual support in order to enhance training that has been provided in classroom environment

In this way, the M.L. is having a wide scope for the learner all over the world. It has high potentiality to grow to great extent. Moreover, it will also stimulate other field to grow and strengthen the personality of the users in the right way.

MOBILE TECHNOLOGY

Mobile devices are less expensive to buy and maintain traditional computers and require less electricity to run, a feature particularly beneficial to rural areas without a guaranteed source of power. In the last 10 years, the development of mobile phone technologies has been unbelievably shift, from analog to digital and from plain and simple cell phones to the current 3G. Smart phone which can serve as a mini computer telephone or camera and transfer data as well as video and audio files. There seems to be constant stream of new technology breaking into the mobile phone market. It is sure that almost all communications will be through the Mobile in the next 10years. Mobile Technology will become one of the basic essential commodities for every individual.

AREAS OF M –LEARNING

The following areas of growth include:

- Social networked mobile learning
- Testing, job aids and just in time learning
- Sending and receiving the text with or without picture messages as SMS /MMS to multiple learners simultaneously within a short span of time.
- Audio and video conversation that is face to face interaction of the teacher and students even when outside of the classroom hours.

POTENTIALITY OF MOBILE LEARNING

Multi – tasking is the operative word towards the context with a camera, computer and music player all packed into the hand – held phone. From downloading software to

games, entertainment to accessing content across genres, mobile users are looking for new ways to personalize their handsets with utilities and multimedia content that make their mobile experience richer. All you need is a GPRS connection and an internet plan, ad one will have the world under his fingertips literally. The recent innovations I program applications and social software using web 2.0 technologies Such as Blog, Wikis, YouTube or Social networking sites such as Face book, Twitter and MySpace have made mobile devices more dynamic and pervasive in nature. This feature helps the end-users to have more effective interaction where they can able to communicate, converse and collaborate with each other in efficient manner.

India will be third largest Internet user base by 2013 after China and USA, says Forrester and nearly 10 percent of internet users in India access the web from their mobile devices. The mobile phone is drawing the Internet in to its small screen and turning in to a tool that offers more than calls and SMS.

BSNL, The first company to launch 3rd Generation Spectrum services in India, offers 3.5 Mega bits per second (Mbps) speed on the network. 3 G technologies will bring in high data transfer rates over longer distances efficient bandwidth with us, map and positioning services and multiplayer gaming. It will also enable high resolution video and multimedia services with audio streaming and video capabilities on the move. It is quite Interesting to note the comments that of Madhusudan of Virgin Mobile," We expect to promote rich content applications around videos and mobile Internet a lot more with the advent of 3G".

DELIVERY OF CONTENT THROUGH MOBILE LEARNING

Mobile learning is enabled by the use of portable computing devices such as PDA's, Palmtops, Smart phones and tablet PC's communicating over wireless networks. The use of computing in teaching and learning is being extended to spaces beyond the traditions classroom and within the classroom the teachers and learners are gaining more flexibility and new opportunities for interaction with each other.

Portability and immediacy, rather than localization are the essential motivating factors in mobile language learning, **f**urther, the lessons are provided in bite sized format, a fact appealing to busy students to download the content easily. Lessons typically delivered several times a week or even daily, include translations and provide options for further context – based application.

While the applications of mobile phones have typically been pedagogic in nature, they have also been used for practical or administrative matters, such as simplified and flexible student –teacher communications by the way of course updates and reminders, referrals to related websites and other up –to-date Instructional resources. In language learning the features of mobile technology enable to communicate language practice access to authentic content and task completion. Though all of us are using Mobile Technologies for only personal talking's the days are not far to use this technology for internet usage. Then only the communication sharing will be enormous and effects will be great.

MERITS OF USING MOBILE LEARNING

There are multifarious merits from different aspects. It is inevitable for every individual in the modern world to adopt this technology i.e. Mobile learning. Some of the important merits are listed below. Besides flexibility, cost, size, ease of use and timely application, it allows

- Authenticated users to have access to the system
- Users to have access to course resources impendent from time and place
- Users to have access to the resources in different formats (voice, text, pictures and videos)
- Reuse of material
- To enable users to learn at their own speed, b uniquely catering to their requirements in a personalized way.
- Shared assignments and collaborative working by using wireless network such as Bluetooth or infrared function of PDA.

FEATURES

All mobile phones have a number of features in common, but manufacturers also try to differentiate their own products by implementing additional functions to make them more attractive to consumers. This has led to great innovation in mobile phone development over the past 20 years.

The common components found on all phones are:

- A battery, providing the power source for the phone functions.
- An input mechanism to allow the user to interact with the phone. The most common input mechanism is a keypad, but touch screens are also found in some high-end Smart phones.
- A screen which echoes the user's typing, displays text messages, contacts and more.
- Basic mobile phone services to allow users to make calls and send text messages.
- All GSM phones use a SIM card to allow an account to be swapped among devices. Some CDMA devices also have a similar card called a R-UIM.
- Individual GSM, WCDMA, IDEN and some satellite phone devices are uniquely identified by an International Mobile Equipment Identity (IMEI) number.

Low-end mobile phones are often referred to as feature phones, and offer basic telephony. Handsets with more

advanced computing ability through the use of native software applications became known as smart phones. Several phone series have been introduced to address a given market segment, such as the RIM BlackBerry focusing on enterprise/corporate customer email needs; the Sony-Ericsson 'Walkman' series of music/phones and 'Cybershot' series of camera/phones; the Nokia N series of multimedia phones, the Palm Pre the HTC Dream and the Apple iPhone.

CHALLENGES

a) Technical challenges include

- Connectivity and battery life
- Screen size and key size
- Meeting required bandwidth for nonstop/fast streaming
- Number of file/asset formats supported by a specific device
- Content security or copyright issue from authoring group
- Multiple standards, multiple screen sizes, multiple operating systems
- Reworking existing E-Learning materials for mobile platforms
- Limited memory
- Risk of sudden obsolescence

b) Social and educational challenges include

- Accessibility and cost barriers for end users: Digital divide.
- How to assess learning outside the classroom
- How to support learning across many contexts
- Content's security or pirating issues
- Frequent changes in device models/technologies/functionality etc.
- Developing an appropriate theory of learning for the mobile age
- Conceptual differences between e-learning and m-learning
- Design of technology to support a lifetime of learning
- Tracking of results and proper use of this information
- No restriction on learning timetable
- Personal and private information and content
- No demographic boundary
- Disruption of students' personal and academic lives
- Access to and use of the technology in developing countries
- Risk of distraction

APPROACHES

a) Classroom

- Allowing students to use handheld computers, PDAs, smart phones or handheld voting systems in a classroom or lecture room (Tremblay 2010).
- Allowing students to use mobile devices in the classroom to enhance group collaboration among students and instructors.

b) Blended learning

Mobile learning can provide support that enhances training in a corporate business or other classroom environment.

c) Class management

The mobile phone can be used especially for distance education or with students whose courses require them to be highly mobile and in particular to communicate information regarding availability of assignment results, venue changes and cancellations, etc. It can also be of value to business people, e.g. sales representatives who do not wish to waste time away from their busy schedules to attend formal training events.

e) Outdoors

- Learning in museums or galleries with handheld or wearable technologies
- Learning outdoors (e.g. On field trips).
- Continuous learning and portable tools for military personnel.

f) At work

M-learning can reach a large number of employees easier and more effectively. (1) On the job training for someone who accesses training on a mobile device. (2) Just in time training to solve a problem or gain an update.

g) Lifelong learning and Self-Learning

The use of personal technology to support informal or lifelong learning, such as using handheld dictionaries and other devices for language learning, is an approach that is not to be overlooked.

- Improving levels of literacy, numeracy, and participation in education amongst young adults.
- Using the communication features of a mobile phone as part of a larger learning activity, e.g.: sending media or texts into a central portfolio, or exporting audio files from a learning platform to your phone.
- Developing workforce skills and readiness among youth and young adults.

h) Technologies

Personal technologies that can support mobile learning include:

- E-book
- Out start, Inc.
- Handheld audio and multimedia guides, in museums and galleries
- Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS
- Personal audio player, e.g. for listening to audio recordings of lectures (podcasting)
- Personal Digital Assistant, in the classroom and outdoors
- Tablet computer
- UMPC, mobile phone, camera phone and Smartphone

i) Technical and delivery support for mobile learning include

- 3GP For compression and delivery method of audiovisual content associated with Mobile Learning
- GPRS mobile data service, provides high speed connection and data transfer rate
- Wi-Fi gives access to instructors and resources via internet
- Cloud computing for storing and sharing files.

CONCLUSION

The Mobile Technology is the latest technology in the communication network which enhances the various aspects of innovative strategy in sharing and interchanging information through the web of mass media. The four approaches which adopted in the technological factors such as Emerging, Applying, Infusing and Transforming will represent a continuum to make knowledge free and attainable to all those who require it to obtain from educational resources at anytime, anywhere and accessible through this mobile Technology. The Utilization of this Mobile Learning technology by the learners would able to provide problem – solving, guided Instruction with analytical thinking, active participation and self –pacing inflexible learning environment. Hence, it's essential factor for the teachers and students to adopt this technology to face the challenges in the emerging knowledge based society. Therefore teachers and students must work together to enhance the level of utilization of Mobile Learning technology in the teaching –learning process.

REFERENCES

1. Altun, Arif; Cakan, Mehtap (2006). Educational Technology & Society, 9 (1) 289-297.

2. Ashour, Rateb; Alzghool, Haneen; Iyadat, Yousef; Abu-Alruz, Jamal (2012). E-Learning and Digital Media, 9 (4) 419-425.

3. Auld, Glenn; Snyder, Ilana; Henderson, Michael (2012). Language and Education, 26 (4) 279-296.

4. Baya'a, Nimer; Daher, Wajeeh (2010). Journal of Interactive Learning Research, 21(2) 165-185.

5. Bestwick, Angel; Campbell, John R. (2010). Exceptional Parent, 40(9) 18-20.

6. Bond, Emma (2010). Childhood: A Global Journal of Child Research, 17 (4) 514-529.

7. Cavus, Nadire; Ibrahim, Dogan (2008). Online Submission, Paper presented at the International Conference on Electrical and Computer Systems (EECS'08) (5th, Lefke, North Cyprus, Nov 27-28.

8. Chapel, Edward (2008). Journal of Computing in Higher Education, 20 (2) 15-23.

9. Daher, Wajeeh (2010). Australasian Journal of Educational Technology, 26 (1) 85-

104.

10. De Lucia, A.; Francese, R.; Passero, I.; Tortora, G. (2012). International Journal of Distance Education Technologies, 10(1) 55-73.

11. Eyuboglu, Filiz; Orhan, Feza (2011). British Journal of Educational Technology, 42

(1) 50-65.

12. Guven, Bulent (2007).International Journal of Educational Reform, 16 (2) 218-224.

13. Hodges, Charles B.; Stackpole-Hodges, Christene L.; Cox, Kenneth M. (2008). Journal of Educational Computing Research, 38 (2) 139-153.

14. Kraska, Marie; Harris, Stephen (2007). Journal of Industrial Teacher Education, 44 (1) 5-24.

15. Li, Mengmeng; Ogata, Hiroaki; Hou, Bin; Hashimoto, Satoshi; Liu, Yuqin; Uosaki, Noriko; Yano, Yoneo (2010). International Journal of Distance Education Technologies, 8 (4) 29-41.

16. Mousavi, Shima; Radmehr, Farzad; Alamolhodaei, Hasan (2012). Electronic Journal of Research in Educational Psychology, 10 (3) 1223-1248.

17. Rismark, Marit; Solvberg, Astrid M.; Stromme, Alex; Hokstad, Leif Martin (2007). Online Submission, Turkish Online Journal of Educational Technology - TOJET 6 (4) article 9.

18. Ziden,Azidah Abu; Rahman, Muhammad Faizal Abdul(2013).Campus-Wide Information Systems, 30 (1) 63-72.