



ISSN: 0976-3376

Available Online at <http://www.journalajst.com>

ASIAN JOURNAL OF
SCIENCE AND TECHNOLOGY

Asian Journal of Science and Technology
Vol. 09, Issue, 10, pp.8854-8856, October, 2018

RESEARCH ARTICLE

TEACHING SCIENCE THROUGH MOBILE LEARNING TECHNOLOGY IN OUR EDUCATION SOCIETY

*Dr. Brindha, P.

Associate Professor, Bharath College of Education, Thiruvarur, Tamil Nadu, India

ARTICLE INFO

Article History:

Received 15th July, 2018

Received in revised form

18th August, 2018

Accepted 11th September, 2018

Published online 30th October, 2018

Key words:

Teaching Science, Educational
Technology, Mobile Learning.

ABSTRACT

Early paper explores the transformative role of mobile learning technologies in enhancing science education within contemporary classrooms. With the rapid advancement and accessibility of mobile devices, students increasingly use them to manage personal learning spaces and seek interactive, flexible educational support. The study highlights how mobile-assisted learning fosters motivation, achievement, and competence, particularly in biology education, where concept mapping and mobile applications strengthen understanding of complex systems. Experimental findings demonstrate that mobile applications significantly improve intrinsic motivation and achievement compared to traditional textbook methods. The paper also examines the integration of mobile phones by teaching staff, noting widespread use for communication, resource sharing, and academic support. Furthermore, mobile multimodal and affective interactions are discussed as emerging approaches to enrich engagement and emotional connection in learning. Overall, mobile phones are presented as cost-effective, versatile tools that bridge classroom and home learning, offering innovative strategies to improve science education outcomes and prepare students for future academic and professional success.

Citation: Dr. Brindha, P. 2018. "Teaching science through mobile learning technology in our education society", *Asian Journal of Science and Technology*, 09, (10), 8854-8856.

Copyright © 2018, Brindha. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

One of the goals of national development as stated in the preamble of the Constitution of the Republic of Indonesia in 1945 is the intellectual life of the nation, and this could be interpreted literally by providing education that is specifically regulated in the legislation of the Republic of Indonesia No. 20 of 2003 on the national education system. Especially in recent years, the burgeoning mobile devices industry has augmented some of these advantages even further. Mobile technologies are advancing so rapidly and their cost has dropped so dramatically that present-day students characteristically use them for managing their 'personal space' and time (e.g., with music, e-books, and social networking). Unsurprisingly then, despite many practical labs, our students continually ask for more tutorials and problem solving sessions to assist their conceptualization processes. Due to highly constrained staff time for providing students with more face-to-face evaluation and feedback about their understanding and knowledge, we considered using online quizzes for students to self assess and receive instant feedback throughout the course.

Classroom activities in Biology Learning: In the study of Biology, the ability to build interrelationships among concepts and related topics, and to relate newly acquired knowledge to prior knowledge, is crucial to the understanding of biological concepts and how the systems work together to bring about a coordinated response. Concept maps, diagrams and other graphic organizers are useful tools to illustrate the links between concepts and topics.

Mobile-learning, motivation and achievement: Electronic-learning (e-learning) and mobile-learning (m-learning) has transformed the traditional learning context from Classroom. The increased use of smart phones and tablets in the population in general raises the possibilities for supporting learning and motivation in the educational domain. There have been several studies on the effectiveness of mobile learning, relative to traditional learning methods. Those studies on mobile learning primarily focus on evaluating the effectiveness of mobile learning and that these studies employed mobile phones as a learning system. Importantly, the results show that 86 percent of the studies report positive results of the research outcomes, as opposed to one percent who reported

*Corresponding author: Dr. Brindha, P.,

Associate Professor, Bharath College of Education, Thiruvarur, Tamil Nadu, India.

The role of Mobile phones in supporting teaching and learning: Computer Assisted Learning (CAL) has grown enormously during the past decades and has been enhanced by the recent advances in web-based applications, multimedia

technology, intelligent systems and software engineering. CAL may be used by instructors in a complementary way for their courses. Students may use educational software inside and outside classrooms in order to learn, practice and consolidate their knowledge. They may also use software from remote places in cases where the instructor is far from the student. The quite recent area of Mobile Assisted Language Learning (MALL) has made its appearance during the last decade and is currently widely used to assist in language learning. MALL has evolved to support students' language learning with the increased use of mobile technologies such as mobile phones, mobile music players, PDAs and mobile smart phone devices. Biology students traditionally use a textbook in the field and on courses to identify species, but now a new mobile-application tool has been developed as an alternative. Guided by Self-Determination Theory (SDT) we conducted an experimental study to test the effect of the mobile-application, relative to the traditional textbook, on students' intrinsic motivation, perceived competence, and achievement. Seventy-one students were randomly assigned to either an experimental condition (mobile application - ArtsApp) or control condition (textbook - Lids flora). As hypothesized, the students using ArtsApp had higher intrinsic motivation, perceived competence, and achievement, compared to the textbook control group, with medium to large effect sizes. Furthermore, using the mobile application, relative to the textbook, predicted intrinsic motivation, which in turn, predicted higher achievement scores in a path analysis. Lastly in a hierarchical regression analysis, intrinsic motivation and autonomous motivation accounted over and above in students' interest for species identification, and importance of knowing species

Mobile Multimodal Interaction: Current mobile on screen interaction concepts are limited to a two dimensional space with simple or multi-touch capabilities. To this point, the authors of explore different interaction approaches that rely on multimodal sensor input and aim at providing a richer, more complex, and engaging interaction experience. The authors of this study also conclude that finger tracking interaction seems to be a quite promising approach for mobile gaming and other mobile leisure applications.

Mobile Affective Interaction: In this book our prototype systems are incorporated into an educational application and data passes through a linguistic and also a paralinguistic level of analysis in order to address affect. Furthermore, all kinds of multimodal, linguistic and paralinguistic information is stored using the OO model that supports mobile transmission of data during human-mobile device interaction. This proposal is also not found in the related scientific literature. Their system tries to recognize users' affect among five emotional states while the experimental results indicate a quite high emotional classification performance (72.5 %).

Using mobile phones for teaching and learning among teaching staff: Teaching staff were asked whether they used their mobile phones for facilitating teaching and learning. It was found that 100% of the teaching staff made some calls and sent text messages for alerting students and communicating with colleagues on academic issues. Among the 25 staff who mentioned to access internet services through their phones, 76% mentioned to download scholarly materials through their mobile phones. Others, 54% mentioned to use smart phone

learning applications to support the teaching learning process (see Table 6 below for details).

Usage of mobile phones in teaching and learning

Type of usage	% of users
SMS for alerting students	100%
Calls for alerting students	100%
Surfing (downloading scholarly materials)	76%
Smart phone learning applications	54%

Experiments to test the effectiveness of a learning device: Mobile phones can be used for sharing information resources through Infrared, Bluetooth and Wi-Fi. Other applications including emails, Google drive and social media can equally be used for sharing academic information resources. According to Common Wealth of learning (2008), teachers can share with students' movies, audio files and other learning materials through their mobile phones. To measure how effective a learning device is developed, then there are 2 things that need to be seen are (1) perform tests of knowledge of students, and (2) did the test the attitudes of students. The second test it while also being part of the stages of research, i.e. phase 3 as stage experiments. This step needs to be looked at, as to find out whether there is an increasing environmental knowledge of students and student attitude change for the better in maintaining environmental sustainability due to the granting of study with biological devices that are already developed.

Mobil Learning Devise: Students can keep notes and gather sources for their projects, all of which can be shared with their teachers and classmates. Twitter is an information network that's available online and in app form. Conversations may seem trivial, but the valuable tool lets users share their thoughts, questions, links, photos, and videos. Students can tweet in journalism classes, posting reports online in real time, for instance, or on field trips, sharing what they're discovering on their trips. The periodic table comes alive with an app that provides detailed info on the elements, standard amino acids, and nucleobases. Edutopia is produced by The George Lucas Educational Foundation and highlights what works in education. We are a nonprofit operating foundation dedicated to improving K-12 learning by documenting, disseminating, and advocating for innovative strategies that prepare students to thrive in their future education, careers, and adult lives. Through our award-winning website, videos, and growing online community, Edutopia is supporting and empowering education reform by shining a spotlight on real-world solutions and providing proven strategies, tools, and resources that are successfully changing how our children learn.

CONCLUSION

Mobile phones represent new and fast growing development in ICTs innovation. Their adoption for teaching and learning models that have been adjudged information society compliant has also been growing. Mobile phones can be a great (and low-cost) technology tool in the classroom. Mobile phones have cameras and audio recorders which enables students to work on multimedia projects. They possess calculators and calendars which enhances a far better way to record homework or assignments than the print calendars students never carry around. In other words, mobile phones can allow students to

create and share content and they can provide an important bridge between the classroom and home. Although there is no single best way to facilitate learning, education researchers recommend that teachers should enhance or replace the classic didactic lecture method with other activities especially in Sciences.

REFERENCES

- Kramer, I. (n.d.). Constructivist Teaching and Biology. Retrieved on Feb. 2, 2009 from http://www.cellbiol.eu/docs/Constructive_teachingKramer.
- Nigerian Communications Commission 2015. Monthly internet subscriber data. www.ncc.gov.ng
- Vavoula, G., Sharples, M., Rudman, P., Meek, J., & Lonsdale, P. 2009. Myartspace: Design and evaluation of support for learning with multimedia phones between classrooms and museums." *Computers & Education*, 53, 286-299.
- Shaibu, A. 2014. Navigating the maze of Students' underachievement in Science: Does Science Education research provide a road map? Inaugural lecture presented at Ahmadu Bello University, Zaria – Nigeria. A.B.U. Press, Zaria.
- Ryan, R. M., & Deci, E. L. 2000b. Self-Determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68e78. <http://dx.doi.org/10.1037110003-066X.55.1.68>
