Sample Research Proposal

DOES COMPUTER ASSISTED LEARNING INCREASE STUDENT LEARNING OR GRADES?

Introduction

Information and Communications Technologies present a large spectrum of tools that teachers integrate in their job to improve course management, curriculum design, lesson planning and learning materials. Also, technology enhanced learning is the integration of ICT to support of learning activity, enhance the learning experience and improve the learning outcomes. Learning activities usually follow pedagogical approaches based on a curriculum design. Over the years, strides in technology have brought significant changes in the field of education at all levels. In the UK, the Government and other bodies such as National Grid for Learning and New Opportunities Fund ICT Training for Servicing Teachers have invested heavily in the ICT resources in education. The aim was to modernise school as well as to improve skills and performance of learners. Numerous investigations have been carried out to determine the impact of computer assisted learning on students' performance. It has been found that the use of ICT does not directly increase the performance of learners although, but may improve the knowledge and understanding of learners. However, most of the studies are concentrated on Key Stages and primary students. There are limited investigations carried out on the impact of ICT on learning at Higher Education.

It is a fact that Higher Education institutions have seen the biggest fraction of investments in the technological modernisation of their

learning environment. Furthermore, students are expected to be more independent and autonomous learners at this stage. Hence the lecturers' contributions to the understanding of the subject are minimal. Therefore, the aim of this research is to evaluate the impact of the use of modern ICT tools on the students' learning and performance. Besides students who will attend teaching sessions the traditional way, there is a high proportion of learners who are more dynamically involves in their studies, i.e. it involves more hot-desking. For instance distance learning students are expected to access learning materials online and remotely. Hence, the objective of this research is to compare the performance of students attending classes to distance learning students. Furthermore, a survey will be carried out on 50 lesson observations to validate the skills and ability of lecturers to use and integrate ICT into their course delivery. Action points will be generated from the observations report. Furthermore, 10 classes will be asked to attend two types teaching sessions: one with limited computer based learning and the second one with full integration of ICT tools in the session delivery.

Literature Review

Recent studies reported by Higgins stated that there is evidence that ICT can assist students in their learning activities, as well as help instructors to improve their curriculum design, course management, design of learning materials and lesson planning.[1] However, Higgins also stated that there are no clear evidence that

1 S Higgins, E Hall, V Baumfield, & D Moseley, *A meta-analysis of the impact of the implementation of thinking skills approaches on pupils*, Institute of Education. University of London, London, 2005.

the use of computer assisted learning improves learning[2]. In fact, other forms of learning techniques including peer reviews and group discussions improve learning at a higher rate. In fact, Marzano indicated that thinking skills and metacognitive approaches had bigger impact of the learning rate of students.[3] The British Educational Technology Association reported that there is no relationship between the level of resources for ICT used and results in English and Mathematics at Key Stages 2, 3 and 4.[4] Higgins found a very small link between the use of computers and students' learning and hence confirmed BECTA's research outcome.[5] A study by a Teacher Training Agency revealed that dramatic impact on students achievement were recorded when teachers used innovative approaches for more effective teaching sessions.[6] This was due to the fact that teachers effectively implemented ICT in their curriculum delivery to support the learners' experience. However, the gains are not evidence that ICT had a positive impact on achievement.

On the other hand, Higgins also reported that feedback provided by a computer improve students' performance. Computer 'assessors' for Key Skills on-screen tests have proved to be a far greater success than the traditional paper-based tests.[7] Text-to-speech feedback, voice input and text feedback have proven to improve

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2 ibid.
3 RJ Marzano, '*Classroom assessment & grading that work*', Alexandria, VA: Association for Supervision and Curriculum Development, 2006.
4 Becta, 'Making a difference with technology for learning: evidence for school leaders', *Becta*, 2006, viewed on 31 January 2011, <http://publications.becta.org.uk/display.cfm?resID=25961&page=1835>
5 ibid
6 Training of Teachers, Fourth Report of Session 2009–10, House of Commons, Children, Schools and Families Committee, vol. 1, 2010, viewed on 31 January 2011, <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmchilsch/275/275i.pdf>
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communication skills at early stages of students' development, especially for ESOL learners.[8] It was found that it is imperative that the application of computers matched the students' attainment although computer feedback does not help students to improve their learning.[9] ICT tools also assist learners to manipulate complex data-sets, visualise ideas as well as develop conceptual understanding. Investigations in the field also have also stated that skills must not be taught in isolation[10]. For instance, Multimedia presentation improve phonological awareness but not word recognition. Some academicians even compared the integration of ICT tools in education as method to improve computer games skills. As group discussions in a small group or whole class settings are proven learning technique, Higgins argued that instructors must teach students to use ICT tools in order to interact with each other.[11] However, Marzano reported that there is little evidence of the implementation of ICT for group discussion.[12]

Conclusion

A review of the several investigations carried out on the use of computer assisted learning is presented in this report. It is observed that the implementation of ICT does not have a major impact on the learning experience learners, although it is of enormous benefits to instructors. On the other hand, it is envisaged that the use of ICT tools in Higher Education will have different impact on the learning

8 JMA Grant, 'Electronic Books Effective in Teaching Young Children Reading and Comprehension?', *International Journal of Instructional Media*, vol. 31, no. 3, 2004, pp. 303-307.
9 ibid.
10 K, Ala-Mutka, Y Punie & C Redecker, '*ICT for Learning, Innovation and Creativity*', Policy Brief, European Commission, Institute for Prospective Technological Studies, 2008.
11 ibid.
12 ibid.

outcomes due to the autonomous and independent nature of studying at that level. Although there are some mixed feedback concerning computer assisted learners, ICT is here to stay, and can never be removed from existing processes. In fact, the objectives should be more focused in negating the drawbacks of computer assisted learning. In this research, a set of action points will be generated from the lesson observations, feedback and performance tests. It is expected that those action points may help to improve performance of learners in Higher Education. Furthermore, they may also be considered to be applied at lower levels such as Key Stages to measure the impacts.

Bibliography

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