The emergence and social impact of the internet on primary school education

Technology, Internet



Introduction

The computer and its relatedtechnologysuch as the internet are increasingly used in society today, impacting various systems including classrooms in primary schools across the world. There has been an increase in use and emphasis of information and communication technology (ICT) in educational activities, to aid teaching and to enhance learning. Primary schools have been encouraged to integrate ICT into the curriculum and to provide not only access, but also knowledge and skills to prepare students for life in a modern society.

Several western countries throughout the globe such as the United Kingdom and the United States have prioritized the use of ICT ineducationthrough policy development and the allocation of funds for the endeavour (US Department of Education, 2004; Labour Party, 1997). The No Child Left Behind Act announced by the US government in 2001 and its constituent subsection Enhancing Education through the Technology Act of 2001, provided for the evaluation of technology and its significance to teaching and learning in the long term.

In the UK, access to computer technology was prioritized in the 'National Grid for Learning' providing access to essential education materials of high quality (Labour Party, 1997). The British government made huge investments in creating initiatives such as 'UK online'- networked online centres, the 'National Grid for Learning' initiative – the connection of 30, 000 public schools to the internet by 2002, as well as the 'New Opportunities Fund' – to train teachers in the use of technology (Selwyn, 2002).

To support the strategic use of ICT in UK's four education departments, BECTA (the British Educational Communications and Technology Agency was established (BECTA, 2006). It serves to provide insight from research and analysis of ICT as a strategic advisor and coordinator of e-strategy. It also works with relevant partners to enable the strategic delivery of e-strategy (BECTA, 2006). In the US, the Department of Education's Office of Educational technology (OET) seeks to maximize the contribution of technology towards the improvement of education (US Department of Education, 2004; 48).

These policy initiatives, in addition to those of other stakeholders such as school's management and boards, parents, as well as the ICT and other industry, have served as catalysts for the development of new standards, enhancing the use of ICT tools and the internet in primary schools (Prior and Hall, 2004).

Discussing the all-round internet use by children, Livingstone (2003) distinguished three major categories including: entertainment, education and edutainment. This variance in usage can both be beneficial in improving learning outcomes with the enhancement of engagement, and challenging outcomes, where the children have difficulty in withdrawing from the desire for entertainment provided through ICT. For instance, regarding the use of ICT for leisure purposes (especially game-playing), there is significant evidence linking to the hindrance of progress to target attainment. The more time in leisure activities such as on games, the less is available for study Lankshear and Knobel, 2003).

A study conducted by Passey et al., 2004 made the finding that pupil's learning with the use of ICT was characterized by greatermotivationlevels towards the achievement of personal learninggoals, which is a desirable outcome in education, but less desirable was their increased motivation towards gaining positive feedback on their individual competence. This latter trait had its evidence in the concern among pupils offailurein front of others, especially theteacher. Other studies (Passey et al., 2004, HMIE, 2005; Livingstone and Condie, 2003) also support the view that these technologies and their visual nature – animations, simulations and moving imagery, enhanced the engagement of learners through the employment of varying approaches to teaching, and enhanced their conceptual understanding.

With regard to ICT and attainment, an extensive review of literature by Cox et al., 2003 found in a survey of almost all National curriculum subjects, that ICT had a positive effect on pupil attainment, marked in core subject areas in which investment on specific ICT resources to support teaching and learning has been greater such as English, MathematicsandScience. These technologies were specifically found to generally support language development, especially at early stages, on word recognition and vocabulary building which are essential sub-skills (Lankshear and knobel, 2003). The internet has significantly enhanced the support and stimulation of education activities across the curriculum with the increased range of resources. Engagement with teachers was also improved, with the teachers having positive responses to the use of learning objects in their classrooms, as well as their competence and ability to integrate technology into the learningenvironmentand process (Saude et al., 2005). These benefits have enhanced change and innovation in primary school education increasing access to and the use of technologies (Ofsted, 2004).

Williams, 2005 reported that ICT had particular positive effect for pupils with special needs enabling them to rise above their unique barriers to learning and, in as well, leading to their greater achievement, improvement in selfesteem and confidence, as well as enabling greater participation in their present work.

Partly due to its support of a student-centred learning environment, the use of the internet in teaching is growing exponentially (Hill et al., 2004). The interactive technologies offered by ICT allow for teachers to capture materials digitally from a variety of sources, which are cut and pasted to create new and exciting teaching materials relevant to the context and the young student's learning needs. Valentine et al., 2005 in a survey of parent and pupil perceptions of ICT found that these stakeholders believed that the internet and ICT tools made schoolwork more enjoyable and improved achievement, as well as improving motivation and confidence of the pupils.

Saude et al., (2005); Plowman and Harlen, (2000); and Cox et al., (2003) note that teachers often encounter challenges in the integration of ICT and the internet into primary school education programs. In primary school,

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pedagogy is invariably given greater attention and the traditional focus on the child, as opposed to process skills or specific subject knowledge in the higher levels of learning. The teacher's role has, however, changed especially in situations of more extensive ICT use in classrooms and elearning contexts, becoming more of a facilitator, offering support and mediation. This changed role, Reeves (2008) notes, encourages a predominantly ' instructivist' pedagogicalculturerather than constructivist, where the learner is often viewed as a passive recipient of instruction receiving little emphasis.

Inequality in access, especially with regard to ICT tools for home use, is a major challenge impeding participation for the disadvantaged and therefore challenging their outcomes. This inequality could be due to numerous factors including socio-economic status, gender, ethnicity, etc. (John and Sutherland, 2005). There is also a challenge in technology's unintended promotion of segmented learning as opposed to group learning. The internet and ICT technologies and especially the use of laptops and personal computers encourage stationary operations and individuality opposed to the mobility and sociability of students characteristic in a traditional primary school classroom. Children are often swept off by the immense opportunities afforded including the use of various media, and are difficult to control as a group. It would be hard in such instances of drift to revert back to the whiteboard or chalkboard, and the controlled learning process (Cox et al., 2003). The use of interactive whiteboards, however, mirrors the traditional

setting and control and enables greater involvement and participation, with the teacher at the front and engaging the whole classroom.

With the internet making available tons of information with dedicated search engines providing ease of search, it is characteristic for the primary school students to scan for bits of information in rapid fashion rather than spend time to increased concentration on the context, thereby minimizing their acquisition of the content of information (Cox et al., 2003). E-learning has also been increasingly questioned over issues such as the loss of the traditional opportunity to think out loud, to engage in working through problems, and to engage in the constitution and articulation of new ideas. These could be a hindrance to the desired outcome and the development of social skills (Hill et al., 2003). In the traditional setting, students are able to see their peers in action with everyone wanting to put up their best work.

There are concerns over Child Safety with the availability of the internet. It is essential to have child safety in all its forms and various countries have, in light of such concerns, instituted protection measures for children. The US government through the Children's Internet Protection Act (CIPA) of 2001, for instance, sought to enforce the introduction of policies for internet safety for students in primary schools. In this endeavour, procedures and technologies to hinder access to inappropriate sites, such as teacher monitoring, blocking software or filters, as well as contracts with both parents and students have been instituted in various primary school systems and settings (Barrow, C., and G., Heywood-Everett, 2006). In the UK, internet safety is also a pressing issue, and various filtering strategies and safety policies, including the employment of an internet safety coordinator (BECTA, 2002). However, a research study made the finding that Year 6, 10 and 11 students were more likely, due to internet usage at home, to access unsuitable sites in breach of set-out policy (Barrow and Heywood-Everett, 2006). Risk areas associated with the internet can be distinguished including cyber-crime (bullyingor stalking), its negative effect on social relations, and negative emotional impact due to exposure to pornography, violenceand explicit language. Studies also indicate negative impacts ontime management, with the neglect of school tasks drawn away byinternet addiction(BECTA, 2002). The internet also seems to cause reduced concentration with intense use due to its offer of a plethora of infinite opportunities. It is also linked to physical impacts onhealthsuch asobesityand muscle pain (Barrow and Heywood-Everett, 2006.).

With the increased use of technology and especially the internet in society today, there has been an increase in use of such technologies in primary school educational activities across the globe. The benefits conferred by ICT use include enhanced interest and engagement in the school curriculum, improvement of basic skills, lessened disengagement of students and the improvement of learning outcomes. Its negative impacts include the consequent lack of concentration, challenges in time management, hindrance of socialization and concerns of child safety from risks of cybercrime and exposure to inappropriate content.

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