

Editorial: Potential and challenges in the use and adoption of ICT

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Welcome to Volume 5 Issue 3 of the *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*.

In this issue we have articles on or from: Australia, Guyana, India, Iran, Jordan, Malaysia, Nigeria, Pakistan, Singapore, South Africa, Sri Lanka, Sultanate of Oman, Turkey and USA. As is often the case, most of the articles are about education.

To meet the demands and expectations of increasing global competition, contemporary accountants require a range of generic skills together with the ability to apply these skills in a range of unique situations. Teaching and learning strategies should move away from procedural tasks and memorising professional standards towards more conceptual and analytical teaching and learning. In their article "New paradigms in the teaching and learning of accounting: Use of educational blogs for reflective thinking" Mahesh Joshi and Ritesh Chugh illustrate and evaluate educational blogs as an engagement and reflective tool for accounting students and how they can improve educational outcomes for accounting students.

The Ministry of Education of Jordan (Moe) is the first institution introducing an open e-learning platform in the school system of Jordan, and has been deploying the system in 100 experimental (discovery) schools in that region. In the article "Investigating online learning environments in a web-based math course in Jordan", Akram M. Alomari describes a study which focuses on a web-based learning environment and the integration of uses and gratification approach into the evaluation of the quality of Jordanian tenth grade math students' experiences when interacting with an e-learning platform. This study investigates the learning activities and the relationships created when learners interacting with e-learning platform. This study uses interviews, direct classroom observations and field-notes of classroom practices. The findings suggest that Jordanian students recognized the potential of e-learning platform to support the data gathering for teaching and learning, but they were uncomfortable and unsatisfied with the learning environment provided.

The Agricultural Insurance Fund (AIF) in Iran has hired private sectors named "brokers" to implement an agricultural insurance scheme. AIF has spent considerable time, effort, and money to train brokers. Unfortunately, many of their investments are met with disappointing results and traditional education is no longer effective. To overcome this challenge, an information and communication technology (ICT)-based training system seems the best solution. In their article "An ICT based training system: A case study for agricultural insurance brokers in IRAN", Maryam Omid Najafabadi, Jamal Farajollah Hosseini, Mehdi Mirdamadi and Reza Moghadasi describe a study to design an ICT system to train agricultural insurance brokers in Iran. To achieve this aim, a theoretical framework is presented, based on previous research.

The article “Effects of integrating digital visual materials with textbook scans in the classroom”, by Saurabh Panjwani, Luana Micallef, Karl Fenech and Kentaro Toyama, examines the effects of treating learners in a classroom to digital visual materials on a shared display, while interleaving such materials with scanned copies of relevant textbook pages. Forty-six ninth-grade students in a public school in Bangalore (India) were divided into two groups and given instruction in Science and Literature, the first group (control) being exposed to digital visual materials in both classes while the second (treatment) to the same materials interspersed with digitally-scanned copies of textbook pages. The results suggest that digitized versions of textbooks are useful in improving students’ retention of visual materials utilized during classroom instruction.

In Guyana, like many developing countries, educators are cognizant of the benefits of the integration of computer technology but due to economic constraints have been unable to equip their mathematics classrooms adequately. Based on this reality, educators were introduced to the one computer classroom that is known to offer a cost-effective way to accelerate high quality delivery of the mathematics curriculum especially to students with average and below average mathematical ability. In his article “Accelerating quality delivery of the mathematics curriculum by re-tooling mathematics classrooms with only one computer”, Peter Wintz examines the impact of computer aided instruction on students’ performance. Eight student-teachers from eight secondary schools and 190 secondary school students were involved in the study. The findings revealed that the computer aided instruction did not only improve students’ performance but their level of retention of knowledge was higher.

Computer Science education is becoming a fundamental teaching area with the Information and Communication Technology (ICT) development. After years of use in the industry, the Agile software development process possesses standard characteristics of a process paradigm. However, it is rare to observe studies on Agile practice used in computer science education with its impact to student learning. In the article “Impact of Using Agile Practice for Student Software Projects in Computer Science Education” G.I.U.S. Perera describes findings of such a study conducted in a university education environment. The study was conducted on a student programming project, with sample size of 100. The results indicate a significant impact on students’ skill improvements.

Utilising the Internet to deliver e-learning initiatives has created expectations both in the business market and in higher education institutions. Universities have been faced with the daunting task of having to re-adjust and re-organise themselves in preparation for the incorporation of e-learning within their institutions. Institutional leaders have also been faced with the challenge of having to align their institutional objectives to meet the needs and demands of the e-learning dispensation. Indeed, e-learning has enabled universities to expand on their current geographical reach, to capitalise on new prospective students and to establish themselves as global educational providers. In the article “Confronting challenges to e-learning in Higher Education Institutions” Jephias Mapuva explores the issues surrounding the implementation of e-learning in higher education, including the structure and delivery of higher education, the implications to both students and lecturers and the global impact on society.

Hardware infrastructure is in place in schools in Singapore to enable them to be seamlessly connected to the Internet to tap the wide array of opportunities the Internet affords. However, the power of technology needs to be combined with the expertise of pedagogy to form a potent partnership that elevates the quality of instructional delivery. This concern becomes particularly problematic when critical information literacy skills underpinning the success of Internet-based learning initiatives are self or peer taught, as it often happens in Singapore. Information literacy skills are too complex and diverse to be able to be readily learnt through self-taught modes of

knowledge acquisition by young learners. In “A baseline study on the Internet information search proficiencies of polytechnic students in Singapore” Kumar Laxman describes a baseline study which attempts to document the Internet information search proficiencies of a sample of polytechnic students in Singapore to underscore the importance of systematic, intentional integration of information literacy skills within formal curriculum in schools.

The Institute for the Study of Digital Inclusion (ISDI) promotes digital inclusion through dispersion of computers and promotion of digital literacy to at risk children of low economic status within the State of Florida. In his article “The effects of Information and Communication Technology on at risk children of low economic status: *Make It-Take It After-School Case Study*”, Shahram Amiri describes a study with the goals to determine: 1) Will providing students with relevant software and hardware skills and knowledge influence long-term academic performance? 2) Will digital literacy increase the student’s commitment and desire to actively participate in future learning processes? The findings indicate a direct increase in academic performance and participation in learning processes by students that completed the *Make It-Take It After-School* program.

The study described in “Gender, subject and degree differences in university students’ access, use and attitudes toward information and communication technology (ICT)” by Khalid Mahmood reports the findings of a questionnaire survey conducted to see the gender, subject and degree differences in access, use and attitudes toward information and communication technology (ICT) of 625 students of the University of the Punjab, Lahore, Pakistan.

Muhammet Demirbilek, in the article “Exploring the status of ICT use in adult education: Perspectives from eight European countries - “reflections, insights, and challenges” reports on the results from a structured survey returned from participants in Bulgaria, Hungary, Italy, Lithuania, Romania, Spain and Turkey (together with an agreed shorter submission from Cyprus). Participant countries’ status of use of ICT in adult education specifically the national or regional policies in place, curriculum framework for the use of ICT in practice, availability of online learning resources and tools, reflections, insights, and challenges were examined. The results of this study suggest that in some of the countries, especially the new member and candidate countries, firmly conceived national strategies for adult education are only beginning to emerge.

In the paper “Open flexible learning (OFL) as a strategy for enhancing human security in Nigeria”. by Terhemba Ambe-Uva and Eunice Adegbola, an analysis of open flexible learning (OFL) as a means of enhancing Human Security in Nigeria, within the context of HIV/AIDS pandemic is carried out. It is argued that open learning and distance education have the potential benefit of addressing Africa’s challenges of social dislocation, poverty, conflict and marginalisation, and the achievement of the continent’s human development goals. It is also argued that the integration of ICTs in this mode of delivery empowers people in developing countries thereby improving their means of livelihood, and enhancing their human security, particularly, as it addresses threats emanating from the HIV/AIDS pandemic.

The study described in “Diffusion of technology adoption in Cambodia: The test of a theory” by Jayson Richardson, tested the diffusion of innovations theory to determine if it was applicable in describing technology adoption patterns of teacher trainers in Cambodia. Tested were eight perceived characteristics of innovation and four demographic variables. MANOVA results indicated that different types of adopters had significant differences in eight perceptual characteristics and four demographic variables. ANOVA results indicated that seven of the eight characteristics significantly impacted adoption and no demographic variable had a significant influence on adoption rates. Findings for further theoretical development, ICT project planning, and suggestions for future research are included.

“The potential of using information and communication technology for poverty alleviation and economic empowerment in Osun State, Nigeria” by Olaniyi Sofowora investigates the impact of the ICT programmes introduced by the Telecommunication Industries in Nigeria at reducing the problems of unemployment and poverty. It also examines various efforts made by the government at reducing poverty and high rates of unemployment among the youths in Osun State, Nigeria. This study adopted a descriptive survey design. The results showed that mobile divides and ICTs have brought more development and economic benefits to the youths in the state than any other aspect of SEEDS. It has also drastically helped to reduce poverty, high unemployment rates and youth unrest in the state.

The article “Role of information and communication technologies in improving food availability of Iranian rural households” by Farhad Lashgarara, S.Mehdi Mirdamadi, S.Jamal Farajollah Hosseini and Mohammad Chizari describes research to identify the effectiveness of ICTs in improving the food availability of Iranian rural households. Regressions analysis showed that increasing food production, transferring of new methods and technologies, improving interactions and communications, providing information about cultivation and harvest, facilitators and content of old technologies were determined to account for 71% of the food availability.

Computer Science education is becoming a fundamental teaching area with the Information and Communication Technology (ICT) development. It is a known fact that traditional educational and ENUM (Electronic Number Mapping) is powerful protocol that maps telephone numbers to Internet Protocol addresses. It allows users with IP-enabled devices to locate and call friends or families across the Internet, bypassing the ordinary telephone system and thereby cost no more than the rental already paid for the Internet connection. Other benefits include unified address offering and easier communications management. In the article “Will ENUM effort in Malaysia be feasible? An academic perspective”, Saadiah Yahya studies the feasibility of ENUM in Malaysia. The roles of academic institutions, ENUM model and way to conduct ENUM closed trial in Malaysia will be highlighted. Issues of ENUM are also discussed.

Remember to check the Navigation Bar on top of the journal website and click on “DLDC Website” to get to the rewritten Distance Learning in Developing Countries website - http://members.tripod.com/stewart_marshall/index.html. As ever, the issue also brings more postings to the journal blog: “CEDICT: Communication, Education and Development using ICT” - <http://cedict.blogspot.com/> - also accessible from the Navigation Bar.

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