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The Prevalence of Computer-Assisted Teaching and Learning in Business Studies Classrooms

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ABSTRACT This paper is based on research for a thesis at the University of South Africa. The original study examined the pedagogical practices of Business Studies teachers in Botswana junior secondary schools and it explored the extent to which business teachers incorporate constructivist pedagogies in their classroom practices. This paper focuses on one of the areas explored in the main study and discusses the prevalence of computer-aided teaching and learning in Business Studies classrooms. The findings suggest that Business Studies teachers have a working knowledge of basic computer technology tools and that they use computers mostly to produce teaching aids, for record keeping, for research and for setting tests and assignments. Although ICT resources are available in the schools, the majority of teachers has not yet integrated information and communication technologies on a consistent basis as both a teaching and learning tools.

INTRODUCTION

Technology has led to greater strides in education, allowing students and teachers the opportunity to use multiple learning tools in ways that were unimaginable a few decades ago. Many countries have set national goals and policies that identify a significant role for information and communication technologies (ICT) in improving their education systems and curricula (Kozma and Anderson 2002). African counties are no exception. According to Virkkunen et al. (2006), many countries in Africa are following industrialised countries in efforts to restructure their educational practices through utilising the potential of information and communication technologies. It is expected that ICTs will improve the quality of learning, motivate students and allow them to exercise complex skills needed in their future working lives. In Botswana, where this study was carried out, the promotion of e-learning and computer-aided learning (CAL) is a critical component of the government's ICT policy which aims at having all schools and libraries equipped with computers and internet connectivity and the Ministry of Education and Skills Development has dedicated financial resources to the rollout of ICTs in schools (Isaacs 2007).

This paper focuses on investigating the extent to which Business Studies teachers in Botswana secondary schools are harnessing ICTs in the pedagogy of the subject. It is common knowledge that ICT plays a crucial role in virtually all areas of modern business and it should be expected that business education is one field of study that should benefit from ICT applications. Computer-aided learning is one of the methods recommended for teaching junior secondary school Business Studies (Republic of Botswana 2008a; Republic of Botswana 2008b) and the rationale could be the fact that it is now widely accepted that the integration of modern information and communication technologies into the teaching-learning process has great potential as a tool to support the learning process. Besides bringing dynamic changes into our global society, information technology has had a significant impact on student learning. For example Albrecht and Sack (2000) reported that information and communication technologies tools provide significant positive effects on students' motivation and learning in business education classrooms.

The pedagogical capabilities and the capacity of ICT to assist in business education teaching were reported by Reynoldson and Vibert (2006). These include visualisation and simula-

tion using visually rich means of instruction such as rich pictures and games that replicate real world activities such as stock exchange trading, small business cash flow projections, product promotions campaigns and many more. They also include teaching activities involving direct links between the world of work and the classroom such as working independently, presentation skills, research and information access skills, creativity skills and communication skills (Castro 2003). It can be said that integrating ICT in business education classrooms is a way to bring the outside world into the classroom, thus creating an authentic context for the learners to acquire the skills they need in future in the real business world (Sampath and Zalipour 2009). The ability of ICTs to bring realism and learner-centredness to teaching supports contemporary constructivist views of teaching where emphasis is placed on authentic learning environments, realism, active student involvement in the learning task and the mastery of meaningful and useful business skills and knowledge (Herrington and Herrington 2006). From the preceding discussion, it can be inferred that incorporating ICT in Business Studies classrooms offers prospects of close interaction between the workplace and the classroom through the provision of more realistic settings for learning than has not been possible in traditional business education classroom environment.

Various information and communication technology tools are available to the Business Studies teacher. The internet, simulation programs, database and spreadsheet applications can allow students to see the relevance of Business Studies by demonstrating to them the relevance of concepts taught to real life. At the same time, such experiences fulfill the pedagogical goals of allowing students to apply concepts and recognise the legitimate range of application of business and economic analysis. The various ICT tools that can be deployed in the Business Studies classroom were cited by Borrington (2004: 49) as follows:

Spreadsheets especially are useful in the teaching of finance as changes can be seen instantly. Word processing is generally useful for presenting work neatly in a businesslike way and motivating students by helping them to improve the presentation of their work. Desktop publishing (DTP) can be used to produce advertisements for products or jobs, while PowerPoint can be used to give presentations.

Business teachers can also use the internet to allow students to have access to a collection of websites as part of their reading and research assignments. It is common knowledge that the internet offers a vast amount of resources that are otherwise not available in any one geographical location. Students and teachers can gain very rich learning, reference and research materials without having to leave the classroom.

In Botswana, ICT resources have found their way into almost all schools (Ottevanger et al. 2007) and all junior and senior secondary schools have at least one fully equipped computer laboratory (Isaacs 2007; Liu et al. 2008). This is significant because ICT can be used to improve the delivery of education and can be used to improve the skills of learners and prepare them for the global economy and information society. A study carried out in Botswana junior secondary schools by Kaino (2008) found out that many students found learning using computers to be useful and enjoyable. Furthermore, in his study on ICT-supported teaching in secondary schools in Botswana, Boitshwarelo (2007) was of the view that ICT usage can broaden and deepen learning outcomes by fostering sharing, reflection and iterative knowledge construction among learners.

The discussion above points to the fact that ICT in teaching can provide for greater flexibility and autonomy for learners to engage in self-directed and independent learning. However, research studies in the past few years have shown that computer technology is an effective means for widening educational opportunities, but most teachers neither use technology as an instructional delivery system nor integrate technology into their curriculum (Afshari et al. 2009).

Studies reveal a number of factors influencing teachers' decisions to use ICT in the classroom. Reynoldson and Vibert (2006) observed that although ICT is now widely utilised in business education, its deployment has tended to supplement rather than displace traditional approaches to teaching and learning. This observation by Reynoldson and Vibert, if true, may militate against the deployment of ICTs in Botswana classrooms where, like in many other countries, prescriptive teacher-dominated classroom practices are prevalent (Fuller and Snyder 1991; Arthur 1998; Tabulawa 1998). The maximization of the advantages presented by ICT requires a shift in mindset away from the notion

that the teacher should dominate the teaching-learning process (Chisholm et al. 2004). Another factor that may hinder the use of CAL in schools is the lack of connectivity to the internet. Isaacs (2007) observed that although computers are available in most schools in Botswana, often they are not connected to the internet thus precluding their use in classroom instruction that uses web-based resources.

Objectives of the Study

The paper sought to:

1. Examine to the extent to which business teachers incorporate computer technology in their classroom practices:
2. Find out the various ways in which computer technology is employed in the teaching of business subjects.

Research Questions

The paper was guided by the following research questions which were derived from the objectives:

1. To what extent do Business Studies teachers integrate computers into their instructional practices?
2. How do Business Studies teachers incorporate computer technology in their lessons?

METHODOLOGY

The study was carried out in three secondary schools (School A, School B and School C) using an approach which Sturman (1994) termed a multisite case study. The schools were selected purposively taking into consideration that they offered Business Studies in their curricula. Once the schools had been identified, the 6 teachers were selected using the guidelines of critical purposeful sampling (Patton 1990) and they were chosen because (1) the researcher used his personal judgment on their ability to answer the research questions, (2) they taught Business Studies and (3) they agreed to participate in the study. It is assumed that the schools and respondents selected using this approach provided the "best" information to address the purpose of this research.

Data were gathered using structured interviews, class observations and analysis of teachers' teaching plans and related documents. The use of triangulation or multiple data collection methods was meant to enhance the credibility and conformability of data collected (Ellsberg and Heise 2005) by bringing together different sources of information to converge or conform to one interpretation. For the purposes of analysis, the data collected were compared and cross-referenced. Similar responses were grouped into categories and common patterns were identified to facilitate the profiling of the perspectives of the business classroom practitioners as a means of deriving meaning and drawing inferences.

FINDINGS AND DISCUSSION

Profile of Respondents

Six teachers (T1, T2, T3, T4, T5 and T6) drawn from three schools participated in the study. All 6 teachers in the sample held teaching qualifications. 5 held diplomas in education and 1 had a postgraduate certificate in education. All but one of the teachers were holders of degrees in business-related fields with specializations in fields such as Economics, Marketing, Commerce and Accounting. Teachers' teaching experience ranged from 4 to 21 years. Since most of the respondents in the sample were experienced teachers with a mean length of teaching service/experience of 14 years, it is assumed that the responses that the teachers gave relating to the pedagogy of Business Studies were a result of their experience(s) in the teaching of the subject.

Integration of Computers into Instructional Practices

Computer aided learning (CAL) is one of the teaching methods recommended for teaching Business Studies and it came as no surprise that all 3 schools sampled in this study have computer laboratories. Teachers' uses of ICTs in teaching were sought. All 6 teachers indicated that they use ICT in teaching. Responses indicate that although computers in schools may not be enough to go round teachers do use computers in teaching topics such as computerized accounting (which is in the syllabus) and computerized filing (in Office Procedures). All 6 respondents went further to say that they use computers mostly as aids to teaching and not as pedagogical tools. In other words, they use com-

puters to produce teaching aids that they will use in class, for record keeping, for research and for setting tests and assignments. Below are some of the teachers' responses to an item which sought to find out the extent to which they use ICTs for resource production, record keeping, web-based research and presentation of lessons:

T1: *"I use the computer mostly for record keeping and internet resources. Using it for presentation is not that easy since the school has limited resources therefore we rely much on the Computer Awareness lab which is busy most of the time."*

T2: *"I use computers lots of times because the students' marks are analyzed using the computer software (sic). I also use computers to prepare assignments and teaching aids, searching information before delivering the content to the students."*

T5*: "I only use ICTs support in resource production, record keeping and internet resources to enhance my teaching. This may include preparation of test papers and examination papers in the school."*

T6*: "I use the internet to do research on topics I teach in my classes. I also obtain teaching materials such as case studies from the internet."*

Overall, it was observed that all 6 teachers are competent in the use of basic ICT tools and they do incorporate ICTs in their practices. ICTs are mostly used for record keeping and resource(s) production. The majority of teachers in the sample though had not yet embraced ICTs as pedagogical tools. Evidence gathered indicates that the potential of using ICT for enhancing the presentation of classroom work in business education is not being fully realized. As a consequence, students may be missing out on the benefits that can be reaped through the employment of ICT-mediated teaching and learning. These benefits include enhanced commitment to the learning task by students, enhanced enjoyment and interest, increased self-esteem and increases in independence and confidence (Cox et al. 1999). Furthermore, the use of ICTs in the classroom support and promote contemporary theories of teaching and learning such as constructivism (Jena 2014) and the benefits of this are immense because in constructivist classrooms learners are actively involved, the classroom environment is democratic, the activities are interactive and student-centred and the teacher facilitates the learning process in which students are encouraged to be responsible (Kalpana 2014).

The Use of Presentation Graphics Software

Presentation graphics software is application software that allows users to create visual aids for presentations to communicate ideas, messages and other information to a group. One of the preferred presentation software is PowerPoint. PowerPoint is designed to support teacher presentations in the form of a slideshow. Data gathered from interviews indicated that 2 teachers sometimes use presentation software in their lessons. The remaining 4 teachers gave varied reasons for not using presentation software in their lessons:

T2: *"…Regarding the use of PowerPoint the problem is that there is only one projector that is solely used for Computer Awareness lessons hence it's not movable and again the computer lab is always in use and its difficult to get a slot to use it during the lessons."*

T4: *"…I wish my classroom had a projector so that I could use PowerPoint. The other problem is the internet which is very slow and connected to the computer room (sic) and one can access it only when there is no computer lesson."*

T6: *"When the situation arises, I do sometimes use PowerPoint in my lessons although this is not a regular occurrence."*

In lessons observed, none of the teachers used presentation software. Furthermore, no such software was listed in the *Instructional Materials* columns of teachers' schemes of work. The conclusion that can be drawn is that Business Studies teachers seem to sometimes incorporate presentation software in their lessons but not with the frequency that can maximize the educational benefits of using this resource. Studies have shown the beneficial nature of using presentation software in the classroom. For example, Szabo and Hastings (2000 cited in Sugahara and Boland 2007) suggested that lesson presentations via PowerPoint have particular advantages due to their ability to capture students' attention through the various use of colour, fonts, image, dynamic model building and multimedia capacity. Research in accounting education by Nouri and Shahid (2005) concluded that the graphical nature of the PowerPoint presentation arouses students' imagery systems

and could contribute to comprehension and improvement in their short and long-term memory. Nouri and Shahid (2005) went further to infer that for more difficult and challenging accounting topics that require problem-solving and those topics that are discussion-oriented, students taught with the aid of PowerPoint performed better on quizzes than did students taught using traditional media.

The Use of Spreadsheets and Simulation Software

Spreadsheet programs are among the most powerful tools in business education. One good thing about these programs is that they are user friendly and relatively easy for business students and teachers to run many different simulations and test many different business scenarios with the click of a mouse. Business teachers use spreadsheet programs like Microsoft Excel to teach many things from how to create a personal or company budget to how to run a break even analysis (Conrad 2012). Evidence gathered from interviews and analysis of teaching documents shows that teachers do use spreadsheets when teaching computerized accounting and computerized filing. However, none of the 6 teachers indicated that they ever use online business simulations or games. Below are some of their responses to the item on how often they use spreadsheets and simulation software:

T1: *"Yes. I use Excel for record keeping, internet for research, PowerPoint for presenting lessons. Students are expected to learn how to use Microsoft Access for computerized filing, Microsoft Excel for computerized accounting and Microsoft Word for word processing (sic)."*

T3: *"Due to lack of internet in the school I never use most of them except for spreadsheets where I teach them record keeping, using formulae to calculate average marks, grading, generating graphs from the computed statistics and positioning."*

T4: *"Sometimes especially teaching computerized accounting where I use spreadsheet therefore the lessons are conducted in the afternoon as the computer lab is used for Computer Awareness during the day."*

It is heartening to note that Business Studies teachers utilize spreadsheet software in their teaching practices. The problem though is that they only use it in teaching a few isolated syllabus topics where it is imperative to do so. Overall they are not fully utilizing spreadsheet software and online simulations and games to teach wider sections of the syllabus. Such applications could be used effectively in business modeling (for example, cash flow modeling, breakeven analysis, budgeting, profit maximization, cobweb theory, etc.) and the analysis of data (for example, analysis of market research data, etc.). It is students who may lose out here. According to Marriott (2004), the learning benefits that result from using spreadsheets as problem-solving tools in accounting education result from the learner's active involvement, the presence of repetition and the fact that immediate reinforcement is provided. They also provide concrete experiences which may enhance the learning process for students. Other benefits include emphasis on active learning, enrichment of collaborative learning, encouragement of greater students' independence and task-based teaching.

The use of business simulations or games in business education may be less well reported but studies have shown that students have more positive attitudes towards learning from business games than from other teaching approaches (Marriott 2004). Simulations are also said to increase business awareness and develop management skills such as decision-making, problem-solving, and team-working in students (Lee 2010). Marriott went further to argue that the use of simulations is more in keeping with learning theories developed in educational psychology in general and experiential learning in particular. This is so because they present opportunities for students to develop to use spreadsheet-modeling skills in realistic settings, to enhance cognition in understanding the "whole" of business problems under scrutiny. Hess (2005) takes the argument further by saying that embedding the teaching of business concepts using spreadsheet and computer modeling exercises is both practical and "hands-on" and does not only provide a means of enhancing understanding and retention but it is also bound to improve employability of students as they become more adept in their use of analysis tools widely used in today's work environment.

The Use of Web-based Instructional Resources

Today free internet teaching resources have become a very important tool to impart educa-

tion. Many government and private organizations have created internet-enabled free teaching resource materials that can be accessed anywhere by both teachers and students. Useful local, national and international resources adapted from IGCSE Business Studies Scheme of Work (Borrington 2004) are available to Business Studies teachers. Teachers may find local sources to complement these and they may prove invaluable since they provide a wide range of interactive and downloadable facilities and community resources to support learning and revision.

Interviews with Business Studies teachers revealed that not all teachers use internet-based teaching resources. This was further corroborated by evidence gathered from their teaching plans. All schemes of work seen did not include any internet resources. In interviews 4 teachers said that they never use materials from government and educational websites while 2 indicated that they do use such materials at times and these two indicated that they find teaching materials from websites such as www.bized.co.uk and www.times100.co.uk particularly useful. Evidence of these materials in the form of case studies and revision exercises was available in Teacher 5 and Teacher 6's resource files. The most commonly cited reason for not using internet resources were the inadequacy of relevant equipment in the Business Studies labs:

T1: *"We are not allowed to move any computer equipment from the Computer Lab to the Business Studies lab hence we can't use computers for teaching."*

T3: *"I never use it them (web-based resources) because the department does not have computers and the schools' are for Computer Awareness course and it is not possible to get a slot during the day."*

T5: *"I get many case studies from the internet which I print and use in my classes".*

T6: *"Yes I use resources from the internet. I find Bized case studies very useful and relevant to my teaching."*

Overall, it was established that schools have computer laboratories that are accessible to both business teachers and students. However, interviews with teachers and observations of the situation prevailing revealed that the computer labs that are fully equipped are mostly the preserve of Computer Awareness lessons and are not readily available for Business Studies lessons. Business teachers use facilities in these labs to carry out online research for teaching purposes.

CONCLUSION

The findings of the study suggest that teachers use ICT in teaching. Teachers have a working knowledge of basic computer technology and they use computers to produce teaching aids, for record keeping, for research and for setting assessment tasks. Although ICT resources are available in the schools, the majority of teachers has not yet embraced computer aided learning as an alternative pedagogical approach. The reasons proffered by teachers for not embracing CAL included absence of internet connection in the schools' Business Studies laboratories, the inadequate number of computers in schools and lack of presentation equipment such as projectors. In light of this it can be inferred that much of the real potential of computer-assisted learning remains untapped because teachers may not be using the technology extensively and/or effectively. It can be said that the ways business teachers are using ICTs are more about delivery than about creativity and active learning. Thus it can be inferred that the current use of technology in business classrooms rarely leverages ICT tools and resources for interactive and dynamic deep learning.

It can also be inferred that even though some teachers had a genuine need to use computers with their Business Studies students, there was no time to do it during normal classroom sessions since the available resources were reserved mostly for Computer Awareness. Resources in computer labs seem stretched because the labs have scheduled lessons and different subjects in schools as well as teachers compete for the same facilities. The inadequate numbers of computers in Business Studies labs and/or their not being connected to the internet is another factor mentioned by teachers as a barrier to using computers in their classes.

During discussions with teachers, it also emerged that some were not aware of the availability of vast teaching resources on the World Wide Web. Many did not make use of government and private organizations' internet-enabled free teaching resources. Free interactive business education teaching and learning resources such as games, case studies, business simulations, blogs, business features and reference

materials that can transform teaching practices are available from educational websites such as www.times100.co.uk, www.tes.co.uk, www.bized.co.uk, www.learn.co.uk, www.revision -notes.co.uk and many more. Teachers should be aware that although learning resources are often considered as intellectual property in a competitive world, more and more organizations, institutions and individuals are sharing digital learning resources over the internet openly and without cost.

It is worth noting that in this postmodern era, which is the era of the communications revolution, ICT competencies are the key competencies of the future. It is common knowledge that teachers are facing challenges related to how to cope with the tasks related to traditional classroom-based teaching as well as new challenges created by the development of ICT and the need to find new ways of learning and teaching. Incorporating CAL in the classroom does not mean that teachers would abandon their way of doing things; all they need to do is to strive to find a balance between the traditional teaching and the use of ICT. It can be argued that the best way to use ICT in class is to combine it with traditional teaching and the benefits of doing this can be immense since the use of ICTs in business education has the potential to support the development of higher-order subject-related objectives such as understanding the complexity of economic and business decision-making. The development of this skill is particularly fostered by the use of online case-studies, games and simulations. It is unfortunate that business teachers rarely employ this teaching approach.

RECOMMENDATIONS

The general observation made during the course of this study is that teachers have not yet fully embraced ICTs as pedagogical tools, not because they are reluctant to but because of shortages of equipment and facilities. If schools are to successfully meet the challenge of providing children with the business skills they require for the future, they must invest now in transforming schools into e-learning environments. To facilitate greater ICT integration in Business Studies, computers should also be located in Business Studies laboratories rather than in dedicated computer rooms such as Computer Awareness laboratories. They should also ensure that all computers in the schools are networked and broadband enabled. Schools have Business Studies laboratories and since the infrastructure already exists, they should consider investing in sufficient numbers of computers and support ICT equipment such as projectors and interactive whiteboards.

Another way forward for ICT-enabled business education lies in the identification by teachers of syllabus topics that can benefit from the unique capabilities of ICT. The onus lies with individual teachers to be able to identify topics where ICT packages such as word processing, spreadsheets, Desktop Publishing, PowerPoint and the internet may be used in lessons and then plan lessons accordingly. For instance, spreadsheets have immediate obvious uses for accounting topics. Databases can be used to sort, order, group and analyse data. Presentation software such as PowerPoint can be used to deliver lessons by the teacher or by students to display their research, ideas using fun and attention grabbing animation. Desktop Publishing applications can empower students to develop, draft, edit and display work such as advertisements and brochures for their mini enterprises. There are many such effective uses of ICT within the business classroom.

The role of school leadership is also central in meeting several of these preconditions. Teachers need both technical and administrative support when they decide to use technology in their classes. Infrastructure is available so the onus is on school administrators to promote technology as a part of school culture. To promote ICT integration in schools, school leaders should adopt strategies that make ICT a part of the daily routine or tasks of the teachers. School administrators should be aware of the fact that ICT has been identified as a core component of the knowledge society and is recognised as a key tool for the improvement of teaching and learning. If ICT is used innovatively and integrated into the business curriculum, the learning experience can be more enriching, collaborative and personally gainful to both teachers and learners.

REFERENCES

Afshari, M, Abu Bakar K, Wong SL, Abu Samah B, Foo SF 2009. Factors affecting teachers' use of information and communication technology. *International Journal of Instruction,* 2: 77-104.

Albrecht WS, Sack RJ 2000. Accounting Education: Charting the Course through a Perilous Future. *Accounting Education Series,* 16, AAA. Sarasota: American Accounting Association.

Arthur JO 1998. Institutional practices and the cultural construction of primary teaching in Botswana. *Comparative Education,* 34: 313-347.

Boitshwarelo B 2007. Are secondary schools in Botswana conducive environments for ICT-supported teacher professional development? In: C Montgomerie, J Seale (Eds.): *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2007.* Chesapeake, VA: AACE, pp. 1326-1330.

Borrington K 2004. *Teaching and Assessing Skills in Business Studies.* Cambridge: Cambridge University Press.

Castro C 2003. Education in the Information Age: Promises and Frustrations. From <http://www.iadb.org/sds/doc/EduandTech2.pdf> (Retrieved on 23 June 2010).

Chisholm L, Dhunpath R, Paterson A 2004. The Use of ICTs in the Curriculum in Botswana, Namibia and Seychelles. Southern African Comparative and Historical Education Society. From <http://unpan1.un.org/intradoc/groups/public/documents/cpsi/unpan038422.pdf> (Retrieved on 6 November 2010).

Conrad B 2012. Use of Computers in Business Studies. From <http://www.ehow.com/way_5689278_use-computers-business-studies.html> (Retrieved on 15 November 2012).

Cox MJ, Preston C, Cox K 1999. What Motivates Teachers to Use ICT? *Paper presented at the British Educational Research Association Annual Conference,* University of Sussex at Brighton, 2 to 5 September 1999.

Ellsberg M, Heise L 2005. Researching Violence Against Women: A Practical Guide for Researchers and Activists. From <http://www.path.org/files/GBV_ rvaw_ch13.pdf> (Retrieved on 12 November 2009).

Fuller B, Snyder CW 1991. Vocal teachers, silent pupils? Life in Botswana classrooms. *Comparative Education Review,* 35: 274-294.

Herrington A, Herrington J 2006. *Authentic Learning Environment in Higher Education.* Hershey, PA: Idea Group.

Hess K 2005. Spreadsheet-based Modeling for Teaching Finance and Accounting Courses. From <http://papers.ssrn.com/sol3/papers. cfm? abstract_ id= 378680> (Retrieved on 13 November 2012).

Hurd S 2009. Why has Computer Assisted Learning made so little impact in secondary education? Lessons from an economics and business subject case-study. *Curriculum Journal,* 20: 139-159.

Isaacs S 2007. *ICT in Education in Botswana.* Washington: World Bank.

Jena PP 2014. ICT empowered teacher educators: Strategy for constructivist learning. *Scholarly Research Journal for Interdisciplinary Studies,* 2: 1693-1704.

Kaino LM 2008. The Use of Information and Communication Technology (ICT) in Learning: Students' Attitudes in Botswana Secondary Schools by Gender. From <http://www.hbcse.tifr.res.in/episteme/episteme-2/e-proceedings/kaino> (Retrieved on 21 June 2010).

Kalpana T 2014. A constructivist perspective on teaching and learning: A conceptual framework. *International Research Journal of Social Sciences,* 3: 27-29.

Kozma R, Anderson R 2002. Qualitative case studies of innovative pedagogical practices using ICT. *Journal of Computer Assisted Learning,* 18: 387-394.

Lee A 2010. Simulation Games: Shifting from Conceptual Learning to Experiential Learning. Blended Learning in Practice, July: 36-49. From <http://www.herts.ac.uk/__data/assets/pdf_file/0016/8071/EJournal_FinalJuly2010.pdf> (Retrieved on 2 June 2015).

Lindfors E 2007. ICT in Teaching – European Teachers' Views. *Paper presented at the ICT in Education: Reflections and Perspectives.* Bucharest, June 14 to16, 2007.

Liu YQ, Ramatlapana KA, Kaino LM, Nkhwalume AA, Chakalisa PA 2008. Learning Mathematics in a Virtual World: Investigating with MS Word. From <http://tsg.icme11.org/document/get/604> (Retrieved on 21 June 2010).

Marriott N 2004. Using computerized business simulations and spreadsheet models in accounting education: A case study. *Accounting Education: An International Journal,* 13: 55-70.

Nouri H, Shahid A 2005. The effect of PowerPoint presentations on student learning and attitudes. *Global Perspectives on Accounting Education,* 2: 53-73.

Ottevanger W, Akker J, Feiter L 2007. *Developing Science, Mathematics and ICT Education in Sub-Saharan Africa: Patterns and Promising Practices.* Washington: World Bank.

Patton MQ 2002. *Qualitative Evaluation and Research Methods.* 3rd Edition. Thousand Oaks, CA: Sage Publications.

Republic of Botswana 2008a. *Three Year Junior Secondary Business Studies Syllabus: Commerce and Accounting.* Gaborone: Ministry of Education and Skills Development.

Republic of Botswana 2008b. *Three Year Junior Secondary Business Studies Syllabus: Commerce and Office Procedures.* Gaborone: Ministry of Education and Skills Development.

Reynoldson C, Vibert C 2006. Creating Value in ICT-Enabled Business Education. From <http://www.ecu.edu.au/__data/assets/pdf_file/0010/48538/Creating-Value-in-ICT-Enabled-Business-Education. pdf> (Retrieved on 14 November 2012).

Sampath D, Zalipour A 2009. Practical Approaches to the Teaching of Business English. *Proceedings of the Second International Conference of Teaching and Learning.* University College, Malaysia, November 16-18, 2009.

Sturman A 1994. Case study methods. In: T Husen, T Postlethwaite (Eds.): *International Encyclopaedia of Education.* Oxford: Pergamon Press, pp. 640-646.

Sugahara S, Boland G 2007. The effectiveness of PowerPoint presentations in the Accounting classroom. *Accounting Education: An International Journal,* 15(4): 391-403.

Tabulawa R 1998. Teachers' perspectives on classroom practice in Botswana: Implications for pedagogical change. *Qualitative Studies in Education,* 11: 249-268.

Virkkunen J, Engeström R, Hakkarainen K, Sinko M 2006. Enhancing ICT Competence of Teachers in the SADC Region through Innovative Learning and Knowledge Communities. From <http://vcampus. uom.ac.mu/vcilt/documents/Academy of Finland. pdf> (Retrieved on 9 November 2012).

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