Editor's Note: Podcasting for asynchronous delivery of current audio and video information (files) is a potential enhancement to any teaching and learning program.

Rolling out Podcasting to Enhance Teaching and Learning: A Case of the University of the Western Cape

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Abstract
Tool-use extends our sense of self-identity, social identity, and our experiences of social relationships within particular places. Education professionals use specific kinds of technologies (analogical and digital) and are influenced by particular characteristics of the technologies they use (Watson, 2001). Our social and cultural understanding of tools and complex digital technologies affect our ability to use them for learning (Pierson, 2001). The context and conditions of these understandings affect how we know when, where, and why ICT belongs in our educational practices. A number of advantages of using blogs, wikis, and podcasts have been identified which translates to the fact that technology has brought with it more convenience, independence to students learning and enable students to reveal their natural propensity to show their creativity. This paper reports on the eLearning institutional podcast project that was undertaken at the University of the Western Cape (UWC). This large scale podcast project targeted both lecturers and students and aimed to enable learners to create podcasts; edit the recording via open source software - Audacity; export the podcast as an MP3 file; and upload it into the online environment. These eTools skills training processes are directly linked to the students’ fieldwork within their respective disciplines. The authors highlight the practical benefits of the project in various disciplines.

Keywords: podcast, eTools, eLearning, training; teaching-and-learning

Introduction
Digital technology plays a significant role in shaping the teaching and learning landscape in higher education. Indeed, it is expected that digital technology will play an increasingly significant role in higher education as members of the millennial and digital generations enter college, bringing with them new approaches to learning and consequent expectations of the classroom instructor (Caruso & Kavkik, 2005; Caruso & Salaway, 2007; Howe & Strauss, 2003; Oblinger & Oblinger, 2005; Prensky, 2001). The vast array of digital technologies with the potential to impact the teaching/learning process includes learning management systems, personal response system technologies, discussion boards, blogs, wikis, social networking sites, podcasts, and a plethora of web-based tools. The perversiveness of information technology in today’s world complicates the multiple demands on faculty by adding expectations of technological proficiency that far exceed the days of index card library catalogs that more senior faculty experienced as undergraduates. For example, many faculty grapple with the demands of learning new software to prepare digital
The temptation for higher education faculty who must struggle to satisfy the customary triple requirements of research, teaching, and service is to relieve the pressure on themselves in the teaching area by teaching in a manner that reflects both their own learning experiences and preferences. Thereby, they give themselves more intellectual space for the research endeavour (Ouellett, 2004) but arguably fail to keep their teaching abreast of current understandings of what constitutes pedagogical best practice for their students.

Higher education institutions (HEIs) worldwide have joined the bandwagon of those that are integrating technology into their courses, the University of the Western Cape (UWC) is among those institutions who have adopted this trend in applying various technologies to supplement face-to-face or traditional mode of instruction. Recently, the UWC through an initiative by its eLearning Development and Support Unit (EDSU) has via a number of pilot projects to large and small classrooms of a total number of 595 students explored the utilisation of podcasting as a medium to supplement the traditional mode of teaching-and-learning. This paper presents a unique case study of a podcast pilot project implementation at UWC, a historically disadvantaged institution with various resource backlogs. The reception of the tool by both learner and lecturer vis-à-vis learner and learner interaction; learner and lecturer interaction; impact on learning outcomes is presented through the results of the case study. The successful completion of the project at UWC presents a number of lessons of experience relevant to the implementation of pilot podcast project within a higher education context.

**Literature Review**

Studies in ICT in education are plentiful and often include models of evaluating ICT (Mandinach, 2005). Concerns include the complexity of the ‘interaction between disciplinary content, learning outcomes and online, computer-based learning environments’ (Sims, Dobbs & Hand, 2002: 137). This interaction is also illustrated in Muwanga-Zake (2007: 31), indicating an intercourse between curriculum, ICT and subject matter components. The curriculum dimension considers student learning styles, needs and preferences; provision of quality learning as perceived by stakeholders in an institution; enabling interactivity between participants in a course; and opportunities for assessment and feedback. ICT specifically has potential towards student-centred learning and research (Sims, 2006: Richardson, 2004). However, successful practical pedagogical applications beyond communication of information are scarce, particularly in specific educational contexts. One reason for scarcity is that the ICT industry rarely designs tools for specific pedagogical applications. There is a dearth of critical analyses of praxis beyond rhetorical ICT potentials. However, there is a need for research in ICT-supported pedagogy to keep pace with developments in ICT.

In supporting students, lecturers are encouraged to use ICT to create constructivist environments built upon constructivist learning principles through the use of tools such as forums, chat rooms, wikis and blogs, many of which form part of the Learning Management Systems such as Sakai and Blackboard. Therefore, staff at universities must be professionally developed in ICT skills, and in the pedagogical use of ICT to ensure that the affordances offered by these tools can be realised. Furthermore, professional development must be continuous because ICT is ever changing. In response, a number of projects have been
implemented at UNE with the aim of: identifying the challenges debilitating staff and students against pedagogical ICT use, formulating frameworks for staff professional development and enhancing student active learning through the use of ICT.

Critically, universities often expect lecturers to use ICT in education without allocating enough time for continuous professional development. Thus, ICT are acquired and implemented without the adequate training of staff (Sims et al., 2007: 136). In many HEIs, events involving the use of ICTs are motivated by the premise that the application of blogs and other e-tools within these institutions can be adopted without a clearly pre-determined pedagogical framework or any appropriate level of professional development of staff.

The emergence of the internet came with it numerous advantages to the enhancement of learning deliverances within the education, communication and marketing realms. In addition to pave the way to the creation of virtual learning environments, these e-tools have shown the propensity of technology to change the face of learning deliverables and deliverances. However by introducing new technology advancements and applying them within the education sector, this does not imply replacing traditional modes of classroom instructional methods. Research has indicated that no one way can be viewed as the best. Consequently educationists has realised that merging traditional and modern technology-propelled pedagogical methods have produced effective results. Blogs, wikis, podcasts, chat-rooms and other e-tools have proved not only effective and convenient, but has proved that technology can make learning a lot of fun as students and academics experiment with various tools.

Reardon (2008) refers to, “Tools such as community networks, social book-marking, wikis and blogs, podcasting, digital story-telling, project based learning initiatives, video blogging and other new technologies, as enablers of people to be producers of information” (Anderson & Weert, 2002). The National Centre for Education Statistics from the U.S. Department of Education titled its statistical analyst report (2000), “Teachers’ Tools for the 21st Century: A report on teachers’ use of technology 2000). In much of review of literature, it has been found, for the most part, an unquestioning and over-use of tool in reference to digital technologies and ICT. Consequently, the use of e-tools has reached unprecedented levels from the end to the 20th century and is even gaining more ground as more tools and applications are being invented.

The Emergence of Podcasting in Higher Education

Online-learning has become increasingly diverse in course content delivery through various audio and visual modes (Liu, 2004). These multimedia realities provide significant potential and possibility for students to come closer to the fundamental reality of their subject matter and thus learn in a practical and experience-centered perspective (Peters & Collis, 2000). Coined by Adam Curry in 2004 the term podcast (Mark, Lee, McLoughlin & Chan, 2008), originated from blending the words iPod and broadcast (Hargis & Wilson, 2007:3). Roberts (2008:385) states that ‘podcasting represents not so much a new and innovative technology as it does a new and innovative combination of existing technologies’. By definition podcasting is a digital recording of a radio broadcast or a comparable programme made accessible on the Web for downloading to a personal audio player (Mark, et al, 2005:1. Morris (2006) further defines podcasting as the formation of audio or video files for use on
iPods and other MP3 players that allows for the user to view or listen to downloadable files. Suffice to state that podcasting is a new twenty first century technological medium initially used to transfer audio and has grown rapidly in popularity since it emerged in the market particularly in the educational domain (Ractham & Zhang 2006). Benno (2006) outlines that ‘Google search results for the word “podcast” in 2004 would have received 24 hits’. While (Harrison, Thornton & Yeats 2008) outline that Google search results in 2008 generated more than 115 million hits.

Carswell, Thomas, Petre, Price & Richards (1999) in a paper titled ‘Understanding the ‘Electronic’ Student: analysis of functional requirements for distributed education’ elude that regardless of the prompt innovation and increase in popularity of eTools, it is still paramount for academics in educational institutions to understand the primary aim of an eTool when integrating it into their courses. The very nature of electronic tools bares a number of obstacles. Hence, the potential of any electronic tool gets affected even before utilization and thus makes it even more essential for academics to consolidate the positive aspects of the eTool to ensure efficiency in instruction delivery (Wachter, Gupta & Quaddus, 2000).

Use of Podcasts as a Learning Tool
This section of the paper looks at how podcasts could be used for learning purposes in various subjects’ areas and disciplines. In addition to enhancing practical experience and skill in using technological gadgets, the podcasts enable students to develop independent learning skills. There are six different models for using podcasts within th education domain. These are lecture support where the lecturer identifies a select group with which to work. The lecture support uses screen-casts, short summaries and video podcasting. Secondly, podcasts can be used to supplement field work during which the learners are based at a specific location from where they can hold interviews with an identified population of respondents. Thirdly podcasts can be used for practical lessons where visual guides to GIS software can be used in place of written instruction, video cast for specimens’ examination. Topical issues can also be taught through podcasts such as the prevalence and prevention of the HIV/AIDS pandemic within a specific community. Podcasts can also be used as a means of assessment where students podcasts instead of fieldwork reports. Podcasts can even be utilised when providing feedback to student assignments or assessments.

The impact of podcasts on teaching/learning has been overwhelming. On learning the impact has been identified as providing flexibility and easier learner control where students are able to look at podcasts at their own time convenient to them and be able to do their work gradually and piece-by-piece thereby creating freedom of learning. Podcasts also provide a new and convenient way of assessing students. Additionally, podcasts enhance comprehension of subject matter and enable students to re-visit matter already learnt. Through the use of podcasts students are able to capture informal knowledge, thereby helping cover knowledge gaps and missed material. It also promotes personalised learning experience of learners thereby inculcating an enriching learning environment. A virtue of the podcast system is that it is, to some extent at least, a push technology, contrasting with the pull technology that is characteristic of many internet applications. The podcasts are automatically delivered to the student; the student does not have to remember to fetch them each week.
There are several lessons to be learned about the pedagogy of using podcasts. First, a podcast is (currently at least) an audio event only. It lacks the impact of an audio visual presentation. This means that podcasts should be short, and should contain material that is vivid and arresting, and supplementary to what has been covered in class. Secondly, the material delivered in a podcast should be provocative and should aim to make students think. Thirdly, it should be remembered that, immediately after listening to a podcast, the student will most likely listen to music. This means that thinking time needs to be included within the podcast itself. Do not be afraid to leave gaps of silence embedded in your podcasts. If you want your listeners to think about a question, give them time within the podcast to do so - they won’t do it afterwards. Fourthly, the podcasts should be embedded in the curriculum; students should see that there is advantage to them in listening. In my course, this advantage was apparent in that assessment was by way of a learning journal, and students knew they could get ideas for this journal by following thinking leads given in the podcasts.

**Relevance of podcasting to the syllabus of an HEI**

The core principle of teaching-and-learning is good practice; good practice allows for the advancement of teaching-and-learning processes (Chickering & Gamson, 1987). Derived from this principle, it can be espoused that introducing new and innovative mediums to educational institutions for the purposes of transferring knowledge is equal to good practice as it allows for advancement of teaching-and-learning processes. Thus, the purpose of any technological tool introduced to an educational institution must be to advance learning outcomes as stated in that particular institution’s syllabus (O’Bryan & Hegelheimer, 2007). Students generally portray a passive role in most classes, this emphasises the need for more student centred learning strategies (McGarr, 2009). As defined earlier by Hargis, Wilson (2007:3) podcasting is a new and innovative medium used to transfer information. The relevance of this medium in education is depicted to us by (Nathan & Chan, 2007) the authors state that the purpose of podcasting is to improve flexibility in learning, develop current learning experiences and increase the availability and accessibility of learning information.

One of the primary goals of education is to equip students with knowledge, attention to the attainment of learning outcomes should be essential to these efforts. The responsibility for instructional quality and control, the improvement of learning and the collective effectiveness of education still predominantly rests with the person transferring the knowledge (Olcott & Wright, 1995). Although there is a syllabus in place to guide an educational program, measures still have to be implemented to ensure that the teaching-and-learning outcomes of the syllabus ultimately come to fruition (O’Bryan & Hegelheimer, 2007). It is imperative for academics to be aware of diverse technologies introduced to their institution, understand the potential of the medium and then determine whether it will bring about the desired result in terms of the syllabus (Olcott and Wright 1995).

**Does podcasting create interaction among students and lecturers?**

Learner interaction is one of the critical ingredients in ensuring effective learner instruction (Moore, 1989). As emerging technologies are implemented to support instruction the role of the instructor is gradually developing from monitoring and facilitating towards a mandate of
critics are of the opinion that podcasting limits interaction between educators and students; their concerns on this concept is that it escalates the factors that comes along with any online learning tool where students for some reason limit their class attendance in cases where the tool provides them the necessary information (harrison, thornton & yates, 2008). some are of the opinion that podcasting merely spoon-feeds education to a generation that has grown dependent on entertainment-driven gadgets at the expense of reasoning, creativity, and problem solving (lum, 2006). a number of educators and parents still believe in the traditional manner of instruction delivery and find it difficult to believe that podcast lectures can reap the same fruits as face to face instruction and provide the standard of interaction required to deliver instruction successfully (tyre, 2005). however, proponents are of the opinion that podcasting as an emerging technological tool facilitates the integration of student interaction in education (beldarrian, 2006). according to (kearsley & shneiderman, 1999:149) ‘it is the responsibility of the instructor to maximize on student interaction’. it is the role of the instructor to include monitoring and interaction in the teaching processes as well as actively partaking in the interaction platforms provided by him/herself for the class (beldarrian, 2006). ultimately collaborative teaching-and-learning practices allows for authentic teaching-and-learning processes (shneiderman & kearsly, 1999).

implementing podcasting in an educational environment

beldarrian, (2006:249) argues that ‘proactive implementation of emerging technologies is dependent on comfort levels, monetary resources and visionary leadership’. the podcasting project must foster an atmosphere where students are motivated to take initiative and assist in the development of the podcast content; such platform not only motivates but assists students in active participation (alpay & gulati, 2009). the authors further lay down a workflow for the implementation of podcasting projects at comprising of six phases: recruitment needs analysis, pilot studies, operation, management & guidelines and site finalization.

recruitment: participants must be elected the method employed will be determined by the objective of the project, where technology in general is a complex concept, familiarization is required; {basic computer literacy training would be an advantage}

needs analysis: an examination of needs to determine the scope and objective of the podcasting program. exploring views and desires of the group and academic staff on podcasting. identifying the resource and technology needs for podcast creation, website management and development.

pilot studies: allowing students and academic staff to practically experience the podcast tool. once several podcasts on a variety of topics have been prepared they are to be made available to the participants for their reviews and feedback based on their experience with the tool.

operations and management: focal point at this stage involves a resource analysis for
the ongoing delivery of podcasts in the specific faculty, department or institutional environment.

**Guidelines and site finalisation:** Based on the findings and recommendations of the team, the production of guidelines, remits and resource requirements for the ongoing management and running of a student-led podcasting unit. Beldarrian (2006) articulates that new technologies come with both responsibilities and opportunities both lecturer and students have the responsibility to contribute in knowledge construction and the opportunity to learn via such contribution. The author further pronounces that educational institutions must reflect on the use of technology within their institution as well as the potential of the tool in terms of enhancing teaching-and-learning practices. Chickering and Ehrmann (1996:5) present us with seven principles for implementing innovative technologies in educational institutions the authors mention that these principles can be integrated regardless of delivery method utilised. The purpose of the technological tool must be to:

*Encourage contact between students and faculty; develop reciprocity and cooperation among students; use active learning techniques; give prompt feedback; emphasize on time and task; communicate high expectations; and respect diverse talents and ways of learning. These principles will help establish the purpose and rationale of integrating the particular technology, and uncover whether such tool is beneficial to the learner*

**Pilot the podcast before rollout**

Pilot studies are referred to as the minute version of a full-scale study (Van Teijlingen & Hundley, 2005). The authors also outline that conducting a pilot study increases the chances of success in the main study as the primary objective of pilot studies is to evaluate feasibility in order to evade probable catastrophic consequences of embarking on large studies. Inserting information about a particular pilot study in a publication or report arising from the main study is not only constructive but can form as a model for others to follow (Altman, Burton, Festing, Hutton, Playle & Cuthill, 2006). A successful study requires detailed research that indicates whether the ground is ready for implementation (Thabane, Ma, Giangregorio, Goldsmith, Rios, Reid, Chu, Ismailia, & Cheng, 2010). The podcast eTool is a fairly new phenomenon that comes across as quite complex to new users it is thus recommended that institutions make a pilot project mandatory before suggesting that the specific tool or method of study be integrated into its curriculum (Harrison, Thornton & Yeats, 2008).

**Methodology**

The study primarily took a qualitative approach although certain aspects of quantitative analysis were applied. From the podcast pilot project roll-out at the University of the Western Cape a purposive sample from the largest classroom (330 EED Law students) and the smallest (70 Social Work students) were selected as participants in the study. The sample drew from 10% of each group and a total of 40 students were interviewed telephonically. The questionnaire focused on the following elements:

**Impact on learning outcomes**

*Interaction between learner and lecturer as well as learner to learner*
Both the above EED Law and Social Work class lecturers were also interviewed via an online survey. The questionnaire focused on:

**Curriculum Delivery**

Interaction between lecturer and student and amongst students

Student responses were codified and themes derived as per above elements of the questionnaire. Furthermore, the case study method was significantly applied with UWC's podcast pilot project roll-out being the unit of analysis. The case study method provides the ‘strengths of experimental research within natural settings’ and is recognised as the ‘social research equivalent of the spotlight or microscope: its value depends crucially on how well the study is focused’ (Hakim, 2000:59). The authors’ also applied extensive documentary analysis of various literatures relevant to this exploration.

**Case Study: Podcast Pilot Roll Out**

It is imperative for EDSU as part of its mandate to keep abreast of emerging technologies in order to enhance the teaching-and-learning experience for both lecturers and students at UWC. The eLearning unit embarked on a podcast pilot project to observe whether this will have any learning benefits for the learners. As eLearning at UWC is a growing phenomenon the aim is always to broaden the scope for teaching-and-learning as well as assist in current unavailability of labs. The team thus engaged in basic research around podcasting, the tool and how it could be used within the teaching methods at the institution. ‘Podcasting at UWC’ can be defined as the process whereby students record audio using an MP3 player. The recorded audio is then edited using the Open Source Software Audacity and exported as an MP3 file. The MP3 file (podcast) is then uploaded into the home grown UWC learning management system (LMS) and submitted as an online assessment.

As this was a new pilot project that was introduced to academic staff at the University in 2007, it was decided to engage with lecturers that have adopted eLearning methods to enhance their teaching exercises prior to 2007. The lecturers who were selected to participate in the pilot projects were avid users of eLearning who are innovative in their teaching; and willing to face the challenges in order to enhance their teaching-and-learning practices. The lecturers willing to participate in the multiple pilots were from different departments and can be listed as the following: Pharmacy; Medical Biosciences; Social Work; Library Information Science; English; Arts; and Nursing.

The training methodology for the podcast projects were targeted at both lecturers and students. Endowed by a team possessing the expertise in multimedia training and workshop facilitation for pedagogical purposes EDSU aligned itself to the notion that lecturers and students need not depend on professionals to develop multimedia materials. Instead, they can develop their own digital video and audio files to incorporate them in teaching-and-learning with ease (Liu, 2004). Hence, an important aspect in the training method applied was to allow the students and lecturer to exercise their independent use of the tools after demonstrations in each respective session, whilst leaving them with the comfort that EDSU shall continuously provide them with support at their request after the sessions.

**Implementation and Training**
When lecturers decide to embark on their podcast journey the eLearning facilitators had to assume a number of duties channeled from EDSU’s overall project management role. The team had to ensure that each new MP3 player allocated to the project was fully operational: this aspect required a great deal of time. A folder was then placed on the MP3 player which included a presentation on how to use the device. The Audacity presentation as well as the installation files was included in this folder which allowed students to install the software on their personal computers.

All students and lecturers participating in the podcast project engaged in training sessions designed and conducted in a uniform structure across the various departments. Each training session was divided into 4 sections/compartments which started off with all the students completing a standard loan agreement form. The loan agreement form stipulated that students receive the MP3 players on loan for the duration of the project and should return it after the completion of the process. Students were made aware of the process to follow should they break or loose the borrowed equipment. After the form and its content was discussed and signed by the students, the students were issued with the MP3 players.

The three part training session was kept to a maximum of three hours each part included a step-by-step guided process each followed by an opportunity for the learners to practice what was taught. Focus was placed on engaging students in the use of the MP3 player, editing of the recorded audio using Audacity Software; lastly submitting the recorded audio file onto the eLearning system as an assignment. An overhead projection on screen recordings demonstrated to the students how to install and use Audacity, as well as how to upload the specific file onto the eLearning system aiding instructions by the facilitator. The use of the MP3 player encompassed recording and saving the audio using the MP3 player. The recorded audio file was then transferred onto the computer desktop where it was edited using the Open Source Software Audacity. After the editing process has been complete students were shown how to export the audio recording as an MP3 file which represents the podcast. Students then followed the steps to upload and submit their podcasts onto the eLearning system. The training was an interactive ‘show, tell and do’ session, which allowed students to do the activities during training. The eLearning facilitators conducted the training in a professional but relaxed manner to ensure that students remain comfortable, while introduced to a new eTool. The aim was to create an atmosphere of trust where students felt motivated to learn about the new technology whilst engaging in the podcast training.

The training was scheduled during different times to accommodate the users/learners needs and also based on the availability of the computer labs. As lecture slots could not be made available for students to engage in podcast training. The training slots varied from afternoon, after-hours and weekend sessions. This required the eLearning facilitators to be more flexible and dedicated to go the ‘extra mile’ in delivering on the project. This necessitates the careful planning of resources and human capacity. Training for larger classes (>75) demanded that facilitators and assistants inspect and prepare the venues at least two days in advance. The venue equipment was tested for sound and internet connection. The Audacity Software package was downloaded on the desktops of each computer for editing purposes. The completion of each training session was concluded with evaluation sheets developed to assess the training sessions.
The implementation of the project was not devoid of various challenges. Amongst the challenges faced included technical aspects vis-à-vis compatibility between MP3 files and the UWC LMS. This led to an arduous situation were the students had to personally hand-deliver their podcasts to their respective lecturers. Fortunately, the UWC team of developers came to aid in configuring the LMS for MP3 compatibility allowing for successful upload and downloading of files. From time to time the eLearning system also experienced ‘load error’ notification and could not handle the loads of students trying to submit their podcast assessments online at the same time.

As a historically disadvantaged institutions faced with resource backlogs and a large number of students from disadvantaged backgrounds, a number of students especially the first year group had minimal computer literacy skills. They were introduced to various new technologies over a short period of time, making it very difficult for them to acquire the skill of podcasting. Proving that a single training session would not suffice for novice first-year users, necessitating two sessions at times for these users.

**Results**

The results from the case study are highlighted through responses from interviews conducted with the earlier outlined sample of both lecturers and learners for the purpose of this study. As indicated earlier responses of the learners were codified according to emerging themes within the following elements: impact on learning outcomes; interaction between learner and lecturer; and interaction between learner and learner. Interviews were also conducted with the lecturers of the two class groups purposively chosen as the representative sample for the study where the following elements were covered: course curriculum delivery objectives and; lecturer and learner interaction

**Impact on learning outcomes**

Sixty five percent (26/40) of the respondents explicitly submit that the podcast pilot has enhanced their understanding of the topics covered during lectures. A total of twenty out of these twenty six attributed the above factor to the avenue of repetition the tool provides as it allows them to reflect back on their lecturer afterwards in a private setting of their choice. This group also conveyed that being able to repeat the lecture as frequently as desired significantly assisted their analysis of their work or subject under exploration. Twenty five percent (10/40) of the respondents stated that the training on the use of the tool and the application thereof has provided them with a number of soft skills namely communication, interviewing and recording. Another ten percent (4/40) of the respondents stated that podcasting is a new and innovative way of learning; a respondent noted that it is “learning by recording yourself and teaching yourself….made learning interesting”.

**Interaction between learner and lecturer**

Sixty two and a half percent (25/40) of the respondents indicated that the podcast created interaction among them and their lecturer. Of the 62.5%, 37.5% indicated that podcasting is a new and innovative avenue of interaction between lecturer and learner. One of the respondents stated ‘we did not have interaction problems with our lecturer in the first place but the podcast somehow brought new ways to interact with her especially in cases where you cannot do it in person.’ A further 25% (10/40) of the respondents indicated that the podcasting pilot broke the limiting barriers of interaction between learner and lecture one
respondent noted that 'it took away the fear of posing questions in front of a whole class.' However another 12% (5/40) of the respondents indicated that the podcast did not enhance interaction between them and their lecturer. This group noted that the lecturer did not provide them with further support in the use of the tool when required from them.

**Interaction between learner and learner**

Thirty two and a half percent (13/40) of the respondents indicated that the podcast pilot was fun and interactive. These respondents stated that listening to their peers' recordings' created teamwork or a sense of collaboration, promoted engagement between learners on the subject matter and broadened the sharing of views. However, 10% (4/40) of the respondents indicated that the podcast did not assist or improved their interaction amongst one another; they viewed the pilot as extra work and stated that it clashed with their academic work.

**Course curriculum delivery objectives: Department of Social Work**

The lecturer expressed the view that the podcast pilot proved podcasting to be a progressive supplement to traditional ‘chalk and talk’ methods it has demonstrated positive aspects in terms of course curriculum delivery and has enhanced the teaching, learning and assessment outcomes of this particular module. It has also afforded the lecturer greater insights into student’s fieldwork experiences by having a more ‘first-hand’ account of how students were applying relevant social work skills, techniques, roles and values/principles this has proven invaluable for the module. The lecturer pointed out that podcasting also grants the lecturer the opportunity to provide students with more insightful feedback that has the potential to further enhance the student’s academic and professional development. Furthermore the podcast pilot has afforded the lecturer a better perspective into how students are learning and understanding the theory related to social work practice. The negative aspect mentioned by the lecturer was that the technical challenges of the use of podcasts impacted on the quality of their Podcasts. He however stated that podcasting is definitely one of the avenues to be considered in reaching the course objectives of a particular course.

**Course curriculum delivery objectives: Nursing**

According to the lecturer the incorporation of podcasting into the nursing module proved to be an innovation in meeting the course objectives with regards to the skills development of students vis-à-vis patient learner interaction. The podcast was specifically used to assess 3 critical communication skills namely the use of empathy, adherence counseling and HIV pre-test counseling. The lecturer states that the classroom environment does not provide sufficient time to ensure that each student clearly understands and is capable of instituting and articulating the task appropriately, the podcast is therefore an ideal tool to assess students’ communication skills.

**Lecturer and learner interaction: Department of Social Work**

The lecturer indicates that the podcasting tool has brought to bear a number of positives in terms of student and lecturer interaction. The eTool has ensured that interactions are not merely confined to class times but that the teaching, learning and assessment can occur beyond the designated class times. He further notes that podcasts affords the student to be more creative in the presentation of their assessment tasks with the inclusion of additional audio tracks such as community voices and music. Podcasts also allowed the lecturer and student to listen jointly to the audio assignment and then discuss the positives and the areas
that would have enhanced the quality of the task.

**Lecturer and learner interaction: Nursing**
The lecturer notes that students are highly appreciative of the use of the podcast tool for a number of reasons viz. the innovative nature of the assignment instead of ‘more and more writing of assignments’; the use of technology which is congruent with their age and lifestyles; and the sense of an assignment having a practical, real-world feel. The lecturer notes that ‘the most important issue regarding enhanced interaction between myself and my students has been, from their perspective, a bridging of the age gap.’

**Discussion**
The birth of the podcasting initiative at UWC was brought about by the earlier mentioned mandate assumed by EDSU to keep abreast of emerging technologies to supplement and enhance teaching-and-learning. As implementers of the project EDSU concurred with Rachham & Zhang (2006), and Benno (2006) earlier postulations recognising the growing momentum of podcasting within the educational domain. Nonetheless, it is the implementation of the relevant technologies that has proven time and time again to be the most critical part of innovation in any institution hence we concur with Beldarrian (2006: 249) who states that integrating or incorporating of knew technologies within a HEI is a delicate procedure and demands various processes to be followed to ensure implementation becomes a reality. Alpay & Gulati (2006) further concurs with Beldarrian (2006) and presents us with a workflow structure that can assist in such an initiative. The authors state that needs analysis; pilot studies; recruitment; operations and management; and guidelines and site finalisation are key elements to be covered in ensuring effective implementation. As mentioned earlier prior to project implementation EDSU researched and uncovered that podcasting would not only supplement in breaching the communication barriers between lecturers but will also aid the lack of technological infrastructure at the institution-giving relevance to the needs analysis element. The needs analysis was followed by the rolling out of the podcast pilot to large and smaller classes by EDSU (i.e. pilot studies). Lecturers were selected based on prior eLearning experience along with their respective class both of whom were familiarised with the tool through training provided (i.e. recruitment). Recruitment as outlined by Alpay & Gulati (2006) was further given credence as EDSU selected team members endowed with expertise in multimedia training and workshop facilitation as part of meeting the project objectives. Operations and management (Alpay & Gulati, 2006) for EDSU entailed quite a number of administrative and technical tasks as earlier highlighted on such as the loan agreements and ensuring that the MP3 devices were fully operation before the roll-out.

The results of the case study indicate that the majority of the students are of the opinion that the podcast eTools has provided a progressive step towards meeting their learning outcomes. The learners submitted that the repetition element of podcasting enhances their understanding of the subject matter. This resonates with Peter and Collins (2000) earlier deduction that these multimedia realities provide students the significant potential and possibility to come closer to the fundamental reality of their subject matter.

A majority (87.5 %) of the students stated that podcasting enhanced the interaction between learners and lecturers and contributed to breaking the limiting barriers of communication
between them (i.e. learner and lecturer). The students submitted that the latter can be attributed to the innovative nature of the podcast tool in alignment with the earlier deduction by Chickering & Gamson (1987) that new and innovative mediums into educational institutions for the purposes of transferring information must also allow for the advancement of teaching-and-learning processes which in turn must assist in reaching the objectives of learning outcomes for that particular institutions syllabus (O'Bryan & Hegelheimer, 2007). However, 12.5% of the students do mention that podcasting did not aid the enhancement of interaction with their lecturers. In view of the students' rationale, this could attribute to the lack of lecturer motivation in providing students further support in the use of the tool. Beldarria (2006) points out that ‘it is the responsibility of the instructor to maximize on student interaction’ as well as actively partake in the interaction platforms provided by him/herself for the class. Motivation is a key factor in bringing on board learners and fulfilling the latter pronouncement.

The majority of the students indicated that podcasting facilitated enhanced group work. The 2nd year Nursing students were engaged in team work as their first practice assignment was to assist each other and work together to complete their task. They highlighted that team work allowed for better reflection and understanding of their work bringing to fruition. Shneiderman & Kearsly (1999) argument that collaborative teaching-and-learning practices allows for authentic teaching-and-learning processes.

**Recommendations and Conclusion**

The experience obtained during implementation highlighted a number of elements to be considered during the implementation of a large scale podcast pilot project in the context of an education institution. Presenting lessons that could assist in the smooth roll-out of the pilot or in the least brings one closer to the realisation of the objectives of the pilot. The authors recommend that before embarking on such large scale podcast pilot project institutions willing to implement such projects should be committed to investing appropriate funds to ensure that adequate resources vis-à-vis human capacity and technological infrastructure are available at time of project implementation.

Secondly, the level of user familiarity or skill with technology should be considered as podcasting in itself is an advanced level of technology and would require participants who at the least have basic technological skills. Such consideration could result in a smoother roll-out of the podcasting pilot.

Thirdly, implementing podcasts to larger classes can prove to be challenging in terms of project management and ensuring the main objective of the pilot are reached. To realise these objectives the authors recommend that smaller groups be created within the larger groups and team work amongst the learners be the essence of given tasks.

Fourthly, the objective of the pilot must be formulated in consultation with the targeted group (i.e. lecturers); in addition all stakeholders (eLearning facilitators, lecturers and students) should be aware of these objectives from the onset. Lastly, the authors recommend that implementers of the podcast pilot ensure that lecturers who choose to be part of a podcast pilot project initiative are willing, highly motivated and supportive towards meeting the project objectives – ‘a shared vision.’
References


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