INTRODUCTION

The introduction of open distance learning (ODL) has changed the face of tertiary education worldwide. ODL has overcome many barriers to learning that were experienced with traditional distance education, as it is more practical, flexible and effective, especially in an age of easy multimedia access (Tatkovic, Ruzic & Tatkovic 2006). What does ODL entail?

Moore and Kearsley (1996:6) define ODL as the distribution of learning material to students who are spatially distant from their lecturers. Moore (1993:22) points out that it not merely entails a geographic separation between students and lecturers, but also a separation by time. As the greatest portion of teaching and learning is realised outside educational institutions, it requires special education and communication technologies and is normally executed through the application of electronic and other media.

The use of information and communication technologies (ICTs) has reshaped the ODL university culture. There is a huge change in the way we teach and learn. Students are no longer passive listeners, but need to be able to do pro-active reading, encoding and decoding anywhere, anytime. In an online learning environment, adult learners need to take a greater responsibility in their learning paths, and can share their vast array of experiences and knowledge with others (Dela Pena-Bandalaria 2007:12). Quality ODL requires interactive communication between student and lecturer that is realised with the aid of modern ICT. Consequently it has its own didactical, logical and methodological articulation and its own purpose, causes and effects, and its own strategies and objectives (Tatkovic et al, 2006).

Communication is essential in human life. In education, where two or more individuals share information, knowledge, values and skills, it is necessary to communicate in such a way that any misunderstanding is avoided at all cost. With ODL this is the real challenge: to communicate effectively with students at a distance. In South Africa, it is even more of a challenge to assist students to understand the expectations of ODL. The problem is not only that the country has eleven official languages which cause communication problems, but also that many students do not have access to electronic devices for online communication. Students, who do have access to technology, do not always know how to utilise it to the fullest.
Although the University of South Africa (UNISA) has introduced numerous efforts to improve student throughput rate, many students do not complete their studies, possibly because they do not cope with ODL. The purpose of this research was to investigate potential barriers to learning that may be encountered from learning at a distance that are the result of inadequate communication between lecturers and students, and between students themselves, in an effort to improve learner success through tuition and learner support.

BACKGROUND

Technological advance dominates our daily lives. The speed of change makes it difficult to stop and reflect and has created what Peter Drucker refers to as the ‘age of discontinuity’ in his book entitled The Age of Discontinuity: Guidelines to Our Changing Society. Thoughts about education have changed and are continually replaced by new paradigms. In the past distance education implied tuition via correspondence with tutorial matter provided in print; the latest form of distance education has taken on a new look with the use of interactive multimedia, internet-based access to resources and university portal systems, to name but a few.

In the past distance education was based on asynchronous exchange of materials. The learner got material in written format and had to respond in written format. The lecturer gave feedback in writing. The use of e-mail, SMS, PowerPoint presentations and discussion forums became important with technological advancement. The use of synchronous forms of education such as the live-broadcasting of lectures and video conferencing opens the door to new didactical arrangements that could help with learning in a new improved way (Sethy 2008:34). Two-way communication is important for learners, so if UNISA could educate learners and lecturers to make more use of synchronous ways of teaching, learning and throughput rate should improve. The introduction of online learning with the use of advanced technology will, however, take time in South Africa.

Education as a social function can be placed on the margin of stability and change. “In our old society – stable, simple and repetitive – memory controlled project, principles were immutably passed on, and exemplary patterns could be preserved as archetypes... In our new society – unstable, inventive and innovative – project overcomes memory, future controls the past, patterns are constantly being put to question” (Carneiro 2007:153). This progress is often difficult to embrace in developing countries.

In this changing landscape educational institutions have to make decisions as to what best suits their context, especially in developing countries. ICTs could bridge old and new learning by approximating supply and demand and enhancing flexibility. In addition ICT can promote an equitable distribution of learning resources by
combining distance and proximity (face-to-face contact) strategies, thus boosting the effectiveness of classroom learning and teaching. This should augment lifelong learning opportunities for continuous skills upgrading and personal/social development in the workplace, and assist in the expansion of teaching competences (Carneiro 2007:159). The incorporation of ICT in teaching and learning is one way to combine distance and proximity and has become part and parcel of ODL in many countries. However, learning at a distance has gone through various “generations”, as identified by Fozdar and Kumar (2007:3) (Table 1). The effective evolution from one generation to the next is critical to the success of a particular delivery system.

Table 1: Generations of distance education (Fozdar & Kumar 2007:3)

<table>
<thead>
<tr>
<th>Generation</th>
<th>Model</th>
<th>Delivery Technologies</th>
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<tbody>
<tr>
<td>First generation</td>
<td>Correspondence model</td>
<td>Print</td>
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<tr>
<td>Second generation</td>
<td>Multi-media model</td>
<td>Print, audio tapes, video tapes, computer-based learning, interactive video</td>
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<tr>
<td>Third generation</td>
<td>Tele-learning model</td>
<td>Audio tele-conferencing, video-conferencing, audio-graphic-communication, broadcast TV/Radio</td>
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<tr>
<td>Fourth generation</td>
<td>Flexible learning model</td>
<td>Interactive multimedia (IMM) online, internet based access to www resources, computer mediated communications</td>
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<td>Fifth generation</td>
<td>Intelligent flexible learning model</td>
<td>Interactive multimedia (IMM) online, internet-based access to www resources, computer mediated communication, using automated response systems, campus portal access to institutional process and resources</td>
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Many developing countries only use the first and second and at a push, third generation models for teaching and learning, even though technologies have developed beyond those that are used in a particular generation. Technology is developing at such a rate that it is difficult to keep up even in developed countries. Though tertiary institutions in developing countries try to implement various kinds of multimedia, the envisaged results are not always achieved.

The digital divide in developing countries is often more of a rule than the exception. Delivering instruction through the ODL mode poses a significant challenge to educators. The basic survival needs of people often exceeds all other needs – so
access to information and communication technologies is very low on their lists of priorities. Besides the availability of technologies, issues such as geographical location, lack of knowledge and skills to use ICTs and financial constraints are major considerations in deciding which technologies to use and in what combination. “...the use of ICT must not only address certain pedagogical concerns, it must aim to bridge the digital divide and democratize education” (Dela Pena-Bandalaria, 2007:1-2).

Tatkovic et al (2006) describe ODL as going through three phases. The first phase consists mostly of the distribution of printed material by mail and coincides with the first generation of distance education as identified by Fozdar and Kumar (2007:3). Face-to-face interaction is limited and communication consists mostly of written correspondence. In the second phase postal communication is combined with sound/video signals (e.g. telephones, radio, and television). Interaction is still limited and communication is predominantly one way. This phase can also be linked to Fozdar & Kumar’s second generation of distance education. The third phase has resulted from technological advancement. A combination of one way and multi-link communication (written material, television, video conference, computer networks, e-mail, internet, computer conference, tutorial work with direct contact) are used. Learning has been transported from an actual classroom to a virtual classroom which is more complex in nature and can be associated with the third, fourth and fifth generations of Fozdar & Kumar (2007:3). It encompasses tele-learning using video and satellite broadcasting as well as more advanced technology such as computer mediated communication, internet learning and portal access unique to each university. Lecturers are no longer the main source of information and learning is more directed towards the learner (Tatkovic et al 2006). Students have to use electronic resources to study and to do assignments and multimedia resources are used in communication with students. Students have to be able to use various media to communicate with each other and with lecturers.

Technology-supported teaching and learning has helped overcome the physical distance between lecturers and students and has facilitated the flexible delivery of education at a distance, anyplace, anytime (Fozdar & Kumar 2007:1). The growth of distance education is mostly due to technological developments. A combination, however, of the first and second generations of distance education where printed material is used in combination with audio-visual material, remains the most widely used modality in most ODL institutions, especially in developing countries. The more developed a country is, the more advanced ICT supported instruction can be (Fozdar & Kumar 2007:4).

“Blended learning” may be the answer to the problem of access to technology in developing countries. There are, however, various definitions of blended learning. Oliver and Trigwell (2005:17) state that although blended learning is very current, it is problematic to get to one encompassing definition. Orey (2002) describes blended learning as follows:
From the designer perspective, blended learning is the organization and distribution of ALL available facilities, technology, media and materials to achieve an instructional goal when many of these things may overlap considerably. From the learner perspective, blended learning is being able to choose among the provided learning experiences to achieve my individual learning goals while matching my preferred style.

Blended learning integrates seemingly opposite approaches, such as formal and informal learning, face-to-face and online experiences, directed paths and reliance on self-direction, and digital references and group connections, in order to achieve individual and organisational outcomes (Sethy 2008:32). Singh and Reed (2001) describe blended learning as a means to optimise achievement of learning outcomes by applying the ‘right’ learning technologies to match the ‘right’ personal learning style and to transfer the ‘right’ skills to the ‘right’ individuals at the ‘right’ time.

In this article blended learning is viewed as the combination of the more traditional phase one teaching and learning (as identified by Tatkovic et al., 2006) with the second phase electronic means of learning and teaching. In a distance education setting this would boil down to the combination of learning materials on paper with occasional face-to-face communication and electronic ways of teaching and learning, using multimedia. Students will have different experiences of the situation because of the diverse nature of the student population. UNISA is striving to change to a quality ODL institution with the use of advanced technology. Many new technologies have been installed and the necessary support structures are in place for the lecturers to use. In many cases, however, lecturers are not adequately trained to teach in the ODL setup, but a far bigger problem is that many students are not trained to use ICTs, especially the more advanced forms of technology.

The big drawback with the use of ICTs in developing countries where poverty is rife, is the cost of owning personal computers and limited ICT infrastructure coupled with limited networking capacity (Fozdar & Kumar 2007:2). Besides this problem, a blended form of teaching and learning may not appeal to all students as many are not able to cope with the transition to ICTs and prefer a more gradual transition to enable them to master the required skills and competences.

**RESEARCH PROBLEM**

Teaching and learning at UNISA has undergone major changes progressing through the different phases of development mentioned by Tatkovic et al (2006) and the generations of Fozdar & Kumar (2007). UNISA has been a distance education university since 1946. Tuition was initially based on postal correspondence with limited face-to-face interaction. Materials were print-based supplemented by face-to-face tutorials, of which attendance was not compulsory. But the need for a more flexible system came with the development of ICT. In 2008 the University introduced
an ODL Policy, which changed the focus of tuition to include technology and multimedia interaction.

UNISA defines open distance learning as
...a multi-dimensional concept aimed at bridging the time, geographical, economic, social and communication distance between: student and institution, student and academics, students and courseware, and students and peers. Open distance learning focuses on removing barriers to access learning, flexibility of learning provision, student-centeredness (sic), supporting students and constructing learning programmes with the expectation that students can succeed” (Unisa 2008:2).

Technologies such as telephony, multimedia CDs and DVDs, video and audio conferencing, SMSs and MMSs via cell phones, e-mail and discussion forums/chat facilities via myUnisa have been proposed to offer new possibilities for supporting learning in distance education. myUnisa is a web-based system for academic collaboration and study related interaction. This system was developed to supplement and enhance academic interaction and improve communication between UNISA and its students as well as provide opportunity for engagement amongst students. The problem, however, is that the throughput rate of students is still not satisfactory. The question arises as to whether possible barriers to learning, which students may experience, could revolve around communication with peers and with lecturers. Therefore this article focuses on barriers to learning that the UNISA students experience with ODL with emphasis on communication and consequently whether better communication would lead to better academic results.

RESEARCH DESIGN

The initial research that was undertaken covered a wider field than the scope of this report and combined a qualitative and quantitative research design. Quantitative research allows for specific questions to be asked and collects quantifiable data in an attempt to provide an unbiased result (Creswell, 2008:47). In this research it was possible for respondents to select specific alternatives related to ODL and the programme for which they were registered. However, qualitative data was also required and this was collected by means of open questions. According to Merriam (1998:5), qualitative research is “...an umbrella concept covering several forms of inquiry that help us understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible”. Respondents could freely raise issues of concern regarding ODL and provide their own input. This contributed to the richness of data by revealing aspects that were not anticipated.
METHOD AND SAMPLE

A non probability sampling approach was used through convenience sampling. As the research focused on a particular group of the student population, they were selected as participants. A survey was undertaken with 138 students registered for the General Education programme. General Education has been an elective as a major for the Bachelor of Arts degree. The students completed a questionnaire, which they returned to the researchers. Anonymity was guaranteed by not asking for names, addresses or student numbers.

The questionnaire was divided in three sections, namely a section on demographic information, a section with information on resources and support systems and a section on motivational information. The responses to selected questions applicable to this specific report were used to determine what percentage of the students needed more support and what kind of support they would prefer to improve their success rate. The gender, age, region and home language of each respondent were identified with emphasis specifically on the section about resources and support systems in the students’ learning environment.

RESULTS AND DISCUSSION

Most of the respondents in the survey were female (88%) and were between the ages of 18 and 50 (95%). Of these 28% were aged between 31 and 40; 26% between 18 and 25; 26% between 41 and 50 and 14% between 26 and 30. The age distribution of respondents is relatively even. As 68% of the respondents were aged below 40, the expectation was that a large group of the students should be familiar with ICT. The home language of a large percentage (49%) of respondents was an African language that is not used as medium of instruction at UNISA. Of those whose home language is a medium of instruction, 33% were English and 15% were Afrikaans. The academic language of communication is thus a second or third language of many of the students and consequently they may experience difficulty in expressing themselves effectively. Most of the respondents resided in an urban area (60%).

Students who indicated that they do not attend contact sessions (31%) could not do so primarily because of work obligations or transport problems. The rest of the respondents are able to attend at least one contact session per semester. When asked how the respondents would prefer to contact their lecturers, 33% preferred cell phone or telephone communication, followed by e-mail (26%); postal services (20%); myUnisa (14%) and fax (7%). However, when asked to indicate what form of notification they prefer to receive regarding their studies, 37% prefer postal notification, followed by SMS (29%), e-mail (23%) and myUnisa (11%). There is still the reliance on postal services, even though it is notoriously unreliable. A similar trend was encountered regarding students’ preference to submit their assignments.
The majority of the respondents (63%) prefer to submit their assignments via the postal service; 28% via myUnisa and the balance by e-mail.

In an attempt to ascertain which aspects helped students complete their modules successfully, 24% indicated that feedback on their assignments was the most important as well as information provided in tutorial letters (23%). The acquisition of good study skills is deemed of value by 16% of the respondents, whereas access to the internet or myUnisa (7%) and general access to computers or technology (7%) were rated of equal importance in contributing to success. Surprisingly, the availability of lecturers (5%) and contact sessions (5%) did not feature prominently and contact with fellow students (6%) was preferred. Financial resources (4%) and administrative support (3%) were deemed the least important.

It seems as though many UNISA students involved in the survey were either not comfortable with the use of ICT and the proposed support systems, or they do not have the necessary skills to use them. Access to the various media may be a further problem. Many of the students are still in the first phase of ODL – they want written material and written comments mailed to them through the postal system as was the case with traditional correspondence education. The lecturers are still seen as the main source of knowledge and information, so many opt for one way communication where the lecturer gives a lecture through which information is distributed. Students prefer postal services or phone contact for communication, because most of them do not have access to internet or even fax machines, or cannot use the internet. They prefer to submit their assignments through the postal system and want feedback from lecturers via tutorial letters.

Although these results cannot be generalised, the outcomes of this survey are not encouraging for any ODL institution and lecturers should be aware of the situation. Although UNISA’s ODL is in its transitional stages and is still developing and undergoing change, the requirements of the student population will have to be considered or the target marked will have to change. Students need more resources particularly those in remote rural areas. They need more training in the use of multimedia from the moment they commence their studies and need practise in the use of the various communication media. Lecturers need to incorporate such training possibilities in the tutorial matter and appropriate guidance as to what is expected them. Students need to be gradually introduced to the idea that lecturers should serve more as facilitators than transmitters of information.

Further factors the respondents mentioned as barriers to learning are ‘problems with time management’, ‘poor study techniques and skills’, ‘work obligations’, ‘no contact with other students’, ‘lack of availability of lecturers’, ‘difficulty in getting hold of the right person in the university’, and ‘administration problems’. These factors coincide with those mentioned by Fozdar and Kumar (2007:6) and may be possible reasons for student drop-out. Similar problems seem to be experienced in ODL worldwide.
Fozdar and Kumar (2007:6) also mention the following common problems of distance learners as proposed by various researchers:

- Lack of personal contact with especially teachers and the immediate feedback from lecturers on work done
- Sense of isolation
- Pre-course orientation to help with management of studies
- Tutor support during course of studies
- Improved information and formative advices

**IMPLICATIONS**

Students generally prefer more guidance from lecturers. They want more face-to-face contact and formal lectures. They want information in tutorial letters mailed to them timeously with updates via e-mail, SMS or through the mail. Some of the respondents indicate that they would like more training in the use of the Internet and the more advanced technologies as well as in time management and study skills. Although not mentioned as a key issue, some students are in need of financial assistance. To motivate the students, more needs to be done to get them onboard the “technological train”.

When deciding on media used, lecturers should ensure that the choice of technology is pedagogically sound, relevant and socially-driven. The teaching context is, thus very important. The cost, for instance, in a developing country plays a big role. While universities can always find ways to make ODL technologies available to staff members, “students must also be considered in the costing equation of ‘access’. The cost using ICT, such as the cost of Internet access, cost of sending SMS, or cost of the mobile phone itself, must be considered when selecting technologies... Another consideration is that those using this technology should ideally have the skills and knowledge to use the technology effectively” (Dela Pena-Bandalaria 2007:13). Lecturers and students need sufficient training before embarking on certain technologies for learning and teaching.

South Africa is gradually developing into a more technologically conscious country, but with physical barriers such as a lack of electricity in certain parts of the country, with people who are struggling financially and who often have limited educational opportunities, real technological advancement will remain a problem for a long time to come. South Africa needs a mode of teaching and learning that will progressively introduce particularly students to all the changes and that will blend the more traditional with the technological modes of teaching and learning.

In India and the Philippines (Fozdar & Kumar 2007:2; Dela Pena-Bandalaria 2007:6), where most people still use dial-up internet access which is slow, other communication technologies are being researched such as the use of mobile technologies including cell phones and personal digital assistants (PDAs). The cost
of cell phones has dropped in such a way that most people can afford mobile technology. The use of cellular phones has enjoyed phenomenal growth as is evident in South Africa too. Mobile technology can be used well in the delivery of flexible educational opportunities. Though mobile technologies could be used with greater success in South Africa, more needs to be done to raise awareness about this possibility. Mobile technologies can interface with many other media like audio, video and the Internet. Although there are limitations such as screen size, it is a good way of learning on-the-move (Fozdar & Kumar 2007:4). As the respondents in this survey indicated that they prefer the use of cell phones or telephones for communication, this might be a good place to start.

Although they are at a distance, students still want more contact even if it is limited to a telephone call, an e-mail or a SMS. Students do not want to feel like numbers in a big system. Simpson (2004:80) mentions several opportunities for intervention that are important for student success. Intervention should take place...

- before the course starts
- before the first assignment has to be submitted
- giving reasons for failing an assignment
- before examinations start

The interventions could be made through SMS, e-mail or lectures (through tutorial matter or in the more traditional sense, face-to-face contact and satellite broadcasts) but students could be so much better prepared for the studies if they are able to use technologies, especially myUnisa. This system offers a place for podcasting scenarios, for more internet sources, for communication between students and also between students and lecturers. Video conferencing, Skype, “Facebook” and “Twitter” all give access to two way communication. The possibilities are endless, but then students must have access to the technologies and they must be able to use them. Lecturers should also be trained and assisted to make use of all the possibilities to accommodate all students.

Besides the fact that students need to be prepared for the ODL mode of teaching and learning effective interaction between lecturers and students is critical for success. Lecturers need to know the individual needs of students, should encourage cooperation between students, encourage active learning, and supply information in time and respect individual learning styles. However, what is of major importance is that they should also know how to use technologies for successful communication (Tatkovic, et al 2006).

Even though interaction in ODL does not necessarily mean face-to-face contact, the human element remains important. Students want to have some individual attention and interaction. In order to establish the best possible communication between lecturers and learners, as well as between learners themselves, it is necessary to
incorporate the best multimedia options and teaching strategies with the necessary guidance on effective use of that technology (Tatkovic et al 2006).

At this stage it seems as if a blended form of teaching and learning may be the answer to education in developing countries. Students would get the same information on paper, in face-to-face contact sessions, as well as through some form of technology. “According to cognitive theories, articulating the same ideas in different ways, across different contexts and from different perspectives, should lead to the creation of mental models or schemata that are more flexible and that facilitate retrieval from memory” (Procter, 2003 in Sethy 2008:33).

CONCLUSION

Advanced ICTs help lecturers to enhance their skills and knowledge.

“For students, use of ICTs enabled them to assert more control over their learning environment, specifically the ‘how’, the ‘when’ and the ‘where’, and sometimes even the ‘what’ they will learn. Both students and teachers now have more flexibility to shape and structure their learning/teaching environment to take full advantage of fellow participants’ prior experiences. This dynamic of ‘sharing prior knowledge and skills and contextualizing within the course materials’ makes the educational experience far richer and more conducive to critical and higher order thinking” (dela Pena-Bandalaria 2007:4).

ICTs play a big role in the ODL systems. Emerging technologies, such as wireless networking, the Internet, and mobile communications (screen phones, PDAs, smart phones, wireless (WAP) phones), go a long way to enhance connectivity amongst stakeholders, but a blended approach in especially developing countries is likely to be more successful in distance education (Fozdar & Kumar 2007:2). “As we move into the future it is important that we continue to identify successful models of blended learning at the institutional, program, course, and activity levels that can be adapted to work in contexts. Blending would be considered on learners; preferences and the perceived benefits of learning and training keeping in minds the results and reality” (Sethy 2008:41).
REFERENCES


