

MAKING WAVES, NOT JUST SURFING THE NET: ICT AND LEARNING IN THE ESL CLASSROOM

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ABSTRACT

Higher education institutions are grappling with ways of utilizing information and communication technology to enhance teaching and learning. Simultaneously, students and facilitators protest the limited resources and infrastructure, especially in developing countries. However, exposure to language input in the form of images and multimedia does not necessarily equate neatly with learning in the second language classroom. The question for any researcher or practitioner of ICT remains how to ascertain the impact of ICT on learning. In this paper I examine the current role of ICT in relation to learning among undergraduate students, using Knowles' framework for andragogy. The paper reports on a study conducted among undergraduate ESL learners at a South African higher education institution, and contends that an ICT environment impacts positively on learner autonomy.

Introduction

The social, political, cultural and educational changes evident in South Africa since its democracy in 1994 have impacted both constructively and adversely in the field of language study. Together with such changes, increased access to education became a primary concern and positive developments in the language arena are evident at policy level in the Constitution, which stipulates 11 official languages. However, students from disadvantaged backgrounds were severely under-prepared for higher education (du Pre, 2002), one of the reasons being the English medium of instruction at most higher education institutions in the country. Silva (1997), for instance confirms that mother-tongue speakers of English were estimated at three and a half million in a population of over forty million, that is under nine percent. However, English appears to be dominant in education, science, and technology. In South Africa's past mother tongue education played an exclusionary role, and black parents in

particular saw English as a route to upward mobility (Kajee, 2000; Silva, 1997). Therefore, although English is considered as a valuable resource in the country, it is one of the reasons why ESL speakers find themselves marginalised when they enter higher education institutions, where the medium of instruction is to the greater extent, English. This is a reason why many studies have in fact called for mother-tongue instruction and for promoting the use of African languages (Granville et al, 1998; Balfour, 1998).

Compounded with the language issues prevalent in the South African education system, the issue of information and communication technology (ICT) emerges. There is some ambivalence attached to the introduction of ICT in education in the African context, largely because of pitfalls, such as the lack of infrastructure and resources in developing countries. In their study of the introduction of ICT in distance learning, Van Buren-Schele and Odendaal (2001) identified problems such as the lack of communication infrastructure for online teaching and learning, high costs of telecommunications, lack of coverage in rural areas, illiteracy and lack of computer skills, limitations in the availability of bandwidth and limited access to computers. Lelliot, Pendlebury and Enslin (2000) add that the idea of a networked society obscures the challenges involved in accomplishing inclusive education and a civil society in most African countries. Such challenges, in their view include access to basic education, food, health care and shelter.

Together with the very real pitfalls surrounding developing countries, facilitators and students also lack the technological skills which may marginalize them even further, so one might query the move towards a technological approach.

The alternative view is the sense that developing countries could be left behind if technological issues are not addressed (cited in Chisholm, 2003). Initiatives at school level, such as the GautengOnline Project, which is creating a networked link among schools to improve the flow of information and resources, has already been implemented (Padayachee, 2002) and Butcher, Addo and Isaacs' (2003:6) report on SchoolNet, which is creating a computerized network among schools in Africa, add "nothing justifies the digital divide between Africa and the other countries".

Yet, higher education institutions in South Africa are still coming to terms with the onset of ICT in teaching and learning. Many practitioners are 'lone rangers' in the field – individuals who are attempting to incorporate technology into their teaching and learning. However, the reported advantages of the use of ICT, especially in ESL context are too widely documented to ignore. Some of the studies indicate that the availability, currency, authenticity and variety of resources are an attractive advantage in ESL classrooms (Murphy, 2000), and that it increases collaboration among learners, and learners and facilitators (Davey, 2001). Strategies such as the various e-pal projects that have been implemented indicate that learners' confidence, cultural awareness, language skills and creativity were enhanced in the language classroom (Sakar, 2001; Lee, 2004, Greenfield, 2003).

The question to be asked is whether undergraduate ESL learners in South Africa are equipped for the opportunities afforded by the use of ICT, considering that they are often the products of under-resourced schools.

Undergraduate learners

There is some discrepancy in defining undergraduate learners. They are usually early adults or late adolescents who have completed school and want to continue with their studies at higher education or training institutions. Laidlaw (1998) uses the term Generation X to refer to people born approximately between 1960 and 1980. She characterized typical Gen Xers as having four main characteristics: independence and self-reliance, technoliteracy, expectation of instant gratification and self-building.

However, I propose that the classification of Gen X for the typical ESL undergraduate learner in a developing country is a contrived one because the learner entering a higher education institution from a school that is lacking in basic resources such as electricity, in some cases, would not have been exposed to ICT in the form of computers and the Internet, although they may have displayed other characteristics such as independence and self-reliance. It is for this reason that I decided to use Knowles' (1984) classification of androgogy to locate my learners.

Andragogy

Knowles (1984) posited that adults learnt differently from children. This is because their reasons for learning are different. The concept 'andragogy' is based on four assumptions of the characteristics of adult learners, and attempts to explain why adults learn differently from other types of learners (a fifth characteristic was added later):

1. Self concept: As people mature, the self-concept moves from dependence to self-direction.
2. Experience: As people mature they accumulate life experiences that are a valuable learning resource.
3. Readiness to learn: As people mature their readiness to learn orients towards developmental tasks based on social roles.
4. Orientation to learning: As people mature their perspectives change from postponed application of knowledge to immediacy of application. Learning therefore shifts from subject-centeredness to problem-centeredness.
5. Motivation to learn: Maturity results in internalizing motivation to learn (Knowles in Smith, 2002).

Knowles' assumptions have been critiqued by the likes of Davenport (1993) and Merriam and Caffarella (1991) on the basis that the assumptions may also refer to pedagogy, or learning by children, and that they are not exclusive to adults. One of the characteristics of adults, however, that is not applicable to children, is their limited life experiences. Merriam et al (1991) also add that adult learning is rarely self-directed in formal settings, where it is still instructor-driven.

Imel (1994) suggests the need for effective learning environments, which provide equal opportunities to learners. Researchers of ICT and ESL in particular have said that the use of technology democratizes the learning environment, creating equal opportunities for participation (Warschauer, 1996). It is Imel’s (1994) view that many adults, especially women, members of minority communities, and the educationally disadvantaged who have not experienced support or equality in the learning environment, might benefit from online applications.

Key to Knowles’ focus on learning is the concept self-direction, or autonomy, which is a process in which “individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975:18). Site Philosophy (online) tabulates the characteristics of adult learners, and the implications for the use of technology:

Table 1: Adult learners and implications for technology (adapted from Site Philosophy, online):

Characteristics of Adult learners	Implications for technology use
Mature and self-directed	Adults should be provided with adequate resources and technological tools to direct their own learning. Learners should be able to establish their own needs, set their own goals and plan their own strategies.

Adults bring life experiences to the classroom	Adults are able to relate their life experiences to the class. They are able to discuss, debate, critique and reason based on their experiences
Adults have particular beliefs about learning as a process of enquiry which requires reasoning and critical thinking. The instructor should therefore facilitate student activity, rather than instruct	Beliefs about learning are acquired over time, with students having the opportunity to engage in personal enquiry. They need be afforded control over their tasks and processes in order to develop self-regulation.
Adults are more motivated by tasks relevant to their interests, than in gaining general discipline-oriented knowledge.	Motivation can be sustained by designing authentic projects that are relevant to future and career needs.

Far too often, ICT strategies that require aimless surfing of the Net are implemented, leaving students and facilitators frustrated. My position is that the strategies should suit the needs of the learners in order to be implemented successfully, and that they should be integrated at curricular level to be taken seriously.

Project

Undergraduate students in the Faculties of Humanities are required to attend a first year course in English. Depending on their matriculation (Grade 12) points, they may enroll for a course in English Literature, Applied English, or a Foundation in English course. Students at

the lower end of the scale are required to sign up for the Foundation course. The course spans two semesters of fourteen weeks each and comprises Academic Literacy in the first semester, and a research component in the second semester.

My project was conducted with students in the Academic Literacy course. The course presents a scaffolded approach to Academic Literacy, where students begin with narrative writing, move on to writing comparisons and contrasts, and finally academic arguments. Along the way students are introduced to the language of academic writing and writing skills. The course is presented as a weekly lecture and four forty-minute tutorials over the fourteen-week semester. There are approximately 35 students in each tutorial group. The course is designed around learning theories, rather than being skills or content-driven because students belong to a variety of disciplines in the Faculty of Humanities, including Law, Social Work, Arts and Media. The course materials include genres such as research articles and other popular readings around autobiographies, the transition from school to university, HIV/AIDS, polygamy, and gender. A literature component (poetry and short stories) is also included. Students therefore are exposed to various discourse types and genres. Academic literacy skills such as reading, note taking, information retrieval, providing evidence, plagiarism, classifying and categorizing and cohesion are intrinsic to the course.

To integrate ICT into my class I designed a NiceNet class called Foundation 124 to run parallel to the face-to-face tutorial. Figure 1 below reflects the conferencing web page of the class:

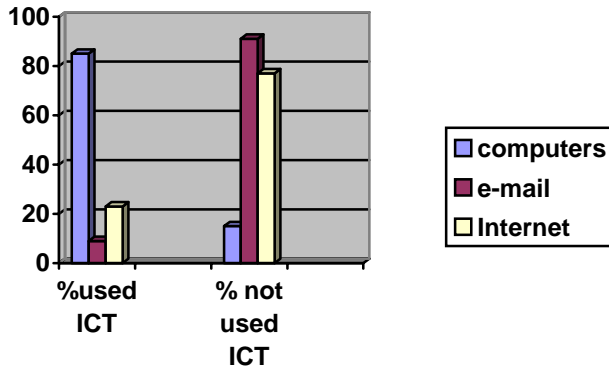
Fig 1: Foundation 124: Sample conferencing page

The screenshot shows the NICENET Internet Classroom Assistant interface. At the top left is the NICENET logo and the name 'Leila Kajee'. At the top right is the title 'Internet Classroom Assistant' and the date 'Tuesday, June 29, 2004 4:37AM CST'. The main content area is titled 'Conferencing Topics' and features a search bar with 'View All Topics' and a 'Go' button. Below the search bar is a list of topics under the heading 'All Topics :'. The topics are: 'What do you think of polygamy? Does it work in South Africa2' (3 messages posted, updated 05/27/04), 'Murray reading - Is polygamy supported by South African law?' (4 messages posted, updated 04/22/04), 'HIV/AIDS - To what extent does gender play a role in HIV/AIDS?' (5 messages posted, updated 04/16/04), and 'Argument reading-' (1 message posted). Each topic has links for 'post', 'edit', and 'delete'. On the left side, there is a sidebar with navigation links for 'Home', 'Conferencing', 'Link Sharing', 'Documents', 'Class Schedule', and 'Class Members'. Below these are links for 'Personal Messages : View | Send', 'Classes : Join | Create | Drop | Delete', 'Class Administration', 'Edit User Profile', and 'ICA FAQ'. At the bottom of the sidebar, there is a section for 'Enter New Class:' with a dropdown menu showing 'Foundation 124/6' and a 'Change Class' button. At the very bottom, there is a 'PROTECT YOUR PRIVACY: LOG OUT' link.

Before embarking on the project a survey was conducted to establish student use of ICT.

Figure 2 is a graphic representation of students' use of ICT at the beginning of the course.

Figure 2: Student use of ICT



Stage One: Training:

It is evident from Figure 2 that the majority of students had not used e-mail and Internet previously, and that they would require training. Unfamiliarity with the use of ICT and insufficient training remain two of the most commonly-stated reasons for the failure to implement ICT successfully in the classroom. This was difficult to implement because the institution does not have sufficient training laboratories that could be used for the purpose. Computer literacy courses that are offered at the beginning of the year are usually over-subscribed, and many students cannot afford to attend them. Students had to be trained in small groups on a personal computer, which was not ideal. More proficient students also helped in training their peers.

Stage Two: Web management system

The NiceNet course management system was used because I found it most suitable for my class needs. It is not an extravagantly designed system, but contains the features that I found useful. I found that Blackboard had a very long download time, and WebCT, to which the

institution had a licence a little too sophisticated for my students' needs, considering their level of proficiency.

Stage Three: Implementation

Because of technical difficulties of getting students online, and training, the project proper was fully implemented in the second half of the semester when students were starting argument writing. Weekly posts were made to the online course by the facilitator. Summarised notes were uploaded, and the assignment question was posted. Assignment guidelines were also included. Discussion threads were linked to each reading, where student views were elicited about HIV/AIDS, gender issues and polygamy, the key issues surrounding the assignment, which consisted of an oral presentation and a written essay. Students participated, slowly at first, by engaging in discussion. I advised them to make at least one posting a week, but initially there were far more lurkers than participants! When we discussed postings in the face-to-face tutorial, students would come up and discuss problems they may have experienced getting onto the class.

Key issues:

Key issues surrounding the project will be discussed based on Knowles' (1984) classification of adult learners. The findings were elicited from interviews with a selection of ten students, as well as teacher observations. Of the ten students who were interviewed, six participated frequently on the NiceNet class, while the remaining four did not, or hardly ever participated. Extracts of comments and queries from the discussion threads are included. The names of participants have been changed.

Self concept

According to Knowles (1984) adult learners display a particular self-concept, which ranges from dependence to self-direction, or self-directed learning (SDL). SDL reflects a move away from the traditional teacher-dominated class to a more learner-centered one, where learners are expected to take charge of the learning goals and processes. SDL is therefore a key element of active learning.

Here, the frequent participants demonstrated their attitudes and perceptions of the course. Some of the participants also indicated their desire to continue with the course into the following years. Osman commented on the system shortly after starting to participate:

i am seeing nice net helpfull so much. I would like to say hat off for you. I think this is a useful class thank you.

Edward commented:

hallo, leila. this thing of yours is very, very useful. i hope that also the other students can join us as soon as possible. thanks.

Nhlan commented:

I want to confirm that it has been nice and lucrative working with you in the AEELS net class this year. I have been thinking that English its a bad subject but now you came into point where through your class i improved in my writting style not only in english but even in to some other subjects. you real changed my perception about the lecturers. thank you. I want to carry on in English – even major.

They felt that they benefited from the ability to access notes and contact other students and the facilitator at any time. Osman felt that he had more control over his learning, and that he felt that the group got to know one another very well. Sharon commented that while she was not able to formulate her own learning goals, the online class helped her manage her time

better. She also took time to search the recommended sites that were suggested by the facilitator: *“Now I can do research at any time and you are available if there are questions”*. Joy added that she felt that the students were given ample opportunities to participate in both classes, and that it was not just a case of the teacher doing everything.

The less-frequent and non-participants were in agreement that they found the system overwhelming, and were never quite sure what the discussion threads entailed. Largely, however, the pitfalls were technological ones – problems with e-mail addresses or lack of proficiency with computers. Certain students did not see the need for additional communication opportunities. One student, Sithembile, who had not succeeded in signing up for the course said that she had experienced problems with her e-mail address from the outset and was not able to understand the system. By the time her address was sorted out, she felt that the other students were far ahead, and did not want to participate at that stage. She said, *“I don’t think this technology will work very well for me, it is hard to do and I am not fast on the computer, but maybe there are advantages if I learn how next semester”*. She also did not attend all the training sessions. Generally, the less-frequent participants found the technology problematic and found that the computers in the laboratories were often too busy. This concurs with the findings of Zaferiou et (2001) and Murphy (2000), who found that technical training and support is essential for success in online environments. TJ said that he lived a distance away, and could not spend extra time on the computers as his time was limited.

Life experience:

Knowles (1984) states that adults have life experiences, which they are able to bring into the classroom. The key issues discussed included polygamy, HIV/AIDS and gender. Here students related their experiences, as well as those of their families and communities into the discussion threads. Sbu contributed:

My grandfather had three wives. It is good for the family and according to customary law it is right. But what if the economy is bad like now? How can he provide? I cannot afford many wives or girlfriends!

Bob's contribution was:

Polygamy adds to HIV/AIDS – a man with many wives will spread the disease to the wives and children. In my township there are too many aids orphans. Who will look after them? We need one man-one wife.

Sara felt:

I am studying to support myself when I work. I don't need a man to support me. My mother, aunties and my grandmother needed a mans support. I can do it myself. Isithembu [isiZulu for polygamy] is not for the modern man and woman.

Many of these views and perceptions were expressed in the face-to-face class as well, but the online class appeared to provide students with a platform for more debate, and took the debate from the spoken to the written. Certain students who did not contribute much in class, such as Sara, contributed regularly to the online discussion, as Warschauer (1996) found. However, others like Osman were equally active in the face-to-face and the online classes.

Learning as a process of enquiry

Knowles (1984) observes that adults have a particular view of learning as a process of enquiry, which requires reasoning and critical thinking. When asked whether the class promoted critical thinking and reasoning, students felt that both the online and face-to-face tutorials promoted such skills because of the nature of the content and the tasks that were required. The online class “*merely helped more discussion*” (Pat). Brenda, who did not participate extensively, felt that at university students have to engage in critical thinking, but that sometimes students are not helped with this aspect as it did not happen regularly at the school she went to.

The general feeling was that while the online class facilitated critical thinking, it was a support system, as the nature of the course promoted reasoning and critical thinking anyway.

Motivation and relevance

Knowles (in Site Philosophy, online) claims that adults are more motivated by tasks that are relevant to their interests than in discipline-orientated knowledge. In this regard, the design of authentic projects that are relevant to future and career needs is advisable. Because of the nature of the course (Academic Literacy), the variety of disciplines represented and time constraints, we could not set projects on career needs. Instead, the focus on academic literacy and writing was seen as necessary for success at university. Students related to this, but sometimes felt that there were too many writing tasks to complete. The course included task-based and process-writing exercises that were self, peer and teacher- assessed. However,

student comments were positive and they generally felt motivated, even to the extent of wanting to continue with English in later years (refer to Nhlan's extract).

Participation

Of the students who were interviewed, those who participated regularly tended to be those who also participated in the face-to-face class as well, except for Sara's case, disputing Shaw and Polovina's (1999) findings that students communicated more online than in face-to-face settings. One of the reasons for this could be because the students later reported that they worked as a team and taught one another the key features of the system and practiced regularly. Students also came up with their own questions and re-directed questions, confirming Warschauer's (2000) findings that students have some control over planning and implementation in online environments.

Student perceptions of participation also tended to be compatible with Zafeirou, Nunes and Ford's (2001) findings. Students rated the number of times they logged on as participation, rather than the quality of the input. Zafeirou et al also found that students felt marginalized if they were not comfortable with the technology, which was confirmed in my case (refer to Sithembile's extract).

Challenges

The use of ICT can be time-consuming for facilitators and students if it is not managed adequately. Projects which are not integrated well into the syllabus and allow only for random surfing of the Net prove to be frustrating to students. In my attempt to incorporate ICT

strategies in the English class, Knowles' (1984) classification of adult learners proved useful in designing the project, so that it became meaningful to the needs of the students. However, the project was not without challenges.

I spent much time on small group training, which could be avoided if institutions played a more proactive role in preparing students at the outset with basic computer literacy courses. This is in keeping with international trends, and the digital divide between developing and developed countries will expand even further if attempts are not made to utilize technology adequately. Currently, students have to gain these skills at their own expense, or in an ad hoc manner. In developing countries, it cannot be assumed that all students are adequately prepared to use technology, considering the tasks that they are required to fulfill at university, such as word processing documents and conducting research.

Lack of facilitator training is also frustrating for those who would like to participate, but do not have the necessary skills to do so, as was a finding of the South African Institution of Distance Education (SAIDE, 2003). Teacher trainers have to be provided with adequate training in order to utilize technology effectively, which is currently not the case in South Africa.

Limitations also include that the project was purely qualitative. Additional aspects such as whether online participation actually democratizes the learning environment could be explored further by initiating a more intensive analysis. The possibilities for further research

based on such a course are immense, a few of them being studies in discourse analysis, turn taking, gender studies and online identities.

Jacobs (2001) maintains that undergraduate students (in South Africa) should not be taught electronically because they do not possess the required skills, knowledge, competencies and motivation to function effectively in the environment. He cites studies that demonstrate that undergraduate students need extensive face-to-face contact and interaction and dialogue in and out of class. To a certain extent I agree with his view that it is not the tools of delivery that influence learning, and that undergraduate learners need face-to-face contact, but in order for developing countries to participate more globally, new pedagogies should be explored. As Connor (1997) said, “In the Information Age the implications of a move from teacher-centered to learner-centered education are staggering. Postponing or suppressing this move will slow our ability to learn new technology and gain competitive advantage” (Connor, 1997, 2 of 3).

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