

“So where do I start in cyber space?” Enhancing language learning in an online community of practice: points of entry for teachers and teacher trainers in developing countries^{1 2}

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The reported benefits of the use of technology in the English language classroom are too varied to ignore. However, while South African higher education institutions are in the process of developing technology plans, the use of technology in English language classrooms is not well documented. Teachers and teacher trainers are often left wondering where to start and what procedures to follow. This paper reports on the implementation and findings of the Techpal project, which was instituted in a higher education English classroom in South Africa. The aim of the project was to establish whether the selection of students could work effectively with online technology in the English classroom; whether a community of practice is possible in an online environment; and what the benefits and challenges are of using technology in an under-resourced context. The project is positioned within Vygotsky's (1978) Sociocultural theory of learning and Lave and Wenger's (1991) Situated Learning theory. Students at a higher education institution were paired with English as a foreign language students at a university in France. The project is described, and the data is analysed following interviews with students and instructor reflection. The paper concludes that it is possible, despite certain challenges, to institute a community of practice within an online environment, in the under-resourced English language classroom. Although the paper is aimed at English language teachers and teacher trainers in higher education, it may be of benefit to teachers and trainers in the school context as well.

Introduction

The use of technology in language learning is a relatively new field in South African higher education institutions, largely due to the lack of resources and teacher and learner under-preparedness. However, with the inception of technology plans at such institutions, it is becoming *de rigueur* to engage technology in the language teaching and learning contexts. Research conducted into ESL teaching and learning for instance, found that the use of technology, in particular computer-mediated communication, benefits the language learning process. Online or technology-enhanced learning facilitates participation in the language class by providing a greater possibility of interaction between educators and learners, learners and learners (Burgstahler, 1997); and by enabling teachers to network (Karyan and Crowe, 1997; Harasim, 1994). Technology-enhanced language

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learning allows learners to reflect critically and to scaffold ideas (Wiesenberg, 1999). It also is reported to result in increased collaboration and inquiry-based learning (Brush and Uden, 2000; Cronje, 1997), reduce anxiety (Kern, 1995), enhance motivation (Warschauer, 1996, Clarke and Cronje, 1998) and augment the thinking/writing paradigm (Sakar, 2001; Warschauer, Turbee and Roberts, 1996; Mike, 1996).

The most commonly used online tools are those that enable engagement and interaction: e-mail, bulletin boards, discussion threads and chat rooms. From a sociocultural perspective, language learning is not an immediate product of the individual, but a process through which learners engage in co-constructing knowledge (Lee, 2004) and it is when learners collaborate that they achieve a high level of performance (Kern and Warschauer, 2000). The theoretical framework that follows expands this concept.

Theoretical framework

Vygotsky's (1978) Sociocultural Theory of Learning and Lave and Wenger's (1991) Situated Learning Theory lend support to the basic tenets of online learning. In the 1930s Vygotsky posited that social experiences shape our ways of thinking about and interpreting the world. He regarded education not only as central to cognitive development, but also as "the quintessential sociocultural activity" (Moll, 1990: 1), maintaining that individual cognition occurred in a social situation, thus shifting emphasis away from the individual to the group. One may learn to negotiate meaning via interaction with other individuals and more knowledgeable peers in social situations (Jaramillo, 1996). Subjects therefore develop their own interpretative meaning of acts while communicating with others. In the field of language, then, one can therefore not study a student's language development by studying only the individual, but by examining the external social world as well.

In the technology-supported learning environment, theoretical support for the collaborative and social aspects of computer usage is essential in order to develop pedagogical approaches. Computers are recognised as part of the sociocultural context of the classroom, and a communicative framework based on the Vygotskian Sociocultural Theory is therefore relevant for understanding how learners work towards achieving higher-order learning outcomes using computers (McLoughlin and Oliver, 1998).

Intrinsic to Sociocultural Theory, the learner is regarded as an apprentice—as in Lave and Wenger's (1991) Situated Learning Theory. Adult (or more competent peer) and child (or learner) interaction scaffolds or assists the emerging competencies of the learner. Learning therefore becomes a form of assisted performance.

According to Vygotsky, learning occurs in the zone of proximal development (ZPD), which is a metaphorical distance between what the learner can achieve independently and what can be achieved with a more skilled partner's assistance (McLoughlin and Oliver, 1998). Communication, interaction, reciprocal understanding and negotiation of meaning are therefore central to learning. Previous research into language learning has demonstrated that peer interaction in groups and pairs results in the ZPD (Brooks and Ohta cited in Lee, 2004).

Sociocultural Theory is also appropriate for technology-supported learning environments because it endorses the idea that learning takes place in a social context, it recognises that language use is fundamental to learning, it shifts focus from a teacher-dominant learning community, to one that promotes learner autonomy, and it acknowledges that learners need support and assistance to learn. Lee (2004) cites the research of Belz (2001) and Warschauer (2000), who studied network-based or technology-enhanced language learning from a sociocultural perspective. Their studies of online exchange programmes among learners in different countries lend support to the findings that learners' social values, language proficiency, and electronic literacy contribute to the development of language.

Lave and Wenger's (1991) Situated Learning Theory is compatible with Vygotsky's Sociocultural Theory in terms of its conceptual framework. Situated Learning Theory advocates learning in a specific context, and focuses on how individuals become members of communities of practice (Gillespie, 2001). Wenger (1998) believes that traditional education is misguided in terms of its focus, and can be enhanced by communities of practice (Wenger, 1998). His concept, like Vygotsky's, is based on learning as a social phenomenon. In essence, the theory states that the goal of education is the negotiation of meaning. The interconnectedness of learning, participating, and the social world is emphasised.

Many educators are struggling to create learning communities in schools to support the social nature of learning. In learning communities, learning occurs as people participate and engage in common activities. The term "communities of practice" was used by Lave and Wenger in 1991 to describe learners and learning environments (Wenger, 1998). Human beings are constantly engaged in enterprise and interaction, which results in learning. Over time, the learning results in practices, which are the property of a community. Such communities are called communities of practice. We may belong to several different communities of practice simultaneously, in some as core members, in others, more peripherally. Communities share their social practices, which may include language, tools, documents, images, symbols, criteria, procedures and regulations.

Members differ in their levels of competence, ranging from apprentice to expert; therefore, their contributions may be limited or peripheral at the beginning. It is during the tension caused by the peripheral participation that learning may occur, moving the learner to the centre of the community. Participants should work in their zone, at a level above their performance ability, congruent with Vygotsky's ZPD. This is difficult to attain individually, but is attainable through collaboration and co-operation.

Duncan and Leander (2001) found that there is a connection between communities of practice and technology in online environments, but participant interaction is crucial to success in online learning. Further, communities may develop in class discussions between the instructor and learners and among the learners themselves. E-mail is one technological application that has been used creatively in the language classroom to create communities (See also studies by Sakar, 2001; Jor and Mak, 1994; and Liao, 1999). Overall, as Singal (1997) states, "e-mail can encourage students to use computers in realistic, authentic situations in order to develop communicative and thinking skills."(p. 3)

The TechPal Project

The TechPal project emerged as a result of attempting to locate my English teaching within a sociocultural framework, while simultaneously trying to operate in an online environment. For reasons of access, e-mail proved to be the most convenient vehicle. It is hoped that the description of the project will be of value to teachers and teacher trainers, since one of the most common challenges cited by teachers is that they do not know where to start implementing technology-enhanced projects.

Research Aim and Key Questions

The TechPal project arose from my interest in the reported advantages of the use of technology in English teaching and learning. Having observed students' and teachers' fascination with and fear of technology, my aim was to integrate technology-enhanced language learning into the syllabus in a non-threatening milieu.

My main focus of enquiry was:

1. could the students work effectively with online technology in the English classroom?
2. could the use of online technology contribute to a community of practice?
3. what are the benefits of using technology in an under-resourced context?
4. what are the challenges of using technology in an under-resourced context?

What follows is a description of the project, which spanned one semester (approximately twelve weeks). Refer to Appendix 1 for a schematic representation of the project.

Initiating the project

The subjects were 21 undergraduate ESL students attending a tertiary institution in KwaZulu-Natal, South Africa. Ten were male and 11 were female, aged between 18 and 24 years old. All were second language speakers of English, registered for a language course.

Initial survey questionnaires were used to assess computer access, proficiency, experience and willingness to participate in an online project as part of the course. I trained students, based on their responses to the survey. Of necessity, this had to be done on an *ad hoc* basis, because of the absence of teaching computer laboratories. Often, I found myself training students on my own PC, but their enthusiasm was contagious. Small groups were trained to use the Internet and e-mail and less proficient students were paired with more able students within the class to practise newly-acquired skills, thus initiating the community of practice.

From the results of the computer access and proficiency survey, it was evident that both computer access and proficiency were limited, as most of the students came from rural areas, where they did not have technological resources, and very often, no electricity in their schools. Of the 21 students, only two had access to computers outside the institution. The institution had one computer

laboratory for the Faculty of Humanities, with twenty computers that had to be available to all students. Often several of the computers were not functioning well. Students had to make reservations to use the facilities. Students also did not have e-mail addresses, and had to be shown how to create free e-mail addresses.

It also bears mention that this project was conducted during the second semester of the year, and by that time I assumed that many of the students would have made use of the facilities at the computer laboratories for the purpose of typing or conducting Internet research.

Computer usage

Table 1 reflects the use of information and computer technology (ICT) among students.

	Students who had used technology		Students who had not used technology	
	Number	%	Number	%
Computers	18	85.7	3	14.28
E-mail	2	9.6	19	90.4
Internet	5	23.8	16	76.2

Table 1: Use of ICT

Most of the students had, by this time, used computers to word process assignments. They were primarily self-taught, or had learnt by observing others. Those students who had used e-mail or the Internet previously (9.6 percent and 23.8 percent respectively), had done so by experimentation. The Internet was used for random surfing, or to a lesser extent, for research purposes. The majority said they were too intimidated to access the Internet, or felt it was too much work to gain access at the institution.

Computer proficiency

The computer proficiency levels of the selection of students is reflected in Table 2:

	Low Proficiency		Average Proficiency		High Proficiency	
	Number	%	Number	%	Number	%
Computer	10	47.6	7	33.3	4	19.0
E-mail and internet	17	80.9	2	9.5	2	9.5

Table 2: Proficiency Levels

Although students said they saw the need to use technology in their studies and later in their jobs, only 19 percent claimed to be very proficient. Sandy (not

her real name³), for instance, said she lived a distance away from the institution, and that travelling, together with a very busy timetable, took up much of her time. She also did not have access at home or in her township. She simply did not have the time or the resources to attain proficiency with technology.

Students' views on the integration of technology with the course

None of the students had used Internet-based practices in any of their classes before, and they regarded the TechPal project with a mixture of enthusiasm and trepidation. Some saw the project as one that would help them become computer literate, while others saw it in a more global perspective, something that would enable them to communicate with students from other cultural groups and parts of the world. Bongi had this to say: "Technology is global, it will help me get a job. I will take any help I can get with computers, and maybe this course will help me."

Establishing contact

Contact was established with an English Foreign Language teacher based at a technical university in France via the International Exchange for Cross-cultural Communication (IECC) programme. Her class proved to be the most suitable in terms of age and level of education. Other projects have been conducted with participants of diverse age groups; however, I wanted to ensure a level of compatibility for this particular project. The instructor in France placed 20 of her EFL students on the programme. They ranged in age from 20 to 25, and came from a variety of cultural backgrounds. The table below reflects their cultural backgrounds:

Cultural background	Number of students
French	8
Brazilian	6
American	2
Russian	1
Scottish/ Greek	1
Chinese	1
Greek/ Australian	1

Table Three: Cultural background of partner students

One problem was that seven of the students could only communicate in French, not English, so we had to partner two of my students with each of the overseas students in certain instances. However, the teacher and students were keen to participate because South Africa was not a usual partner country. In addition, some of the South African students were studying French as a second language. The French teacher at the South African institution and I encouraged our

³ The real names of students are not used in order to maintain their privacy

students to communicate in French as well. This was a little difficult because of our students' proficiency level. Only one of our students maintained contact in French medium, but this is not reported on in this paper.

Implementing the project

Introductory e-mails were drafted by students on both continents. Initially contact was quite erratic with technical glitches such as incorrect e-mail addresses. Thereafter they maintained contact on their own over a period of about twelve weeks. They corresponded on a variety of themes around culture and language and communication. In order to integrate the project with the syllabus, students were asked to use class topics as a basis for discussion. Initially, I asked to be sent copies of their e-mails in order to track the discussion; however, students felt awkward about this (as I did) and I decided to permit them to communicate more freely and rely on their feedback. There were joys and frustrations on both continents, as will be reported on later in this paper. A firm favourite, though, was when my students took digital pictures with a loan camera to send to their new friends. They even wanted to send pictures of their homes, families, traditional dress and the food they eat, which was beyond the scope of the project at that time. Next time perhaps we could work on sending a 'cultural box' including postcards and a video of traditional dance and costumes.

Findings

Students were interviewed in groups and individually, and also wrote reflections in e-journals on the process. Their reflections are summarised below.

On maintaining contact

Most of my students felt that they were able to maintain contact with their e-pals during the term. Others, such as Thobi, found it difficult to maintain contact because her e-pal did not maintain regular contact. This could be because of language or technical difficulties, Thobi was uncertain, but felt marginalised while her classmates received several communications. One way of preventing this is for the instructors to intervene and ensure that students maintain regular contact, which should be an objective in this kind of project (Keogh, 2001; Ho, 2000; Sakar, 2001, Mello, 1998; Jor and Mak, 1994). Also, students should have been given more time to communicate with one another before embarking on the cultural project. Students maintained contact at a rate of once in two weeks to four times a week. One way, perhaps, of preventing such a discrepancy would be for teachers to stipulate a minimum number of contact sessions, to prevent students from feeling marginalised. Once again, this would depend on the instructors' maintaining common goals.

Language issues

Most students felt that they were able to communicate quite easily, and that they understood one another, despite the different language backgrounds. Mdu, however, often felt embarrassed because he was "only a second language speaker" and felt that his language was not good enough for the project. Having worked with this particular student for a semester, I did not agree with his view,

so perhaps it was a matter of lack of confidence. On another note, Prim felt that she could not understand her e-pal whose language usage was "too weak." No doubt, Prim was reassured about her English language usage, supporting the views of Warschauer (1996) and Kannan and Macknish (2000) that the motivation levels in online communication are high.

Level of Improvement

Most students commented that their use of computers, especially e-mail, had improved either quite a lot, or drastically. They also indicated that their language usage, writing skills and cultural knowledge had improved, as did their ability to communicate with other people and their classmates and lecturer. This supports the view that computer-mediated communication could result in the improvement of writing (Warschauer, Turbee and Robert, 1996; Brush and Uden, 2000; Karyan and Crowe, 1997; and Harasim, 1994). The downfall is that the project relied on students' views of the perceived improvement in writing skills, as pre- and post-testing was beyond the scope of the project at the time.

Benefits and challenges of the project

Benefits

The reported benefits included cultural, language and computer knowledge. Some of the advantages that were reported included that students learnt more about their own culture and the culture of others. They also felt more confident when communicating. Others enjoyed the freedom to contact me and other learners, as this helped them learn, supporting the community of practice notion (Lave and Wenger, 1991). Some students felt that the project provided them with a good opportunity to promote South Africa and to eradicate misconceptions about the country (Welcome said, "They know there is someone called Mandela, now they know where he comes from."). All the participants mentioned that they felt much more comfortable using computers, e-mail and the Internet, having participated in the project.

Challenges

On the other hand, students were in agreement that computer facilities at the institution were limited. They also felt that they should be initiated into such work by having formalised lessons on computer literacy, something that the institution was not offering to Humanities students at the time. This is a recommendation also made by Kannan and Macknish (2000), and one that I think is vital. Students were expected to attain computer literacy at their own expense, despite the institution moving towards designing a technology plan. Computers also had to be booked in advance so that students could access e-mail, which slowed down the pace of the project somewhat. Not all of the students managed to progress with the project. Four students did not continue beyond the introductory phase because they experienced difficulty creating e-mail addresses and accessing computers. One student commented that he was at the institution to get his degree and get a job, not to chat with pen pals. He preferred the lecture mode to something more interactive, and found the project too time consuming.

Teacher reflection

In retrospect, I made several errors that instructors are cautioned not to make, despite my having read widely on similar projects. I embarked on the project without clear-cut assessment goals. I also expected that the student communication would just flow unhindered, which was quite a naive view, as several of them required instructor intervention. I also could have prepared students better in terms of computer literacy in a more formalised manner. More time should have been spent on technology training; however, this was beyond the scope of the syllabus and the heavy workload. This proved to be the undoing for some of the students who lost interest in the project because they no longer felt motivated, primarily because of computer glitches.

Another shortfall of the project is that I did not maintain contact with the EFL teacher and students in France, or this report could have been a review of the pros and cons of the project from all the participants involved. For the sake of convenience at the time, the research was only conducted with my students.

With regard to assessment, while the project was integrated with the curriculum in terms of outcomes, for reasons such as loss of contact, I could not include a compulsory assessment task on the project. Students were given choices, of which an assessment task based on the online project was one option. This was to ensure that students who did not proceed to adequate computer competence were not placed at a disadvantage.

However, in terms of the initial research questions, most of the students were able to work effectively with online technology, despite several problems experienced with the resources. The use of technology did contribute to a community of practice. Students maintained contact across continents, with one another and with the instructor. Less able students were paired with more computer-literate students who shared their computer skills and were quite happy to do so. The students were also happy to extend contact within the classroom by e-mailing queries about tests and assignments, or about what was discussed in class during the week. Often they just sent out an e-mail to greet everyone. The students were also motivated because they were doing something different, which was to an extent incorporated into the syllabus. They experienced benefits and challenges, and all the students who completed the project felt that they would like to continue with such work. The task was not without excitement because the World Soccer Cup was conveniently being played at the time, and some of the students indulged in some inter-continental betting.

Phumi's words are particularly apt:

It is a great experience corresponding with international e-pals. The only thing about them is they are very stereotyped about Africa. Before, they only think if you live in Africa you must be poor. These people had a bad attitude towards African people. They seem as if they do not even consider or (are) interested in knowing what African countries are really like. This is bad because they do not take time to research Africa. They can learn from us the truth.

Conclusion

The project was not without glitches, but was rewarding to the students and instructor. The students were excited to try out something innovative and the

findings demonstrate the possibilities for a sociocultural approach within a community of practice. What needs additional consideration are the implications for further research. Much of the data relied on self-report evidence from the participants. There is need for more evidence on the impact of technology-enhanced practices on learning by looking at more quantitative data over an extended period of time.

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Appendix Project Design

