CALL and teacher education: Issues in course design

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Introduction

As the use of computer-assisted language learning (CALL) grows worldwide (Fidelman, 1998), university courses to inform language teachers about CALL applications are also increasing. Given that the role of the teacher in computer-mediated education requires some rethinking and redefinition, it is important for practitioners to understand the pedagogical issues related to technological change (McWilliams & Taylor, 1998) and to be aware of current perspectives on the roles and functions of CALL. For example, some enthusiasts view CALL as an innovative teaching technique in which computers play a central role; others view CALL as a functional "add-on" to conventional lessons; while still others in the language teaching profession believe that computers make no significant contribution at all to language teaching and learning. Evaluating competing claims can be a difficult, confusing task, and in teacher education programmes, it is clear that courses need to cover more than just the technical background to CALL.

Identifying, exploring, and discussing key issues in the area of CALL are essential if teachers are to learn how to make informed choices about computer use. CALL courses that focus primarily on how to "surf the net" to find instructional materials or construct web sites are inadequate and are reminiscent of computing studies curricula of the 1980s (Collis & Muir, 1986). At that time, a common complaint was that the focus of instruction in educational computing was on programming languages and general machine-handling skills without detailed consideration of the curricular or contextual limitations within which computers would be used. Perhaps similar observations could be made about the current state of CALL in second language teacher education (SLTE) programs.

To meet the new challenges and directions of CALL for teacher education, we recognized the need for courses that addressed a wider range of issues. Further, and more generally in second language teacher education (SLTE) programmes, there is a need to help teachers develop skills in autonomous learning and self-reflection to help them refine and improve their classroom practice. Computers can play a role in developing these skills.

This paper will discuss the design, development, and on-going evaluation of a CALL component which has recently been incorporated into two postgraduate university degree programmes — one in second language teaching and the other in Applied Linguistics. The discussion will focus on the activities, decisions, and developments in the introductory-level CALL course (similar issues affected the design of the more specialist CALL courses, but will not be discussed here) and will be framed within a general description of aspects of the institutional setting and degree programmes. An overview of course content and instructional approaches will be provided and implications for teaching and learning discussed.

Overview of the setting

Our academic year runs from March to October. During 1997 and 1998, three CALL courses were introduced into the two postgraduate degree programmes in Applied Linguistics at the University of Waikato, Hamilton, New Zealand. Prior to the introduction of these courses (one at the Postgraduate Diploma in Second Language Teaching (PGDipSLT) level and two at the Masters level), both programmes had been based entirely on an instructional format in which students met with their teacher weekly, were assigned a variety of print-based readings, and wrote three major assignments within 12-week courses. Six courses were required for successful completion of the PGDipSLT and four were required at the MA(Applied) level. It was becoming increasingly clear, however, that there were problems with the structure of the two programmes, their courses, and methods of course delivery and assessment as they related to the particular needs of the student groups.

All students in our programmes are adult learners with busy lives outside of the university (many are engaged in full-time employment as language teachers). Because of the constraints of their professional careers, many students come to the university only to attend courses. Also, a significant number of our students are from non-native English speaking backgrounds (NESBs). In practical terms, this has meant that a sense of "on-campus" community was lacking for many students in our programmes due either to their work and family commitments or to the challenges of reading, writing, and speaking in English (or a combination of these factors). Also, some students reported feeling lonely and academically isolated.

Further, as the use of computers in language teaching increases, students in our programmes have been showing interest in using and evaluating computers and software in their instructional contexts. It was also clear to us that on-line instruction has implications not only for language study and graduate courses (for example, students are now able to study anywhere in the world, without having to leave home) but also for the entire university community. These various considerations — the types of students enrolled in our degree programmes, the increasing prevalence of computers in language teaching, and new modes of delivering instruction in higher education — all helped to shape and influence our second language teacher education CALL course.

In addition, there were several more specific aspects of course design that shaped and influenced our decisions about the CALL course. The first included typical design concerns, such as identifying appropriate subject area content and materials and their sequencing. Other aspects, including the selection and use of instructional techniques and methods of organizing student assessment, needed to include explicit consideration both of student needs and issues related to teaching and learning in cyberspace.

Changing to an instructional format based on distance, on-line delivery is complex. Revising courses to an on-line format includes several stages and involves much more than simply loading conventional course content into web-based delivery systems — particularly if such software is concerned primarily with content presentation and discrete item testing. The issue of appropriate on-line educational formats, while important across the university, is particularly key in second language teacher education in which students are developing knowledge and skills in a variety of approaches to language teaching. For example, we are concerned with introducing and discussing issues of reflective practice, alternative assessment in the language classroom, and practical methods for fostering

collaboration amongst practitioners. We are not particularly concerned with having students master a body of "facts" to be regurgitated on examinations.

Considerations for CALL course design

In the case of the course being described in this paper, the problem of how to design instruction which not only included content and issues relevant to CALL but also developed students' technical proficiency was complex. Issues related to reflective practice and autonomous learning also needed to be explicitly considered in the course design, and this added to the complexity. The following discussion describes the design process within a framework of content and assessment concerns as well as theories of second language pedagogy, including autonomous learning and reflective practice.

Content concerns

Many (if not most) of the students enrolling in the PGDipSLT CALL course have had limited background and experience using computers and are unfamiliar both with computing terminology and CALL concepts. This raised a variety of issues when assembling course readings. Most general computer science books are too technical for our novice computer users; many CALL-specific books lack a theoretical perspective, and most books in computers in education are too general. Although there is an enormous, and growing, the body of CALL literature available on the Web, searching for and locating appropriate research articles is extremely time-consuming.

What was also important for the location and structuring of content was our recognition that the field of CALL is an emerging one, and that there is no accepted "dogma" which could, or should, dictate the inclusion of different types of content. We wanted to include a range of representative views of CALL so that students could become aware of the richness of the various arguments about the role and significance of CALL. In addition, it was important to provide opportunities in the course for students to participate in locating resources for students to identify and locate resources relevant to their particular instructional contexts, to contribute to class discussions on an on-going basis, and to work collaboratively.

Initially, we adopted two core texts for the course, assembled a variety of articles from print-based and on-line sources, and organized a series of readings into four general areas:

1. The context of CALL
2. Technology
3. Software evaluation
4. Language skill areas: reading, writing, listening, and speaking.

Within these topic areas, students learn about the history of computers in education and CALL and different conceptual frameworks for considering CALL research, technical terminology and basic networking concepts, different approaches and ways of thinking about software evaluation, and CALL applications within the skill areas of reading, writing, listening, and speaking. A fifth area, "CALL in the classroom", in which we discuss focused examples of CALL implementations ("how to do CALL") has been

added recently as a result of student feedback about CALL topics they want to explore more deeply. A selected CALL bibliography can be referenced at the end of this paper.

Autonomous learning

Content concerns were only one aspect of course design. Throughout many of the courses in our programmes, students encounter a variety of literature discussing the principles and significance of autonomous learning. It would probably be safe to say that the majority of students support the principles of autonomous learning — at least in theory and as they relate to their future language students.

However, some students in our programmes are reluctant to adopt these ideas into their learning despite accepting the principles of autonomous learning. In spite of changes to how some of our courses are taught, most students have become accustomed to a model of higher education in which they are passive receivers of knowledge, in the form of lectures, from their teachers (the experts). In many tertiary-level degree programmes (in New Zealand and elsewhere), students are seldom challenged to take responsibility for the direction of their own learning. Although delving more deeply into this issue is not the purpose of this paper, the fact remains that for many of our students, "autonomous learning" is merely a concept they have encountered in course readings, and it does not have much personal relevance.

Teacher reflection, peer evaluation, and assessment issues

Likewise, although some of our courses, particularly at the PGDipSLT level, use peer evaluation and self-assessment (as techniques to develop reflective practitioners), the feedback students receive in these courses is frequently more summative than formative. Students practice "reflection" as a technique to improve their final grade in the course, but structures to support on-going reflection as an essential component of courses in our programmes have been lacking. As mentioned earlier, many courses have followed a "traditional" model, in which the lecturer provides pre-digested course content, in the form of lectures, and all students submit their version of the same assignment.

This format of instruction tends to foster passivity on the part of students, extremely low levels of compliance with reading assignments, and uneven quality in submitted essays. Also, when there are only three chances to demonstrate proficiency during a course, and only one acceptable task type (academic essay writing), the validity of the assessment is highly questionable. Moreover, this style of assessment has proven to be particularly problematic for students who are non-native English speakers (NESB).

The instructional approach

Objectives

Four main objectives have guided the design, development, and implementation of the CALL course and the issues described above have provided a contextual framework within which design decisions have been made.

First, we wanted to teach students about computers in language learning by having them use computers to find and evaluate information relevant to their academic and professional needs. Second, we wanted to use computer-mediated communication (CMC) as a tool to encourage and support autonomous learning and to facilitate reflective practice. Third, we wanted to develop mechanisms for using CMC as a means to develop and sustain a sense of community among students. And, finally, we needed to be mindful of practical and economic constraints from both the students' and the department's perspectives.

To accomplish our inter-related aims, assessment, and classroom management procedures needed to change significantly. Swain's idea of "bias for best" (1983) influenced our thinking about the design of assessment tasks and task types so that students could express themselves in a variety of different formats and have many "fresh starts". Also, CMC was used as structural support for sharing information, discussing ideas, and creating a community of learners.

A relatively "low-tech" (inexpensive) approach to course design included the establishment of an email listserv on one of the university's servers, the careful selection and purchase of exemplary software to demonstrate different approaches to CALL, and the collection of print-based materials reflecting different perspectives on CALL. Our decision not to bundle all course content into a unit in web-based software was deliberate. We did not want to deliver "canned" lectures followed by discrete item testing but rather wanted to build and nurture an online community of collaborating peers. We believed that having the course delivered in a presentational, rather than the discursive mode, would be ineffective for nurturing student reflection or interactive sharing of ideas.

Assessment

A key feature of the CALL course was its focus on continuous assessment of student work and this was organized into four separate task types described below.

Reading, interpretation, and peer evaluation

Each week students read between three to five academic articles about a particular aspect of the week's discussion theme, prepared a question about one of the articles (their choice), and wrote an answer to their question. Questions were to be focused and answers were to be concise (around 200-250 words). Each student then posted both their question and answer to the on-line discussion list.

The main purpose of the question and answer assignment was for students to demonstrate their interpretation of the reading. There were no "correct" questions and answers, but students needed to illustrate their perspective and understanding of what they had read.

After posting their question and answer to the list, students read and selected two questions and answers (their choice) posted by other students in the course. They then wrote one positive comment and one constructive criticism for each of the two questions and answers they had selected. In this manner, everyone shared in the task of peer evaluation, an assessment technique which some had encountered in other course readings, but in which they had not participated in practice.

Moderation of online discussion

The volume of the email posted to the list each week was large and so management and evaluation of it were shared assessed tasks. Student moderators were scheduled on a weekly, rotating basis to prepare summaries of the quantity and quality of messages being posted to the list. To assist them with this organizational task, they were provided with an evaluation summary sheet developed by the instructor.

Oral presentations

Students were required, on a weekly, rotating basis to make informal seminar presentations and to lead class discussions about the assigned readings. Since everyone had read the articles, thought about their meaning, and had read other students' ideas about the papers before they arrived in class, the discussion was well-informed and lively.

In addition, on weekly, rotating basis students located, evaluated, and presented interesting web-sites or standalone software (related to language teaching) to the class.

Academic writing

During the course, students wrote two "position papers" in which they synthesised and interpreted ideas gleaned from the readings, on-line discussions, and class presentations and discussions. Finally, students selected a CALL topic of personal interest and developed it into a longer, academic writing assignment through consultation and formative feedback from the instructor.

Discussion and conclusions

The potential of technology to transform language teaching is often the underlying assumption of CALL course design; however, conceptual frameworks which emphasize the social, cultural, and discursive implications of using computers in teaching could guide CALL course design (Bowers & Flinders, 1990; Ragsdale, 1988) and would be far more appropriate. In addition, explicit consideration of how reflective practice can be nurtured, and good teaching encouraged and sustained is important in the design of any teacher education courses — including CALL. For example, knowledge of general principles of assessment, including continuous assessment, is important not just in theory, but in practice; students need to experience different models of assessment. Although we are continuing to refine the CALL programme based on course feedback and other research findings, some preliminary conclusions are discussed below.

Adapting to a new model of assessment

Blending a variety of ideas and assumptions about not only teaching and learning, but also about the use of computers in language teaching has been complicated, and the development of techniques to support student learning within a new model of instruction has been time-consuming. Also, students have experienced a model of teaching and learning substantially different from what they have encountered elsewhere, and have

been required to change how they conceptualize and do academic work. When confronted by these challenges, some students have had difficulty adapting, and these reasons were particularly clear when considered within the context of culture. Some Asian students reported to the class student representative that they felt anxious about publicly commenting on each other's work while one native-speaker of English stated that the principles of peer evaluation, while possibly appropriate within North American culture, were inappropriate within New Zealand (Brine & Johnson, 1999). Despite these initial criticisms, however, student evaluations of the course have been overwhelmingly positive, and the course has become so popular that enrolment has had to be capped (due to limitations of available computers in the University labs).

The teacher-learner relationship

With the introduction of continuous assessment and focused peer evaluation, the teacher-learner relationship was modified with the instructor becoming a guide and facilitator. In addition, the sense of community that began on-line extended into the classroom. Because students were using CMC to communicate with everyone in the class throughout the week, they developed a much broader friendship base than would have been possible only through face-to-face mode during class times. This was particularly advantageous for NESB students who were often reluctant speakers of English in conventional courses and who had difficulty developing relationships with native-speakers. Group discussion and collaboration had become an important aspect of the course as students assumed increasing greater control over their learning.

The effect of CALL on our teaching programme

During the design process described here, we explicitly considered not only the structure and content of the CALL course, but we also operationalised theoretical models of teaching and learning. What we have learned through the implementation and on-going evaluations of the CALL course has been valuable within the contexts of course design, technology implementation, and educational change. Further, student evaluations and feedback have helped us to refine assessment activities, expand our knowledge base, and improve course design.

Although we are still in the early stages of developing the CALL focus in our programmes, knowledge gained from this CALL course implementation has been extremely valuable and has influenced our design of other Applied Linguistics courses. For example, as some of our students seemed to be unaware of general acceptance of concepts associated with peer evaluation, even though they are well-represented in education programs in both New Zealand and Australia, this indicated a need for more instruction in this area. As one way of addressing this need, we have introduced another PGDipSLT course called Reflective Practice in Language Teaching which is designed to encourage openness and give students experience with self-reflection. Further, as we analyze more closely student transcripts from the CALL course, we hope not only to understand more deeply the nature of on-line communication but also to gain insights into the nature of CALL and students' cognitive and social development within an enhanced instructional environment.

Footnotes

1. An earlier version of this paper, Issues in Computer-Assisted Language Learning: What do language teachers need to know? was presented at the Sixth National Conference on Community Language and English for Speakers of Other Languages (CLESOL) Palmerston North, New Zealand, 25-28 September 1998.
2. Course 0213.750, Issues in Computer-Assisted Language Learning is a survey course for students enrolled in the Postgraduate Diploma in Second Language Teaching degree programme and was introduced in 1997. Courses 0213.550 (Evaluation of CALL Materials) and 0213.570 (Language and Culture in Cyberspace) are intended for students in the Master's programme and were introduced in 1997 and 1998 respectively.
3. Pennington, M. (1996).The Power of CALL. Houston: Athelstan Publications.
   Levy, M. (1997). Computer-assisted language learning: Context and conceptualization. Oxford: Clarendon Press.
4. Brine, J. (1998). Evaluating language instruction in cyberspace. Paper presented at the Sixth National Conference on Community Language and English for Speakers of Other Languages (CLESOL), Palmerston North, New Zealand, 25-28 September 1998.

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