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ESP FOR BUSY COLLEGE STUDENTS: IS THE BLEND OF IN-CLASS, ONLINE & MOBILE LEARNING THE ANSWER?

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Abstract

Research conducted at George Brown College in Toronto identified a significant gap between students' language proficiency, the requirements of the program from which they were about to graduate, and the language requirements of the related workplace. Specific language and socio-cultural competencies had to be packaged into a language support solution in a delivery format matching students' needs and their demanding schedules. Based on these needs, an adjunct language support course was designed following paradigms of computer-assisted language learning (CALL) and Mobile-Assisted Language Learning (MALL) theories of learning. The resulting hybrid English for Special Purposes (ESP) course comprised three components: in-class, online, and mobile. Traditional ESL resources were combined with in-house produced audio-video podcasts and open source content. Results demonstrated that blending in-class, online and mobile language learning is an effective solution for teaching English to adult learners, and it is a solution that enables improved flexibility and individualization of practice.

INTRODUCTION

Imagine you are an internationally trained immigrant, studying at a college, taking care of your family, working part-time and coping with language barriers which distance you from the first real job in your new home. How can you

optimize your learning outcomes in your college program and secure a job commensurate with your qualifications? What type of language support would meet your needs and lifestyle? Is a hybrid course blending in-class, online and mobile learning an effective way to teach English for Special Purposes in this particular context? Should mobile assisted language learning be part of this approach?

Research conducted at George Brown College in Toronto identified a significant gap between students' language proficiency, the requirements of the program from which they were about to graduate, and the language requirements of the related workplace. Specific language and socio-cultural competencies had to be packaged into a language support solution in a delivery format matching students' needs and their demanding schedules. Enhancing occupation-specific language skills along with the understanding of the workplace culture became the focal learning objectives of this learner-centered solution. Speaking and listening competencies were emphasized; however, adopting the integrative perspective, the course was designed not to teach the two skills in isolation but to interlink them with reading and writing. A strong need for flexible access, interactivity and individualized support were recognized as well. Based on these findings, an adjunct language support course was designed following paradigms of computer-assisted language learning (CALL) and Mobile-Assisted Language Learning (MALL) theories of learning. The resulting hybrid English for Special Purposes (ESP) course comprised three components: in-class, online, and mobile. Traditional ESL resources were combined with in-house produced audio-video podcasts and open source content. As an adjunct to an accounting course, the hybrid also incorporated accounting classroom and workplace materials, terminology and constructs. Our approach was one of iterative refinement of the course design based on student and faculty feedback. The resulting ESP course for entry level accountants was offered as a pilot in January 2009.

Hybrid learning blending traditional classroom and online instruction has been growing in popularity (Kraemer, 2008). The ESP course presented in this paper added one more ingredient to the solution, namely language learning using mobile devices. Guided by MALL research and students' preferences, we used iPod Touches mainly, but not exclusively, to support the development of aural competencies. They also promised enhanced individualization and mobility of content delivery and practice.

Hence, the main purpose of the present study was to explore whether a hybrid of in-class, online and mobile learning was perceived and demonstrated as an effective language support solution. The mobile component was examined in further detail to shed light on its appropriateness as a learning technology for busy ESP learners. This paper reports on this inquiry and its findings and examines its observations and conclusions in which Bates and Poole's (2003) SECTIONS model is used as a framework for evaluation of the iTouch effectiveness in the ESP environment. As research design and delivery

decisions were informed by selected CALL, MALL, and hybrid learning principles, a brief overview of these theories follows.

LITERATURE REVIEW

CALL & MALL

CALL integrates the precepts of Second Language Acquisition and technology assisted learning models, often enriching them with distance education theory. The ongoing reassessment of language teaching theory and practice and the emergence of new technologies resulted in a paradigm shift from behavioristic CALL to communicative and subsequently integrative CALL. The integrative approach, a more socio-cognitive perspective, entered language classrooms in the late 1980s and early 1990s stressing the integration of the various language skills with the use of technology in real-world social contexts (Warschauer & Healey, 1998). Language learning is indeed a social activity (Warschauer, 1999) taking place in an authentic context where learners engage in experiential language tasks (Felix, 2002). Such tasks promote language acquisition through problem-solving activities built around learners' interests and everyday life experiences (Willis, 1996).

Following the constructivist philosophy and the emphasis on collaborative discourse, the socio-cultural approach to language learning sought to integrate language learning and technology with student-centred, task-based, and authentic-content approaches (Ariz & Hancock, 2003; Biesenbach-Lucas, 2004; Felix, 2003; Hampel & Hauck, 2004; Kern, Ware & Warschauer, 2004). Interactivity was also identified by CALL as a *sine qua non*: That is, for learning to occur, continuous interaction with the immediate context and other people is needed. In order for the learner to achieve the level of independent performance, interactivity should be combined with scaffolding support of a facilitator or peer (Vygotsky, 1978). CALL models promised to enable and encourage interaction as well as practice the four language skills; however, the computer technology cannot adequately support the development of listening or speaking competencies, and neither can it afford authentic flexibility. Given that most mobile technologies inherently support oral and aural interaction on the go, they can take language learning outside of the time/place restrictions of traditional CALL and into real-world contexts.

Mobile-Assisted Language Learning models are particularly relevant to the discussion of learning with iPod Touches. MALL revisits the pedagogy of CALL from the perspective of enhanced mobility and flexibility, and hopes to benefit from the salient characteristics of mobile learning which “can be spontaneous, personal, informal, contextual, portable, ubiquitous (available everywhere) and pervasive (so integrated with daily activities that it is hardly

noticed)’’ (Kukulska-Hulme, 2005, p. 2). Learning is defined as mobile when the learner is not at a fixed, predetermined location, and he/she ‘takes advantage of the learning opportunities offered by mobile technologies’’ (Kukulska-Hulme, 2005, p. 1). For the purpose of this research, mobile learning refers to formal and informal learning mediated via handheld devices and potentially available anytime, anywhere and offering direct or indirect connection to the Internet. This study focused on mobile devices which offer audio downloading, recording and playback capabilities, as well as connectivity and text-based interactivity. A closer look at the technology features follows.

Manifold MALL affordances are discussed by Kukulska-Hulme and Shield (2008) who identify current research in the use of mobile devices in language learning. The majority of studies focus on content development and design issues related to employing one-way text messaging for vocabulary learning, quizzes and surveys. “Although mobile phones were developed to allow oral interaction, MALL rarely seems to make use of this affordance, at least in published research” (Kukulska-Hulme & Shield, 2008, p. 275). Occasional studies go beyond the text-based environment though, and utilize audio capabilities of mobile devices. For instance, Southampton City College encouraged exchange of oral and visual information via mobile phones equipped with cameras and voice recording mechanisms. Likewise, Stanford University investigated the use of audio in language teaching by using synchronous conversation and voice-controlled grammar and vocabulary quizzes.

Both studies were abandoned due to scheduling difficulties and voice recognition software problems. Cooney and Keogh (2007) report on their study in Irish as a Second Language, in which learners used mobile phones to listen and record their answers in a formal learner assessment. Students at Osaka Jogakuin College used their iPods to listen to downloaded English language news podcasts in order to carry out homework assignments (McCarty, 2005). One of the more wide-ranging listening and speaking MALL activities was tested at Duke University (Belanger, 2005), where Spanish language students listened to audio information including glossaries, songs, narratives recorded by native speakers, and tutor feedback. They recorded responses during oral quizzes, oral assessment, and reviewed their vocabulary pronunciation. These students evaluated the feasibility and effectiveness of iPods for oral comprehension and pronunciation exercises positively.

A recent study in Korea (Nah, White, & Sussex, 2008) investigated the attitudes of intermediate English language learners toward mobile phone use and a related website to engage in pre-, during- and post-listening tasks. Learners provided positive feedback on the technology which was believed to be more effective for developing listening skills than traditional classroom or CALL. The two key factors which positively contributed to students learning as cited in the study were “frequent comprehensible input, negotiation of meaning

and comprehensible output,” (p. 341) coupled with the student-centred collaborative approach to learning.

Furthermore, MALL research demonstrates the use of audio podcasts in the delivery of learning materials and authentic language samples (Stanley, 2006; O’Byran & Hegelheimer, 2007), student creation of content and their active participation in content delivery as well as building a community of learners (Quinn, Mardomingo & Valentine, 2009). “While there seems to be very little published MALL research in the areas of speaking and listening, what has been reported so far does suggest that collaborative speaking and listening activities could be successfully supported by mobile devices” (Kukulska-Hulme & Shield, 2008, p. 281).

MALL: Affordances & Caveats

As language is contextually contingent, the mobility of the learner across diverse authentic contexts often enables situated language practice. MALL also offers on-demand flexibility “congruent with learners’ increasingly mobile, always-connected lifestyles”, “continuity or spontaneity of access and interaction across different contexts of use” (Kukulska-Hulme & Shield, 2008, p. 273), fewer time and space constraints (Nah et al., 2008), ownership and control of what, when and where to learn (Laurillard, 2007), as well as immediate contact with teachers, experts and peers in a more self-paced collaborative environment. Additionally, Kukulska-Hulme and Pettit (2009) note the convenience and portability of MALL, utilizing dead/hostage time productively, being able to connect and interact, affordability, access to up-to-date material, and multimedia options. Mobile technologies also allow learning to be organized into “manageable chunks” (Chinnery, 2006), and for reinforcing oral and aural skills (Abdous, Camarena, & Facer, 2009). Rosell-Aguilar (2007) revisited several MALL studies and completed a list of the advantages of attractiveness, motivation, and access to resources integrating in-class and out-of-class learning. These have to be factored into the design of mobile assisted learning along with careful attention to the caveats reported in the research.

Nah et al. (2008) point out limitations to mobile technologies and their appropriateness for language teaching which have been identified across numerous MALL studies. Thornton and Houser (2005, as cited by Nah et al., 2008) found that the sound quality of mobile phones was inadequate for listening activities. They also reported slow downloading speeds, small mobile phone screen sizes, and the limited control functions of mobile phones. The caveat list also includes the excessive mobile phone and network expenses (Dias, 2002; Kiernan & Aizawa’s, 2004, as cited by Nah et al., 2008), difficulties typing English and completing assignments on the small devices or having to listen effectively in noisy public places. In addition, Kukulska-Hulme and Pettit (2009) mention technical and ergonomic limitations such as an

inadequate quality of some microphones and speakers, awkward controls on cheaper devices, short battery life, and a lack of Wi-Fi access in many locations. Mobile devices have a potential to enable interaction; however the resulting communication may be less meaningful due to the limited depth of thinking and learning, distraction, and everything having to be “short and small.” One of the main concerns identified by end users is the cost of mobile technologies, which limits their flexibility and “can be a barrier to successful uptake when using mobile devices” (Kukulka-Hulme & Shield, 2008, p. 282).

Hybrid Learning

Hybrid instruction¹ combines a careful blend of the best of traditional classrooms and online activities (Kraemer, 2008). Hybrid courses go beyond innovative additional activities made available through alternative formats, however. The exact definition of hybrid courses is contested, with some in the field proposing that at least 30% of a course must be offered online, but no more than 79%, for the course to be considered a hybrid (Sloan-Consortium, 2003 as cited by Kraemer, 2008, p. 33). Neumeier (2005) more broadly defines a hybrid learning environment as “a combination of face-to-face (FtF) and computer assisted learning” used in a single course delivery context (p. 164). Stracke (2007) points out that the definition of hybrid instruction is debated in an on-going “lively and highly critical discussion” (p.59), which emerges out of a gap between practice and theory in this area.

The growing popularity of hybrid learning may be attributed to its evident benefits to not only busy and self-determined students, but also as a solution to restricted classroom space. The need for in-class time is reduced by the provision of effective learning opportunities on the web and on the move. Students benefit because they are able to continue to engage with each other while at the same time being afforded flexibility in how they engage with course materials (Kraemer, 2008). The focus of hybrid course delivery is on the learners and their needs. In fact, hybrid learning is celebrated for its “shift away from the teacher and toward the learner” (Kraemer, 2008, p. 37).

A review of research regarding language learning in a hybrid course context is revealing of elements which make blended course delivery effective in meeting student needs. Das Neves Seesink’s (2007) study of intensive English students found that online assignments disengaged from classroom activities are not effective; for students to perceive online activities as valuable, they must be well integrated with the in-class component of the course (as cited by Kraemer, 2008). Going further, Stracke’s (2007) specific study on reasons for attrition in

¹ What is known as ‘hybrid instruction’ in North America is typically referred to as ‘blended learning’ in Europe.

hybrid language courses found that there were primarily three reasons why students decided to drop hybrid language courses: 1) a perceived lack of connection between the delivery components; 2) a perceived lack of sufficient paper usage (for reading and writing); 3) and a “rejection of the computer as a medium of language learning” (p. 57). On the other hand, although Harker and Koutsantoni’s (2005) study agreed that the blended learning mode of their English for Academic Purposes course was more effective in student retention than the web-based version, they found that both modes resulted in comparable achievement levels. More specifically, Leaky and Ranchoux (2006) found that first-year French students preferred a hybrid model to traditional classrooms for language learning (as cited by Kraemer, 2008). The resonating theme amongst these studies seems to be that which Neumeier (2005) emphasizes— hybrid language learning courses are “only going to foster successful language learning if they are carefully designed on the basis of an analysis of the participants’ needs and abilities” (p. 176).

METHODOLOGY

The ESP hybrid course at George Brown College was indeed a result of an in-depth investigation into the internationally educated immigrants’ (ITI)² language proficiency and their specific needs. The review of relevant research provided further assertions of pedagogical appropriateness of the three-way hybrid solution, however those had to be substantiated by investigation of actual learning and conditions under which the learning occurs. Clearly-defined questions pertaining to content design and delivery, selection and usage of mobile tools, and the role of teachers and learners had to be explored. Our research tackled some of those questions.

This exploratory study sought to examine the experiences and preferences of ITI students vis-à-vis the hybrid design of an ESP course, particularly its mobile component. In order to evaluate whether the hybrid is an effective approach for this group of students, the study addressed two questions about learning: (Q1) Is the hybrid language support course and its three components an effective way of learning English for Special Purposes? (Q2) Did students improve their language skills? Additional questions were asked pertaining to the mobile technology which was introduced as a novel approach in this particular context: (Q3) Are iPod Touches an appropriate technology for language learning? (Q4) What affordances and caveats of iPod Touches are pertinent to the learning experience and outcomes? (Q5) What type of language learning activities do students engage in on their iPod Touches most frequently?

² Internationally trained immigrants (ITIs) are newcomers who intend to stay in Canada and have studied in post-secondary programs and/or have significant work experience in their country of origin.

Building on previous research, this mixed methods study explored and documented first-hand accounts of student-participants' experiences and perceptions.

Participants

A purposeful sampling method was employed to recruit student-participants for this study. ESL students with particular characteristics were sought to represent the specific population of internationally trained immigrants studying at a community college. An invitation to participate was emailed to all last semester students in the College financial accounting courses. The specific focus of the course pilot was explicitly stated. Additional details about the study were offered through two classroom visits following the electronic invitation. Subsequently, twelve students volunteered to participate in the hybrid version and eight other students opted for the online component only. It is worth noting that while all twelve hybrid students completed the course and actively participated in the research by providing their feedback and partaking in the post-test, the online students demonstrated interest in the WebCT activities, yet forwent the assessment or feedback exchange. The resulting research sample size was twelve (n=12).

The student-participants were all internationally trained professionals studying in an accounting program at George Brown College. They were adult, non-traditional learners representing diverse cultural and educational background and all 'Confucian-heritage' learners. There were two male and ten female learners and the average age of the group was 33. All students emphasized the multiplicity of school, work and family-related responsibilities with which they had to cope, and self-reported need for ESP support.

ESP Course

The ESP course for accounting students was developed following two years of research and instructional design. In the initial phase of the research, language requirements of entry level accounting positions in the authentic Canadian workplace were established using the Canadian Language Benchmark (CLB) framework. Data from eight companies were collected through job shadowing and interviews providing information on speaking, listening, reading and writing as well as socio-cultural competencies essential in the accounting workplace. At the same time, language requirements of the corresponding program at the College, as well as the ITI students' language proficiency, were measured. Resulting CLB scores were juxtaposed revealing considerable gaps between students' language proficiency and the language required for their academic and workplace success. Focus groups and interviews with faculty and students enabled further examination of the specific learner needs.

A decision was made to provide an adjunct communications course; the content and delivery methods of which would reflect the benchmarking findings and students' needs. Consequently, the ESP course focused on speaking and listening skills, with a sufficient amount of workplace writing and reading practice to provide an integrative language learning environment. To accommodate students' exceptionally busy schedules and respond to their particular needs for flexible learning with fewer time and place constraints, a hybrid solution was adapted. The course blended two hours of in-class practice with additional instruction and practice online and via mobile devices.

Over the 15 weeks of this non-credit ESP course pilot, students were encouraged to complete all required activities and select from optional content for supplementary individualized practice. While speaking competencies were the main thrust of the in-class module, WebCT content encompassed materials and assessments promoting primarily listening, grammar, as well as some reading and writing practice. The mobile learning component was enabled through iTouches which were loaned to students for the length of the pilot, with one student using her own device.

Thirty quality audio and video podcasts were produced in-house in keeping with the course learning outcomes. The content encompassed instruction and activities targeting competencies identified as crucial yet lacking amongst the ITI students in the last semester of the accounting program. Accounting terminology and concepts were interwoven with general ESL content and were available to students along with recommended open source podcasts, such as selected ESLpod episodes. Students were encouraged to use their iPod Touches for blogging, using Wordpress, to record their written reflections. Nevertheless, considering the findings of previous MALL research which has identified the difficulties of typing text with small keyboards and the cost of connectivity as barriers to mobile learning, we decided to use the iTouches primarily, but not exclusively, for the provision of pre-loaded listening content.

Data Collection & Analysis

Qualitative and quantitative measures were used to evaluate the effectiveness of the course. These methods included semi-structured interviews with students, conducted mid-way through the pilot, and a focus group followed by an online survey (Zoomerang), both administered in the final week of the course.

The survey comprised five-point Likert items, comment boxes and open-ended questions. Both open-ended and closed questions were derived from a review of literature, researcher observations and frequent interviews with the in-class instructor. In addition, the final survey questions were designed to capture and validate feedback received from students during their mid-term interviews. Feedback gathered from respondents provided a record of perceived learning and satisfaction with the course and its elements as seen through the eyes of learners. Transcripts of the interviews and focus group were analyzed and coded

for emerging themes using NVivo analytic software and subsequently validated by a second independent researcher. All twelve students completed the mid-term interviews and surveys, with the exception of two survey questions which were completed by ten respondents.

Students' language proficiency was measured pre- and post-treatment by the Canadian Language Benchmark Placement Test (CLBPT), widely adopted as a valid and reliable ESL evaluation instrument. Raw scores from the pre- and post-tests for speaking, listening, reading and writing were juxtaposed to evaluate students' language proficiency progress. The two tests were administered fourteen weeks apart and all were marked by two investigators ensuring inter-rater reliability. The CLBPT results were triangulated by the use of in-class tests focusing on the learning outcomes targeted in the course. While all twelve students partook in the CLBPT tests and in-class assessments, two of them did not complete one skill component. To minimize the halo effect, all tests and feedback were analyzed blindly. This combination of rich narrative accounts as well as numeric language assessment scores provided input into our research questions.

The author of this paper is the principal researcher who was involved in the preliminary benchmarking phase, the design of the course, as well as its delivery. The researcher's prolonged engagement in the study enriched her understanding of the collected information and its context. At the same time, in order to maintain the integrity of the study, the researcher remained aware of potential researcher bias and ensured reflexivity so that the researcher-participant distinction did not become blurred. The researcher's observations and data analysis were triangulated by the in-class instructor and a research assistant. Considering the researcher's multi-faceted role in the study, she was mindful of ensuring unbiased data collection and analysis. Other limitations and constraints of the study are outlined below.

Limitations

The caveats of this research are attributable mainly to the relationship of the student-participants and the investigators. The students' knowledge of the researcher might have exerted an influence on their evaluation of the course. The fact that the learners were offered this language support free of charge may have impacted their evaluation of the course as well.

The mid-term semi-structured interviews were conducted by the in-class teacher risking bias in students' responses. Hence the interview questions were formulated carefully to minimize that effect. Furthermore, the data obtained during the interviews were triangulated by the end-of-term feedback collection.

It was observed during the CLBPT post-test that the theme of the listening and reading sections of the assessment had a negative effect on the performance

of some students. Hence, the resulting test scores were not an accurate measure of a general language proficiency progress. As mentioned before, a decision was made to employ an additional in-class assessment and compare the results.

The sample size of the participants is a further limitation. The limited number of participants, as well as the fact that they were not randomly selected, limits their representation of the entire ITI population. In addition, the students' limited experience with the mobile devices might have impacted their experience and hence opinions in the pilot. Feedback was not collected from the eight online students, which consequently limited the study findings to the hybrid counterparts. Overall, the study found that the online participants required additional encouragement to participate in the course and demonstrated an inadequate level of interactivity. Their inadequate involvement was consistent with their initial preference to enrol in the online component as opposed to all three constituents of the hybrid.

RESULTS

Both qualitative and quantitative data were collected providing answers to the five research questions.

(Q1) Do ITI learners consider the hybrid language support course and its three components an effective way of learning English for Special Purposes?

Asked during their mid-term interviews what elements of the course worked most effectively for them, students' answers did not differentiate between the three modes of delivery but focused on the various competencies practiced. While the majority of respondents listed speaking, listening and pronunciation practice as most beneficial, some included writing formal and informal email as well. A strong preference for the speaking activities to be completed in the classroom was observed. Grammar exercises, both online and in-class, were found least effective and eight out of twelve participants cited lack of time and too much content in WebCT as a caveat. On the whole, all students agreed that the hybrid course was an effective way of learning English. The quotes below are representative of students' feedback during the mid-term interviews:

"All [three components] are useful because my English isn't perfect. Doing in-class and online together is best."

"I like in the class, listen to the teacher. Speaking and pronunciation practice is good."

"Nice to get together with others to talk."

“I listened to things on iTouch, like the audio selection. I watched only some videos. I like to be able to listen more than once to practice speaking. Online tutorials are very useful for example, e-mail; they are practical, good for real life.”

“I don’t have too much time. Grammar online is so-so. Short quizzes would be better. I don’t like to sit there [at the computer] for 2 hours at a time. If I did all the assignments, it would take 2 hours every week!”

“Good sources online but I haven’t done a lot of it. It’s too much. This is my seventh course, I have six core courses, so no time.”

More structured questions were posed during the end-of-term survey and an additional understanding of students’ experience was acquired through the focus group. Resulting findings pointed once again to students’ high satisfaction with the hybrid format of delivery (see Table 1). Eleven respondents strongly agreed or agreed that the classroom, online and mobile components of the course were an easy, enjoyable and effective way to learn English. The same number (11) believed they improved their language proficiency using the iTouch, ten perceived learning English online as effective, and twelve considered the classroom as an effective way to enhance language skills.

Table 1: Effectiveness of Hybrid Course

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Classroom lessons provided an easy, enjoyable way to learn.	8 73%	3 27%	1 0%	0 0%	0 0%
Classroom lessons provided an effective way to learn English.	11 100%	0 0%	1 0%	0 0%	0 0%
I have improved my proficiency through the classroom lessons.	9 75%	3 25%	0 0%	0 0%	0 0%
The iTouch provided an easy, enjoyable way to learn.	10 82%	1 9%	1 9%	0 0%	0 0%
The iTouch provided an effective way to learn English.	10 83%	1 8%	1 8%	0 0%	0 0%
The iTouch is a user-friendly learning technology.	9 75%	2 17%	1 8%	0 0%	0 0%
I have improved my language proficiency using the iTouch.	8 67%	3 25%	1 8%	0 0%	0 0%
Online lessons provided an easy, enjoyable way to learn.	8 73%	3 27%	1 0%	0 0%	0 0%
Online lessons provided an effective way to learn English.	9 75%	2 17%	1 8%	0 0%	0 0%

Online lessons were user-friendly.	8	3	1	0	0
	73%	27%	0%	0%	0%
I have improved my proficiency using the online lessons.	6	4	2	0	0
	55%	36%	9%	0%	0%
As a whole, with all its parts, the Adjunct English class provided an effective way to learn English.	10	2	0	0	0
	83%	17%	0%	0%	0%
The Adjunct ESP class helped me with the ACCT2004 course.	9	2	1	0	0
	75%	17%	8%	0%	0%
The Adjunct ESP class helped me with other Accounting courses.	7	4	1	0	0
	58%	33%	8%	0%	0%

In addition, when asked about the most useful activities in the ESP course, participants selected listening on iTouches to business vocabulary and topics as the most beneficial option with ten students considering it very helpful and two quite helpful. When asked what would make the course more effective, the majority of respondents indicated that they would like to see more speaking practice in the next iteration of the course (11 out of 12), and seven students thought they would like more listening on iTouches to business vocabulary and topics. Respondents also recommended the following modifications:

“Adjunct course has been amazing already. I have a piece of recommendation: longer in class hours.”

“More listening files (mp3) are going to help!!”

“The on-line course require self-discipline, it is not easy for most students. Maybe more in class activities can provide more opportunities to group communication and speaking.”

“I am satisfied with it overall. Some, however, are needed to improved to be more effective course for helping student. First, I think it needs more vocabulary practice in term of business and accounting. Second, it is not basic ESL course, so more improved material would be required.”

“Online has too much information. Don’t know how to prioritize the activities. A label ‘Do this first’ or ‘Most important’ would be helpful.”

“Please put a time frame how much time should be allocated for each exercise.”

Table 2: Overall Satisfaction with the Course

	Completely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
Number	7	5	0	0	0
Overall, how satisfied with the course are you?	58%	42%	0%	0%	0%

On the whole, students were completely (7) or very satisfied (5) with the hybrid course (see Table 2). The following comment from one respondent captures the level of satisfaction with the course well: "If I had less than 5 courses in the semester, I could more concentrate on this course. I strongly recommend this course. This class is more useful than "College English", "ESL", and "Communication of Business". I loved it."

(Q2) Did students improve their language skills?

Students' progress was measured by comparing the CLBPT pre-test and post-test raw scores and verifying them with the in-class assessments. All four language skills were marked separately with focus on the specific course outcomes, with exception of reading which was measured merely through the CLBPT test. All students improved their listening skills: four out of ten improved minimally, one person somewhat, four considerably, and one greatly. It is worth noting that the student who progressed most, scored lowest on her pre-test: more time is required to advance once already at a higher level of language proficiency. We also generally observed that students who engaged in all three components of the hybrid were the ones who benefited from the course most fully, although we cannot verify this with measurable data.

Overall, progress in speaking was noticeable yet slightly lower than in listening. Two out of twelve participants did not improve at all, four advanced minimally, three somewhat, two considerably and one student improved greatly.

Although writing was not the main focus of the course, advancement in the email writing competencies which were practiced in the course was evident. Except for the student who delivered the best pre-test writing sample, and whose score decreased minimally, all others generally improved their writing: one out of ten minimally, three somewhat, three considerably, and two greatly.

Reading comprehension was not a course objective and was not measured through the in-class assessment at all. However the CLBPT tests indicated an overall decrease in students' reading skills. That might have resulted from the novel theme of the reading sample in the post-test; nevertheless, it is an indication that all four language skills should be integrated into a language course in some degree.

While the first two questions of this study inquired about the effectiveness of the hybrid course and its components, three more questions pertaining to the use of iPod Touches were asked in order to investigate the challenges and opportunities which mobile devices present in ESP language learning. A more in-depth understanding of the perceived benefit of learning with the technology was sought.

(Q3) Do ITI learners deem iPod Touches an appropriate technology for language learning?

In general, respondents believed that they learned better using the devices: three strongly agreed, seven agreed and two had no opinion. When we compared these answers with earlier questions about learning with iTouches, we observed some slight discrepancies however. Namely, more students strongly agreed with the appropriateness of the technology for language learning evident through responses to statements such as “I have improved my language proficiency using the iTouch” (8 strongly agree, 3 agree, one had no opinion) and “The iTouch provided an effective way to learn English” (10 strongly agree, 1 agree, 1 no opinion). Qualitatively, one student explicitly wrote that “Using iPod and learning was a good experience for me” while other students expressed desire for further avenues of iPod use such as “Downloadable lectures on iPods would be good” and appreciation for open source podcasts.

Further investigation into the reason for a variance in students’ perceived effectiveness of iTouch learning led us to believe that the technical difficulties which learners experienced in the pilot had an impact on the overall experience of mobile learning. For example, students reported that on some occasions they chose to listen or watch the podcasts on their computers as opposed to their mobile devices because of the additional step required to download content or due to other technical complications. Other reports of technical difficulties were:

“I don’t want to take time to download; I only want to listen to what’s available.”

“We can download dictionary for iTouch? I didn’t know.”

“I didn’t know I have to go to everyone’s blog to read what they wrote. I thought their comments and postings would appear on my blog.”

“iPod was fairly new to me at the beginning and was very complicated to me.”

Although the research project team went to lengths to prepare the students for the technology— two sessions were held at the beginning of the course on iTouch use, one session midway on blogs, several one-on-one technical help

sessions, several emails sent regarding technical support, support print materials developed specifically for the course as well as scaffolded activities in increasing complexity— students evidently experienced technical problems.

Table 3: Attitudes towards iPod

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
I learned better with the iTouch.	3 25%	7 58%	2 17%	0 0%	0 0%
I would buy my own iTouch to learn English.	2 17%	4 33%	4 33%	2 17%	0 0%
I experienced technical problems with the iTouch.	1 8%	7 58%	1 8%	3 25%	0 0%
I would download <u>non-free</u> applications for iPods to learn English, for example, an iPod English dictionary.	3 27%	6 55%	1 9%	1 9%	0 0%

As apparent in Table 3, students’ perceptions of the appropriateness of iTouches for language learning were varied. Our explanation for this variance was that the technical difficulties participants faced hindered them from experiencing the full benefit of the devices in the pilot course.

(Q4) What affordances and caveats of iTouches do ITI learners identify as pertinent to the learning experience and outcomes?

Affordances of iPods

Student-participants consistently cited flexibility, portability and convenience as affordances of the novel learning technology: "I don't need to make extra time for hearing [content] because I could access anytime, anywhere" or "Whenever I have extra time, I could listen and watch especially during driving or in the bus. I don't need to make extra time for hearing it because I could access anytime anywhere. It was very good and I'll keep using the files."

Indeed, students listed learning on the move, opportunity to listen to podcasts as well as an instant access to the Internet and other resources as the key advantages of learning language with iTouches. They reported accessing

free resources such as ESLpod and iTunesU accounting lectures and we observed them exchanging ideas regarding free podcasts. Newly-enhanced technical skills were identified as a bonus benefit and their relevance in the workplace was acknowledged. A “coolness” aspect to using the mobile technology was reported by respondents as a factor which increased their self-esteem in home life (with adolescent children) and in larger society (amongst traditional college-aged students). Further advantages cited by the respondents are listed in Table 4.

Table 4: Advantages of iPod Usage

Advantages	Number of respondents (n=12)
Access to the Internet	8
Learning while on the move	8
Instant access to online data	7
Instant access to audio and video data	6
Learning pronunciation	6
Ability to carry it around	6
Fun	5
Using free time	4
To keep up with email	4
Ability to carry different types of media	3
To be able to read and write blogs while commuting	2
Immediate contact with others	1
Could log thoughts electronically	1

Although there were several affordances to learning with the iPod Touches, limitations of the technology were identified as well.

Caveats on iPod Usage

The cost of the device and connectivity were rated as the greatest barriers to iPod Touch effectiveness in a learning context. Respondents also named the lack of hot spots, difficulty typing on the small screen and a short battery life as caveats in their ESP learning experience. In addition, they expressed need for more guidance in finding and selecting open resources.

As already mentioned, technical difficulties were cited as an obstacle despite students’ self-reported previous experience with the technology combined with the orientation sessions on iTouch use, as well as other on-going technical supports. Although in the particular question regarding disadvantages of iTouch use technical problems were not rated as having significant

importance (see Table 5), we observed students repeatedly expressing discomfort with the technology and its various functionalities both during the course and in the focus group comments.

Table 5: Disadvantages of iPod Usage

Disadvantages	Number of respondents (n=12)
Cost	8
Typing on it not easy	6
Lack of WiFi/hot spots/internet connection in many locations	6
Battery problems	4
Downloading and selecting content is time-consuming	4
Technical problems	1
Lots of functions to learn	1
New technology: I'm not comfortable with it	1
Small screen, taxing on the eyes	1
Lacking interactivity	1

Finally, the fact that respondents did not own the devices also acted as a caveat of iPod use for educational purposes. Both qualitatively in the focus group and quantitatively in the survey, students indicated that they would have experimented more with the iPod Touch if they owned it. Despite this lack of experimentation, students nonetheless engaged in language learning activities on their iTouches, as outlined in Q5 below.

(Q5) What type of language learning activities do students engage in on their iTouches most frequently?

Based on students' surveys and focus group feedback, it is evident that students spent most time listening to and downloading audio podcasts. The answers to "How many hours in total over the 15 weeks did you spend using the following features on your iTouch?" were triangulated with the question: "After the first week, how many hours a week did you spend on average using the following features..." The resulting findings are presented in Table 6. Students indicated that their preference for the listening activities stemmed from the convenience factor and from their lack of familiarity with some of the other features of the device.

Table 6: Hours Per Week Using iPod

iTouch Activities	Greatest Total Hours	Least Total Hours	Number of "0" Hours	Average (excludes 0)
Listen to audio	100	0	1	24.15
Download podcasts	25	0	1	14.25
Browse Internet	40	0	1	14.15
Blog	15	0	6	11.9
Watch video	30	2	0	11.4
Email	30	0	3	10.6
Search podcasts	15	1	0	9.09
Type notes	15	0	4	6

Students' engagement with aural activities on their iTouches was consistent with their general desire for listening practice. Throughout all feedback, students reported that improving their listening ability, as well as their speaking ability, was of utmost importance. The iPod Touch provided a vehicle with which to accomplish this goal.

DISCUSSION

Questions about the hybrid delivery of the course and the mobile technology in the ESP context were posed. With regards to the former, students were in agreement that the blend of in-class, online and mobile delivery was an optimal solution for internationally trained immigrants learning English in a post-secondary context. They found the combination of 1) speaking taught primarily face-to-face, 2) listening taught on the mobile devices and 3) writing taught mainly online to be an effective approach.

However, the results also suggest the importance of maintaining a seamless connection between the three components and their content in order to sustain students' interest and engagement. The mobile, in-class and online learning has to be synchronized and the activities should washback on one another. Although all three components are necessary, the in-class component seemed to maintain the integrity of the hybrid course overall as it fostered a sense of community amongst the learners. As noted by participants, it was the design of the materials and the way in which they were presented, not the technology used, that impacted the effectiveness of the course the most.

While the instructional design was guided by theoretical paradigms for MALL and CALL, the students' particular needs were the main driving force for the course design. The mobile technology was selected to accommodate the requirement for additional listening practice free from time and space limitations. Likewise, the WebCT channel was used to address the need for flexibility and to provide written communication practice. The traditional classroom meetings though, were found most beneficial in promoting face-to-face interaction, ad-hoc speaking, pronunciation practice and the development

of other communication competencies supported by visual cues. The in-person meetings provided an additional opportunity to gauge students' progress and their needs for facilitation and encouragement. There were some variations in how much support students needed yet the teacher's presence was clearly required in all three components of the hybrid course for it to be deemed effective.

Indeed, the participants of the pilot improved their language proficiency in the areas studied. It was the goal of the course to increase the number of hours and opportunities to practice language and to provide situated practice. However, further progress was impeded by students' reluctance to experiment with the technology at hand and their choice of more familiar options. To promote additional advancement, more contextualized activities should be designed to utilize the portability of the iTouch as well as a stronger introduction of a collaborative component. For instance, learner-generated content, capturing real-life context, should be incorporated into the curriculum. In general, participants benefitted from the hybrid ESP course; however, future research should establish whether students in a blended course learn at a higher rate than those attending traditional ESP coursework.

Did the improved learning result from the media used? Was there evidence of what Clark refers to as "media effect on learning" (1994)? Our study participants opted for various combinations of media yet they all made the most progress in listening, the language skill which was targeted in the course design and which the students spent the most time practicing. Consequently, the findings indicate that students' progress was enabled by effective instructional design integrating goals and content relevant to the specific group of learners, together with the appropriate methods and media which enabled and enhanced interaction within the content. As Kozma (1991) observes "Within a particular design, the medium enables and constrains the method; the method draws on and instantiates the capabilities of the medium." The iPod Touch undeniably enabled an improved access to and interaction with audio and video podcasts, but it did not prove to be equally effective in developing writing competencies. The inherent affordances of the mobile technology, including its audio and video features, were utilized effectively; however the tool has to be evaluated in the broader context of its use and adoption. The SECTIONS model (Bates and Poole, 2003) is applied herein as a framework for the brief discussion of how appropriate the iPod Touch is as an ESP learning technology.

iPod Touch Technology

The SECTIONS model addresses the various factors that influence the adoption of a new technology, including the following educational and organizational criteria:

1. "Students: what is known about the students - or potential students - and the appropriateness of the technology for this particular group or range of students?"
2. Ease of use and reliability: how easy is it for both teachers and students to use? How reliable and well tested is the technology?
3. Costs: what is the cost structure of each technology? What is the unit cost per learner?
4. Teaching and learning: what kinds of learning are needed? What instructional approaches will best meet these needs? What are the best technologies for supporting this teaching and learning?
5. Interactivity: what kind of interaction does this technology enable?
6. Organizational issues: what are the organizational requirements and the barriers to be removed before this technology can be used successfully? What changes in organization need to be made?
7. Novelty: how new is this technology?
8. Speed: how quickly can courses be mounted with this technology? How quickly can materials be changed?" (Bates & Poole, 2003, pp. 79 - 80)

Students

The ITI students require a solution which allows for flexible learning on the move. One of the inherent affordances of the iPod Touch is the convenience of learning without time and place constraints. Students can also benefit from the instantaneous access to language resources, such as dictionaries, outside the formal learning context. The medium in question does enable adult ITI students to actively construct knowledge in a way that accommodates adult learners' prior knowledge and their individualized goals yet allows for facilitation and guidance which ESP students seem to prefer.

Ease of Use & Reliability

Although iPod Touches are widely used, students demonstrated limited previous experience with the technology; hence additional resources and time have to be allocated to provide the necessary technical training. Ultimately, these transferable technical skills will enrich learners' professional portfolio. All in all, the iTouch is a reliable tool offering quality audio and video features, which support the type of learning that students seek. The technology is stable with support available to its users via multiple channels. Although the short battery life was identified as a caveat, it should not constitute a barrier to

learning for students who have access to computers³ and sources of electricity both at school and at home. Text-based functions on the iTouch are somewhat limited, as reported by the study participants, therefore narrowing its usage for practice of writing skills. Overall, the iTouch is an easy to use and reliable tool which requires a varied degree of technical training.

Costs

Only fifty percent of the study participants were inclined to purchase their own iPod Touches for the purpose of learning. Evidently, the cost of the device is high; hence, if the student is expected to bear the cost of the iTouch, that may create an obstacle for some learners. The teaching and material development costs were found comparable to those of online instruction within the WebCT environment. The mobile content was developed utilizing the current technology resources at the College, and no additional equipment, software, or technical support investment was required. Many open source materials were used in the course. While numerous free podcasts, dictionaries, and applications are already available for iTouch users, more are created every day. At the same time, to access these resources directly through the mobile devices, students must be connected to the Internet, which may generate an additional expense to the learner. In order to ensure inclusive access to the technology, the College might have to look into providing students with the devices. In such a model, currently employed by some educational institutions, further costs are incurred and these should be identified and researched across diverse mobile learning projects.

Teaching & Learning

The main purpose of the ESP course was to promote the development of speaking and listening competencies through contextualized practice supported by scaffolded teaching presence. Accordingly, supplementary practice was provided emphasizing primarily listening. The technology evidently promotes aural language skills; however limited array of oral competencies is supported. While, the device offers audio recording capabilities, real-time oral interaction is hindered by the cost of network connection. As mentioned above, writing practice and communication were conducted mainly through the computer not the mobile devices. Nevertheless, the iTouch allowed for effective learning and teaching of listening. It supported learning as “an active, constructive, cognitive and social process” (Kozma, 1994, p. 8).

³ iPod Touches can be charged via computer connection

Interaction & Interactivity

Learning English for Special Purposes requires a high degree of interaction with peers, teachers, and content. Effective interaction with content was built into the instructional design, however increased levels of communication with peers and teachers are essential and these can be achieved only through the Internet. Students reported that their interactivity was restricted by the deficient wireless access. Adequate Internet connectivity is not available free of charge.

Organizational Issues

The iTouch can be adopted within the existing technology structure. Minimal internal restructuring is required to allow for the development of mobile content and technical support. However, assistance has to be available for teachers who are not familiar with mobile learning and technology.

Novelty

Although it is easier to obtain funding for novel technologies, there is a risk of adopting a technology prematurely (Bates & Poole, 2003). The iTouch, while an innovative solution, is a well tested tool which has been researched and proven to be sustainable.

Speed

This technology enables quick updates to podcasts and applications through RSS feeds. The text-based content can be efficiently modified using basic scripting languages. Alternative and newer components can be created and made available to the learner without any interruption to the course.

“The appropriate use and selection of technology will be very much influenced by local circumstances: context is all-important” (Bates & Poole, 2003, p. 66). We explored the mobile technology as one of three components of the ESP for accounting course and deem it overall effective and appropriate tool for this particular purpose.

CONCLUSION

This exploratory study demonstrated that blending in-class, online and mobile language learning is an effective solution for teaching English to adult learners, and it is a solution that enables improved flexibility and individualization of practice. The three delivery media were integrated in a seamless manner selecting the right tools for the right job; for instance, the audio capabilities of iTouches were employed to promote the development of aural competencies. It was this blend of the appropriate content, method and technology that produced successful learning.

The iTouch mobile technology was a vital technology and media platform for the present study. Its affordances opened new doors to language instruction and practice. Nevertheless, additional research must answer the question, “How can we use the capabilities of [this mobile] medium to influence learning for particular students, tasks and situations?” (Kozma 1994, p. 18). Content and methods should be carefully designed to take advantage of the unique qualities of any media (Koumi, 1994) and criteria for employing the iPod Touch to maximum effect should be developed.

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Palalas

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