ESL in the Digital Age: Towards An Interactive Approach

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I. Introduction

ESL learning takes many different forms, depending on the lesson goals, the teaching methodology, the educational environment and the socio-cultural context, among other factors. Material conditions also impact on language learning. The communication scholar Marshall McLuhan argued that various media are an extension of our bodies-the pen that of our fingers, the computer, our minds, for example. At the same time, we are worked over by the medium. So as new technology emerges, we inevitably alter our ways of doing, knowing and being in response. This is true in the field, the home, the plant, the office and the classroom. Indeed, we see that over the past four decades, multimedia and computer-based technology have come to play a more significant role in education in general and, of concern here, ESL learning. First it was the tape recorder and then the video player. Now we have fully entered the digital age of PCs, the internet, DV cameras, camcorders and streaming software, and more change is in the air. The question for ESL educators in Japan and elsewhere is what approach will best facilitate interaction with, and not just reaction to, the newer technology in light of a myriad of conditions and constraints.

While many educational institutions in the last few years have jumped on board the IT bullet-train and built networked multimedia computer labs, often as a way to allure new students or at the insistence of school boards, the

potential applications of these technologies are still not fully realized, for technological, organizational and, most significantly, pedagogical reasons. The fact is teachers in general, not just those involved in language instruction, are either reticent to take the first steps or are still feeling their way through an unfamiliar landscape, stumbling over new machines here and bumping into software obstacles there. This is understandable. For all the trepidation or hype, we need to remember that access to integrated, user-friendly digital technology is still a relatively new condition. It will take time for pedagogy to catch up with more recent technological advances. Social institutions indeed always lag behind material change. Financial, technological and organizational support systems must be put in place. Teachers and students must learn new skills. New methodologies must be created, applied and honed. Software and hardware must be adapted for specific educational purposes. And there must be a real need for all this to happen. Teachers especially must be convinced that the required investment of time and money to gain greater technical competence, to define their new role and to work out new methodological approaches is worthwhile in terms of educational achievement.

Though most research results point to the value of using high-tech multimedia for language learning, the full pedagogical benefits are still being examined and clarified. Technology, too, continues to change at a rapid pace. Only a short while ago people were hooking up to the internet with 28k modems, and now broad-band is upon us with lightening-fast fiber-optic connections lurking just around the corner. As a recent article in National Geographic (12:2001) illustrated vividly, what would have taken about 830 hours to download on a 56 kbps modem can be done in just under 4 hours with a fiber-optic connection. These advances mean new opportunities for learning but also new challenges for researchers, educators and educational institutions

to keep pace.

This said, there are clearly many good reasons to use multimedia technology and Computer Assisted Language Learning (CALL)[1] and many schools and instructors have incorporated these into their curricula and syllabi. Mark Warschauer & Healey (1998) mention six benefits:

(1) multimodal practice with feedback
(2) individualization in a large class
(3) pair and small group work on projects, either collaboratively or competitively
(4) the fun factor
(5) variety in the resources available and learning styles used
(6) exploratory learning with large amounts of language data
(7) real-life skill-building in computer use

Access is also a major factor. Students can study on their own outside of class and receive feedback when the instructor is not available. They can access more authentic sources of information and language, especially through the internet, such as news clips, magazine articles, chat, etc. This facilitates interdisciplinary learning. There are also more formats and forums for expressing their ideas and interacting with others, which enhances intercultural communication and turns students into creators, not just receivers. In addition, the combination of text, sound and image has memory retention benefits for second language acquisition.

Even acknowledging the many benefits, if language educators are to interact effectively with the newer technology, besides knowing what to use and how to use it, they will need a suitable approach with practical procedures and defined ends. As Garrett (1991) notes, "the use of the computer does not constitute a method" (p.75). Nor should a software programme set overall

learning goals. This can occur when teachers mainly rely on the technology to do their job. Write Kent Trickel & Liljegren (1998), "Many teachers tend to use computer labs as free-time to allow student unrestricted access to the Internet, but this kind of activity amounts to the same thing as letting students go in the library and saying, 'go learn English.'" But at the same time, many language educators are keenly aware that even advanced technology cannot replace teacher guided learning and peer interaction, which in part explains why some have yet to acknowledge the virtues of using digital technology. Research also bears this point out (Stepp-Greany, 2002). It shows, too, that students prefer classes with greater social interaction. This means that learning methods and objectives and the role of the teacher, the students and the technology must all be worked out as part of an interactive and complementary approach. Though this has begun, it will still take some time, especially since the technology and pedagogy keep changing. A review of several CALL approaches makes this evident.

II. CALL Approaches

In terms of a broader approach, Mills presents the notion of 'Meaningful' practice, which he accords with Task Based Language Teaching (TBLT).[2] For Mills, this practice is one that better enables students to take more control during learning, which focuses on language use or production rather than just language skills and which increases interaction between learners and other people. Mills opposes this practice with 'Mechanical' practice, where the computer is in control, the focus is on language skills instead of language use and interaction is mainly between the learner and the computer. Examples of Meaningful practice for Mills include email exchange, creating a web site and web-based simulations. Mechanical practice includes

grammar drills and vocabulary selection exercises.

Warschauer & Healey (1998) map out several approaches that they draw from examining the 30-plus year history of CALL. They divide this history into three main phases: behaviorist CALL, communicative CALL, and integrative CALL, which they suggest evolved out of changes in second language teaching pedagogy and information technology. In terms of practice, behavioristic CALL featured repetitive language drills, grammatical explanations and translation tests, first on mainframe computers and then later on personal computers. We can see that behavioristic CALL is along the lines of Mill's 'Mechanical' practice.

Write Warschauer & Healey (1998) about the next stage, communicative CALL:

> [It] emerged in the late 1970s and early 1980s, at the same time that behavioristic approaches to language teaching were being rejected at both the theoretical and pedagogical level, and when new personal computers were creating greater possibilities for individual work. Proponents of communicative CALL stressed that computer-based activities should focus more on using forms than on the forms themselves, teach grammar implicitly rather than explicitly, allow and encourage students to generate original utterances rather than just manipulate prefabricated language, and use the target language predominantly or even exclusively.

Within Communicative CALL, software that enabled text reconstruction and simulations was popular as was practice that emphasized students-to-student interaction using a machine.

But by the late 1980s, Warschauer & Healey (1998) relate, "many teachers were moving away from a cognitive view of communicative teaching to a more social or socio-cognitive view, which placed greater emphasis on language use in authentic social contexts." The CALL approach also shifted, with more emphasis placed on seamlessly mixing multimedia technology into the language learning process. Termed 'integrative CALL', this newer perspective utilized task-based, project-based, and content-based learning approaches to practice various language skills and provide a greater degree of realism (Warschauer & Healey, 1998). The arrival of multimedia networked computers and the World Wide Web and the need for computer literacy in contemporary work and leisure went hand-in-hand with this new form of language learning.

III. An Interactive Approach

Today, with the introduction of more user-friendly, interactive and integrated digital platforms and software applications, and with the focus on human interaction and self expression in ESL learning, there is a need for a further shift to what I would term an "interactive approach." This approach has four main features. Firstly, it follows an "encounter-interact-create" process of language learning.[3] In short, the encounter stage is where the learner is introduced to new phonetics, lexical item, sentence patterns or expressions. At the interact stage the learner makes sense of these new inputs by negotiating their meaning and begins to use them for language recognition and production purposes, directly applying what is known. At this stage, more multidirectional communication occurs. The learner engages the language and others and begins to put it to communicative tasks, such as making daily expressions, clarifying and confirming information, raising

questions and making statements. At the create stage, the learner start to use his combined knowledge and experience in more interpretive and inventive ways. He can understand more complex language patterns and rhetorical structures and express emotions, thoughts and opinions with more subtlety and detail.[4] While these stages are progressive, they are not linear. For any communicative act, all three may be operative. More advanced learners, for instance, will encounter new language patterns on the go and must process and make sense of them within the act of creative self-expression. They will do so more readily than intermediate level learners, who will take more time to process and use new language forms. Beginners may also immediately try to use new patterns for creative expression, especially if in the act of authentic communication. Another aspect of this process is that it is learning-centred. Student practice and interaction is emphasized over teacher-centred instruction, and students are encouraged to take more responsibility for their learning. The instructor is there to facilitate and respond to student needs, not to coerce and discipline.

Secondly, an interactive approach uses digital media for ESL (or other language) learning to complement and enhance the encounter-interact-create process. This means, for each stage, learning activities can utilize various digital media technology for effective learning. For example, CALL software for pronunciation or vocabulary building and usage drills can facilitate the encounter stage. Internet based activities, such as email exchanges and homepage building, can provide fun and rewarding interact-stage practice. Digital video cameras and computers for producing and editing student films or news programmes can assist creative language use and multimedia presentation.

Thirdly, this approach emphasizes not just language acquisition and use

but the important goal of relationship building, whether between learners and the language culture, amongst learners themselves, between learners and instructors or between learners and the broader social environment. In this sense, the encounter-interact-create approach equally refers to the social process of making new acquaintances and friendships and discovering oneself. Digital media are used as a conduit not only for second language learning and communication but also, and most importantly, for this human bridging process.

Fourthly, an interactive approach takes the view that language exchange through computer networks and multimedia formats results in unique modes of communication that must be learned and practiced alongside language and cultural learning. Thus, second language learning should be closely tied to media literacy education so that the various features of a medium that affect the presentation, reception and content of information are well understood, whether these be the informality of e-mail writing, the non-linearity of hyper-text, the screen--speaker interplay with digital slide presentations or the play of signs in televison advertisements, to name a few examples. ESL teachers who use video and other multimedia in the classroom have recognized this for a long time and have already incorporated media literacy education into their teaching practice.

The interactive approach outlined above has some similarity to Mills' idea of 'Meaningful' practice, particularly the 'creative' stage of an interactive approach. 'Mechanical' practice, though, would not be viewed as dichotomous and of lesser value, as Mills presents it. Following an interactive approach, 'Mechanical' and 'Meaningful' practice both would play a meaningful role as part of a complimentary language learning process involving digital technology. Some so-called 'mechanical' computer-based activities could be

used to provide repetition for beginners or intensive practice for takers of accredited tests, such as TOEFL or TOEIC.

Warschauer & Healey's (1998) three historical phases actually match closely the three stages of our interactive approach. The difference is that the movement from behaviorist to communicative to integrative CALL is presented more as a temporally linear progression, although Warschauer & Healey do note that all three types of CALL are still in practice today. Whereas the interactive approach, as mentioned, views these not as mutually exclusive phases but rather as part of a holistic and flexible language learning process involving digital mutlimedia technology. Indeed, Warschauer & Healey come close to such an idea when they suggest that because of the ability to combine text, sound and graphics using digital technolgy, grammar and pronunciation drills have a role to play at earlier stages of vocabulary acquisition, especially since they enhance recognition and recall.

IV. Flexible Patterns of Learning

Perhaps the greatest difference between an interactive approach and others is the flexibility it offers. This flexibility stems from both the characteristics of the new technology and the open and comprehensive pedagogical perspective employed. Flexibility is important because it affords educators a greater range of language learning procedures and activities, less hindered by disciplinary, methodological, organizational and physical boundaries. Structure is inevitably what holds an institution together, but it should be the foundation on which a space of creativity and discovery is built, not an obstruction to invention and change. The new technology compels us to rethink what education is and to map out alternative approaches to learning that are no longer ordered, boxed and tooled along the lines of an industrial-

age factory. For the study of ESL in Japan, which has long suffered under the weight of pedagogical tradition, the time for a serious review could not be more appropriate.

For one, multimedia technology breaks down the boundaries between disciplines. As mentioned, it encourages the mixing of second language learning and media literacy studies. It further facilitates the broader inclusion of communication and culture in second language learning. Also, the increased mobility of wireless technology, portable computers, digital video equipment and inexpensive editing software means that the 'classroom' no longer must be bound on four sides. Networked desktop computers with internet connections, video players and television help to break down walls and bring the world into the classroom. But with mobile technology, there is no reason why learning cannot take place on location, so to speak. Now students can go outside the classroom to produce multimedia content and communicate their ideas and visions through a range of formats and channels. This puts the tools of creation in the learners' hands and places leadership responsibility directly on their shoulders. The result is an active learning process that gets students out of their seats. In such a process, the challenge for educators is to design instructional programmes and material that direct student energy towards effective language learning (Barnes & Yanagisawa, 2001). Such project-based language learning is not new, but it is greatly enhanced by today's technology. What would have taken hours to produce before because of the many technological complications can now be done more readily, thus allowing greater time for working on second language usage. In addition, by leaving the classroom, students have a chance to deepen their ties with the community and they can bond outside the confines of the school.

Of course there are still many barriers to overcome to accommodate an

interactive approach. Not all educational institutes can afford a multimedia computer lab. Although, depending on class size, much can be done with a couple of camcorders and a few laptop computers with video editing software.[5] Also, though more integrated today, the technology still has compatibility issues and it often requires upgrading. Another critical barrier is school organization. Rigid class times and course lengths, for example, may prove prohibitive when blocks of time are required to complete a project. This is especially a problem in Japan's post-secondary institutions, which must strictly abide by Ministry of Education regulations. Large class-size is another issue that has long posed a challenge to effective second language learning. This is amplified with technology enhanced language learning.

V. Conclusion

This paper has laid down the foundation for a more comprehensive, varied and interactive approach to technology enhanced language learning. Admittedly, much work needs to be done to clarify the model and to develop methodology suitable to specific learning goals, educational environments, technological conditions, learner capabilities and instructor know-how. This is still a relatively new field and the research agenda is long and far from complete. Indeed, educators and scholars are still trying to determine just what kinds of procedures, technology and materials are most effective for ESL learning and under what specific conditions. The fact that the technology keeps changing at a faster rate make this quite an endeavor. Amidst the flux, however, one thing is clear: digital multimedia technology offers an exciting opportunity to imagine new approaches to second language learning. The challenge for ESL educators is to turn the virtual into the real.

Notes

1 In some circles, Computer Enhanced Language Learning (CELL) is used rather than CALL. With the general shift from analogue to digital data and the integration of computer, video and audio technology, perhaps we are better served with the acronym 'TELL' for Technology Enhanced Language Learning. For the sake of understanding, however, in this paper I will mainly use the most common term, CALL.

2 This in an unpublished report, presented on a web-page. It can be found at he following URL: (http://www.iei.uiuc.edu/resources/possible.roles.html)

3 It should be clear that this model draws some ideas from interactionist SLA theory and also some from a sociocultural perspective.

4 This process model has some parallels with Oxford's learning strategy model (p.17, 1990), but combines Oxford's 'direct' and 'indirect' strategies and prefers not to strictly distinguish between cognitive and social acts.

5 For examples of student-video projects and more on the technology involved see the following URL: http://www.apple.com/education/dv/gallery/index.html

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