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Integrated language skills CALL course design

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*The importance of a structured learning framework or interrelated frameworks is the cornerstone of a solid English as a foreign language (**EFL**) computer-assisted language learning (**CALL**) curriculum. While the benefits of **CALL** are widely promoted in the literature, there is often an endemic discord separating theory and practice. Oftentimes the promise of new technologies is mitigated by a lack of pedagogical consideration. While continuous upgrades are an essential component of any curriculum, using technology as a motivational tool in the classroom without clear and research-based teaching approaches and techniques is a slippery slope. A balance must be struck between infusing educational technology in the classroom with pedagogy. This article illustrates a course design processes, combining **CALL** usage and pedagogy for second-year language learners in a Japanese university listening course. First, we identify the rationale behind why our institution needed to upgrade the technology used in the classroom. Second, we identify the process of how this **CALL** listening course was developed. Last, we report on student responses to these technological changes and pedagogical decisions.*

Introduction

The benefits of **CALL** have been well established through the transition towards a digital generation. However, as new technological programs create significant popular trends (i.e., tablets in the classroom, online gaming) there is often a period where enthusiasm can be oversaturated. This period of fervor often results in a focus on new technological programs used at the expense of learning. While this oversight may not be

intentional, it does have ramifications in the classroom. We argue that a synergy between the digital literacy of CALL and pedagogy best serves both instructors and students. The purpose of this article is to highlight the decision-making process and the development of a pedagogically sound and theoretically-based CALL listening curriculum in Japan. First, we identify the rationale behind why this institution needed to institute a CALL system that had a solid pedagogical foundation. Second, we reveal the learning-based decision making process for a CALL listening course. Last, we refer to Watson and Agawa's (2011) report regarding student responses to these technological changes and pedagogical decisions.

Basis for change

In the current generation, learning is generally accompanied by some form of digital technology, and in many cases that form of technology is a computer, tablet, or other handheld device. The problem that is often encountered in many countries, including Japan, is the use of digital technology by instructors just for the appearance of being technologically up-to-date. This is a common pitfall that Lankshear and Knobel (2008) identify in curriculum development. Specifically they state, "pedagogy must not be hostages to technological change at the level of artefacts" (p. 194). This is essentially instituting technological change for the sake of change. It is not the specific technology that is utmost importance (technology is always being updated), but how the technology is integrated into the classroom and how it is connected to student learning that is paramount.

Within a Japanese university EFL department, it was recognized that the language learning laboratories required updating to be on par with CALL systems at other tertiary educational institutions around the world. In particular, this institution was still using analog-based cassette tapes in its language lab. As of 2009, while some digital computers were utilized at this institution, CALL software had not been purchased. Simply stated, there was a clear technological gap between commonplace language learning technology at the international university level and this institution.

Based on these clear technological deficiencies in CALL technology and digital learning modalities, the EFL faculty purchased a CALL system using Japanese Ministry of Education sponsored grant funding (creating more globalized Japanese citizens). Four specific CALL systems were considered and evaluated. The chosen CALL system, termed ***PC@LL***, was designed by Uchida-Yoko, a Japanese technology company. Overall, the system software enabled students to interact with each other but also facilitated students being able to engage in PC@LL-based independent study. Specifically, the strengths of this system are: (a) Enabling pairs or groups of students to simultaneously engage materials through the PC@LL (b) providing students with authentic digitally-based materials to engage through PC@LL, and (c) providing language learning software for students to concomitantly engage materials with classmates.

Process of theoretical considerations

Beyond the technology, the need for change correspondingly led the course designers to go through a process of theoretical considerations from a macro-level of conceptualization (distant from students) to a micro level (near to students). This process is outlined in Figure 1.

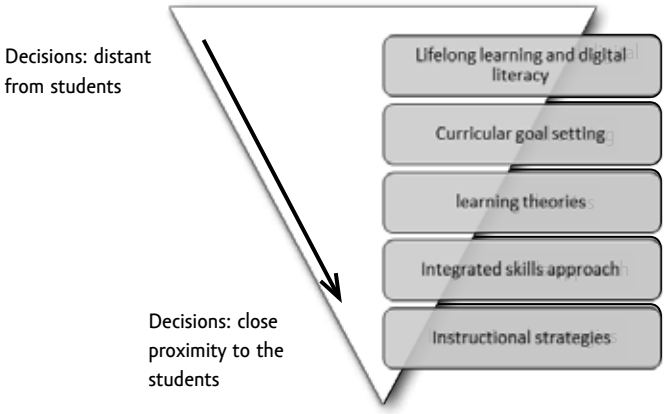

Figure 1. Hierarchy of pedagogical decisions and considerations for curriculum design.

Lifelong learning and digital literacy

The importance of providing a comprehensive and effective curriculum to the current generation of learners requires consideration of numerous factors. Specifically for the advancement for a university-level English as Foreign Language (EFL) curriculum in Japan, the course designers applied lifelong learning and technology as components of *digital literacy*. Lankshear and Knobel (2008) consider the digitally literate as people who are able to adapt to different mediums of information, handle large amounts of information, and present that information in the appropriate social context. In the current generation, being digitally literate is a key element of being a lifelong learner. Watson (2011) defines lifelong learning as "the ability to effectively and critically gather, synthesize and respond to information with flexibility, confidence, and enjoyment" (p. 1). Lifelong learning is, in other words, the ability to continually engage in and adapt to learning episodes throughout one's entire lifespan within ever-changing social contexts.

In support of this and in the context of classroom learning, Glasgow (1997) identifies the real goal of learning as an ability "to create a motivating curriculum that engages students in learning models and modalities that they will need as lifelong learners" (p. 65). This speaks to the essential nature of combining new technological advances while also ensuring students develop relevant comprehensive skills. From this viewpoint, Field (2006) asserts "the challenge is how to design a curriculum that enables young people to develop the confidence and skills to become effective learners throughout their lives" (p. 151). The development of such a curriculum has become more difficult as the requirements for digital literacy continuously change. Therefore, infusing key learning skills that students would be able to use both in and outside of the classroom, enabling them to become digitally literate individuals was set as an overarching goal.

Curriculum development

Following the established goal of creating digitally literate and lifelong learners, the course designers discussed and addressed Pitler, Hubbel, Kuhn and Malenoski's (2007) four planning questions as guiding principles for a solid foundation of appropriate curriculum choices. Pitler et al. (2007) apply learning systems for technology-based classes, constructed upon the four questions below:

1. What will student learn?
2. Which strategies will provide evidence of student learning?
3. Which strategies will help students acquire and integrate learning?
4. Which strategies will help students practice, review and apply learning? (p. 13)

In line with Pitler et al.'s (2007) questions, which are directly related to learning, Beatty (2003) states, "multimedia-enhanced **CALL** is easily capable of creating learning situations of great fidelity and authenticity" (p. 22). However, Beatty (2003) points out that "it is necessary to assess the role of computers and computer software" (p. 151) within the context of the computer being considered as a quasi-teacher as students are engaging in greater autonomous situations. For example, Barr (2004) warns educators that "enhancement does not mean the replacement of existing effective pedagogy" (p. 219) and warns that "if technology does not enhance teaching and learning, it does not need to be used" (p. 20). Along this vein, we contend that the chosen technology should reflect pedagogic integration and that the planned instructional strategies should be able to withstand technological changes over time. It is solid planning towards student learning that will avoid ill-advised decision-making and will avoid technology being the driving force behind the curriculum. It was clear that the designers of this curriculum wanted to avoid this and was done through *Integrated Student Response* (**ISR**) curriculum.

We define **ISR** as a combination of student production in the form of portfolio output in response to **CALL** centered tasks. The reason for this combination is varied. For instance, student learning must be balanced to include both multimedia sources and other more traditional learning methods in the classroom. In **ISR** process, student production is differentiated in nature and allows students to set their own production objectives. According to Hom and Murphy (1983), research shows that when students have the ability to be involved in their own student learning objectives, their motivation is concurrently increased compared to when students pursue teacher set objectives. Along this line of thinking, "technology enhances the goal setting process by providing organizational and communicative tools that make it easier to clarify the learning objectives" (Pitler et al., 2007, p. 18). Within this curriculum, these tools come in the form of practical **PC@LL** experiences that the students incorporate into the **ISR** process and their overall learning goals. **ISR** (conceptualized in this paper as a combination of student portfolio work and **CALL**) is a strong pedagogical focus for classroom setup.

Integrated-skills approach

In order for **ISR** to be effective, the course designers utilized an integrated-skills approach (Oxford 2001; Scarcella & Oxford, 1992) to language teaching. This listening course incorporates the remaining major language skills into each lesson: reading, speaking and writing. In regard to the benefits of an integrated-skills approach, Ashcraft and Tran (2010)

contend that "listening comprehension is the foundation upon which the other language skills are acquired" (p. 1). Further to this point, Ashraft and Tran (2010) also identify current instructional trends for listening include "the continuing integration of listening with other language skills" (p. 2). Some may argue that for English for Academic Purposes (**EAP**) courses, the four skills should be separated for greater depth of understanding. Despite widespread use of segregated streams in **ESL**, Japan generally offers students little opportunity to connect the four language skills outside of the classroom. Thus, it was essential to ensure the listening course provided transferable opportunities for the other skills. In support of integrated-skills, research in brain-based learning shows the importance of various skills in the intake of content; for example, reading with listening (Jensen, 2005; Willis, 2006). Therefore, an integrated-skills approach was the appropriate choice in support of the decision to balance technology with pedagogy through the use of **ISR**.

Instructional strategies

Once an integrated-skills approach was selected the course designers focused on choosing appropriate teaching techniques towards fostering this integration in conjunction with earlier decisions related to learning and digital literacy. This selection process required two relevant and necessary questions for each **CALL** task and the subsequent **ISR** production. These questions are categorized into two stages:

Stage 1 question:	How is student language use in the context of Japan maximized?
Stage 2 question:	What learning needs do the students have in order to successfully transfer and connect language learning (**ISR**) and technology skills (**PC@LL**)?

Concerning Stage 1, the course designers selected an overall **EFL** framework for the development of the digitally literate learners. It is important to identify that the entire curriculum is nested within the context of **EFL** in Japan. In other words, outside of the classroom English language usage carries very little contextual relevance; however, there are discreet pockets of English usage (i.e., English conversation circles). Specifically, English *Communities of Practice* (**COP**) co-exist in Japan yet have no direct contact with one another. English in Japan must be actively searched out and English **COP**s are not interactive in many respects. While English is globally considered to be the business *lingua franca*, in Japan, despite its inclusion in education in elementary and junior high school, its widespread use is still limited within everyday society. As a result of this nested position, and the relative practical limitations for students to have contact with English, we considered the importance of an overarching integrated-skills approach.

Concerning Stage 2, teachers must be cognizant that to successfully integrate a course in Japan, motivation must be taken into account when planning curriculum. To address this motivational issue the course designers turned to motivational theory in an attempt to make sound decisions. In particular, the course designers selected self-determination theory (**SDT**) (Deci & Ryan, 2000) as a platform to determine what instructional strategies fit **CALL** and **ISR**. Overall, **SDT** maintains that humans are "active, growth-oriented organisms, that innately seek and engage challenges in their environments, attempting to actualize their potentialities, capacities and sensibilities" (Deci & Ryan, 2000, p. 8). The three areas of **SDT** are *autonomy, competence* and *relatedness* (see Figure 2). In the instructional

strategies planning component of this course, the course designers used these three tenets as categorical elements to guide them. Regarding these three tenets of **SDT**, Figure 2 shows a link to several of the **ISR** components.

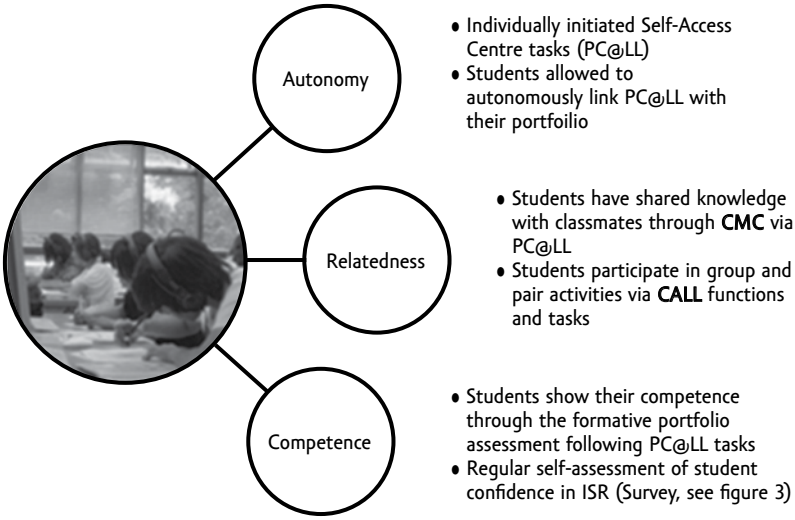

Figure 2. SDT tenets linked to **ISR** components.

In support of the **ISR** environment, the course designers selected differentiated instruction (**DI**) as the appropriate strategy for student engagement. **DI** takes into account several learner-centered theories of human learning. These learner-centered theories are specifically multiple intelligences (**MI**), brain-based learning and learning styles (**LS**). Overall, Haley (2010) states, "**MI** theory, learning styles and brain-based education promote diversity and inclusiveness" (p. 9) which are strong components of **DI**. According to Haley (2010), instructors need to "approach every class and every individual student as separate and unique… value the diversity of learners and take your students where they are and work with them to reach their full potential" (p. 15). Principally, **DI** is the process in which instructors proactively design classes for students as individual learners, implement materials with the students at the forefront, and assess them within the curriculum content. Thus, assessment becomes a basis for the planning of student *readiness,* which Tomlinson (1999) terms "the student's entry point to a particular understanding or skill" (p. 11) and allows the instructor to plan and modify instruction. Tomlinson (2000) illustrates this concept as meeting "learner's needs guided by the general principles of differentiation, such as respectful tasks, flexible grouping and ongoing assessment and adjustment" (p. 15). In line with Tomlinson's examples, **DI** in **ISR** provides one example of how to balance **CALL** technology with up-to-date instructional methods and learning theory.

As the course designers considered **DI**, an additional set of theoretical constructs related to **CALL** were necessary. Therefore, they supported the **ISR** environment using Egbert, Chao, and Hanson-Smith's (1999) eight "optimal conditions" (see Table 1) for success with technology in the classroom (p. 3–6).

Table 1: Eight optimal conditions for success with technology in the language classroom (Egbert, Chao, & Hanson-Smith,1999).

	Eight Optimal Conditions	**Call Curriculum Examples:**
1	having opportunities to interact and negotiate meaning	Students afforded time to share information via **CMC** and P**CALL** activities with higher or lower level students
2	interacting in the target language with an authentic audience	Group work members served as authentic audiences through collaboratively completed language learning tasks
3	being involved in authentic tasks	These tasks provided real-world opportunities for learners to simulate potential foreign country scenarios
4	being exposed to and encouraged to produce varied and creative language	Varied group formation by the instructor allowed learners to engage with other students of various levels of interlanguage growth
5	having enough time and feedback	Alternative assessment by way of portfolios as well as ongoing-process-assessment provided appropriate feedback for students
6	being guided to attend mindfully to the learning process	Exposing students to new methods of learning through varied tasks that have explicit student learning outcomes
7	working in an atmosphere with an ideal stress/anxiety level	Groups, pairs or individuals working at their own pace (i.e., **PC@LL** or Portfolio)
8	receiving autonomy supportive behaviour	Varied group formation by the instructor allowed learners to engage the instructor at different intervals during **PC@LL** tasks

The course designers utilized these eight conditions in the planning phase of the **CALL**-based **ISR** listening course. Within the **ISR** process, communicative target language (**TL**) production tasks provided opportunities for negotiation of meaning via computer-mediated communication (**CMC**). Overall, approaching **CALL** in this way supported the goal of creating a learner-centered class that reinforced the eight optimal condition and the course designer's curricular choices.

Classroom application of the decision-making stages

The effectiveness of the **CALL** curriculum that the course designers have in place was corroborated by Watson and Agawa's (2011) report. After one semester within the **ISR** pedagogical system, Watson and Agawa (2011) found increases in students' self-perceived confidence and a self-perceived reduction in time off task (see Figure 3). We contend that these results are an indication of the effectiveness of the **ISR** process that combines technology with strong pedagogical foundations. Specifically, Watson and Agawa (2011) found general increases in overall language confidence, ability to learn in a technology-based environment, enjoyment in a **CALL** environment, and preference of **CALL** over non-**CALL** classes. Additionally, Watson and Agawa (2011) found student self-perceived decreases in boredom and distraction in a **CALL** environment. In particular, the graph shows how students' perceptions of

technology in the classroom changed over the process of one semester. Although it would be inconclusive to conclude that the curriculum set-up was the sole factor, it does suggest a positive trend towards learner perceptions of instruction and technology.

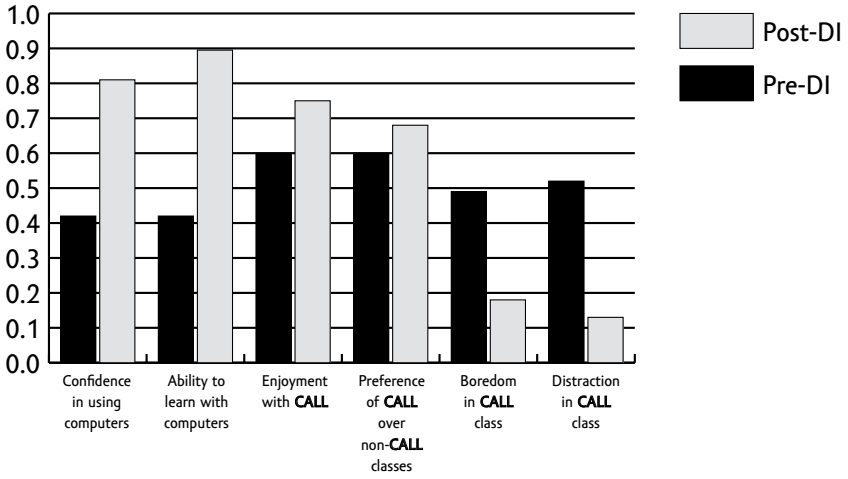

Figure 3. Student perceptions of a CALL course (Watson & Agawa, 2011).

Table 2: Application of ISR in the CALL listening course
(Adapted from Watson & Agawa, 2011)

Adjusting to Student Readiness Level	– Software or online diagnostic tests – Frequent and regular assessment – Modification of vocabulary on listening selections – Teacher generated listening selections – Adjustment of listening comprehension questions to not place too many demands on learners
Understanding Student Prior Knowledge	– Students email histories of learning English to teacher or post for others to read – Student reflection journals regarding class content – Students upload profile data – Teachers find ways to connect textbook materials to student lives to create meaningful real-world connections
Adjusting to Learning Style	– Portfolios for alternative assessment methods – Various tasks that recycle listening selections and vocabulary – Varied graphic organizers for listening selections – Teaching active listening strategies – Surveys of strategy and task learning preferences – Integrated skills approach to skill-specific courses – Use of voice recording software

Watson and Agawa (2011) identify effective ISR applications (see Table 2) for their CALL listening class. These applications are categorized into three areas: (a) Adjusting to student readiness level, (b) understanding student prior knowledge, and (c) adjusting to learning styles. It is important to note that these classroom applications support the designers' goals of both fostering technology while facilitating language production through the balanced learning of ISR. While we recognize this is not conclusive, Figure 4 supports curriculum designers attempting combine pedagogy with CALL.

Conclusion

Regardless of technological level and sophistication, we reiterate our intital contention that it is unwise to depend solely on technology for student engagement, autonomy, and competence without having a solid pedagogical framework in place. This paper highlights the process of creating such a framework by considering five important selection stages (see Figure 1). These selection stages, which progressed from broad learning theories (distant from students) to specific instructional strategies (near to students), provided structure to the course. The framework that was produced from these stages ensured the curriculum was focused toward blancing technology with pedagogically based outcomes (ISR).

Any decision-making process needs contstant monitoring and evaluation to ensure its effectiveness is maintained and is able to withstand changes to technology. This is applicable to any context where curriculum is structured for learning success. We contend that it is tailoring your technology to match the curriculum framework goals and not revolving curriculum framework goals around the mode of technology that is tantamount. Our curriculum development process is but one example of how to integrate technology with pedagogy through a structured framework. Granted, every context presents different choices and decisions; therefore, we recommend that instructors and curriculum designers take the time to create a pedagogically solid framework that meets learning goals while concomitantly integrating technology into their classroom. The process of combining technology with pedagogy is a strong element of the modern classroom and is relevant to digital literate learners.

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