《論　文》

Blended Language Learning: Using Wireless Notebooks and a Project-based Approach

William Kay, Paul Gemmell, Andrew Johnson, and Don Hinkelman

Abstract

This paper presents a collaborative action research initiative amongst four teachers teaching English as a foreign language (EFL) within a single department of a Japanese university where all students were required to own wireless notebooks as a condition of enrollment. Although these notebooks were not previously used in English communication classes, this group of teachers felt Internet-based activities could play a vital role in both generating and stimulating student interest in English language learning amongst low-level and low-motivated majors from technical departments. The teachers' shared objectives were to develop and offer online channels to authentic resources in an effort to facilitate meaningful language learning tasks. All of the listening and speaking tasks were collaboratively organized and individually designed to be purposeful communicative projects in an attempt to illustrate that technology could enhance more traditional classroom language teaching/learning methods. The four teachers adopted a research design based on Burns' (1999) model of action research in teacher-teams. The results are summarized with advantages and challenges that they encountered through the implementation of a project-based learning (PBL) approach in a blended learning classroom environment (combined face-to-face and online activities).

Keywords: EFL, blended language learning, CALL, e-learning, wireless LAN, blended classroom, collaborative action research, project-based learning)

Ⅰ. Introduction

A common perception that has been shared by many university level EFL teachers in Japan is that a general lack of student interest and motivation towards meaningful English language learning exists amongst non-English majors. This is despite the fact that English continues to be a compulsory subject for most Japanese university students. Several studies (Berwick and Ross, 1989; Widdows and Voller, 1991; Long, 1997) have suggested that there are specific reasons why many Japanese freshmen, in particular, lack the necessary motivation to pursue English language learning in an effective capacity. These reasons have ranged from student dissatisfac-

tion of teaching methods and materials to a more general feeling of post-entrance exam exhaustion. This has led many university level EFL teachers in Japan to rethink and re-conceptualize their own course curriculum in an attempt to stimulate further interest and involvement in their students' language learning process. This is precisely the situation that led a group of English instructors in northern Japan to pursue a collaborative initiative within their own English teaching/learning context. As this group of teachers had collectively identified a general lack of student interest and enthusiasm toward English language learning emanating amongst their students within their shared department, a decision was made to embark on an experiment using shared materials and technology. This experiment involved reaching beyond publisher-designed and packaged textbooks and their general-purpose teaching approaches in the hope of inspiring students through the use of more teacher-created learning resources. These resources were specifically tailored with learning tasks that had clear and meaningful learning objectives.

The teachers involved in this collaborative initiative had individually felt that they had experienced some level of success in stimulating student interest by implementing online resources and offline computer projects into their English language lessons. This grew out of the history of the institution that included over five years of experimentation with EFL speech-making projects using presentation software such as PowerPoint (Bossaer & Hinkelman, 2001; Bossaer, Hinkelman, & Miyamachi, 2002) . In addition, two other teachers expanded upon the basic use of PowerPoint and reported classroom successes in oral interviews, quizzes, and audio-recording with the same software package. At the same time, a web-based learning management system was introduced to the school's oral communication classes over several years.

Learning management systems (LMS) are popularly known as "e-learning" systems. This popular and relatively recent trend in EFL teaching has encouraged the utilization of electronic online activities to assist teachers in achieving their language teaching/learning classroom goals. However, the use of an LMS in this institution was as a support to classroom-based activities, not as a web-only form of learning. This combined hybrid form of education is often called "blended learning". Hinkelman (2005) presents arguments why blended learning is replacing computer laboratory-based CALL setups. The advent and development of these blended learning strategies in EFL classrooms in Japan have provided such teachers with a greater variety and range of potential English language learning materials and methods to generate more student enthusiasm. Although more educational institutions in Japan are investing heavily in developing their computer-assisted language learning (CALL) facilities, few of these institutions have the

capability of simultaneously providing all of their teachers and students with online resources in their own classrooms. One advantage the teachers in this study had was that all of the students in their shared department were required to own wireless notebook computers as a condition of enrollment. The question posed was whether it was possible to utilize these wireless notebook computers within a conventional classroom space. If online technology proved to be workable within a conventional classroom space, the teachers felt that it might be possible to generate further student interest in English language learning within their shared department.

This paper's objective is to detail the process and development of a collaborative blended learning experiment, which was conducted throughout the 2006/2007 academic year. A background into the initial limitations that were identified following a conventional textbook-based approach will first attempt to describe how the initial research questions were collectively formulized. Although the teachers involved in this initiative were used to freely sharing ideas with each other within their teaching environment, this experiment marked the first time that they had closely worked together in an attempt to design a shared online curriculum. In this attempt, the teachers felt that it would be most useful to adopt a research strategy that would suitably support what was essentially a teacher-team initiative. For these purposes, a brief background into their research strategy and subsequent curriculum development approach will be provided. It is also the intention of this paper to provide the reader with a description of both the rewards and challenges that these teachers experienced throughout this process. These rewards and challenges should become more evident through the process descriptions and pedagogical results that were achieved and which will be provided in this paper. Finally, future research possibilities and implications will be discussed within the context of the emerging force that blended learning is becoming in the EFL teaching/learning context. The next two sections provide a review of literature on the two principled approaches taken in this study: blended learning and project-based learning.

Ⅱ. Blended Language Learning Environment

Blended language learning (BLL), in the recent EFL context, refers to a language learning environment which combines both face to face and online components in facilitating the English language teaching/learning process (Sharms & Barrett, 2007). In a discussion paper from Australia, Eklund, Kay and Lynch (2003) attempt to provide a needed backdrop on the scope of e-learning initiatives in both a national and international setting. Embedded within an expansive

discussion, Eklund et al. (2003) describe the recent trends of elearning's influence on teaching and learning. Of particular interest for the EFL teacher working within a Japanese university is the notion of blended learning as "incorporating the use of ICT (Information and Communication Technologies) into the instructional process to augment rather than replace face to face delivery" (p. 21). As the sizes of freshmen classes in Japanese universities tend to be quite large (anywhere from 35-100 students), the potential for using technology to reach out to more students simultaneously is very desirable.

Although Eklund et al. (2003) mention that the "aim of education in the post-modern society" is to view the potential of blended learning in it's "social context", they do not directly address the communicative potential of blended learning strategies in an educational context (p. 21). The reluctance attributed to the many teachers who are hesitant to adopt technology as a teaching apparatus (Eklund et al., 2003, p. 23), may very well be due to the fact that they cannot visualize the communicative benefits of such an endeavor. Rather than stressing the aspect of teachers "learning the strategic use of learning delivery channels" (such as the physical classroom, the virtual classroom, print etc.), the Eklund et al. (2003) discussion paper may have also considered ways teachers can learn to use these delivery channels in order to better facilitate communicative objectives in the social context of their teaching/learning environments.

In terms of practical communicative relevance for the EFL teacher, Warschauer and Kern (2000) observe the "sociocognitive approaches to CALL" which "shift the dynamic from learners' interaction *with* computers to interaction with other humans *via* the computer" (p. 11). This third wave role of CALL, following *the structural* and *cognitive waves*, places an emphasis on the potential of computers to open communicative channels to students within a classroom setting and beyond. In their socio-collaborative language learning study in Bulgaria, Meskill and Ranglova (2000) illustrate just how computers could facilitate English language learning in their own teaching/learning context. Although the students in this study exhibited no signs of "enthusiasm" at the beginning of the revised course curriculum, over the course of the study "radical changes in participants' views of language learning and teaching" were observed (pp. 34-35). These views were considered to be positive in terms of promoting the increased confidence of individual students, peer-work activities and overall teacher-student relationships. This led both Meskill and Ranglova to conclude that their revised blended learning curriculum approach enhanced student English language uptake and proficiency.

While an important feature of Meskill and Ranglova's (2003) study was to "overcome" constraints by encouraging "learner motivation through involvement and empowerment" (p. 33), their study may have been propelled by the fact that they appeared to be already working with

a relatively motivated and high-level group of English language learners. This is evident in the fact that the participants in the study were actually English majors who met "8 hours per week over the academic year", and would be subject to a "rigorous and comprehensive final exam" (p. 28) . There was clearly enough external incentive to maintain a satisfactory level of involvement amongst these students even if they were found to prefer the revised blended learning curriculum. Perhaps a more radical study may have involved a group of lower-level participants who were not English majors and met less frequently.

Ⅲ. Project-Based Learning Approach

This section reviews the pedagogical construct which influenced the design of this study's curriculum—project-based learning (PBL) . A concern raised by many native EFL university teachers in Japan is the amount of general apathy exhibited by Japanese students in relation to English language learning. Many teachers are quick to attribute this seemingly resistant attitude to their students' general lack of interest towards English language learning or even English culture in general. There are, however, many reasons beneath and beyond these perceived attitudes. The Berwick and Ross (1989) study of Japanese college freshmen's attitudes toward English language learning attributed this apathetic approach to post university entrance exam ennui rather than to an actual conscious dislike of English in general. This study implied that the rigorous college entrance testing system in Japan motivates students to approach English language study in a more instrumental capacity (the Carrot and Stick Hypothesis [Skehan, 1989]) than encouraging a more integrative orientation. If this is the case, many Japanese college freshmen may simply feel that there is no tangible purpose in actively participating or excelling in the subject after they have been accepted into their respective universities.

In terms of teaching methods and content, Long's (1997) study showed that Japanese college freshmen wanted a more dynamic approach to English language learning. Some of the more negative student thoughts were aimed at the conventional aspects of textbook-based English teaching/learning that were considered to be "not effective" (p. 6) . Activities such as "fill-in-the-blanks" exercises and seemingly mundane grammar drills, which were not related to real-life experiences, were thought to be boring and pointless. This seemed to concur with an earlier study by Widdows and Voller (1991) that indicated a strong degree of student dissatisfaction with traditional teaching methods. One of the more salient suggestions voiced by students in Long's study was the need for more authentic teaching materials and equipment. Students voiced a desire for more video aids with "interesting content" and movie clips "as a means of learning

more colloquial expressions" (Long, 1997, p. 6) . Although Long's subjects recognized the importance of oral conversation practice (both listening and speaking) , they seemed to be craving for a more multi-media approach to introducing language target structures and facilitating language learning tasks. After several years of junior high school and high school English grammar testing and abstract conversational activities, Long's subjects also wanted English conversational activities that contained elements of authenticity and real purpose.

One similar trend identified throughout the few studies conducted above is that the majority of Japanese freshmen did express an element of interest toward English language learning. Rather than remaining silent or expressing negative views towards English as a subject, students appeared eager to voice opinions on how to make English teaching curriculums more relevant to practical real-life experiences. Taking this into consideration, a motion was made within this action research group to provide lessons where the pedagogical approach would allow the students to be able to *transfer* the English they learned to other situations. Giving students opportunities to think about what type of language is appropriate for various situations, allows students to gain experience in applying their communicative skills to unknown situations. Thus, a student-centered, task-based approach appeared to be an appropriate direction to pursue.

Although "task" has been a somewhat ubiquitous term in education during the past thirty years, an agreed-upon definition of its meaning has yet to be settled upon. On one extreme, task can be considered as an open question given to learners along with the necessary resources to respond (Vella, 2000) . This simple definition first suggests that a question is posed, perhaps by a teacher, and that either the question has been designed to fit the learners background, or that resources have been provided to support learners as they approach the question. At another extreme, some educationalists would consider that tasks center on learners even more. This would appear to claim that a task is an open question *created by* learners. In Ellis' (2003) review of the literature on the scope, perspective, authenticity, language skill, cognitive processes and outcomes in a task definition, he takes task to be a work plan that has a primary focus on meaning, involves real-world processes of language use, may require any or all of the four language skills, engages cognitive processes (strategies) , and has a clearly defined communicative outcome (p. 9-10) . Throughout the various definitions of task, the primary constant is a focus on meaning. According to Skehan (1998), task has the following main points:

- Meaning is primary
- Learners are not given other people's meaning to regurgitate
- There is some sort of relationship to comparable real-world activities

- The assessment of the task is in terms of outcome
- Task completion has some priority

Skehan's (1998) concept of task seems to imply that success is defined by outcome. This is a criterion that is often used, consciously or unconsciously, to measure linguistic success in authentic "real-life" situations. Since this definition of "task" was seen to parallel "real-life" situations more closely than activities that focused on form, it became a highly desirable concept for this team of action-researchers to adopt.

It was, however, necessary to put this task-based approach into some manageable form where students felt that there was some type of coherence to the course in which they were learning English. Organizing tasks within project based units was considered to be a coherent and manageable form in which to present target lesson objectives. Project-based learning (PBL) approaches are known to focus "on a problem to be solved or a task to be accomplished" (Moursund, 2003, p. 1) . In terms of English language learning, students would be presented with theme-based projects or tasks and would then be expected to draw on their past knowledge (six previous years of textbook grammar-based study) to complete the projects. Each project would ideally cover three to four lessons within a semester. As there are fourteen ninety-minute classes offered per semester, which meet once a week at the university under investigation, students would be expected to complete three major projects per semester. This would leave a comfortable buffer zone for any unexpected problems or surprises that tend to arise during a school term. Each project would focus on student-created texts as oppose to publisher or teacher-created texts, which have already been authored by an authority or company. A theme would be introduced and then students would be expected to respond to the task assigned to them relating to the theme. Student involvement would be observed each class through the level in which the students were perceived to actively and communicatively be able to stay on task. This type of classroom observation would be the primary approach to investigating the effects of project-based learning in a blended learning environment. The following section will outline details of this research design.

Ⅳ. Research Design

The research design of this study will first describe the participants of this study—six classes of students, four teachers of these students and the overall institutional background of the

study. Second, it will propose a methodology for conducting the investigation under an action research framework. Finally, it will articulate two research questions that were collaboratively decided upon.

Student Participants Profile

The English learners involved in this preliminary study were from the Social Information Department of Sapporo Gakuin University, which is a technical major including studies in computer science. The four primary researchers in this study are presently employed full-time at this university. This university is a medium-sized institution (5000 student enrollment) and located in northern Japan. This department was chosen for two reasons: 1) the students all owned wireless-Internet-enabled notebook computers (affording greater flexibility in tools for building and publishing EFL projects, and 2) this department ranked last in level of entering English ability and motivation. According to teacher impressions at this institution, a general lack of motivation toward English language learning had characterized this department's student body for many years. Although this is understandable as English was not their chosen major, the English teachers involved in this study had individually found these students more difficult to teach as they were becoming more actively resistant to classroom learning. Thus any success in this particular department might suggest that similar success would perhaps extend to other departments facing similar challenges. Furthermore, this department faced a rapidly declining enrollment rate and was beginning to feel forced to accept more students with lower academic standards. Since high school academic standards as a precondition for enrollment were decreasing, students were becoming aware that university entrance was no longer a difficult and prestigious accomplishment.

Institutional Profile

Courses in English communication are a requirement for first and second year students at this university. This tends to be a common practice throughout Japan. As a policy of instructor independence in this context, teachers were allowed to choose their own textbooks and design their own curriculum. No uniform assessment system or reports had previously been used to judge the effectiveness of this system. Each student was expected to take two classes of English (English "A" from a Japanese teacher, and English "B" from a native English speaking teacher) for two years in the General Education program. For over 30 years, the entering freshmen student body of about 1000 had been put into this system. Classes of approximately 25-40 students were created using a random assignment system, based on alphabetical order. This led

to the practice of teachers waiting until they had met the students over the course of one or two classes to determine what kind of syllabus or class plan to give them. It also meant that teachers had dramatically different levels of students in the same class, often resulting in some bored high-achievers and frustrated under-achievers who tended to be confused and lost. In order to provide teachers with a better idea of student levels and motivation, this university instituted a placement test as a streaming process to separate the students into 3-6 levels from April 2004. The design of this test was a fifty question multiple-choice listening and reading exam that was administered online to save marking time and facilitate statistical analysis (Hinkelman & Grose, 2005) . The General English placement test results for the Social Information Department from 2004-2006 were the lowest of all departments in the school. A significant number of students, (approximately 30%) , appeared not to have made serious attempts in answering the questions. This was not considered a serious problem as those students had similar scores and were grouped together in lower level classes. After streaming was introduced, teachers immediately noticed a greater uniformity in terms of class atmosphere and expressed that this enhanced their ability to choose teaching materials to fit their particular levels. An exit test called "Placement Test II" had also been administered to English students at the end of their first year. However, this was not intended to be evaluative, since its only purpose was to stream students into their second year classes.

Teacher Participation

The teachers who joined this collaborative research project were initially four teachers who had worked together for a number of years instructing similar classes with the addition of one extra teacher joining this group for the first time in 2006. Collaboration had already been occurring informally for lesson planning. Most teachers had already abandoned published textbooks in oral English and had moved into project-based PowerPoint presentations as a format for teaching oral communication. However, congestion and difficulty in scheduling computer rooms led one teacher in this team to test notebook computers in a common desk/chair style classroom environment. In this brief test during the late fall in 2005, he asked all students to bring their notebook computers to class and had them do an Internet search activity. Of the approximately 15 students, all were able to access the Internet without much trouble or technical assistance. From this experience and discussions with the computer center staff about load capacity, it seemed possible to continue with a full-scale Internet and computer-based curriculum for three classrooms starting in April 2006. Although this teacher's experience had largely been positive, there was concern whether or not this type of approach would work amongst four teachers

attempting to have their whole classes simultaneously accessing the school's wireless Internet line. In addition, another teacher wanted to remain in a standard laboratory for ease of use and the ability to remotely control students' computers via a program called "Campus Esper". This program allowed the teacher to freeze the students' screens and draw their attention to the front of the classroom in order to change to a group activity or make announcements. This teacher-team thought that this might be a good opportunity to compare classroom process and procedures, and that teacher was then assigned to the standard computer room. After a half year, however, that teacher decided not to continue in the collaborative research project and the team was reduced to four members.

In April 2006, this classroom-based study began with the teacher-participants being assigned to all the Social Information Department classes. These classes were comprised of sixteen separate sections of semester-long courses, spanning two years of general education. Table 1 shows a summary chart of the course baseline information for these sixteen classes. This includes course titles in this curriculum, and basic student data.

Table 1: General English Course Baseline Information

Social Information Department, Sapporo Gakuin University

	Class Section	Teacher	Year	Level	Class Hours	Enrolled Students	Attending Students	Male/ Female
1	English IB (34)	Teacher5*	1	High, 1 of 3	/	/	/	/
2	English IIB (34)	Teacher5*	1	High, 1 of 3	/	/	/	/
3	English IB (35)	Teacher2	1	Middle, 2 of 3	21.0	30	27	24/3
4	English IIB (35)	Teacher2	1	Middle, 2 of 3	21.0	30	27	24/3
5	English IB (36)	Teacher3	1	Low, 3 of 3	21.0	24	18	14/4
6	English IIB (36)	Teacher3	1	Low, 3 of 3	19.5	23	18	14/4
7	English IB (37)	Teacher1	1	Repeater class	21.0	25	12	11/1
8	English IIB (37)	Teacher1	1	Repeater class	21.0	26	13	12/1
9	English IIIB (31)	Teacher4	2	High, 1 of 3	21.0	32	30	27/3
10	English IVB (31)	Teacher4	2	High, 1 of 3	21.0	32	30	27/3
11	English IIIB (33)	Teacher1	2	Middle, 2 of 3	19.5	25	18	16/2
12	English IVB (33)	Teacher1	2	Middle, 2 of 3	21.0	32	18	17/1
13	English IIIB (32)	Teacher5*	2	Low, 3 of 3	/	/	/	/
14	English IVB (32)	Teacher5*	2	Low, 3 of 3	/	/	/	/
15	English IIIB (34)	Teacher2	2	Repeater class	21.0	30	15	14/1
16	English IVB (34)	Teacher2	2	Repeater class	21.0	30	15	14/1

* Did not participate in the study

Research Methodology

Researchers in computer-assisted language learning such as Warschauer & Kern (2000) recommend classroom-based research focusing on contextual studies and descriptive ethnographies of practice, rather than experimental hypothesis testing or analysis of tools. This kind of research requires more qualitative methods than quantitative methods, though both methodologies may be usefully applied in investigating a problem. In this study, the teacher-participants decided to use an action research methodology because of it's adaptability to fit a broad case study using collaborative teams of teachers (Burns, 1999) . Action research is one research method that has helped many EFL teachers to re-evaluate their role in language learning classrooms in the hope of improving the quality of their teaching and helping their students better achieve language learning objectives. While action research is often criticized for its inherent challenges to meet "the minimum criteria for acceptable [qualitative inquiry] QI" (Richards, 2003, p. 26) , it has proven to be most useful in detecting and addressing specific problems in the EFL teaching/learning environment. Observing a gap in the "knowledge base for teaching", Cochran-Smith & Lytle (1990) have commented that a key missing ingredient has been from the active input from teachers themselves (2) . As a method of research applied in an educational setting, action research attempts to bridge such a gap by allowing teachers' concerns to be both heard and acted upon in an effort to make genuine improvements in their own situated context. The qualitative aspects of action research, allows it to focus "on a specific problem in a defined context, and not on obtaining scientific knowledge that can be generalized" (Burns, 2000, p. 444). In an EFL teaching/learning context, this focus can take on a unique dimension as educational environments tend to differ from one culture to the next. This makes it problematic to assume that quantitative generalizations can be achieved and successfully applied to similar problems detected throughout various cultural settings. Bailey and Nunan (1996) highlight the fact that "Given the particularities of individual cultural contexts, any pedagogical proposal, of whatever complexion, needs to be contested against the local reality" (p. 120) . As "local realities" differ from culture to culture, EFL practitioners will have to consider their own teaching/learning environments as being culturally unique before attempting to address any problems emerging within these environments.

Having accepted the cultural uniqueness of a teaching/learning context, a practitioner can begin to address observations that have been identified within this setting. An action research study by an EFL researcher in Hong Kong serves as a good example where an "acute" hurdle for EFL teachers in Asia was identified in "getting students to respond" voluntarily in the classroom (Tsui: 1996, p. 145-147) . This study made a clear distinction between the "reserved and

reticent" Asian students and their generally more vocal "Western counterparts" (p. 145) . This study's teacher-participants were then able to collaborate and collect their data on a specific issue that concerned them in their own professional context. Having collected this data, the study was able to outline some of the "successful and unsuccessful strategies" that the participants used in an attempt to improve their understanding of this situation for the benefit of both their students and themselves (p. 160-164) . This type of "problem identification, therapeutic action and evaluation" (Burns, 2000, p. 445) conducted by Tsui and her colleagues is an example of the applicability of Lewin's (1952) model of action research in an EFL setting. Kemmis and McTaggart (1988) further developed this cyclic model to incorporate what they considered to be four "moments" of action research: planning, action, observation and reflection. The cyclical manner of such an approach reflects the naturalistic philosophy of how identified issues have a tendency to expose other issues of concern which require further research and consideration.

In the context of this preliminary study, an action research approach that would be slightly more flexible than the Kemmis and McTaggart (1988) model and adaptable to a collaborative framework was highly desired. Burns (1999) had outlined such an approach through her involvement in various national Australian studies such as The Adult Migrant English Program (AMEP) (1996) . While the Kemmis and McTaggart (1988) model had been criticized for being too rigid for educational design (McNiff, 1988) , Burns' (1999) adapted framework was seen to allow for more flexibility in a collaborative research environment. This framework envisions an eleven phase experiential sequence where research experiences are "interrelated" (p. 35) and more fluid than within a systemic cyclical process:

1. exploring
2. identifying
3. planning
4. collecting data
5. analyzing/reflecting
6. hypothesizing/speculating
7. intervening
8. observing
9. reporting
10. writing
11. presenting

(Burns, 1999, pp. 35-44)

Burns' interpretation of action research was particularly appealing to this preliminary study due to the emphasis on approaching a research initiative collaboratively and not being restricted to following a model through "prescriptive steps which must be carried out in a fixed sequence, but rather as suggestive of various points in the research process" (Burns, 1999, p. 43) . In essence, the approach adapted for this study mirrored the complex and often "messy" (Burns, 1999, p. 43) context with which many EFL teachers are confronted with in their daily teaching/learning environments.

Research Questions

For this study, the first stages of exploring and identifying a research focus was initially simplistic. At Sapporo Gakuin University (SGU) , one department of students (Social Information) was required to purchase notebook computers with wireless Internet-capability. Many teachers were eager to use computer labs as teaching spaces, but due to a lack of available rooms on most days, this idea had to be abandoned. When wireless access points were installed around traditional classrooms at SGU in 2005, it became possible to use wireless notebooks in more traditional classrooms. The teachers in this study became curious to see whether it was possible to create a mini-lab of computers by utilizing the students' own personal software resources. Thus the research questions became focused on technical possibility and pedagogical usefulness. These two questions can be stated as follows:

1. Can wireless notebooks and Internet-activities be incorporated into classic desk-and-chair classrooms, incorporating CALL in a non-computer laboratory?
2. How do students respond to using the wireless notebooks in a language learning class?

The next section outlines the general curriculum aims and course design of this study that was formed on the basis of these research questions.

Ⅴ. Curriculum Design and Aims

The overall aim of General English "B" classes at the university where this action research initiative was conducted is to encourage students to communicate in English. The particular focus here is on spoken communication. Since there is considerable independence in designing curriculums at this university, the teacher-participants in this action research study had the

freedom to select any approach they felt would be effective. As mentioned previously, this group of teachers decided to use a project-based curriculum, due in part to the fact that other teachers had reported positively about incorporating PowerPoint-based projects into their curriculums and reported negatively on the use of standard textbooks in lower-level classes. The teacher-participants in this study wanted to choose projects that would be immediately interesting to a freshman student wanting to make friends in the classroom and share personal news and background with their classmates. Because students all had wireless notebook computers, the teachers were eager to utilize the Internet and organize their teaching resources within an online learning management system. This system was felt to be particularly useful in providing students with constructive and time-efficient feedback.

As this action research study would be conducted with both first and second year students, it was important to keep the content of the courses distinct from one year to the next. This was largely to avoid the potential hazards of first-year students repeating the same course content in their second-year. For this reason, the teachers decided to organize the two courses under distinct content categories. First-year students were to follow a “national” content theme where projects had a focus on students expressing themselves in their own native environment (in this case, Japan) . Second-year students were to follow an “international” content theme, where they would be encouraged to express themselves in a more global context. Although the teacher-participants had agreed on the order and content of units within each course, they encouraged each other to pilot their own classroom activities within these units in order to develop a shared resource file. These content guidelines were created in a teacher workshop, before the start of the school year (February 2006) . A master plan of sixteen projects was created and allocated to specific years and semesters to avoid having students duplicate the project when they changed teachers in their subsequent terms.

This project-theme curriculum was one of the first attempts at this university to coordinate teacher syllabi. It provided a number of improvements such as: 1) reducing the possibility of duplicating texts and projects, 2) allowing teachers to share materials and divide preparation labor amongst each other, and still 3) retaining a sense of freedom within a planned curriculum. It is important to note that these themes were not exclusive. Teachers were encouraged to add and share any other new themes, resources and ideas to the overall master plan. Table 2 shows the initially planned projects:

Table 2: Projected Project Themes Allocated by Year and Semester

Projected Activities and Projects: First Year Class

Semester 1	*Semester 2*
Guided tour of Sapporo	Summer Holiday
Hobbies	Halloween
Japanese celebrity	Music
Japanese drama	Japanese culture

Projected Activities and Projects: Second Year Class

Semester 1	*Semester 2*
Plan a trip abroad	International celebrity interview
Cooking	International culture
Foreign IT project	Movie trailers, questionnaire and interview
Foreign country study	Technical requests

Ⅵ. Technology and Spaces

One of the most innovative aspects of this action research initiative was the use of blended learning strategies with wireless laptop computers in an otherwise fairly standard Japanese university classroom environment. Each classroom contained roughly forty student desks that were fairly light and easy to move. This was felt conducive to the planned pair and group-work activities with which the students would be engaged in throughout their respective courses. There was a raised lectern platform with a standard chalk-based blackboard at the front of each classroom. Each classroom was also equipped with a full-range audio-visual component system with a built-in projector. This component system would enable teachers to project their own laptop computer screens onto a classroom projector screen for students to view.

Each year, the Social Information department at SGU decides specifications for a notebook computer and requires students in that department to purchase one matching said specifications. In 2005, the department recommended the Toshiba Dynabook SS1610 (no CD) with Windows XP Professional to students. In 2006, the Panasonic CF-W4 (DVD/CD-R/RW) with Windows XP Professional was recommended. Both the 2005 and 2006 model computers were capable of wireless World Wide Web (WWW) access. Additionally, students were required to have Microsoft Office (Word, PowerPoint and Excel) on their computers. On the third floor of building "A" at Sapporo Gakuin University, a series of three Altitude 300-2 antennas were installed, each transmitting a unique wireless signal to the classrooms surrounding them thus allowing computers to access the Internet. Three Social Information classes were taught at the same time

near these antennas.

Ⅶ. Teacher Reports and Reflections

The following classroom reports were written by the four individual teacher-participants involved in this study that covered the April 2006-March 2007 school year. Each year included two semesters of first year students and two semesters of second year students. As a General English "B" class, the overall aim is to learn to communicate in English, especially spoken communication. At SGU, there is considerable independence in curriculum design, so teachers have the freedom to select approaches they feel will be effective. Each report is organized in terms of describing the student-participants as well as the lesson planning aims and objectives for each teacher. A discussion on materials and technology was thought to be a useful inclusion in order to detail both the advantages and disadvantages individual teachers encountered in this new curriculum approach. The reports also include teacher perceptions on student responses and conclude with reflections on each teacher's role in the classroom.

Teacher 1 Reflections

Participants: My first year students were "repeaters"—those who had failed the course in the past and needed to repeat it to meet graduation requirements. The primary reason for a student repeating a course was due to insufficient attendance to satisfy university requirements. The most common reason cited by students for lack of attendance was, "Can't wake up". The level of my second year students was in the middle of three classes. The number of students in the first year class was 25 in the first semester and 26 in the second semester. Of these, 12 attended enough to receive marks in the first semester and 13 in the second semester. The number of students in the second year was 25 in the first semester and 32 in the second semester. Of these, 18 attended enough to received marks in the first semester and 18 in the second semester.

Lesson Planning: Considering the low level and low motivation of these students, the aim for both of these courses was to get students to try to communicate in English at a very simple level. Furthermore, it was hoped that through the aid of media (i.e., their computers) they would have more interest and confidence with which to express themselves. Making an effort was as or more important than actual clear communication in English with these students. That said, the projects were set up in such a way that even the most rudimentary English could produce desired communicative results. Students were constantly reminded to use "your own simple, clear English",

and were constantly dissuaded from the overuse of language translation software.

A guiding goal in my lesson planning was to balance computer use with direct communication. This was thought necessary to avoid having students getting too bogged down in their own computers. At the same time, there was a great hope that by having students prepare material in English at their own pace, a positive work environment would be fostered. These were students who for the most part had little or no interest and/or ability in English language use, and in some cases a limited capacity to interact with peers even in their L1. Nonetheless, peer interaction was a requirement in the course. In activities where direct language communication was used, extra preparation and time was allowed.

Table 3: Activities and Projects—First Year Class

Semester 1		Semester 2	
Planned	Actual	Planned	Actual
Sapporo tour project	Set up computer systems and student profiles in Moodle	Summer holiday project	Summer holiday project (TV interview format)
Hobbies project	Internet search activity: Sapporo hotels	Halloween project	Daily life activity: Bill and Bob
Japanese celebrities project	Talking about Japan basics activity	Music Internet project	Music project and final presentation
Japanese drama project	Japanese culture project	Japanese culture project	

Table 4: Activities and Projects—Second Year Class

Semester 1		Semester 2	
Planned	Actual	Planned	Actual
Plan a trip abroad project	Set up computer systems and student profiles in Moodle	International celebrity project	Summer holiday project (TV interview format)
Cooking project	*Country project and presentations	International culture project	Canadian tour project
IT project	*Plan a trip abroad (PPT presentation)	Movie trailer project	Movie project and final presentation
		Technical request project	

* These two projects were in fact one very large project, and intermingled with each other throughout the semester with many sub-parts to it.

Many of my lessons in this class were adapted from previous lessons, but were made simpler for these classes. For example, in a cloze exercise, which was normally a plain blank line within

a sentence, I provided letter hints within the blank.

In the lesson planning meetings conducted before and after each lesson, the greatest benefit came from helping to plan the next year's curriculum and for reflection. Because of the difference in ability across classes, I found that students could not keep up with the faster pace set by the higher level classes, or that some of the projects had to be dropped or simplified in order be completed in an acceptable and timely manner.

The original plan to complete four main projects in each semester was altered. In some cases, students needed more time and so a project would be extended by a week or two. Thus, instead of starting a new project in a limited time frame, some one-day "activity" lessons were interspersed amongst the projects to account for these time constraints. Furthermore, I felt that too much time was being used on learning computer operation and so I added more face-to-face, conventional classroom English lessons, such as the past tense review lesson, *Bill and Bob*.

Materials and Technology: This project represented a big learning curve in using materials and technology for both myself and my students. This was the first time for me to use an online platform (Moodle LMS) in these courses. It was also the first time to rely solely on notebook computers and my handouts for a whole course rather than a computer laboratory or a textbook. The first two classes in the first semester and part of the third were mostly taken up with issues of getting wireless and Moodle accounts set up and the wireless system working correctly. Furthermore, on the days we used computers there was always at least one student who had trouble logging on either to the network or to Moodle. This was due to either the student having reconfigured their computer at home, forgotten passwords, or having not been in attendance at the lesson when accounts were created. This type of problem occurred up to and including the very last computer class.

From a teacher standpoint, the handling and control of Moodle will need to be improved in future classes. There were incidents of students who were not registered in the course on Moodle even in the final weeks of classes when an inventory was taken. It was also too easy for me to put marking of Moodle submitted projects on the back burner, knowing it was in the Moodle system safe and sound (or was it?), and knowing that the Moodle interface for checking student-submitted assignments was less than speedy. This meant feedback to students was late in coming, as well as knowledge of student progress for my own information and record keeping. In the future, there will be a concerted effort to improve the management of these issues. One possible solution to student feedback is to move away from Moodle as the main platform for assignment submission. Another is to look for a quicker path within Moodle for submission checking.

The use of notebook computers created an imbalance in the classroom, as those who had no technology issues (e.g. connecting to the Internet) had to wait for those who did. Thus, at times a sense of boredom was felt based purely on troubleshooting computer issues. Other than that, it seemed that students were happy to work at a slow pace with their own notebooks or in small groups preparing their work. Whether this was a positive experience in terms of producing and communicating in English or not is debatable, but it was perhaps enough for them at their level. That said, the use of software to translate from Japanese to English remains a potentially troubling area for computer based English classes such as this one. The over-reliance of computers to "speak" for students was apparent in this class. Some students attempted to, in effect, have a conversation with me using their computers as a spontaneous translator. Teaching students how to use and not abuse computer technology is an issue that has to be addressed and managed. From another angle, it is worth considering that spontaneous translation devices may become a central part of cross-language communication in the not so distant future. Perhaps students like these, funded by Japanese companies like Casio, will be the ones to develop it.

Observations and reflections: I was able to acquire a considerable amount of knowledge about the Moodle interface, and I intend to make an effort to set up a better system of student tracking and feedback in the future. At the same time as suspicions were confirmed that using technology in class can require a lot of troubleshooting time which may be better spent teaching targets, the use of the technology itself may be beneficial on at least two points. One is the interest it can stimulate in students who don't respond well to traditional learning methods, particularly in this fast paced, techno-centric brave new world. Secondly, as Social Information majors, learning to handle computer issues and a number of applications, including English based ones, can provide valuable lessons and experiences for the future lives and careers of these students. As a teacher, this is a satisfying direction to be moving in.

Teacher 2 Reflections

Participants: The level of my first year students was intermediate, while my second year students were considered "repeaters" (those students who had not been able to pass the course the previous year) . The number of students in the first year class was 30 in both the first and second semesters. Of these, 27 attended enough to receive marks in the first semester and 25 in the second semester. The number of second year students was also 30 in both semesters. Of these, 15 attended enough to receive marks in the first semester and 14 in the second semester. Both classes were conducted with the intent of using computer resources to facilitate conversation. In this respect, computers were used mainly for their research access and for various soft-

ware features (i.e. WORD, PowerPoint) , which provided students with interesting venues to complete their projects. Students were always encouraged to work in pairs or small groups in an effort to maximize communicative student-to-student participation and foster a communal atmosphere. Pair-work was conducted more easily amongst the group of first-year students mainly because their attendance was good and consistent. Since the repeater class attendance rate was poor, consistency in pair-work and completed assignments was low.

Lesson Planning: In accordance with planning decisions amongst the action research teacher-participants, the course content for both first year and repeater classes was divided into three or four project-based units per semester. A goal of three to four classes for each unit was necessary to ensure that all of the content was covered and completed satisfactorily. The basic lesson pattern for each unit would reserve the first class as a type of warm-up to introduce the unit's theme to the students. In these classes, a number of communicative language teaching (CLT) techniques were used which often involved vocabulary brainstorming and interviewing activities. This would leave the next two to three classes for the actual project-based assignments. The themes chosen for my first-year and repeater courses can be seen in Table 5 and Table 6 below:

Table 5: Activities and Projects—First Year Class

Semester 1	Semester 2
Guided tour of Sapporo	Summer Holiday Report
Hobbies	Narrative tenses: Ghost Stories
Japanese Celebrities	*Music
Japanese Drama	Japanese Culture

* I found it very difficult to complete four projects in a semester. For that reason, the "music" unit in the second semester for first-year students was dropped from the curriculum in order to spend more time on the other projects.

Table 6: Activities and Projects—Second Year Class

Semester 1	Semester 2
Plan A Trip Abroad	Summer Holiday Report
International Athletes	Halloween
Hobbies	International Movies

Materials and technology: As I already had experience using the Moodle LMS with my classes in the previous year, I had some slight advantages over teachers who had never used this platform before. Nevertheless, I was faced with many unexpected challenges. The most sig-

nificant was the fact that the students were unable to access each other's projects for peer evaluation exercises. This was a communicative peer assessment technique that I had used the previous year in a CALL laboratory. The CALL laboratory was connected to a central system, which allowed students to upload their files into a shared class file and freely view and comment on their colleagues' projects. I felt that this was an important feature of PBL since it helped to foster more critical learning techniques. Although there was a way of facilitating this type of shared access within the Moodle LMS, it was a considerably more labor-intensive endeavor.

In general, using laptop notebooks in a wireless classroom was challenging at first. Basic connection preparation would often take about twenty minutes (providing everything went smoothly). This meant that it was essential for me to have access to my classroom thirty minutes before the actual first class began. Even then, there were often several technical hiccups, such as Internet-access problems that impeded considerable progress on classroom exercises. As the year went on, many of these technical obstacles were overcome thanks to our incredibly helpful technical department who were willing to go beyond the perimeters of their normal job descriptions in order to help us. Had I not been able to have access to such assistance throughout the year, this experiment may have proven difficult to accomplish. I feel that this is a sentiment shared by all the teacher-participants in this study.

Student responses: Considering that English was not this group's major, the first-year students who were enrolled in this course seemed generally well receptive and positive towards the presented course content. The mood of the class was usually very congenial and the students cooperated well with the teacher. There were times where students appeared frustrated with their own technical problems and on occasion would readily use this as an excuse to avoid participating in classroom exercises. For this reason, I made an attempt to constantly monitor student involvement in the class and made sure that any technical problems were dealt with as soon as possible. I feel that by the second term these students were beginning to work more independently and were beginning to adopt a more mature attitude towards the classroom objectives I had set.

The second year repeater class, however, seemed more resistant to English language learning overall and did not voluntarily work communicatively or well with their classmates. One reason for this is due to the fact that repeater classes are often a mix of students from various ages and years. As a result, students are often isolated from their peer groups and tend to find it difficult to relate to their junior or senior counterparts. This may have also had a negative effect on the attendance rate, which made it difficult to conduct group and pair-work activities. It is my opinion that teachers in this situation have to be very flexible in terms of what they expect

from their students. In this situation, the students learned to at least work on their own projects and rely on those who were there for any peer assistance they needed when necessary. This group generally were able to complete their projects, although most were submitted past the initial due date. The repeater classroom situation would then be best described as very quiet, yet generally obedient to the teacher's instruction.

Observations and reflections: Overall, I feel that this research initiative was well worth the effort. While some projects were not as successful as I had hoped, others were very successful and seemed to garner both student interest and enthusiasm. This is a natural learning curve that teachers experience when they introduce any new curriculum to their students. I was also able to confront and overcome my initial fears and concerns about working in a wireless classroom. There were often times where I was even able to learn new things from my students. I never felt that this took away from my role as a teacher, but rather reinforced the collaborative spirit of the experiment as a whole.

Teacher 3 Reflections

Participants: There were 26 students assigned to my first year General English class of social information majors. They were in the lowest quarter of students from the April English Placement Test, plus two deaf students. Like most freshmen, they were enthusiastic at first and responded positively in my first class. In the initial survey, they were cautious about using computers for English learning; many anticipating it could or would be fun. Most anticipated that a computer would best improve their reading and listening skills.

Lesson Planning: I decided to use a project-based curriculum, due in part because other teachers had reported positively about using PowerPoint-based projects and from their negative reports about standard textbooks in low level classes. I wanted to choose projects that would be immediately interesting to a freshman student wanting to make friends in the classroom and share personal news and background with their classmates. Also because students all had wireless notebook computers, I wanted to utilize the Internet and a learning management system every class period to manage their assignments and provide frequent feedback. I tried to follow the project guidelines that our teaching team produced before the teaching year began (see Table 7) . I noticed that the notebook computers commanded their attention and it was hard to switch between a computer-based task to a face-to-face task. To accomplish the switch, I set up squares of group tables in the front of the classroom.

Materials and technology: Without a specified textbook, I created my own handouts, borrowed colleague's handouts, and set up activities on a class website. There was heavy use of

Table 7: Activities and Projects—First Year Class

Semester 1	Semester 2
Moodle LMS and PowerPoint orientation	Summer Holiday (four blog posts)
Sapporo Sightseeing Spots (five ppt slides)	Ghost Story (one blog post)
My Hobby (three ppt slides with audio recording, no text)	Music CD and DJ monologue (seven 20 second recordings)
Summer Holiday Plans (four ppt slides with audio recording, no text)	Japanese Anime/Manga (one A3 poster with 3 graphics)

PowerPoint, Word, and Bloggers to create student-generated content. For the website, I used an open source learning management system (LMS) called Moodle. This website became the center of our online activity in the first semester, and I had students login every class and submit assignments via the Assignment module of Moodle. I did not keep up with grading or assessing the projects, but was pleased that I could collect all assignments in one spot and display a screen to everyone to show who had completed and who had not completed the assignments. Naming the files of projects became a problem, so I had to make strict conventions for its nomenclature (ie: studentfirstname-projectname. ppt) . I also used the Chat Module and Forum Module for text-based communication amongst students and to the teacher. I did not use the Quiz Module because of the time required to set up a set of questions each week. In the second semester, I left Moodle somewhat as I sought out alternative publishing tools for students. The upload PowerPoint file to the site was not enough because of difficulty in sharing them among students for peer-evaluation. So I attempted to initiate blog and posters, and CDs as other publishing media. Blogger was superior to Moodle's blog because it allowed easy student upload of images and had a variety of switchable themes for color. This was a successful tool, but first year students became easily confused about login information. I spent an extraordinary amount of time dealing with forgotten usernames and passwords.

Student responses: Students often used their computers to translate sentences at first. However, that became less so when I created tasks that built up vocabulary and sentence-making as a preparation work for the project publication stage. Often students would speak to me with a question in Japanese. At that point I would stop and help them rephrase the question in English, often broken, simple English. This was one of the more positive accomplishments for me, because students were using a target language in context to accomplishing a goal, rather than merely memorizing content. My class was the lowest level in ability and motivation, so

many of the materials I borrowed did not work with them. Their attendance was poor, so often a student who had missed a previous lesson was lost as to what was needed to be done in the project. The final presentation of the PowerPoint file seemed to give some amount of pride to students and served as a visible, tangible product of the lesson.

Reflections and Observations: I attempted a number of new kinds of projects that would not have attempted without the group support and idea-generating sessions that we had weekly. For example, I tried using blogs for the first time and used that to some success. To make that more successful, I would insist on using a single username and password for both Moodle and Blogger sites. I also felt a more formal booklet of handouts would give my students a better sense of the process and product of the project. Hopefully, the booklet could provide a visual map of the steps and how to do them.

Teacher 4 Reflections

Participants: I taught the highest level of second year students (32 in both semesters) . Even within this group, abilities and attitudes toward English, as well as learning in general, varied greatly. Some made an honest attempt to excel in the classroom, while others were trying to do the absolute minimum required to pass.

Lesson Planning: This first semester was an extra challenge for me because, in addition to it being the first time to create materials for a laptop-based wireless class, it was also my first semester working at Sapporo Gakuin University. Unlike the other teachers involved in this project, I was not familiar with the type of students to expect when I first began creating materials. As a result, many of the initial lesson plans didn't match the needs of the students. In the second semester, after I had learned their likes and what activities worked well, I began to experiment more with different technologies that could be exploited.

When designing lessons for this class, it was my goal to have students create dynamic language using language that interested them. However, challenges soon prevented me from using this approach. One challenge I met was that many of the students were disinclined to mix socially in activities. Students tended to stay in their cliques and were very hesitant to talk to anyone outside of them. Students also had trouble forming basic questions, thus making basic conversation a challenge. As a result of these challenges, I tended to give more structure than I had initially aimed.

Table 8: Activities and Projects—Second Year Class

Semester 1	Semester 2
Hokkaido Guidebook	Photo Blogs
Hobbies	Music DJ
International Celebrities	International Movies

Materials and Technology: Technology plagued the first third of the first semester. The core problem was gaining Internet access. In addition to the wireless technology being new to the teachers and students, it was also relatively new to the computer staff. Although they did an excellent job assisting us and helping us resolve issues as they arose, there were classes when the Internet was not working and activities had to be adjusted 'on the fly.' Another problem was due to the fact that since the students used their own computers, I couldn't assume students would have particular software beyond what was preinstalled. For example, for the International Movies project I wanted students to use QuickTime to view movies. Only about half the class had it so I had to spend a third of a class period helping students install it. In a traditional CALL lab, a teacher would know beforehand what software was available and if new software was required, the school computer staff could be asked to add it so students class time wouldn't be wasted. I also found that using multimedia on a large scale tended to overload the wireless. When half the class was downloading the QuickTime installation program and the other was trying to view a 2-minute movie trailer, the entire system slowed down to a very noticeable degree. Although this slowdown was more of an annoyance than an actual problem, 10 to 15 minutes of class time was wasted when it could have been spent on learning activities.

Reflections and Observations: I observed that student reactions to projects varied considerably based on the general attitude toward learning as a whole. Of the students who passed the course, some showed interest and maintained high attendance all year while some spent a fair amount of time using their cell phones and barely reached the minimum attendance. Especially in the second semester when I was more creative in exploiting technologies requirement such as blogs and CD burning, students who were motivated and interested in technologies seemed to enjoy this exposure to technologies (new to some but not to all) in English. Since many had some context in the L1 with CD burning, they seemed to enjoy applying their technical knowledge to the L2. Additionally, they seemed to enjoy being able to help their classmates who had little experience with it. I also got the feeling that they appreciated the unique approach to language learning offered in the class relative to their past English learning experience with Japanese teachers. Students who were not interested in English showed little to no

motivation regardless of the project.

Like a child with a new toy, I tended to place more emphasis on the computer than I normally would in a language classroom. Looking back now I feel that an excessive amount of time was spend on the computer time. As a teacher, I would prefer to replace a fair amount of this computer time with communicative activities. Students, however, didn't seem to complain and seemed to be more than willing to do the computer tasks. I think this was due to multiple reasons including the fact that I had the highest-level class, that their major was computer-related, and that they seemed to be averse to speaking in English in front of their peers. When technical problems did arise, I felt fortunate to have forgiving students. Students were quickly able to pick up that it was a big experiment and didn't seem to let little problems bog them down. If they had a technical problem that prevented them from accomplishing a task, they knew that it would be resolved the following week.

Ⅷ. Results and Discussion

In this section, we return to our initial research questions and discuss what has been learned.

Research question 1: Can wireless notebooks and internet-activities be incorporated into classic desk-and-chair classroom, incorporating CALL in a non-computer laboratory?

The first question is one of technical feasibility: whether a new space/technology arrangement is possible and workable. In our case, incorporating wireless notebooks into a traditional classroom space was new for all members of the team. These "blended learning spaces" for language teaching were previously demonstrated to be highly successful and in constant demand at another university in Japan: In a field visit to the Kanda University of International Studies (KUIS) in November 2005, wireless computers used in flexible desk-and-chair classrooms were observed by one SGU teacher. The KUIS teachers were enthusiastic about the blended spaces because computers could be easily incorporated in any lesson without having to book a computer room and negotiate for its limited availability. The question raised was whether a similar technical arrangement could be duplicated at SGU.

At SGU, we found a different process for handling the Internet. While KUIS had a fixed IP wireless address, SGU used roaming connections with the Internet. In very simple terms, here was the process used to create Internet connections at the beginning of our wireless classes:

1. A computer automatically chooses the antenna broadcasting the strongest signal
2. This antenna then transmits the communication to a receiver
3. The receiver then creates a temporary IP address that allows the computer to communicate with the university's server
4. Using this temporary IP address, the user is prompted for their ID and password
5. The server checks the ID and password and, if they are correct, a new IP address is created for the computer and WWW access is granted.

This blended learning initiative was the first large attempt for teachers at SGU to attempt utilizing wireless resources in a standard classroom. Naturally, a few technical problems had to be overcome. One problem was due to the fact that the three classrooms were situated relatively close to each other. Ideally we wanted one classroom to use one antenna. Due to the classroom locations, however, one or two antennas were doing the majority of the work while the third was carrying very little bandwidth. For this reason, the class locations were changed so that the classes were separated more and each one was near their own antenna.

Even after changing the room locations, there were still some problems with stable connections due to fluctuating antenna strength. This resulted in computers switching antennas at random times. Each time this happened, students were required to type in their ID and password again in order to stay connected. While not a major problem, it did interrupt the flow of the class. This was fixed by adding a receiver hub as an intermediary between the antennas and the university server. Thus, if a computer switched antennas, communications with the primary university server were not cut off.

Research question 2: What were the responses of the students to using wireless notebooks in language learning classes?

Student Attitudes Survey: The teacher-participants in this study met and collaborated on an initial survey at the beginning of term (Pre-survey) and a final survey at the end of term (Post-survey) . The "Pre-survey" was administered in order to provide the teacher-participants with an idea of their students' background, motivation and overall orientation towards computers and English language learning. The "Post-survey" was used to examine whether any changes (positive or negative) in students' attitudes towards computers or English language learning occurred. Questions were repeated where it was felt appropriate. Other questions, specifically on the "Post-survey", were only felt relevant upon the completion of the courses. The items shown in Table 9 below are samples of some of the more salient results that were obtained.

Table 9: Student Entrance and Exit Responses

Items Numbering based on Post-course survey	**Response** Pre: n＝148 Post: n＝108
2. What is your general attitude toward computers?	Pre: 87% positive responses Post: 82% positive responses
4. Do you think you'll enjoy a computer in English class?	Pre: 52% anticipate it would be enjoyable Post: 59% said they enjoyed using computers
5. Which skills do you think can be improved? (check more than one)	Pre: Read 55%, Write 30%, Speak 21%, Listen 47% Post: Read 44%, Write 51%, Speak 22%, Listen 28%
*11. Using a computer helped me learn English.	Agree: 90.74% Disagree: 9.26%
*12. Pair work was enjoyable.	Agree: 85.18% Disagree: 14.82%
*13. English is useful for my future.	Agree: 86.11% Disagree: 13.89%
*16. The computer activities were fun and useful.	Agree: 91.67% Disagree: 8.34%
*17, English is boring	Agree: 62.03% Disagree: 37.96%
*18. English is fun and interesting.	Agree: 89.81% Disagree: 10.19%

*Sample items included only on the "Post-survey".

The results above were not separated by class and teacher, but rather compiled across all classes. This survey was only intended to provide the teacher-participants with a general idea of their students' attitudes and was not subjected to either a formal reliability or validity test. Participation in this survey was voluntary.

Items ＃2 and ＃4 curiously displayed slight changes in attitude where 5% fewer responded positively to their general attitudes towards computers while 7% more responded positively that they actually enjoyed using computers in English class. Looking closely at the nature of these two items, it is easy to see a slight contradiction in the results. Item ＃5 was particularly interesting as it divided student opinions between anticipated English skill (reading, writing, speaking and listening) improvements. While "writing" saw a significant increase (21%) between anticipated perceptions and perceived improvements, "listening" reaped a significant drop (19%) . This was somewhat conducive to the teacher-participants' feelings that perhaps more time had been spent on typing exercises at the expense of listening comprehension activities.

The "Post-survey" results were overwhelmingly positive for items ＃11, ＃12, ＃13, ＃16 and ＃18. There was a curious discrepancy noted between items ＃17 and ＃18, since 62.03% of the students agreed that "English is boring" while 89.81% responded positively to the opinion that "English is fun and interesting". One possible explanation might be that a certain percentage of

students surveyed were confused about the nature of item #17's wording. Students, who may not have been paying attention and were unaware of the inverted response scale for this question, may have just clicked the "agree" button out of habit. Nonetheless, by having some preliminary data on student attitudes, the teacher-participants were able to catch a glimpse of how students may be reacting to this new curriculum initiative.

Assessments: Each teacher chose their own method of assessing the students and giving grades. Here are the reports of each teacher, in their words, of how they assessed their students and what the students accomplished.

The assessment approach reported by all teachers in this study shows that project participation and completion was the primary assessment criteria rather than any measures of target language proficiency. This result supports the assessment principles of second language socialization (SLS) as proposed by Kramsch (2002) . The question of assessment and how to judge results needs further exploration.

Table 10: Teacher 1 Student Assessment & Grading, First Year Class, 2nd Semester

Assessment Point	Assessment Criteria
Project 1: Summer Holiday	Quality of writing and performing a "TV interview" style chat about their summer holiday. Inclusion of interesting points (e. g. anecdotes) yielded higher scores.
Project 2: Music	Number of correct answers on a 15 item "Internet scavenger hunt" about music
Project 3: Daily life	Oral quiz talking about daily and student life, including ability to use past tense, daily life vocabulary and in class basic phrases
Project 4: PPT presentation (music) with questionnaire	Following basic criteria for a "good" PPT presentation (eg, few words, big pictures). Writing a 4-point multiple-choice questionnaire about their presentation for peers to complete.
Participation	Asking questions, good use of class time, and helping others helped to increase this score. Absences reduced this score.

Table 11: Teacher 2 Student Assessment & Grading, First Year Class, 2nd Semester

Assessment Point	Assessment Criteria
Project 1: Summer Holiday Conversation Grammar focus: past tense.	PowerPoint dialogue with sound recording. Students were instructed to design a five slide PowerPoint. Slide one was to be a title page while pages two to five were reserved for students to ask each other about their summer holiday experiences. Students were instructed to ask at least two questions per slide. The purpose of this project was to practice simple past tense (What did you do during your summer holiday? What was it like?), while building descriptive vocabulary. Students were asked to add their own pictures for their slideshow. The students seemed to enjoy this exercise after a long break from school.

Project 2: Ghost Story Grammar focus: narrative tenses.	A PowerPoint storyboard slideshow with embedded sound recording. For this project, students worked in pairs to create their own ghost stories. This was tied into a Halloween theme, which included a class party. Students used SGU as a setting and were allowed to take action pictures using their cell phone cameras. Students were given a minimum slideshow length of six slides. This activity seemed to generate the most positive response from students as many students voluntarily went over the minimum guidelines set by the teacher.
Project 3: Japanese Culture Grammar focus: present/past tenses.	PowerPoint slideshow presentation. Presented orally to the class. This was a little more difficult and stressful as students were expected to present this PowerPoint orally to the class. Students found it difficult to explain some of the more detailed Japanese customs in English. This was felt to be a useful exercise since it is likely that students may have to explain something about their culture in English in the future. It was also felt to be a suitably difficult project for a final evaluation.
Attendance and Participation	Attendance and participation accounted for 20% each (total would equal 40%). Matters of attendance were fairly evident while matters of participation had to be closely monitored each class. The general rule was that students with five absences would not be awarded a credit unless they had a good reason for their absences. Sleeping and general delinquent behavior resulted in an absent penalty for the day.
Projects	Projects accounted for 60% of a student's total grade per semester. Projects were graded according to quality of completion (i.e. that the projects were completed in accordance with the assignment instructions, quality of slideshow and sound recording.

Table 12: Teacher 3 Student Assessment Criteria, First Year Class, 2nd Semester

Assessment Point	Assessment Criteria
Project 1: Summer Holiday Blog	Four posts with 3 or more sentences each, good grammar, intelligible, funny, appropriate image for each post.
Project 2: Ghost Story	One blog post with a 5-8 sentence story of a ghost story in their school or hometown. Select one representative image from internet.
Project 3: Music CD	Produce one CD of favorite songs with 12 tracks, 7 tracks of self-recorded DJ English monologue.
Project 4: Japanese Anime	One poster with 3 anime images from the web and 5 sentences. Oral report to teacher.
Attendence	Students with 3-4 absences lost 10%. Student with 0-1 absences gained 10%. Students with 5-6 absences had to do an additional assignment.

Table 13: Teacher 4 Student Assessment Criteria, Second Year Class, 2nd Semester

Assessment Point	Assessment Criteria
Project 1: Blog	Students took 3 photos with their cell phones relating to three distinct themes: animals, transportation and favorite possession. Students had to upload each photo to their blog and write 100 words about each one. Students were also evaluated based on reading other students blogs for specific information.

Project 2: Music CD	Students created a CD of a radio program. For this radio program, students first selected a theme and selected 12 songs. They then had to create a 3-sentence voice recording describing each song. Half of these introductions were place before the song allowing students to focus on future tense (i.e. "The next song will be …") and the other half were placed after the song allowing students to focus on past tense (i.e. "The last song was …").
Project 3: International Movies	Students watched a series of movie trailers and practiced describing movies. Students used the website English Trailers (www.english-trailers.com) for this project.
Project Evaluation	The assessment criteria above describes the end focus of the project. Before attempting the end focus, a series of build-up activities (often lasting several weeks) were provided aimed at familiarizing students with useful vocabulary and sentence structures that potentially could be used to complete the project. The majority of students' grades for each project were based purely on participation throughout the project. Regarding the end project, completion was actually more important than the quality. This style of grading, for the low level of students that I taught, never resulted in unfair grading because there was always a direct correlation of participation with the final quality. In other words, students who participated more *always* had higher quality projects.
Attendance	Attendance was taken into consideration for the final grade. The highest grade a student who missed two or three classes could receive was a 'B.' The highest grade a student who missed four classes could receive was a 'C.' Students missing more than four classes could not pass.

Ⅸ : Conclusion

Utilizing an institutional wireless Internet-infrastructure with support from a knowledgeable technical staff, demonstrates that wireless notebook and Internet-activities can be incorporated into classic desk-and-chair classrooms. There were, however, many differences in class operation that challenged teachers. Throughout the weekly focus group discussions amongst the teacher-participants of this study, the advantages and drawbacks of this approach were continually compared and contrasted with standard CALL room capabilities. A fixed CALL room allowed teachers and students to print out project results and resources for more convenient checking. Printer access was felt to be particularly useful during interview activities where students may have typed up an interview questionnaire in a word-processing application and then needed to print it out in order to fill in the results manually with a pen and paper. This process was not available in our wireless rooms, although students were able to move about freely and type information directly into their laptops. We often found ourselves debating which activities needed to be paper-based and which ones needed to be done online.

In addition, centralized monitoring software (Campus Esper) can freeze student computers and force attention to a teacher-led task. Whether this kind of software can be incorporated into

a wireless environment needs to be investigated. Finally, Internet-connections are more reliable with fixed computers, facilitating student self-completion of project activities. Even though wireless rooms may prove to be cost effective for educational institutions, the teachers in this study preferred the monitoring resources and stable internet-connections that standard CALL rooms were able to provide. The "Campus Esper" feature at SGU enabled teachers to monitor what their students were doing (or not doing in some cases) and also gave teachers the option to freeze computer monitors when important instructions were being announced. The issue of stable Internet-connections was a major bone of contention throughout the study. Our teaching team often felt that too much classroom time was wasted on technical issues at the expense of the actual lesson. Although these technical difficulties lessened considerably as the Internet-connections were adjusted and improved, there were always isolated problems for both teachers and students that were often very frustrating and confounding. In time and through further research, it is hoped that these issues will be both properly addressed and overcome.

On the other hand, the wireless rooms afforded movable chairs and desks that allowed cooperative learning activities such as pair-work, group-work, skits and whole class interaction. Attention directly to the teacher, rather than on computer screens was seen as an important value to maintain. Additionally, students found the wireless system allowed easy storage of files on one's own computer, a factor of convenience. The results of these discussions on Research Question ＃1 are summarized comparing the advantages or allowances within each respective learning environment in the tables below:

Table 14: Comparison of CALL Room and Wireless Room Advantages

CALL Room (using fixed PC)	Wireless Room (using laptop computers)
Printer capabilities	Moveable desks/chairs: Flexible activities
Centralized monitoring abilities	Low cost for school: student-owned
Reliability of internet-connection	Convenience for students: saving/keeping files

The second research question, relating to responses towards wireless Internet in the classroom, was answered mainly by teachers' individual perceptions of how their own students responded within their own classroom environments. While teachers felt that their students were interested and involved within these wireless teaching/learning environments, there was a concern about the depth of actual language learning and acquisition that was being achieved. Students could complete tasks and projects, but teachers were left wondering whether vocabulary and grammar acquired would transfer to other projects. In addition, often students did not

have enough language preparation to build intelligible sentences in the projects. A group decision was made to create more tasks devoted to language skill practice and vocabulary building as part of every project.

One final result of this year's study was a decision to develop and publish PBL paper-based booklets to accompany electronic-based resources. The booklets would collect handouts the teachers produced and serve as a reference guide to students who maybe absent or confused. They would also provide a single page for assessment of all tasks. This type of approach may prove to be able to merge both CALL and wireless room capabilities further and will be the focus of a new study by this action/research team.

X. References

Bailey, Kathleen M., and David Nunan (Eds, 1996). *Voices from the language classroom: Qualitative research in second language education.* Cambridge, UK: Cambridge University Press.

Beaumont, M., Coates, M., and Jones, I. (2000). Seeing if it makes a difference: A team-based approach to practioner research with language support teachers. In Beaumont, M. and O'Brien, T. (Eds.) *Collaborative research in second language education.* Stoke on Trent, UK: Trentham Books. Pp. 1-12.

Beaumont, M. and O'Brien, T. (Eds, 2000). *Collaborative research in second language education.* Stoke on Trent, UK: Trentham Books.

Berwick, R. & Ross, S. (1989). Motivation after matriculation: Are Japanese learners after examination hell? JALT Journal, 11, 193-210.

Bossaer, A., Hinkelman, D., and Miyamachi, S. (2002). Feasibility of Students Using Presentation Software in University English Communication Classes. Journal of the Society of Humanities, Sapporo Gakuin University. Vol. 71, pp. 95-128.

Bossaer, A. and Hinkelman, D. (2001). Technical Difficulties in the Application of Presentation Software to University EFL Speech-making Classes. JALT Hokkaido 2001 Proceedings, pp. 21-28.

Burns, A. (1996). Collaborative Research and Curriculum Change in the Australian Adult Migrant English Program. *TESOL Quarterly, 30* (3), pp. 591-598.

Burns, A. (1999). Collaborative Action Research for English Language Teachers. Cambridge: Cambridge University Press.

Burns, R. B. (2000). *Introduction to Research Methods.* NSW: Pearson Education.

Cochran-Smith, M. & Lytle, S. L. (1990). Resea rch on teaching and teacher research: The issues that divide. *Educational Researcher, 19* (2), 2-11.

Eklund, J., Kay, M. and Lynch, H. (2003). E-learning: emerging issues and key trends. Australian National Training Authority. http://flexiblelearning.net.au

Ellis, R. (2003). Task-based language learning and teaching. Oxford: Oxford University Press.

Hinkelman, D. (2005). The Emergence of Blended Learning: An End to Laboratory-based CALL, JALT Hokkaido Journal. Vol. 9, pp. 17-31. December 2005. Available from: http://jalthokkaido.net/html/jh%20journal/2005%20files/2005_issue.htm

Hinkelman, D. and Grose, T. (2005). Placement testing and audio quiz-making with open source software. *PacCALL Journal.* Volume 1 No. 1, Summer 2005, Pp. 69-79

Kemmis, S. & McTaggart, R. (eds.) 1988. *The Action Research Planner.* 3rd ed. Geelong, Australia: Deakin University Press.

Kramsch, C. (2002) . Introduction: How can we tell the dancer from the dance? In C. Kramsch (Ed.) *Language acquisition and language socialisation: Ecological perspectives* (pp. 1-30) . London: Continuum.

Lewin, K. (1952) . 'Group decision and social change' in eds T. Newcomb & F. Hartley, *Readings in Social Psychology*. New York: Holt.

Long, R. W. (1997) . 'Investigating and Responding to Student Attitudes and Suggestions For Course Improvement' *The Language Teacher*, 21 (10) . Retrieved on from: http://jalt-publications.org/tlt/files/97/oct/long.html

McNiff, J. (1988) . *Action Research: Principles and Practice*. London: Routeledge.

Meskill, C. & Ranglova, K. (2000) . Sociocollaborative language learning in Bulgaria. In M. Warschauer & R. Kern (eds.) *Network-based Language Teaching: Concepts and Practice*. Cambridge: Cambridge University Press. Chapter 2.

Moursund, D. (2003) . *Project-based Learning: using information technology* (second edition) . Eugene, Oregon, U.S.A.: ISTE publications.

Richards, K. (2003) . *Qualitative Inquiry In TESOL*. New York: Palgrave Macmillan.

Sharma, P. and Barrett, B. (2007) . *Blended learning: Using technology in and beyond the language classroom*. Oxford: Macmillan.

Skehan, P. (1989) *Individual Differences in Second-Language Learning*. London: Edward Arnold.

Skehan, P. (1998) . A cognitive approach to language learning. Oxford: Oxford University Press.

Tsui, A. (1996) . 'Reticence and anxiety in second language learning'. In K.M. Bailey & D. Nunan (eds) *Voices From the Language Classroom*. Cambridge: Cambridge University Press.

Vella, J. (2000) . *Taking Learning to Task: Creative Strategies for Teaching Adults*. California: Jossey-Bass.

Warschauer, M. & Kern, R. (2000) . Introduction: Theory and practice of network- based language teaching. In M. Warschauer & R. Kern (eds.) *Network-based Language Teaching: Concepts and Practice*. Cambridge: Cambridge University Press. Chapter 1.

Widdows, S. & Voller, P. (1991) . PANSI: A survey of the ELT needs of Japanese university students. *Cross Currents*, 18 (2) , 127-141.

無線インターネット環境でのノートパソコンによる混合型言語学習と，プロジェクトベースのアプローチ

要　約

本稿では日本の大学の１学部において４人の英語教員（EFL 教員）によって行われた第１回共同実地研究調について論じる。調査した学部では全学生が無線 LAN 環境のノートパソコンを携帯している。この無線 LAN 環境のノートパソコンは，以前は英語コミュニケーションの授業において使用していなかった。しかし教員らはインターネットを利用した課題型学習は学生の英語学習への興味を刺激するのに重要な役割を果たすであろうと予想した。この傾向は英語力が低くあまり英語へ興味がない技術系の学部の学生などにも当てはまるのではないかと考えた。無線 LAN 環境のノートパソコンを授業に導入するにあたり，有効なオンライン情報源を適宜紹介し，有意義な言語学習課題を提供することを共通目的とした。又，従来の教室における LAN 環境導入という技術の向上が，教育方法や学習方法の向上につながることを明らかにすることを目標とした。学生へのリスニングやスピーキングの課題は、教員が組織だって計画し，目的に沿った課題を提供するよう努めた。研究計画は，バーンが提唱する調査研究のモデルを採用した。研究結果と学生の任意参加で行われた定期的なアンケート調査で明らかになった学生の反応について述べる。まず，インターネット対応多目的教室（blended learning classroom）におけるプロジェクト学習に関する利点と改善点について述べる。又，オンライン活動を充実させ，プロジェクト学習用の教材を教員が各自作成したことがこのプログラムの成功の主要な要素であった点について論ずる。最後に研究結果の意義と今後の研究の可能性について述べる。

キーワード：英語教育，CALL，E ラーンニング，インターネット対応多目的教室，無線 LAN，共同実地研究，プロジェクトベースのアプローチ

（ケイ・ウィリアム　本学人文学部外国人講師　英語教育）
（ゲメル・パル　本学人文学部外国人講師　英語教育）
（ジョンソン・アンドリュー　本学人文学部外国人講師　英語教育）
（ヒンクルマン・ダン　本学人文学部准教授　英語教育）