Development and Evaluation of English Listening Study Materials for Businesspeople that Use Mobile Devices: A Case Study

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This study aims to verify the effectiveness of English language material using mobile devices for businesspeople in terms of the effect on 1) motivation, 2) overall learning performance, and 3) practical performance in real business situations. We compared the use of materials developed from business English used in a sales department in a real company environment, using two cohorts of learners, one from the sales division and the other employees. The results showed that this material was effective on the enhancement of motivation in both employees. Moreover, the test scores of both cohorts in terms of overall learning performance increased after learning with this material. However, the learners engaged in sales positions recognized the effectiveness toward output activities, such as speaking, in their business more than that of non-sales personnel, as a result of the proximity of the materials to their business.

1. Introduction

1.1. Background

Given recent economic and social globalization, interest in the practical proficiency of foreign languages is increasing day by day. For English, a language used worldwide, the focus is now on the ability to use the language in actual communication as a practical English skill as well as the mastery of knowledge-based grammar and vocabulary. In the realm of business, there is a trend to cultivate English communication abilities that prove useful in negotiating situations and other business activities. This trend is spreading in non-English speaking countries (Nickerson, 2005).

However, even for those graduating from university or college, most companies treat the improvement of employees' English skills as an important topic, likewise the higher education institutions, and there are more and more cases where they implement tests to assess the objective English ability of newly graduated employees, such as the Test of English for International Communication (TOEIC), at the time of an employment offer or on joining the company. In addition, the "Global Strategy" released by the Council on Economic and Fiscal Policy in May 2006 clearly states the aim to double the number of people who can handle business communication in English by 2010, to achieve stronger international competitiveness in human resources (Council on Economic and Fiscal Policy, 2006). Nevertheless, the reality is that the average TOEIC score for new employees in the fiscal year 2006 was 466, representing a significant gap between this and the score 730 (Level B) required for overseas deployment (TOEIC Steering Committee, 2006).

Many different educational institutions conduct practical communication education, including listening comprehension and articulation, in addition to general English studies such as grammar, vocabulary, and reading. Common workers who are employed by companies and other organizations must be able to use foreign language and perform their corporate operations. Therefore, the learning contents should be carefully selected to make that possible. However, in conventional English education, study materials and programs have centered on language learning and thus have been isolated from business operations (Naitoh et al., 2006). In fact, a survey conducted by Koike (2007) targeting 7,354 corporate employees revealed that, when communicating with a foreigner on the topic of their specialty, more than half could not understand completely what the other was saying and 35.4% of the employees could only understand less than 40% of what was being said. As such, with regard to practical English skills, the listening ability is, in particular, acknowledged as a problem by the employees themselves in Japan, and they recognize the need to acquire practical English skills that can be applied to their own work (Koike, 2007).

In this study, targeting workers employed by companies, we developed and evaluated study material that serves the purpose of improving listening skills, acknowledged by workers as a problem in Koike et al.'s survey, among the practical English skills useful for employees in their execution of business operations.

1.2. Design of English Listening Materials for Workers

Given the above, when developing English listening materials specialized for the purpose of improving the employees' abilities in corporate English-related operations, "What topic should be listened to and how" needs to be considered.

The answer to the first question "What topic should be listened to" is what is heard in the living sphere the learner is frequently exposed to. For instance, if the learner is a university student, the subject would be what is heard in classes, clubs, and part-time jobs. For workers, it would be the work they do in their companies. In this regard, the English for Specific Purposes (ESP) materials must be considered (Gilmore, 2007).

In relation to the other question "how should it be listened to," it is insufficient to just give the contents to learners to hear as audio information. The listening skill for a foreign language is difficult to acquire for learners, and thus in the light of improving listening skills, the materials themselves must be designed in such a way that they have a structure for how the contents are to be heard and studied (Field, 1998). The listening comprehension teaching method can be referenced for such design (Bastukmen, 2006).

1.3 English for Specific Business Purposes

Practical English ability means, in terms of English education, an ability that can achieve goals through the use of English in relation to the specific purpose or occasion for using English (Hutchinson & Waters, 1987). To develop a practical English ability, ESP (English for Specific Purposes) education is implemented as English education tailored to the specific purpose of using English (Dudley-Evans & St. John, 1996). In particular, as a part of self-development, materials targeting corporate workers such as those relating to MBA preparations and those that deal with marketing negotiations have gained increased attention in companies regarding the development of practical English abilities. This type of English education for business is called English for Business Purposes (EBP). In recent years, EBP materials have attracted much attention and are rapidly increasing in number. Among EBP materials, such materials that develop English ability based on the use of knowledge or skills in a certain line of work with the English usage situation in the business operations of the learner are categorized as English for Specific Business Purposes (ESBP) materials (Dudley-Evans & St. John, 1996).

However, though named "specific," the range of Specific Business Purposes is broad. For instance, English in the business operations of a particular company can be called ESBP and the English in the operations of a certain division in a company can also be called ESBP. Therefore, a more detailed consideration is needed for the development of effective ESBP materials that cultivate practical English ability for use in business operations. In considering the specifics, the focus should be on the association between the authenticity of materials and the learner.

1.4 The Authenticity of Materials and the Relevance between the Material and the Learner

Authenticity is one of central factor for designing learning material in ESBP. Ellis (2003) advocates that whether the material reflects the activities in the actual society determines the authenticity in foreign language education. Muranoi (2006) upholds the argument, referring to "whether it is spoken and written in language usage situations in actual society" as an important element in enhancing authenticity in foreign language education.

Previous research (e.g. Field, 1998; Herron et al., 1995) has indicated that authenticity in foreign language education improves the foreign language abilities of learners. Specifically, the use of background knowledge is suggested to have an effect on the improvement of learners' skills. Especially for listening comprehension, background knowledge is an "important informational source for comprehension" and it is claimed to be effective (Anderson & Lynch, 1988). Specifically, comprehension proceeds as a combination of bottom-up processing and top-down processing. In bottom-up processing, comprehension is built up from smaller linguistic units (phoneme, word, etc.) to larger units (clause, sentence, passage/paragraph). In top-down processing, comprehension proceeds from prediction and inference based on the common knowledge of the listener (schema) and the context. The use of a learning method that takes advantage of the use of background knowledge in top-down processing affects the improvement of learners' skills. (Field, 1998). Herron et al. (1995) conducted examinations on the efficacy of highly authentic materials in French classes for one semester, and presented the result of a

significant rise in post-semester test scores in listening and writing. As such, it has been demonstrated that highly authentic materials contribute to the development of language ability.

However, it must be reiterated that the above research was conducted in a framework of school education. In case of school education, common scenes from everyday life can be assumed as the situation the learned language will be used in. When considering materials for workers, who are the subjects of this study, not only the "authenticity" explained above but also the "association" between the content of materials (story, etc.) and the learner must be contemplated (Muranoi, 2006).

With regard to the association, Breen (1985) points out the authenticity from the learner's perspective. The point here is whether the material reflects the learner's extant knowledge, interest, and curiosity, and the viewpoint is to examine authenticity from the association between the learner and the content of the material. Schmidt-Rinehart (1994) examined the effect of the learner's affinity with the listening content and that such effect varies with the learner's degree of proficiency. Listening material in which Spanish native speakers are talking about Spanish-speaking universities was used as a material closely related to the learners, and a section from a novel which the students have no preceding knowledge of was provided as a listening material with little relation to the learners. Before and after the listening material was provided, the recall rate of vocabulary and expressions included in the listening materials was compared. As a result, irrespective of the degree of proficiency, the recall rate for the listening material closely related to the students was higher. Similarly, Dőrnyei (2001) proposed analyzing the needs of the learners and providing content that activates the background knowledge of the learners as a method of enhancing learning motivation.

However, many conventional business English materials handled situations differing from the operational activities of the learner (Naitoh et al., 2006). Nickerson (2005) points out that many materials intended for business English education handle telephone correspondence, business letter writing, and other business-related work commonly encountered in business situations. The findings from learning science also suggest that studying English in a manner isolated from everyday work would produce "inactive knowledge" (e.g., Bransford, 1998) and thus would not be likely to contribute to the improvement of practical business English ability.

1.5 Listening Comprehension Teaching Method

The other important element to be considered in developing an English material specialized for the employee's use in business operations is the listening comprehension teaching method. Listening comprehension accounts for 40–50% of linguistic communication in daily life, constituting the core of linguistic activity (Rivers, 1981; Oxford, 1993).

There is a widening recognition that listening comprehension, likewise reading comprehension which has the same comprehension process, is not simply a meaning-reception process, but rather a process that actively establishes a meaning, aided by the pre-existing knowledge of the listener (Long, 1989; Rost, 2001). As previously mentioned in 1.4 , it is commonly understood that comprehension proceeds in a combination of bottom-up processing where comprehension is built from smaller linguistic units (phoneme, word, etc.) to larger units in order (clause, sentence, passage/paragraph) and the top-down process where comprehension proceeds on the leads of prediction and inference based on the common knowledge of the listener (schema) and the context (Long, 1989).

In recent years, a teaching method that makes learners aware of the two processes, bottom-up and top-down processing in the form of listening comprehension strategy, is coming to be widely used (Mendelsohn, 1994; Numan, 2002; Yokoyama, 2005). A listening comprehension strategy is a "conscious plan used by learners when connecting phonetic language with comprehension, particularly when

compensating for incomplete input or partial understanding (Rost, 2001). Mendelsohn (1994) and Field (1998) propose a course design with instructions on strategies considered to be used by efficient listeners as the core of the listening comprehension class, and recommend teaching the students to consciously use the top-down processing to the maximum extent and to compensate by bottom-up processing when necessary. First, the pre-listening action plays an important role in promoting top-down processing, and is required to "motivate the learner" and "promote the use of the learner's pre-existing knowledge." In listening, it is important for learners to "listen with the awareness of purpose" and the questions need to be given before listening so that the appropriate strategy that complies with the purpose can be used. Furthermore, in order to make the experience more similar to real-life communication, it is argued that it is important to have post-listening action as a response to what was heard, instead of simply listening.

Yokoyama (2005) further specified the listening comprehension strategy instruction as the "listening comprehension instruction that focuses on process" and reported on the effects of the listening comprehension teaching method in classroom scenes in which the listening comprehension process-supporting strategies were actively introduced as follows: It is important for learners to be aware of the six strategies of (1) listening with the purpose in mind, (2) listening while predicting, (3) responding to what was heard and understood, (4) presuming the parts that were not understood, (5) verifying the results of prediction and presumption, and (6) asking about the parts that were not understood, and monitoring their own comprehension. The efficacy of a listening instruction using this listening comprehension strategy is increased by the use of highly authentic materials as referred to in 1.3.1 (Bacon, 1992).

Based on these findings, this study combines Yokoyama's (2005) listening comprehension strategy teaching method with the three stages of pre-listening, listening, and post-listening, and designs an English listening material that focuses on top-down processing, bottom-up processing, and monitoring.

1.6. System

Today, mobile devices such as cellular phones and PDAs are commonly used in Japan. Their use is not limited to calling and emailing, but also includes Web browsing, camera, and TV, and they are utilized broadly as a multi-purpose tool. Cellular phones, in particular, have a rate of household ownership of 85.3% (Japan White Paper on Information and Communications, 2006), which is 17% more than the 68.3% for personal computers, demonstrating their importance in civil life as a vital living tool.

By using this tool which allows for information collection and communication regardless of time or place, the owner can now obtain the desired information at his or her convenience. This also applies to education, where the learner can now study at any time, anywhere; in particular, this tool seems to promote learning outside the classroom (Chinnery, 2006; Naismith et al, 2004). Mobile technology can be a major educational tool that can cover a broad range of uses, from complementing computer-based or face-to-face materials to acting as a primary learning tool integrated with other materials which can help boost learners' frequency of studying (Roschelle, 2003). Price et al_(2004) suggested that mobile devices can be effective as learning devices by promoting interaction with the real world due to their frequent use in ordinary life.

These features have generated growing interest in the use of mobile devices in foreign language learning. Krashen (1985) argued that the amount of input in a classroom setting was insufficient for foreign language acquisition, suggesting the necessity of learners selecting additional foreign language input on their own; particularly in settings such as Japan where learners have few opportunities to use foreign languages outside the classroom, mobile devices can be effective in providing additional learning opportunities.

Thornton and Houser (2005) conducted comparative research concerning the effect of mobile

devices on foreign language learning acquisition. They distributed vocabulary study materials through mobile phone email to learners in the experimental group, evaluating learning time and student preferences as compared with the control group which used paper-based material. They found that learners in the mobile phone group spent more time studying than the control group, and suggested that mobile phones were a preferable platform to personal computers for foreign language study.

Levy and Kennedy (2005) also suggested a positive effect of mobile phones on learning performance in a study using SMS for Italian vocabulary acquisition. In their research, an SMS system repeatedly sent questions which asked the usage and meaning of vocabulary, and learners replied to these messages with their answers. The results of their research suggested that learners seemed to be satisfied with this system, and the system promoted continued learning out of class by connecting the system's questions with the class syllabus.

In Japanese companies, the approach to English education of employees has changed from corporate training to demanding self-development of employees, relying to a significant extent on the self-learning of the individual employees (TOEIC Steering Committee, 2006). However, despite the fact that 90% of workers feel the need for self-development, no more than 50% of them actually conducted such learning, many finding it "impossible to find the time for self-development (too busy)" (Economic Planning Agency of Japan, 2000). This implies that the barrier preventing busy workers from conducting self-development is not easily lowered or eliminated. Considering such social background, this study carried out the development of a system that can be run on a mobile device—"Narikiri English! ("Narikiri" means to "be in the role")"—for continuous learning, making use of the niche time between business operations such as while commuting or on the way to a client.

1.7 Purpose of this Study

In this study, in cooperation with the steel manufacturer whose employees are the subjects of evaluation, ESBP material closely related to the sales personnel employed at that company is developed and is subject to evaluation regarding its effectiveness. The criteria for evaluation are the following three points:
1) Effect on improving the English listening ability of employees who used this material
2) Effect on improving the English listening ability of employees closely associated with the content of the ESBP material
3) Effect on the business operations of employees closely associated with the content of the ESBP material.

For criteria 1 and 2, English listening tests are given in the pre-listening and post-listening stages, and the score difference is evaluated. For criterion 3, we conducted a survey using a questionnaire, on the effectiveness in business operation performance two months after studying with this material. Furthermore, we compared the employees who have close relations to the content of the ESBP material and those who do not, i.e., sales personnel and non-sales personnel for criteria 2 and 3.

2. System and the ESBP Material Development
2.1. Considerations on the Content of ESBP Material

The ESBP material we developed in this study "Narikiri ('Act' in) English!" aims to improve the workers' English listening ability required in performing business operations, in line with the English usage situation of the learner. Therefore, the content was set to "work encountered every day by the learner" as the English usage situation. Specifically, it consists of "scenes likely to be encountered in the future in the process of work at the company." The story structuring and material creation were conducted in a joint effort with the

operational manager and HR representative of Company A, a company in the steel industry, where the learners who are the subjects of this study are employed. Specifically, a Japanese steel company was assumed as the company where the actual practice will take place, and the story structure of the material took on the setting of performing export sales to overseas companies. To be more precise, the story was "to export and distribute products to a transport aircraft manufacturer in Thailand" which is an actual business operation of Company A. Table 1 shows the story in the material used in this study. The content of the material postulates the English usage situation in the sales operation, so it is closely related to learners engaged in sales operations at this company.

Table 1 Three-week storyline of this practice

No.	Storyline
1	Welcome to Thailand: Details about present-day Thailand and the current operation
2	Overview of coil center: Receive explanation about the processing capability of the local Thai coil center where steel is processed
3	Explaining your company: Explain the profile of Company A to the people at the coil center
4	Talking about business conditions: Details about the recent state of the steel industry
5	Inventory at coil center: About the inventory for each company, kept at the coil center
6	Processing capacity of coil center: About the steel processing capacity of the coil center
7	Lunchtime (Business conditions in Thailand): About the overall business conditions in Thailand
8	Learning about competitor activities: About information on the competitors of Company A
9	A talk with a customer: Greetings to Company A's customer and about the introduction of sales
10	Explaining the current market conditions: A presentation about the international steel market
11	Lunchtime (Restructuring the steel industry): About the restructuring of steel industry Company A is faced with
12	Listening to the requests of the customer: Details about the customer's request
13	Negotiating price: About the customer's request for price cuts
14	Explanation on high quality of company A products: An explanation on the advantages of Company A products
15	Lunchtime (Business circumstances in Thailand): About business circumstances in Thailand, Thai business style, etc.

In the material used in this study, the goals for the listening study were set based on consideration of the communication role of the listener in each scene, i.e., whether "the situation requires only the comprehension of the information the other is giving" or "the situation requires some kind of response as a listener." One of the important elements for the improvement of listening ability for learners is to be aware of the situation where the language they are learning is to be used, while they are in the process of learning (Eastman, 1991), one of the points overlooked in the conventional designing of listening materials (Field, 2008).

2.2 Structure of the Utilized Listening Material

The material used in the actual practice of corporate training in this study takes a three-stage structure of pre-listening, listening, post-listening based on the listening comprehension teaching theory (e.g. Anderson & Lynch, 1988; Field, 1998; Mendelsohn, 1994). Specifically, pre-listening serves the purpose of activating the learner's background knowledge. In this stage learners engage in preparatory activities for efficient listening study, such as checking background knowledge in a quiz form and looking up the meaning of important terms vocalized in the listening material beforehand. In the listening stage, exercises for understanding the main idea of the listening content and listening for details such as numbers are provided. In the post-listening stage, exercises that deal with the processing of the content heard and comprehended are

offered, including questions that ask for the correct order of vocabulary in a sentence that relates to the key point. In addition, exercises that provide the script of the entire listening content in which learners are expected to reflect back while listening to the material are also provided. The details of the structure are shown in Table 2. The listening contents are provided as a video. Each video unit is studied in one day according to the learning process shown in Table 1. The duration of each individual unit is about two minutes. Table 2 shows the relationship between the structure and purpose of this material and the listening comprehension teaching method.

Table 2 Relationship between the structure of this material with goals of each stage and the listening comprehension strategy

Material structure			Goal of each stage	Listening comprehension teaching method		
				Top-down	Bottom-up	Monitoring
Pre-listening	1	Today's goal	To understand the purpose of listening and the role of the listener			
	2	Do you know?	To activate background knowledge for the aid of predicting what is going to be said			
	3	Today's keywords	To understand the minimum keywords required for comprehending the content		○	
Listening	4	Trial listening	To listen once before starting the exercises for self-evaluation			
	5	Rough listening	To get the key points through listening to the entire content (understanding the main idea)			○
	6	Catch listening	To catch the words and phrases necessary for comprehension			○
	7	Thorough listening	To catch details accurately			○
Post-listening	9	Reinforcement vocabulary study	Review the words and phrases related to the content			
	10	Today's summary	To organize what the learner heard and create memos in English			
	11	Good night listening	To self-evaluate by looking at the English script and Japanese translation			

: Strategy whose use is supported   ○: Strategy whose use is complementarily supported

2.3 System Development

It is required to develop learning environment for business people to learn business matter in niche time between their business engagement or in commuting, because they have a limited time for their self-development for their career in Japan. Thus, device for the use is important factor whether the learning environment on the device selected enhances effect on their learning, considering the design of learning environment for business people. In selecting the device, we considered the following three requirements:

(1) A device that can present the necessary materials (video, audio, questions, multiple choice answers, etc.) for each of the three stages (pre-listening, listening, post-listening) in listening comprehension

instruction, and that permits flexible and easy development of materials.

(2) A device that supports continuous learning by learners through making use of niche time, and that can record and save learning progress data (learning history and scores) in detail.

(3) A device that can stably play video and audio for listening exercises, and that can interact with the learner.

Given the above three requirements, we adopted Willcom, Inc.'s Smart Phone "W-ZERO3", which has 640 px * 480 px touch panel display. This system takes on a client-server configuration. Figure 1 displays the figure of W-ZERO 3".
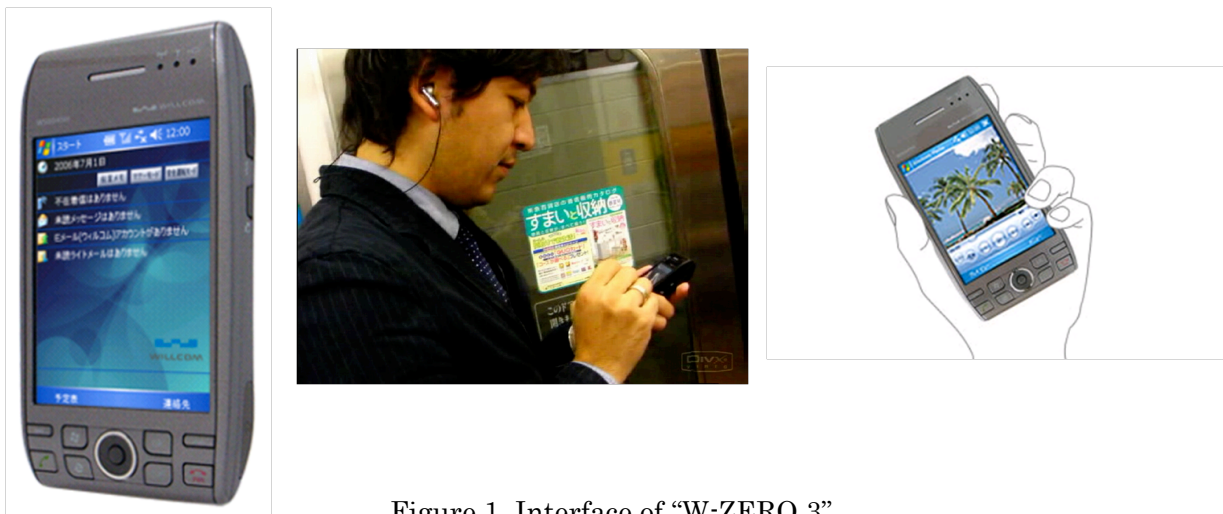

Figure 1. Interface of "W-ZERO 3"

The server side consists of a Web server and a database server. The server side is developed with PHP and uses the Apache web server with PHP module, and performs logging and progress management of learners. The client software is developed in Adobe Flash™ and Action Script, and can be used on web browser with the Flash™ Player plug-in. System architecture is displayed in Figure 2.
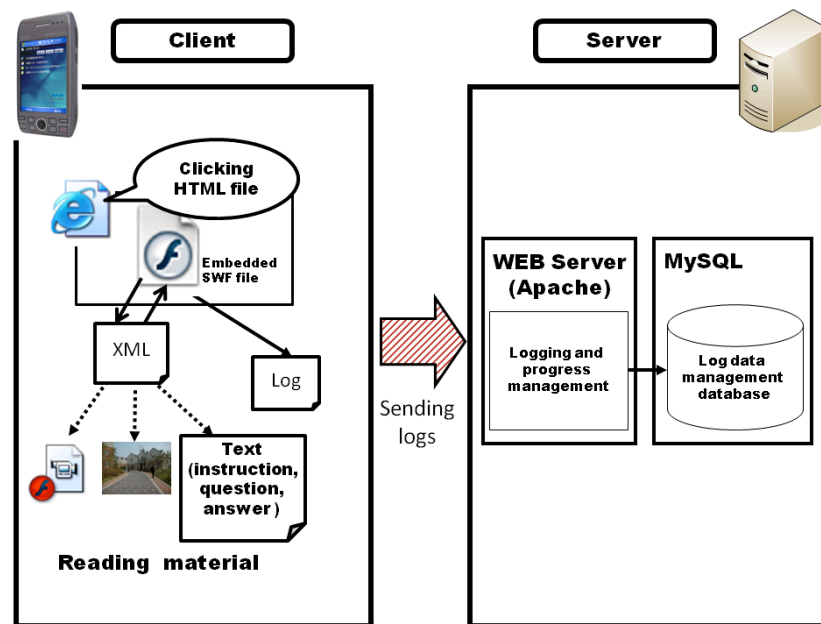
Figure 2: System architecture of "Narikiri English!"

The following describes the six major client functions:

(1) Video player: The English listening material can be played by the video player for study purposes in client side. This function consists of two parts. One is video player, the other is instruction and question area. All files including video file (flv format), image file, audio file and XML file which describes material structure and text material was installed in advance.

(2) Question part: This system offers several types of question without video material such as "putting words in correct order" and "matching "(see Figure. 1).

(3) Feedback: Learners can see learner's own score at the end of the course (after stage 11 in Table 2). Feedback function displays in four criteria in cobweb chart; understanding main idea, listening comprehension, comprehension of details, and vocabulary.

(4) Editing the materials is made easy by controlling the content structure and the included information using XML. This makes it possible to control the configured order of video and audio to play, as well as questions, multiple answers, standard scores, correct answers and display of materials, and the length of time questions and answers are displayed for.

(5) Logging and progress management function: Tracking learning progress data (the latest part which the learner has studied) on both the local flash memory on the client side and the server makes it possible to easily stop and resume studying when using short niche times to study.

(6) The learning history data (input information answered by the learner) is matched with standard scores and correct answers managed in XML, in which appropriate feedback information can be presented in keeping with the listening comprehension teaching process.

The basic interface of "Narikiri English!" is shown in Figure 3 below.

3. Method
3.1 Details of Practice in the Training Program

As regards recruiting participants for the training program, we sought applicants through the HR representative of the steel manufacturing company to take part in the program as a part of the company's

employee education. By recruiting applicants, we collected learners who are motivated to learn. In addition, the participants were instructed to complete their studies as this was part of corporate training. Forty-seven workers employed at the company applied, out of which 39 were subject to data analysis (19 sales personnel, 20 non-sales personnel), given that some applicants could not later participate in the tests due to personal reasons such as too busy work schedule.

The flow of training and data collection is subsequently explained.

First, the participants were gathered at the training center to respond to a pre-training query sheet and take a preliminary test. Then an explanation on how to use the materials was given. The duration of the training was three weeks. After completing the training, the learners were again gathered at the training center to respond to a post-training query sheet and take a post-training test. Two months after the completion of training, via the HR representative, a query sheet asking about the learned content and business operations was distributed to the 39 employees who had been subject to data analysis. We requested that this query sheet be answered and returned in approximately two weeks. As a result, we received responses from 23 employees (11 sales personnel, 12 non-sales personnel). Using the data obtained from the practice in this training, for this study, the cases of learning by learners with affinity to the content of the material (sales personnel) and the cases of learning by learners with little affinity to the content of the material (non-sales personnel), mentioned in 2.1 were compared to review criterion 3, mentioned in 1.6.
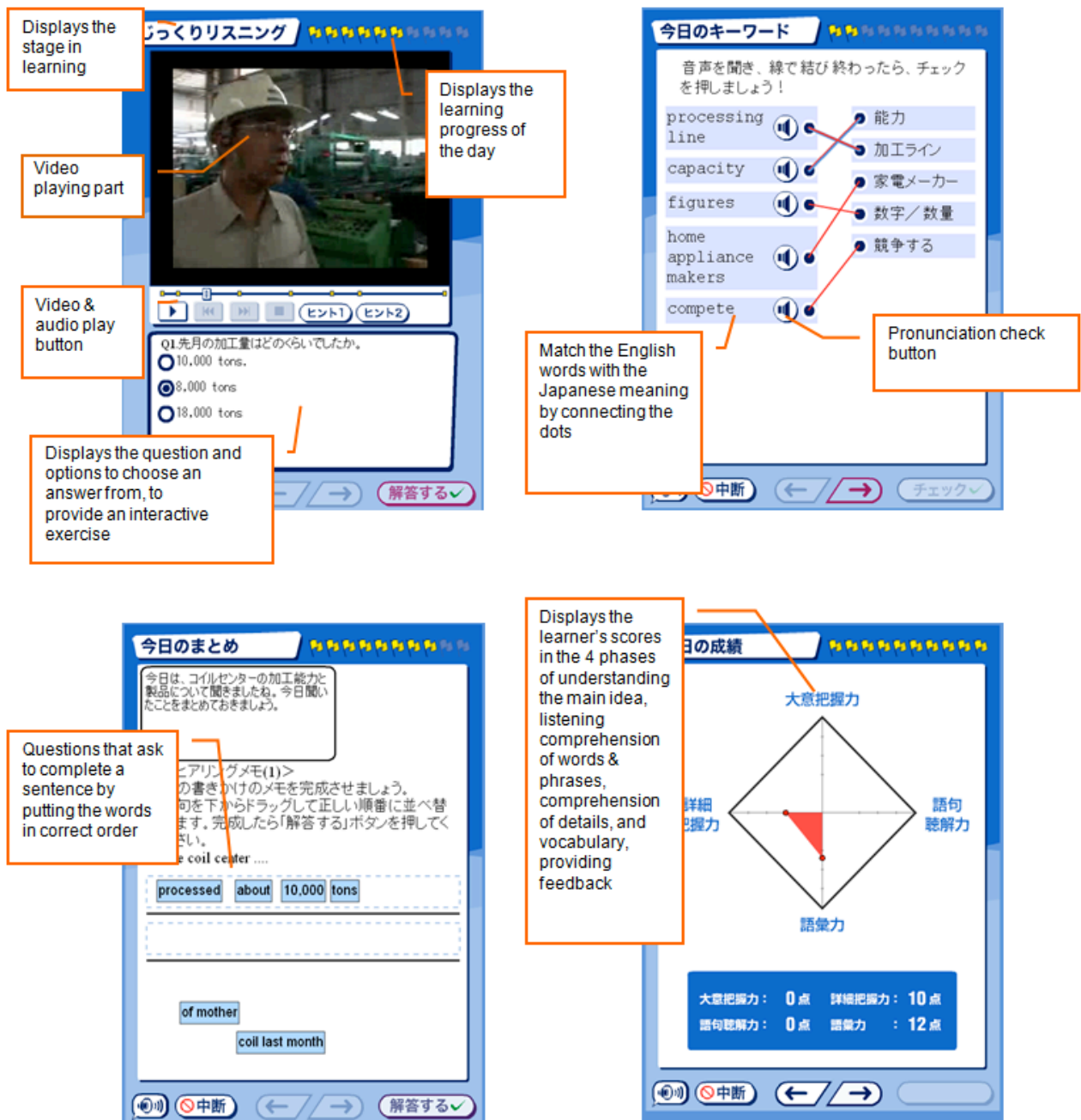
Figure 3 Basic interface of system

3.2 Listening Test

Two kinds of listening tests were used, namely, a general English listening test and an English listening test adapted to the material, to examine criterion 1 "Effect on improving the English listening ability of employees who used this material" and criterion 2 "Effect on improving the English listening ability of employees closely related to the content of the ESBP material." For the general assessment of English ability, 34 listening questions from GTEC (Global Test of English Communication) implemented by Benesse Corporation were used.

The English listening test adapted to the material was an original test. The questions in the test referred to scenes not included in the material used in this practice, but handled proximate operations, assessing the understanding of the main idea and details of the listening content. Eighteen questions asked for the main idea, with a full score of 18, and three questions asked about details, with a full score of 12.

3.3 Effectiveness in Actual Performance of Operations

In order to examine whether this material was effective for the learner in performing his or her current operations, a query sheet-based survey was conducted twice, immediately after completing the training and two months after the completion of training.

The query sheet for the survey immediately after the training consisted of seven questions. The questions concerned the expectation for effectiveness, asking whether the vocabulary, expressions, and contents learned from the material are useful for use in the business operation of the learner. Each question was to be answered on a scale of five, with 5 being "Very much agree," 4 being "Agree," 3 being "Neutral," 2 being "Don't agree," and 1 being "Don't agree at all."

The query sheet for the survey two months after the training consisted of eight questions. These questions concerned the subjective effectiveness, including whether the learner was able to use vocabulary and expressions learned from the material and whether the learned content was useful in English usage in business operations. Each question asked for an answer from two choices of "If anything, yes" and "If anything, no."

4. Result
4.1 Learning Effects

To examine the effects of this material, the results of the general and original listening tests before and after the learning period were analyzed in relation to criterion 1 in the section 1.6. Similarly, the difference between non-sales personnel and sales personnel regarding criteria 2 and 3 was analyzed.

4.1.1 General English Listening Test

With regard to the result of the general English listening test, both sales and non-sales personnel scored higher after the training when compared to before the training (Sales: $Z=-2.44$, $p<0.05$ / Non-sales: $Z=2.71$, $p<0.01$). However, as a result of the Wilcoxon rank-sum test, no significant difference was found between the two groups ($Z=0.51$, n.s.), concerning the difference in scores before and after the learning period. The details of the analytical result are provided in Table 3.

4.1.2 Test Adapted to the Content of Material

Both sales and non-sales personnel scored higher in the post-test than in the pre-test, for the scores for the understanding of the main idea (Sales: $Z=-3.74$, $p<0.001$ / Non-sales: $Z=-3.93$, $p<0.001$). Similar result was found for the understanding of details, with both sales and non-sales personnel scoring higher in the post-test compared to the pre-test (Sales: $Z=-3.25$, $p<0.01$ / Non-sales: $Z=-1.72$, $p<0.10$).

Furthermore, a Wilcoxon rank-sum test was conducted with the sales/non-sales personnel as independent variables and the difference between the scores in the pre-test and post-test for the understanding of main ideas as dependent variables. The result showed no significant difference between the two groups ($Z=0.58$, n.s.).

The same test was conducted for the understanding of details, and no significant difference was found between the groups ($Z=-0.86$, n.s.). Detailed analysis result is shown in Table 3.

Table 3 Results of the general English ability test and the tests
for assessing the understanding of the main idea and details

		Non-sales (N =20)			Sales (N = 19)			Rank-sum test (non sales - sales)
		Average	Median	SD	Average	Median	SD	
GTEC	Pretest	128.05	125.50	19.86	123.47	122.00	16.08	
	Posttest	135.70	131.50	20.14	132.84	129.00	19.53	
	Difference	7.65	7.50	11.19	9.37	10.00	13.80	Z = -0.51 n.s.
Pre – Post	Signed rank-sum test	Z = -2.71 **			Z = -2.44 *			
		Non-sales (N = 20)			Sales (N = 19)			Rank-sum test (non sales - sales)
		Average	Median	SD	Average	Median	SD	
Ability to grasp the gist(Original)	Pretest	8.70	8.00	3.29	8.68	9.00	2.58	
	Posttest	13.65	15.00	2.30	13.94	14.00	2.29	
	Difference	4.95	5.00	2.50	5.28	5.00	2.05	Z = -0.58 n.s.
Pre-Post	Signed rank-sum test	Z = -3.93 ***			Z = -3.74 ***			
		Non-sales (N = 20)			Sales (N = 19)			Rank-sum test (non sales - sales)
		Average	Median	SD	Average	Median	SD	
Ability to catch detailed information (Original)	Pretest	6.60	8.00	4.16	5.89	4.00	3.09	
	Posttest	9.00	8.00	2.87	9.33	8.00	2.74	
	Difference	2.40	2.00	5.26	3.56	4.00	3.60	Z = -0.86 n.s.
Pre - Post	Signed rank-sum test	Z = -1.72 +			Z = -3.25 **			

***: p < .001, **: p < .01, *: p < .05, +: p < .10

4.2 Effectiveness on Real-life Operations

In order to examine the effects of highly relevant learning materials on English usage under actual English usage situations, we performed analyses on the learners' expectations regarding effectiveness and the subjective effectiveness after two months.

4.2.1 Expectations of Effectiveness on Real-life Operations

With sales/non-sales personnel as independent variables and the responses to questions concerning expectations of effectiveness on real-life operations as dependent variables, a Wilcoxon rank-sum test was performed (there are data for 18 sales personnel as data for 1 sales personnel was missing). As a result, a significant difference was found in all questions, between learners engaged in non-sales operations and learners engaged in sales operations, regarding the expectations of the learned content's effectiveness on

English usage in real-life operations (Table 4). In all questions, learners engaged in sales operations showed a higher expectation of the learned content's effectiveness on English usage in real-life operations than the non-sales personnel did.

Table 4 Expectation of effectiveness on real-life operations

	Non-sales (N = 20)			Sales (N = 18)			Rank-sum test (non sales - sales)
	Average	Median	SD	Average	Median	SD	
Do you think the English expressions in "Narikiri English!" would be useful when you speak English in your work?	4.20	4.00	0.52	4.66	5.00	0.48	Z=-2.60 **
Do you think the English expressions in "Narikiri English!" would be used when you speak English in your work?	3.65	4.00	0.93	4.38	5.00	0.97	Z=-2.68 **
Do you think the English expressions in "Narikiri English!" would be useful when you write English in your work?	3.70	4.00	0.73	4.50	5.00	0.61	Z=-3.20 **
Do you think the English expressions in "Narikiri English!" would be used when you write English in your work?	3.35	3.00	0.81	4.11	4.00	0.96	Z=-2.66 **
Do you think the English listening practice in "Narikiri English!" would be useful in listening to English in your work?	3.85	4.00	0.87	4.44	5.00	0.70	Z=-2.33 *
Do you think the English learning with "Narikiri English!" would be useful in reading English in your work?	3.75	4.00	0.63	4.22	4.00	0.87	Z=-2.09 *
Do you think the English learning with "Narikiri English!" would be useful in English communication in your work?	4.05	4.00	0.39	4.50	4.50	0.51	Z=-2.76 **

**: $p < .01$, *: $p < .05$

4.2.2 Effectiveness on the Two-month Real-life Operations

An χ^2 test was performed, with the non-sales/sales personnel as independent variables, and the responses to questions regarding the subjective effectiveness on English usage in the real-life operations during the two months as dependent variables. As a result, a 5% standard significant difference was found (Table 5) in four questions: "Did the English expressions prove useful in speaking English at work?" "Did the English expressions prove useful in reading English at work?" "Did the English study prove useful in English communication at work?" and "Was there an opportunity to apply what you learned in the English study to English communication at work?" In addition a 10% standard significant difference was found in two questions: "Was there an opportunity to use the English expressions in speaking English at work?" and "Did the English expressions prove useful in writing English at work?" In all questions that showed significant difference, the learners engaged in sales operations recognized effectiveness in the 2-month period of business operation more so than the learners engaged in non-sales operations.

Table 5 Effectiveness of the material in business operation performance (delayed query sheet after 2 months)

Metrics	Group	Yes	No	χ^2
Did the English expressions in "Narikiri English!" prove useful in speaking English at work?	Sales	8	4	5.49 *
	Non-sales	2	9	
Was there an opportunity to apply the English expressions you learned in "Narikiri English!" to speaking English at work?	Sales	5	7	3.16 +
	Non-sales	1	10	
Did the English expressions in "Narikiri English!" prove useful in writing English at work?	Sales	4	8	3.16 +
	Non-sales	1	10	
Was there an opportunity to use the English expressions in "Narikiri English!" in writing English at work?	Sales	4	8	1.98
	Non-sales	1	10	
Did the English listening practices in "Narikiri English!" prove useful in listening to English at work?	Sales	6	6	2.56
	Non-sales	2	9	
Did the English expressions in "Narikiri English!" prove useful in reading English at work?	Sales	7	5	3.88 *
	Non-sales	2	9	
Did the English study with "Narikiri English" prove useful in English communication at work?	Sales	8	4	5.49 *
	Non-sales	2	9	
Was there an opportunity to apply what you learned in "Narikiri English!" to English communication at work?	Sales	7	5	6.13 *
	Non-sales	1	10	

*: p < .05, +: p < .10

5. Discussion
5.1 Effect of the Material on the Improvement of English Listening Ability

The sales and non-sales personnel are compared regarding the effect of the material on their English listening ability (criterion 1) and the occupational difference in English listening ability (criterion 2) through the practice of corporate training, using the general English listening test and the English listening test adapted to the content of the material. On comparing the scores of the general English listening test and the English listening test adapted to the content of the material before and after the 3-week training, scores for both tests showed an improvement, regardless of the occupational role of the learners.
Two reasons can be inferred.

One reason may be because the learners out of the context of the material, namely the non-sales personnel, improved their listening ability by acquiring background knowledge through the material. This material takes the learning structure that supports both the top-down processing which activated the learner's background knowledge and the bottom-up processing in which the learner catches every English word/phrase word for word. Originally, the material's objective was to activate the background knowledge of sales representatives, but for non-sales employees, it became an opportunity to acquire new knowledge, which may have contributed to the improvement of their listening ability.

Previous sales experience may be given as the second reason. Employees are reassigned within the company, which implies the possibility of a current non-sales employee having previous sales experience. This may have allowed such learners to strongly recognize their affinity with the material. Regarding this point, as this study did not consider previous business experiences of subject employees, this does not go beyond hypothesis and requires further examination.

5.2 Effects on Actual Operations in Relation to the Association between the Authenticity of the Material and the Learner

A query sheet-based survey was conducted immediately after and two months after the learning period to examine the "effect on the business operations of employees closely related to the content of the ESBP material" (criterion 3). The analytical result suggested that learners in the sales division, at whom the

material is targeted, had strong expectations of being able to use it in their actual operations and that they were actually putting the acquired knowledge into effective use. Although no significant difference was found between sales and non-sales personnel regarding the effectiveness of listening in actual operations, for learners that are exposed to an English usage situation close to the material, in other words, for learners who have affinity with the material, the learned content may have transferred to their actual operations in their speaking, reading, writing, and comprehensive communication.

There are two possible reasons for this. One reason is because listening becomes an effective input that transfers to the other three skills (Dunkel, 1991, Rubin, 1994). DeMauro (1992), by observing the correlation between the score for the listening section in TOEFL and the scores for other sections in TOEFL, demonstrated that there was a correlation of 0.5 or more with sections concerning all other skills. Therefore, it is considered that the listening skill was effective in using other skills in actual operations.

The second reason is found in the contextual effect of the material. CTGV (1997) presented in the Jasper Project that having learners work on problem solving their use of mathematics in situations where mathematics is actually used, enables them to transfer the learned content and use it in a real-life setting. Specifically, as a result of evaluating the understanding of basic mathematical concepts, correct answers for text questions, ability to plan problem solving, and the change in attitude toward mathematics between the group that studied per unit and the group that used Jasper materials, while there was no difference between the groups regarding the understanding of the basic concept, Jasper users gave positive results for text questions, ability to plan problem solving, and change in attitude, all of which relate to problem solving ability. In this study, there was no statistically significant difference between the sales personnel and non-sales personnel regarding English ability and the effectiveness of business knowledge provided by the material on both groups. However, in terms of effectiveness under English usage situations in the course of business operation, learners belonging to sales had stronger expectations and were putting the learned content to effective use. The responses to the free-answer question in the query sheet distributed two months after the training included: "International calls to our pilot number are often transferred to me. It may be the fruit of 'Narikiri English!' and subsequent listening practices, as recently I can catch most of what is said on the phone and speak well." and "I had an opportunity to dine with a foreign guest, and during the casual talk relating to steel (market conditions and higher cost of raw materials) I was able to arrange and use the learned content." It can be inferred that strengthening the link between the material and learner was effective in the actual business operations.

6. Conclusions

In this study, the following three points were set as criteria to examine the effects and effectiveness of the material:
1) Effect on improving the English listening ability of employees who used this material
2) Effect on improving the English listening ability of employees closely associated with the content of the ESBP material
3) Effect on the business operations of employees closely associated with the content of the ESBP material.

To examine these three criteria, we created English listening material that focuses on the sales operation of one company, and through the actual practice of corporate training using this material, compared the learning outcomes of employees engaged in the company's sales operation and those of employees engaged in operations other than sales.

As a result of analyzing the data obtained from the practice, the following findings were obtained for the criteria.

(1) In terms of learning effects measured in the tests, learning effects due to this material were evident but with no difference between the groups. The material was effective for both groups, irrespective of the material's target learner.

(2) As for English usage in the actual English usage situation, a possibility of transfer effect due to studying with materials with content closely associated with the learner was suggested.

Traditionally, researches of second language acquisition, particularly ESP researches, have examined the English usage situation of the learner. By using materials in accordance with the learner's English usage goal, in addition to ability improvement, an effect on the affective aspect, including learning motivations such as the self-acknowledgement of the learner coming closer to his or her learning goal in real life, was expected. However, the themes adopted in the learning materials, even when they claim specific English usage situations, tend to be of generalized situations. For instance, many EAP materials handle communication in classes and procedures in educational affairs. On the other hand, English intended for businesspeople is insufficient if the material is limited to general situations, such as "marketing negotiation" and "communicating requests." Businesspeople are required to fully exert their English ability in the business operations deeply rooted in corporate culture. What is expected here is not the exertion of language abilities that are required for normal social interactions. In the case of a businessperson where his or her expected language ability and its development is unique for each corporate culture, the effects of foreign language materials is under-examined (Field, 2008; Gilmore, 2007). Given such circumstances, this study has demonstrated the effects of foreign language materials with strong association with the learner, including not only the direct improvement of skills but also the possibility of transfer to other skills through the use of listening skills at work. There is research relating to second language acquisition that point out the importance of social context in listening (Dunkel, 1991; Lynch, 1998, Rost, 1990). On the other hand, this study also presented the possible effectiveness on the actual performance of business operations, albeit maybe subjective, in addition to the improvement of English ability, through providing material in accordance with the learner's English usage situation. This study gave suggestions on the aspect of the possibility of transfer from the perspective of learning science, concerning the effect of materials with close association with the learner, which has seldom been discussed in traditional research of second language acquisition and ESP research. Considering the arguments that Field's (2002) listening education was limited in the range of instructions together with the effect often being temporary, we consider the findings in this study to have significance in the research of second language acquisition and ESP research. However, this study also discusses that the effectiveness of transfer may have been obtained in the synergistic effect from information processing in listening, where prior knowledge is activated, and from the affective aspect of learning motivation, and the effects of the affective aspect not exceeding the extent of hypothesis.

This study also has its limits. This study was conducted as case study, which we collected data at one company. Moreover, we designed comparative experiment using about twenty people per group. We need to continue to do research at various companies, in order to consider the impact of findings in this study. Particularly in the examination of effects after two months, we did not have the opportunity to observe the difference in ability and thus were limited to examining the possibility of effect through a subjective evaluation. As future undertaking, this problem can be remedied by establishing a framework for joint research with a company and considering the evaluation method for effectiveness in the actual operations. To actualize that, a company-wide cooperation must be given and an organization that performs the practice needs to be established. In this study, we were not authorized to evaluate on-site where the actual operation was taking place, and therefore we were limited to conducting an evaluation by questionnaire survey two months after the practice. We obtained the subjective evaluations from the learners, but we were not able to

conduct an objective evaluation of to what degree the learned content was put to use in business operations. We consider it necessary in future studies to collaborate with companies and to acquire an environment where objective evaluation in the context of actual business operation is implementable.

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