Effect of Integrated Focused Vocabulary Instruction

Mutsuko Aoki & Cynthia Edwards

Abstract

　今年度の研究目的は Listening と Speaking と言う異なった Skills で、共通の教授内容を念頭に置いた重複授業を実施し、各学生の英語の理解力、判断力が自然に構築され、相乗効果が生まれるのではないかと言う仮説を立ててみた。

　2007 年度は、AE Listening Test、及び AE Numbers Test の事前／事後テストの結果、SPSS で有意な統計的差が検出された。

　このような有意性は、単独で授業を進めるよりも、他の class との連携や、積み重ね授業のほうが、学生の英語知識層をより深く、強固のものに作り上げると実証している。さらに Aoki Survey を検証すると、英語伝達能力へ結びつけるきっかけを作ったとも言えるし、向上しようとする力が徐々に芽ばえてきているとも言える。

　今後、本学において夫々の単独授業が連携プレーで結集され、融合を極めれば、4つの英語技能がタペストリー化され、自ずと英語能力を一層伸長させるであろう。

　数多い調査から判断して、学生たちも Listening と Speaking の Skills の向上を望み、加えて、実践的な力を身につけることに答えるためにも、連携授業を実行するべきである。さらに文部科学省のもとめる communication 能力を持ち、実践的な人物を育成するためにも、他の英語教科とのより強い結束力、絆の必要性が問われていると痛感する。

　　　Learning theory states that people learn best when multiple senses are engaged. Narrow learning theory suggests that repeated exposure to limited, focused input supports the learners in their language acquisition process (Krashen, 1994). Both theories were put into use to teach vocabulary to the same group of students to observe the effect on content sharing and coordination on learning outcomes of low-level students. In this study, students in speaking and listening classes taught by the authors received instruction using the same lessons on numerical expressions over a period of one school year. They were evaluated to determine whether by studying limited language content over two segregated skills classes they would have better results than a control group on a posttest designed by the authors. Data was analyzed for significant differences and correlation by SPSS. Results were inconclusive, however, survey results showed positive student perceptions of the instruction.

Introduction

The Japanese Government's Ministry of Science and Education announced a concrete action plan in 2002 "to cultivate *Japanese with English abilities,*" laying out ambitious communication goals to reach by the end of university study, the highest goal being the ability of graduates to function in their chosen field in English (MEXT, 2003). Moreover, a further stated goal of MEXT to enable the entire Japanese public to be able to conduct daily conversation and to exchange information in English appeared in the pronouncement (MEXT, 2003). To meet these goals, the ministry suggested more research on which to base drastic changes in school and university curricula and teaching approaches away from the traditional academic style that has been grounded deeply in grammar and translation and used in segregated skills courses (Gorsuch, 1998; Sato, 2002).

The new direction indicates a need for communicative teaching approaches that require the integration of skills in agreement with what language teaching experts have been promoting in recent years. According to well-known author and learning strategy theorist Rebecca Oxford, the traditional grammar-based method of instruction restricts language learning to a very narrow, non-communicative range that does not prepare students to use the language in everyday life (Oxford, 2001). She suggests that during instruction interweaving the four primary (macro) skills of listening, reading, speaking, and writing, including the associated or related (micro) skills such as knowledge of vocabulary, spelling, pronunciation, syntax, meaning, and usage into a sort of tapestry leads to optimal ESL/EFL communication.

Though the government and international experts in the field of English education, as well, have made efforts to forward the development of communication skills as a primary focus of English language learning in schools, this integrated-skills approach however would be difficult to attain without a major overhaul in teacher training, hiring qualifications, administration, and funding of education. Simply put, the segregated curriculum has been administratively effective. Though in light of current economic trends, a costly reworking of entire curricula, especially in small private colleges such as ours, would be quite strenuous and time consuming but not impossible over time. Evolutionary change seems in order, not only in content and approach, but in how the teachers themselves, who working toward the same teaching outcomes and goals, coordinate their classes.

English needs analysis studies congruent with government goals

The need for English for communication rather than as an academic subject of study has been echoed by university students for some time throughout the country. In fact, needs analysis surveys of college students in Japan have shown a consistently high preference for practical English skills and international communication (Edwards, 1994; Edwards et al, 1994; Harrison et al, 1992; Koike, 1985; Sato, 1994; Widdows and Voller, 1991; Yonesaka, 1994). In the 1993 needs analysis conducted by Edwards at Musashi, the four top skills rated by students were concerned with speaking and listening: survival English for everyday situations abroad, talking about themselves, pronouncing English at an understandable level, and understanding

entertainment media.   Academic English skills were ranked at the bottom.

At the same time, studies have shown that while students have a future oriented, interpersonal view of their studies, there are many who also have a pragmatic view of their English needs based on short-term concrete goals (Widdow and Voller, 1991).   These include pronunciation, vocabulary building for passing qualification examinations, and specific language patterns and terms for communicating with foreign customers at their part-time jobs or future jobs. Results of the Musashi study showed that first-year students have a practical orientation toward college in general and English in particular in the desire for qualifications and practical skills (Edwards, 1994; p. 94).

Rationale for the study

A quick look at this college English curriculum for first-year majors is a case in point for better integration in the teaching of both macro and micro skills.   The students have as many as twelve different classes a week, each on a separate topic, six of them concerning English.   Each course has a separate textbook chosen for the students' level, but not with the intention of integrating skills or content.   Thus, these beginner students at a false-beginner level are exposed to an unlimited variety of topics, vocabulary, and language forms focusing on the segregated skills-grammar, writing, listening, speaking, reading, and pronunciation.   On examination of the text-books and materials used for the year of this study 2007, we found overall a broad, unfocused exposure to English with some uninten-

tional overlap in skill area and content. (The list of the textbooks can be found in Appendix A.)

A logical place to start the re-working of the curriculum towards the integration of skills and practical content is in the listening and speaking classes. Neither course is ever taught without the inclusion of the other skill component to some degree, while the same could be safely said for the often paired reading and writing courses. Teacher collaboration and content integration would benefit anxious first-year students by lessening the amount of language to study and by increasing chances for repetition and engagement with the same language to deepen understanding and improve proficiency (Krashen, 2004).

This study was undertaken to identify how to effectively address the students' reported needs for spoken and aural skill in English, in particular the need for more working knowledge of vocabulary to get qualifications and for everyday situations. Though simplistic, even elementary, we wanted to know if by studying the same narrowly focused vocabulary and expressions concurrently in two segregated skills courses, it would improve students' listening comprehension and knowledge as measured by a pretest and posttest. The answer seems obvious, but when searching the literature, there were no studies that focused on the subject of shared focused content across segregated skills courses, which are typical in Japanese universities.

Language focus

We selected as the language focus the area of numerical expressions and number related vocabulary, a broad and often overlooked

area of practical and essential language.   On the surface, numbers seem like a simple closed set of words and expressions.   However on examination, it soon becomes clear that numerical expressions comprise a vast and complex system of often culture bound concepts and language which is given only cursory attention in most beginning level college syllabi and textbooks.   Numerical expressions represent a unique challenge to learners because typically they are not written by graphemes, thus providing no cues for pronunciation; rather they are represented with numerals and symbols that must be memorized and learned along with the situations in which they are used.

Method

Participants

All 74 first-year students entering the college in April 2007 who were in the third (C) and fourth (D) level classes of the Musashi Women's Junior College English Literature Department were initially included in this study, however only complete data sets were used in the final analysis reducing the number to 63.   The third level (C) consists of classes 5 and 6, while classes 7 and 8 comprise level four. The research subjects totaling eighteen students in class 7 were chosen since they were taught by both authors in listening and speaking skills courses respectively.   The remaining three groups served as the control students since they did not receive instruction by both authors.   They were taught by the listening course teacher only.

Materials

The experimental group was taught using the general speaking course book *Talk a Lot Book One* and *Book Two* (Martin, 2003) for the English department students in levels two (B) through four (D), in the first and second terms respectively. Additionally, they received weekly instruction in both speaking and listening courses throughout the school year using *Essential Listening I: Working with Numbers* (Fuller & Fuller, 2002). The main listening course text was *English Masterbox* (2) (Macmillan, 2001) on videotape, along with *NHK Level Up Eibunpo* (NHK 2007) on CD, with *Viva San Francisco* video and learning components (Macmillan, 1998) installed into the CALL system for independent study. The speaking and listening texts for the control group (classes 5, 6, 8) excluded the numbers textbook. All others were the same as for the experimental group (Table 1).

Measurement instruments

Students in both the control and experimental groups were

Table 1. Speaking & Listening Instructors and Course Texts

Class	Course	Instructor	Term	Main text	Supplemental text	Self-directed listening text
7 (exp)	Speaking Skills I	Edwards	1st	*Talk a Lot Book 1*	*Essential Listening: Working with Numbers*	
	Speaking Skills II		2nd	*Talk a Lot Book 2*		
	Listening I	Aoki	1st	*English Masterbox (2)*	*Essential Listening: Working with Numbers*	*Viva San Francisco*
	Listening II		2nd	*NHK Level Up Eibunpo*		
5 6 8 (control)	Speaking Skills I	Other NS instructors	1st	*Talk a Lot Book 1*		
	Speaking Skills II		2nd	*Talk a Lot Book 2*		
	Listening I	Aoki	1st	*English Masterbox (2)*	*Essential Listening: Working with Numbers*	*Viva San Francisco*
	Listening II		2nd	*NHK Level Up Eibunpo*		

pretested and posttested in April and December respectively using a four-part test of twenty problems developed by the authors (Appendix B) entitled AE Numbers Test (AEN). Half were multiple choice listening problems to test students' understanding of dates, measurement, frequency, and ordinal number expressions in a sentence context; comprehension of number expressions or fractions to complete a series; and ability to hear and distinguish between commonly mistaken number pairs. Five reading problems tested knowledge of the Latin roots of numbers. The final five problems were fill-in-the-blank type that tested student skill in expressing non-orthographic number expressions in daily spoken language and large numbers. The test problems were designed to test general competency with numerical expressions and were not specific to the numbers textbook. The listening problems were recorded on a CD and played once. Students were given ten minutes to complete the test.

A second general listening test (AE Listening Test), also designed, revised, and researched for validity by the authors, was administered to all first-year English majors in April and December (Edwards & Aoki, 1999, 34‒44). It contains fifty problems and takes 35 minutes to complete. This test design followed problem types found on the TOEIC and TOEFL and has been administered every year from 1998 to measure improvement in students' overall listening comprehension after one year of college study.

Results of both tests were analyzed with single-tailed t-tests to establish a 95% probability that the outcome of the tests was not by chance, but could be accounted for by some variables. The statistical tests were run to establish significance in the difference in the

means of scores of the pretest and the posttest for the entire group. One-way independent ANOVA tests were run using SPSS statistical software to find significance in the posttest scores at the $p \leq 0.05$ level between and among the control and experimental groups and between class levels. Additionally, the means of the scores of the AE Listening and AE Numbers Test posttest were compared by using the Pearson Correlation test to establish a significant correlation between a student's grade on the AE Listening and AE Numbers Tests.

A survey of students' perceptions of the efficacy of their listening study (Aoki survey) was conducted at the end of course. (See Appendix C for the original version and English translation.) Using a five-point scale, students ranked thirteen items concerning recognition of certain parts of speech and idiomatic phrases, comprehension of passage content, and improvement in spelling. The carry over effect on the speaking skills class comprehension, ability to catch and understand native English speaking teachers' talk, and ease in understanding movie English were also covered on the survey. Attitudes towards specific study assignments and procedures in the listening class were also examined.

Statistical tests were conducted on the scores to indentify significance in the differences in response between the four groups in the study. A two-way ANOVA and post hoc tests were conducted since the statistical sample was small.

Class procedure

Students in the control group were given a fifteen-minute lesson

once a week in both the listening skills and speaking skills courses using the supplemental textbook that focuses on numbers. The first exposure to the material was in the listening class using the CALL system in the language laboratory. Students listened and completed number recognition tasks in the textbook. Within a few days, the students covered the same lesson with the native speaking English (NS) teacher who expanded the lesson by checking pronunciation and giving additional practice of the same types of number expressions, for example by applying the textbook situations to themselves or by using them in other everyday situations. Additionally, cultural differences in concepts and expressions were highlighted during these lessons, for example the use and importance of the fractions quarters or thirds in measurement in English speaking countries.

It must be noted that the course textbooks for listening and speaking also contained lessons covering number expressions. All students, therefore, had some direct instruction about numbers as part of their study but not in coordination with the other segregated skills courses.

Students in all four classes taught by the listening teacher were tested using both AEL and AEN Tests in April at the start of the course and at the end in December. They completed the survey measuring perceptions of their listening study for the year, as described earlier in the report.

Analysis

Complete data sets of both tests (AEL and AEN) and the survey were used for analysis. After input onto Excel spreadsheets the data

was transferred to specially formatted data files and analyzed using the 2007 version of SPSS (Statistical Package for Social Sciences, version 16 basic package), an academic standard for university and professional research.

The test outcomes fell within a normal curve so the data was treated parametrically. Descriptive statistics including the mean, standard deviations, minimums, and maximums as well as bar graphs by class were generated. (Tables 2–5, Charts 1 and 2) One-tailed t-tests were conducted to examine for significant differences between the mean scores of the pretest and posttest within the experimental group and the control groups at a $p \leq 0.05$ level of significance. The same analysis was done on the posttest scores between the experimental and the control groups to find indictors that the treatment affected change in the students' competence with numerical expressions. ANOVA tests were run to compare the means of the test scores to find significant difference in the scores between all four classes in the research.

A Pearson Correlation test was run on the posttest scores to establish the strength of the relationship between the outcome of both tests, i.e. if a student ranks highly on both the AEL Test and the AEN Test, then the presence of a significant correlation could possibly be used as statistical support for the positive effect of the experimental treatment.

For the Aoki survey standard descriptive statistics and frequencies were calculated. The means were compared by a two-way ANOVA statistical procedure to establish significant difference between the groups. Frequency data and percentages provided a

clear basis for comparison and analysis. Since the sample size was small, pie charts showing the rates of high rankings particularly by classes 7 and 8 (both in Level D) were generated for the items pertinent to this study (numbers 4, 6, 7, and 8).

Results

AE Numbers Test

Overall, the mean scores as shown in Chart 1 for the AEN pretest (67.81) and posttest (78.51) fell within the authors' expectations. Results in Table 2 indicate a wide range of 56 points in the pretest and posttest outcomes, with a loss of 20 points for the low, a gain of 36 points for the high, and a 10-point gain as the average. Outlying scores were not eliminated from the analysis, thus the appearance of

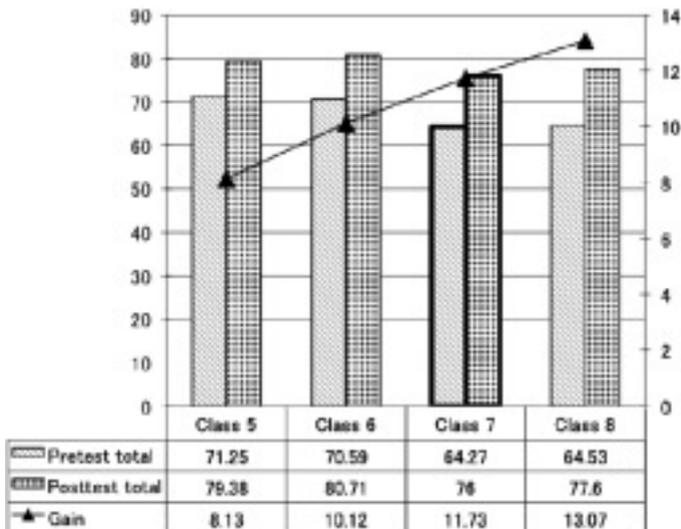**Chart 1. Means by Group: AE Numbers Test 2007**

	Class 5	Class 6	Class 7	Class 8
Pretest total	71.25	70.59	64.27	64.53
Posttest total	79.38	80.71	76	77.6
Gain	8.13	10.12	11.73	13.07

Table 2. Descriptive Statistics of All Groups: AE Numbers Test 2007

	N	Mean	SD	Minimum	Maximum
AEN pretest score	63	67.81	12.58	36.00	88.00
AEN posttest score	63	78.51	10.12	32.00	96.00
AEN gain score	63	10.70	11.22	-20.00	36.00

Table 3. Descriptive Statistics by Group: AE Numbers Test 2007

Level	Class		N	Mean	SD	Min	Max
C	5	AEN pretest score	16	71.25	10.75	52.00	88.00
		AEN posttest score	16	79.38	7.72	64.00	92.00
		AEN gain score	16	8.13	9.37	-4.00	28.00
	6	AEN pretest score	17	70.59	11.31	48.00	88.00
		AEN posttest score	17	80.71	5.87	68.00	92.00
		AEN gain score	17	10.12	12.01	-20.00	36.00
D	7	AEN pretest score	15	64.27	14.69	36.00	88.00
		AEN posttest score	15	76.00	16.90	32.00	96.00
		AEN gain score	15	11.73	12.04	-16.00	32.00
	8	AEN pretest score	15	64.53	12.91	36.00	80.00
		AEN posttest score	15	77.60	7.06	68.00	88.00
		AEN gain score	15	13.07	11.76	.00	36.00

a highly inconsistent outcome. Losses can be accounted for by disengagement by the students or an unfavorable condition when taking the posttest. It can be assumed that there is not a causal relationship with the experimental treatment and this outcome of the posttest.

The pre- and post-treatment testing results in Table 3 show the means and gain scores according to level and class. For this study class 7 in the fourth or D level is the experimental group; and classes 5 and 6 in the third or C level and class 8 in the fourth or D level are the control. Class 8 shows the highest gain score at 13.07 percentage points with a narrow standard deviation from the means (SD) at 7.06.

At the same level class 7 shows a lower gain of 11.73 points with a remarkably high SD of the posttest means at 16.90, indicating inconsistency within the group that produced the extreme scores on the test, a high of 96 and a low of 32. Both D level groups had higher means of gains in the posttest than either C level group, with class 6 at 10.12 and class 5 at 8.13. This pattern is consistent with typical outcomes of posttests because generally lower level groups tend to gain more by instruction than do higher level groups. Comparing the gain scores of the experimental group (7) against the control subjects (5, 6, 8), the experimental group outperformed them with gains of 11. 73 points and 10.44 respectively.

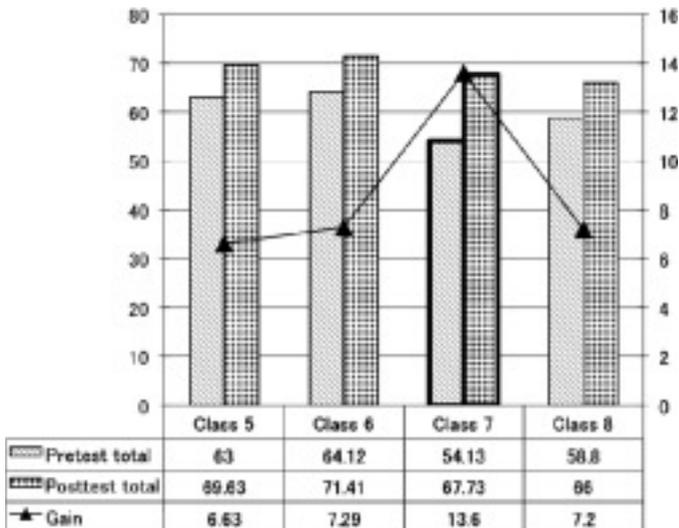**Chart 2. Means by Group: AE Listening Test 2007**

	Class 5	Class 6	Class 7	Class 8
Pretest total	63	64.12	54.13	58.8
Posttest total	69.63	71.41	67.73	66
Gain	6.63	7.29	13.6	7.2

Table 4. Descriptive Statistics of All Groups: AE Listening Test 2007

	N	Mean	S D	Minimum	Maximum
AEL pretest score	63	60.19	11.40	30.00	84.00
AEL posttest score	63	68.79	9.53	42.00	88.00
AEL test gain score	63	8.60	11.84	-24.00	36.00

AE Listening Test

Results shown in Tables 4 and 5 and Chart 2 reveal a similar overall pattern between both the AEN and AEL Tests. The means fell within the expected range at 60.19 for the pretest, 68.79 for the posttest and 8.60 for the gain score. The range of gain fell within the lower extreme of minus 24 to 36 at the upper end. Outlying scores were included in the calculations, thus producing a wide distribution of gain scores. Most notable is the high gain score for class 7, the experimental group, which is nearly double that of the control classes.

Table 5. Descriptive Statistics by Group: AE Listening Test 2007

Level	Class		N	Mean	S D	Min	Max
C	5	AEL pretest score	16	63.00	9.61	48.00	84.00
		AEL posttest score	16	69.63	6.97	54.00	82.00
		AEL test gain score	16	6.63	7.82	-8.00	18.00
	6	AEL pretest score	17	64.12	10.92	38.00	78.00
		AEL posttest score	17	71.41	7.93	54.00	88.00
		AEL test gain score	17	7.29	12.81	-24.00	36.00
D	7	AEL pretest score	15	54.13	13.08	30.00	76.00
		AEL posttest score	15	67.73	13.37	42.00	86.00
		AEL test gain score	15	13.60	13.59	-8.00	34.00
	8	AEL pretest score	15	58.80	10.02	40.00	72.00
		AEL posttest score	15	66.00	9.01	46.00	78.00
		AEL test gain score	15	7.20	12.14	-20.00	28.00

Survey

Of the thirteen items on the survey (Appendix C), four items pertinent to this study were chosen for focus: over the school year (4) students' understanding of class content improved; (6) listening class topics carried over and aided students in the speaking skills class; (7) students were better able to understand the native-speaker English teacher; and (8) students were better able to understand English movies.

Frequencies were calculated for each item according to the ranking value and by group as shown in Tables 6 to 9. Since there were no clearly stated anchor values given to students when the survey was taken, the authors have assigned relative degrees to the five ranks in order to view the results. Since it was assumed that there was at least some change in listening ability during the course of the year, rankings 1 and 2 are considered a positive but low ranking. Conversely, rankings 4 and 5 are considered positive high rankings, with 3 occupying the middle position that is often but not always the most frequently assigned rank for each of the items. For analysis and comparison among the groups, the authors focused on the frequency rates of the combined high rankings of 4 and 5.

In Table 6, rankings 4 and 5 combined show similar results among the groups ranging from class 5 and 7 at 50% and classes 6 and 8 close by with combined rankings of 60% and 56% respectively. Only two students gave this item a low ranking, with at least half ranking it highly, indicating confidence that the students comprehension of listening class materials improved through the school year. The experimental group shows little or no difference compared to the

Table 6. (4) Improved understanding of listening class content

Class	Ranking Values	Frequency	Percent	Cumulative Percent
5	2	1	5.6	5.6
	3	8	44.4	50.0
	4	7	38.9	88.9
	5	2	11.1	100.0
	Total	18	100.0	
6	3	6	40.0	40.0
	4	7	46.7	86.7
	5	2	13.3	100.0
	Total	15	100.0	
7	3	8	50.0	50.0
	4	7	43.8	93.8
	5	1	6.3	100.0
	Total	16	100.0	
8	2	1	6.3	6.3
	3	6	37.5	43.8
	4	7	43.8	87.5
	5	2	12.5	100.0
	Total	16	100.0	

control groups.

Table 7 reveals a markedly higher ranking by the experimental group than the control group at the same ability level, with nearly double the number of students recognizing the carryover effect from the listening class to the speaking class. At 25 percentage points higher than class 8, class 7 results are nearly the same as class 5. Though data cases are small in number, the vast majority of students in this study seem to feel the synergetic effect of the shared course content.

Table 8 and Chart 3 reveal a considerable contrast in the two lower level groups with only 25% of class 8 giving a high score to NS

Table 7. (6) Aided understanding of speaking class content

Class	Ranking Values	Frequency	Percent	Cumulative Percent
5	3	8	44.4	44.4
	4	8	44.4	88.9
	5	2	11.1	100.0
	Total	18	100.0	
6	1	1	6.7	6.7
	2	1	6.7	13.3
	3	7	46.7	60.0
	4	3	20.0	80.0
	5	3	20.0	100.0
	Total	15	100.0	
7	2	2	12.5	12.5
	3	5	31.3	43.8
	4	9	56.3	100.0
	Total	16	100.0	
8	2	4	25.0	25.0
	3	7	43.8	68.8
	4	3	18.8	87.5
	5	2	12.5	100.0
	Total	16	100.0	

teacher comprehension in the speaking classes. More than half of class 7 assessed a high ranking with only one low score. The rates of the high rankings by the upper level classes 5 and 6 were 72% and 60% indicating considerable comfort with native speaker speech in the classroom setting by the end of the year.

A similar pattern of response is found in Table 9 and Chart 4 with class 8 again noticeably lower in strength of response compared to class 7. Less than half of class 8 conferred strongly with the idea that their comprehension of English language movies had improved, while two-thirds or more of the students in classes 7, and 5 and 6

Table 8. (7) Improved comprehension of NS teacher

Class	Ranking Values	Frequency	Percent	Cumulative Percent
5	3	5	27.8	27.8
	4	9	50.0	77.8
	5	4	22.2	100.0
	Total	18	100.0	
6	1	1	6.7	6.7
	3	5	33.3	40.0
	4	4	26.7	66.7
	5	5	33.3	100.0
	Total	15	100.0	
7	2	1	6.3	6.3
	3	6	37.5	43.8
	4	6	37.5	81.3
	5	3	18.8	100.0
	Total	16	100.0	
8	1	1	6.3	6.3
	2	3	18.8	25.0
	3	8	50.0	75.0
	4	2	12.5	87.5
	5	2	12.5	100.0
	Total	16	100.0	

Chart 3. (7) Improved comprehension of NS teacher

Class 7   Class 8

6%   0%   19%   38%   37%

6%   12%   13%   19%   50%

Legend:
- 5
- 4
- 3
- 2
- 1
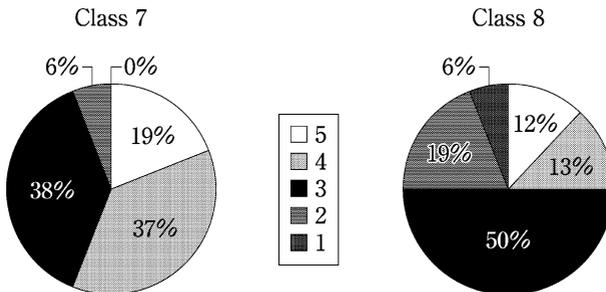
Table 9. (8) Improved comprehension of English movies

Class	Ranking Values	Frequency	Percent	Cumulative Percent
5	3	6	33.3	33.3
	4	8	44.4	77.8
	5	4	22.2	100.0
	Total	18	100.0	
6	1	1	6.7	6.7
	3	5	33.3	40.0
	4	4	26.7	66.7
	5	5	33.3	100.0
	Total	15	100.0	
7	2	1	6.3	6.3
	3	4	25.0	31.3
	4	8	50.0	81.3
	5	3	18.8	100.0
	Total	16	100.0	
8	1	1	6.3	6.3
	2	2	12.5	18.8
	3	6	37.5	56.3
	4	5	31.3	87.5
	5	2	12.5	100.0
	Total	16	100.0	

Chart 4. (8) Improved comprehension of English movies

Class 7

Class 8

Class 7: 0%, 19%, 50%, 25%, 6%

Class 8: 13%, 31%, 37%, 13%, 6%

Legend: 5, 4, 3, 2, 1
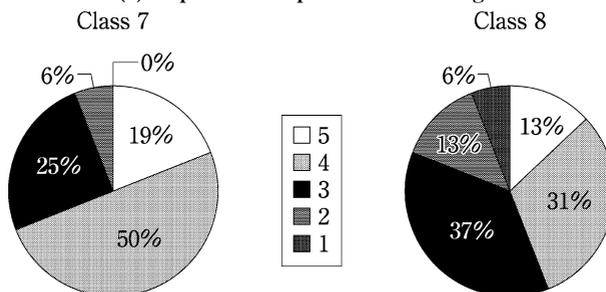
agreed strongly that their ability to understand the situational, fast spoken language had been positively impacted by their listening study.

Statistical Analysis

Statistical tests to identify significant differences in the means of the posttests of AEN and AEL for the experimental group and the control group were inconclusive. Independent t-tests and one-way ANOVA established no statistically significant difference between groups for either test, thus the effectiveness of the experimental treatment was not established. However, paired samples t-test (2-tailed) results showed a significant difference (.000) at the $p \leq 0.05$ level between the means of the AEN Test pretest and posttest scores for all groups. Likewise in the t-tests for the AEL pretest and posttest means, significance was shown at the .000 level. (Table 10) Thus, it can be inferred that their overall study experience impacted the outcome of the posttests. As to how it affected the results, it is unclear.

Table 10. AEL & AEN Pre/Postest 2007 Means Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	AEL pretest AEL posttest	-8.60317	11.83562	1.49115	-11.58394	-5.62241	-5.769	62	.000
Pair 2	AEN pretest AEN posttest	-10.69841	11.21726	1.41324	-13.52344	-7.87338	-7.570	62	.000

$p \leq 0.05$

To establish the correlation between the outcomes of the AEL and the AEN, which was designed specifically for this study, a Pearson Correlation Coefficient procedure was run.   Table 11 shows a correlation of .534 significant at the 0.01 level which means that the examination performance on both tests is positively related with a

Table 11. AEL & AEN 2007 Posttest Score Correlation

		AEL posttest score	AEN posttest score
AEL posttest score	Pearson Correlation Sig.(1-tailed) N	1.000 63	.534** .000 63
AEN posttest score	Pearson Correlation Sig.(1-tailed) N	.534** .000 63	1.000 63

** Correlation is significant at the 0.01 level (1-tailed).

Table 12. Aoki Survey ANOVA Results

		Sum of Squares	df	Mean Square	F	Sig.
(4)Improved understanding of listening class content	Between Groups Within Groups Total	.319 33.065 33.385	3 61 64	.106 .542	.196	.898
(6)Aided under-standing of speaking class content	Between Groups Within Groups Total	1.963 47.975 49.938	3 61 64	.654 .786	.832	.481
(7)Improved comprehension of NS teacher	Between Groups Within Groups Total	7.419 55.719 63.138	3 61 64	2.473 .913	2.707	.053
(8)Improved comprehension of English movies	Between Groups Within Groups Total	3.393 56.053 59.446	3 61 64	1.131 .919	1.231	.306

$p \leq 0.05$

high level of confidence (over ±.5). This does not indicate a causal relationship, rather it indicates reliability in the test results. Thus a student who gets a high score on the AEN will probably have a high score on the AEL since the correlation coefficient is high.

To determine statistical reliability of the survey results a two-way ANOVA procedure established a significant difference between and within groups concerning item (7) *improved comprehension of NS teacher*. (Table 8) However, further statistical procedures to identify where the difference occurred revealed no significant differences specifically between the experimental and control groups. Nevertheless, according to student response on the survey (Table 8, Chart 3), there was a large gap between class 7 and 8 and the other groups in their perception of the degree listening class had on their ability to understand the NS teacher in the speaking skills class.

Discussion

Results on the numbers (AEN) and general listening (AEL) tests did not produce conclusive statistical evidence that teaching a specific set of vocabulary items and expressions in two different skills classes made a difference in the students' ability to hear and understand them. The small non-random student sample and the idiosyncratic nature of the experimental group, that had both the highest and lowest posttest scores and the lowest average mean on the AEN, made it very difficult to produce clear experimental findings.

It should be pointed out however that the experimental group had the largest mean gain in the AEL posttest, indicating that they have the ability to catch, process, and comprehend longer listening

passages. Through anecdotal evidence and observation we have understood that students who scored high on the numbers test (AEN) tend to have the ability to catch discrete points in a passage, but not necessarily the ability to perform more complex tasks involving numbers. This may suggest that students should be taught using longer passages in contexts to develop higher processing skills leading to higher proficiency, not only in listening and speaking courses, but in reading and writing courses, as well.

Like their counterparts around the country, our students have clearly indicated that they expect to learn practical, survival English for international travel and exchanges where they can carry out everyday tasks and talk about themselves. Additionally, they want language skills for their workplace. To this end, we need to rethink how we can keep a narrower language focus, but teach it through approaches and in contexts which engage and require the students to process it more actively and more deeply towards better understanding and command of the language that results in sustained interest, motivation, and growing competence.

Returning to the topic of this paper, this calls for a more concrete approach to teach numerical expressions between the segregated skills courses which may include 1) more intermittent assessments of a narrow range of related language items, 2) lists of numerical expressions that are beyond translation between Japanese and English speaking cultures, 3) and readings plus narrations for non-orthographic representations of numbers.

By taking a coordinated approach across the English department encompassing *renkei play*, on a small scale at first, it will allow us to

build a more comprehensive curriculum to strengthen our program and improve students' knowledge, ability, and communicative competence.   In doing so, we can meet the students' stated needs and fulfill the Education Ministry's goals for Japanese able to communicate in English.

Further study

In closing, a more effective research design may be one in which high, middle, and low performing groups of students are observed, interviewed, and tested to discover why they succeed or fail and what interventions may support them in their skill development.

Acknowledgement

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Appendix A
2007 年度英文学科 1 年生対象必修英語教科課目のテキストの一覧表

course	author	text title	publisher
Basic Skills I & II	J. Randle	Inside Britain	朝日出版社
	Timothy Kiggell, Katsuhiro Muto	Prism, Yellow	Macmillan Languagehouse
	ドナルド・キーン	「英語へのパスポート」	朝日出版社
	S. Kathleen Kitao, Kenji Kitao	Faster Reading for Better Comprehension-Understanding World Culture Through CD-ROM-	Seibido
	熊井信弘他	Hit Parade Listening	Macmillan Languagehouse
Grammar I & II	Casey Malarcher, Akira Morita, Shinichi Harada	Intermediate Faster Reading, Revised Edition	Seibido
	石田雅近他	Reading in Focus [English Zone で読む現代の肖像]	桐原書店
	Terry O'Brien 他	Spotlight on Britain [英国を探る]	南雲堂
	JACET 教材研究委員会編	「教養英語の総合演習」	三修社
		Grammar of the English Language	
Writing I & II	木塚晴夫, R. Northridge	Common Errors in English Writing	Macmillan Languagehouse
	ケリー・伊藤	「英語ライティング講座入門」	研究社
	登美博之編著	「語順が身につく英作文」	朝日出版社
Listening I & II	Midori Inaba, Paul Ross	English Masterbox2	Macmillan Languagehouse
Pronunciation I & II	松井千枝	「英語発音学 ── 日本語との比較による ──「改訂版」	朝日出版社
Speaking Skills I	David Martin	Talk a Lot: Book Two	EFL Press
	David Martin	Talk a Lot: Book One	EFL Press
Speaking Skills II	Steven Widdows, Paul Voller	Chatterbox	南雲堂
	David Martin	Talk a Lot: Book Two	EFL Press

2007 年度英文学科 2 年生対象必修英語教科課目のテキスト一覧表

course	author	text title	publisher
	Shizuka Tetsuhito	Writing Facilitator	松柏社
Writing III	Vicki Starfire	Writing in Action	Macmillan Languagehouse
	Karen Blanchard, Christine Root	Ready to Write, Third Edition	Longman
Public Speaking	D. Harrington, C. LeBeau	Speaking of Speech	Macmillan Languagehouse
Debate & Discussion	M. Lubetsky, C. LeBeau, D. Harrington	Discover Debate	Language Solutions
Essay Writing	C. A. Boardman, J. Fryderberg	Writing to Communicate	Longman
Media Topic English	No text		
English Through Films	No text		
ビジネス英語	城由紀子他	Business Talk やさしいオフィス英語	成美堂
英米小説講読	Roald Dahl	Charlie and the Chocolate Factory	Puffin Books
英米小説講読	Kate DiCamillo	Because of Winn-Dixie	Candlewick
英米エッセイ講読	No text		
英米エッセイ講読	ドナルド・キーン	「ある日本学者の告白」	朝日出版
英詩講読	Yorifumi Yaguchi, ed. Wilbur J. Birky	The Poetry of Yorifumi Yaguchi	Good Books

AE07 Numbers Test: pretest

Class ☐   date ☐ / / ☐

Student number ☐   score

(SCRIPT)

Part I: Listen and choose the expression that has the same meaning.
      Circle your answer.

1. Her birthday is just 7 days before Christmas.
    A Her birthday's December 18.
    B Her birthday's January 1.
    C Her birthday's December 24.

2. At 175 centimeters, he is 10 centimeters taller than his father.
    A His father is 165 centimeters tall.
    B He is 185 centimeters tall.
    C He is still growing.

3.   She has 2 older brothers.
    A She is the first child.
    B She is the second child.
    C She is the third child.

4. The temperature was 13 degrees today but tomorrow it will be 30
    degrees.
    A It will be warmer tomorrow.
    B It will be very hot tomorrow.
    C It will be cold tomorrow.

5. I work Monday, Wednesday, and Friday.
    A I work every other day.
    B I work every three days.
    C I work twice a week.

Part II. Listen and answer the questions. Circle your answer.

1. 1, 3, 5, 7...... What's next?
   A 11, 13, 15
   B 2, 4, 6
   C 9, 11, 13

2. 5, 10, 15, 20...... What's next?
   A 30, 40, 50
   B 25, 30, 35
   C 15, 20, 25

3. 1, ½, ¼...... What are the next two values?
   A $\frac{1}{12}$, $\frac{1}{24}$
   B $\frac{1}{6}$, $\frac{1}{12}$
   C $\frac{1}{8}$, $\frac{1}{16}$

4. single, _____, triple, quadruple What should the second word be?
   A duo
   B half
   C double

5. Emi's birthdate is 6/20/85. In what month was she born?
   A June
   B July
   C May

Part III. What is the number associated with the expressions?
          Write the number in the box.

1. century
    centennial
    per cent

2. triangle
   trio
   third

3. octopus
   octave
   October

4. twins
   bicycle
   duet

5. dozen
   noon
   midnight

Part IV. Fill in the blanks with the correct words.

1. 10,542,000
   _____ million, five _____ forty-two thousand
2. 56,061
   fifty- _____ thousand, _____ -one
3. My great-grandfather was born in 1906.
   Nineteen- _____ -six
4. 1½
   one and ____ _____
5. My office number is 427.

   _____ _____ _____

Appendix C
平成 19 年度リスニングアンケート

クラス　　　　　学籍番号　　　　　名前

次のアンケートに答えなさい。

1　前期から後期にかけて、リスニング能力がどういう点で伸長したか。
　⑴　前置詞が聞き取れるようになった。　　　　　　1　2　3　4　5
　⑵　冠詞（a, an, the）が聞き取れるようになった。　1　2　3　4　5
　⑶　熟語（例 a lot of）が聞き取れるようになった。　1　2　3　4　5
　⑷　内容理解ができる。　　　　　　　　　　　　　1　2　3　4　5
　⑸　スペルミスが少なくなった。　　　　　　　　　1　2　3　4　5

2　毎週の課題は他の英語教科に影響を与えたか。
　⑹　外国の先生の授業のヒントになった。　　　　　1　2　3　4　5
　⑺　外国の先生の授業が聞き取りやすくなった。　　1　2　3　4　5
　⑻　洋画を見て英文が聞き取りやすくなった。　　　1　2　3　4　5

3　毎週の課題を含む授業構成について
　⑼　自主学習の時間設定（水〜土）の満足度　　　　1　2　3　4　5
　⑽　ランク付け、理解度等がリアルタイムにわかる。　1　2　3　4　5
　⑾　Dictation のノート作り　　　　　　　　　　　1　2　3　4　5
　⑿　自分の気に入った文章のタイピング　　　　　　1　2　3　4　5
　⒀　Top three の一部テスト出題　　　　　　　　　1　2　3　4　5

1 What part of speech could you recognize between the first and the final
   terms?
   (1) You could recognize the prepositions.
   (2) You could recognize both definite and indefinite articles.
   (3) You could recognize idioms.
   (4) You could understand the content of a dialog or a story.
   (5) You made fewer spelling errors.

2 Did the weekly assignment have a good effect on other English classes?
   (6) It gave a great hint to Speaking class.
   (7) Thanks to it, it was easy to hear and understand what the native
        English speaking teacher said.
   (8) Thanks to it, it was easier to hear and understand movie English.

3 What do you think about the construction of Listening class with the
   weekly assignment?
   (9) How about the time limitation for the independent study?
        8:00～19:00 for 4 days
   (10) How about taking a rank according to errors and knowing your
        own rank immediately?
   (11) How about taking a notebook of the weekly assignments?
   (12) How about typing your favorite sentence?
   (13) How about setting questions for the Listening test out of your
        favorite ones?