Making an Impact with Peer Tutoring

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In this study, I aimed to determine if, and to what extent, peer tutoring can be used as a means to improve remedial English studies within a Japanese university context. Over 11 weeks, 96 English students participated in the study. The experimental group, with tutors, improved more than 3 times as much as the control group, without tutors, on achievement tests. Classroom behavior improved with the addition of tutors. The feedback from both tutees and tutors was also extremely positive. It was concluded that peer tutoring has the potential to make remedial studies more enjoyable and effective.

本研究の目的は、日本の大学のリメディアル英語教育の授業においてピア・チュータリングを実施し、その効果を検証することであった。リメディアル英語を履修する96名の学生を対象に11週間以上にわたって調査を実施した。結果として、実験群（ピア・チュータリングを受けた学生群）は、統制群（ピア・チュータリングを受けなかった学生群）の3倍、試験の成績が向上した。受講態度についてもチューターとともに学ぶことにより改善された。「チューターとなる学生」と「チュータリングの対象となる学生」の双方からの授業評価も肯定的であった。以上により、ピア・チュータリングはリメディアル学習をより楽しく、効果的なものとする可能性があることが示唆された。

Like many others, the university I teach at accepts low-level English students, but requires a minimum score on the Test of English for International Communication (TOEIC) for graduation. The curriculum uses multiple approaches to help freshmen meet the minimum TOEIC 350 requirement. First-year students are grouped by ability. Each group of 25 students participates in a Computer-Assisted Language Learning (CALL) course coupled with a TOEIC test-taking lecture series. There are also a four-skills communicative course, an extensive reading program, and frequent extracurricular English activities. Plus, students can seek help from faculty or from a full-time native English speaker at an English-focused self-access center.

Because of this support, approximately 90% of students exceed the minimum TOEIC score of 350 by the end of their 1st year, leaving about 10% of 1st-year students in need of remedial English classes. To combat this problem, 4 years ago, a remedial English course was created to provide additional support for freshmen who score below TOEIC 250 on the initial exam. The remedial English course aims to improve students' grammatical understanding, thereby increasing the amount of comprehensible input (Krashen, 1985) and meaningful study during regular English classes. In addition, improving grammatical competence is one part of improving communicative competence (Canale & Swain, 1980), which is needed to achieve higher proficiency

test scores. The remedial class consists of a 45-minute lecture, taught by a local high school teacher, and a 45-minute independent study period. During the independent study period, students solve grammar problems from a workbook while being observed by a teaching assistant.

In the last 4 years, the remedial course has not proven to be as effective as desired. There are several possible explanations. First, the students may not have been studying effectively. In order for students to reach a level where they can generalize and apply learning strategies on their own, a certain amount of individual feedback, scaffolding, and explicit instruction is often required. This may surpass what a teacher can offer in the classroom (Lenz & Deshler, 2004). There might also have been a poor match of instruction and personal learning style (McDonough & Shaw, 2003). Additionally, the study periods were not being utilized well. Despite penalties for being off task, attendance was low and sleeping was not uncommon. The apparent lack of student motivation, manifesting in low participation, was a likely source of ineffectiveness.

The unsatisfactory results of the remedial English program led to a search for more effective methods to help at-risk students obtain the required TOEIC score. One means for potential improvement, revealed during this ongoing search, is peer tutoring. Introducing systematic peer support would require only small changes to the university's remedial English course structure and could provide more effective help for struggling students. This paper aims to determine if, and to what extent, peer tutoring can be used as a means to improve remedial English studies within a Japanese university context. As such, the specific research questions of this paper are as follows:

1. Can peer tutoring be used to increase proficiency gains?
2. Can peer tutoring be used to increase achievement gains?
3. Does peer tutoring have a positive effect on classroom behavior?

Foundations for a Peer-Tutoring Program

The term *peer* can be broadly defined as someone of the same social standing (Colvin, 2007, p. 4). In the context of teaching and learning, and for the purposes of this paper, peer is used to describe a variety of relationships and "the degree to which students are truly 'peers' varies across the range of possible . . . applications" (Falchikov, 2001, p. 1). The more strongly students identify with each other, the closer they are to being true peers. Age, ethnicity, gender, culture, and subculture are examples of things people use to identify with each other (Parkin & McKegany, 2000, p. 295). Ability, or level, is another important factor. Grouping students of different ages and levels are among the specific applications that will be examined in this paper.

Astin (1993) examined 88 environmental factors using samples from 159 universities and found that student-student and student-faculty interactions were the two most influential factors impacting educational outcomes. From his findings, Astin concluded that "how students approach general education (and how the faculty actually deliver the curriculum) is far more important than the formal curricular content and structure" (p. 425). Student-student interaction is especially important, as peer influence may be stronger than that of teachers, parents, and other adults in many situations (Mellanby, Rees, & Tripp, 2000). Astin argued, "The student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398).

The benefits of peer tutoring seem to be well established. Slavin (1990) regarded research done on students helping other students learn as "one of the most thoroughly researched of all instructional methods" (p. 52). A meta-analysis of peer tutoring by Cohen, Kulik, and Kulik (1982) found that in 52 out of 65 studies, tutees scored higher on achievement tests on average than students in untutored control groups. However, I have had considerable difficulty locating studies specifically on peer

tutoring in Japan at the university level. In Japan, the use of tutors is believed to end when students graduate from high school (White, Eguchi, Kawanaka, & Henneberry, 2005). The exception to this lack of research seems to be international language exchange programs. However, these exchange programs are considerably different than the remedial English context being examined in this paper.

Given the otherwise vast research base, the widespread absence of programs in Japan is surprising, but not uncommon. Schmoker (1999) observed, "One of the more jarring paradoxes in education is the gap between the rich research base on cooperative learning and its unfortunate underuse in the classroom" (p. 73). Perhaps this is the case in Japanese universities as well. As theories are put into practice in this study, explanations for this phenomenon may be encountered.

Methods

Participants in the study were a total of 96 English students from two remedial classes, one consisting of freshmen and the other sophomores through seniors. Students from each class were divided according to even and odd student numbers to make control and experimental groups, as outlined in Table 1.

Table 1 Experimental and Control Groups

Class	Control group (studying individually without tutors)	Experimental group (studying in small groups with tutors)
Freshmen	Group A: 20 students	Group B: 20 students
Sophomores ~ Seniors	Group C: 28 students	Group D: 28 students

The control groups participated in weekly 45-minute remedial lectures, with 45-minute independent study periods during which they solved problems from a workbook, working alone. The experimental groups participated in weekly 45-minute remedial lectures, with 45-minute group study periods that included peer tutors with significantly higher TOEIC scores. During these group study periods, remedial students solved problems from a workbook in groups of four, three students and one tutor. They were encouraged to ask questions and explain things to each other. The tutors helped remedial students solve their own problems or asked another student to explain. The tutors provided explanations only if the explanation in the book was unclear and no one else in the group could explain it.

In addition to having higher test scores, the tutors who were asked to participate had been observed as responsible, helpful toward others, and positive during their regular English classes. These three qualities were considered more important than their test scores. The tutors were given 1 hour of preservice training, which included the goals of the program and an introduction to practical skills such as active listening, redirecting questions back to students, and positive reinforcement techniques. They were paid a minimum wage for working as tutors.

The remedial lectures covered the same contents at approximately the same pace for all four groups. The study spanned 11 weeks; 2 weeks were used to administer tests, leaving 9 study sessions. During the study sessions, all remedial students solved problems from the same workbook, *Grammar Clinic* (Sato, 2006).

To answer the first research question, students' proficiencies were measured using the TOEIC test. This well-established test was administered once at the beginning of the semester in April and again toward the end of the semester in July.

To answer the second research question, achievement gains were measured using pre- and posttests created using representative samples of questions from the students' workbook. To cre-

ate the tests the split half method (Hughes, 2003) was applied. That is, odd-numbered questions were used to create the pretest and even-numbered questions were used to create the posttest, ensuring similar problems for each test.

To answer the final research question, classroom behavior was monitored and quantified using a point system. For each lecture, students had the opportunity to earn three points. For each study session, they could earn and additional 3 points. To earn full points, the students had to arrive on time and stay on task for 45 minutes. If they were less than 5 minutes late, 1 point was deducted. If they were more than 5 minutes late, 2 points were deducted. If they were more than 30 minutes late, 3 points were deducted. In addition, 1 point was taken away for off-task activities such as texting or talking on a cell phone, reading comics, or sleeping. The point system was included in the syllabus and explicitly outlined at the beginning of the semester. To pass the remedial class, students had to earn at least 66% of the participation points. A teaching assistant was present at all times to observe and award points. Following each class, these points were entered into an online learning platform, Moodle. Students could access their points online. In addition, two paper-based progress reports were handed out during the semester.

Results and Discussion

Changes in proficiency, achievement, and classroom behavior were measured using the research instruments introduced in the previous section.

Proficiency Gains

The TOEIC test was used to measure proficiency gains. A summary of the results can be found in Table 2.

Table 2. Average TOEIC Test Results of Students Who Took Both Tests

Test	**Group A** Freshmen control group ($n = 20$)	**Group B** Freshmen with tutors ($n = 19$)	**Group C** 2nd-4th year control group ($n = 13$)	**Group D** 2nd-4th year with tutors ($n = 15$)
April	222	224	294	281
July	304	293	288	321
Difference	+82	+69	-6	+40

The standard error of measurement for the TOEIC test is given as plus or minus 35 points (Educational Testing Services, 2007). The averages in April show that the groups being compared (Group A with Group B and Group C with Group D) had scores within this range. This confirms that they were suitable for research purposes.

Looking at the proficiency gains shown in Table 2, three groups improved more than 35 points, while group C decreased by 6 points. The freshmen control group outperformed the group with tutors by 13 points, though this difference is within the standard error of measurement. The sophomore through senior group with tutors outperformed the control group by 46 points. This is a significant difference.

There are a number of factors that could have contributed to the greater gains achieved by freshmen. These students were largely unfamiliar with the TOEIC test when entering university in April. Over the course of their first semester, they received special instruction on TOEIC test-taking strategies in their regular English courses. These courses also included CALL activities similar to questions on the TOEIC test. Therefore, they

were much more familiar with the test in July. The older students were already familiar with the TOEIC test. So, becoming familiar with the test and test-taking strategies were less likely to result in further improvement.

Group D improved considerably more than group C. However, since groups A and B had similar proficiency gains, it is not clear that the added support from tutors resulted directly in proficiency gains. The differences between groups C and D suggest that the tutors may have had a positive influence. However, the results of the next section provide more information to base conclusions on.

Achievement Gains

Representative samples of questions from the students' workbook were selected and divided to create similar groups of questions. These groups of questions served to create a pre- and posttest, which were used to measure achievement gains. A summary of the results is in Table 3.

Table 3. Average Achievement Test Results of Students Who Took Both Tests

Test	**Group A** Freshmen control group ($n = 16$)	**Group B** Freshmen with tutors ($n = 18$)	**Group C** 2nd-4th year control group ($n = 22$)	**Group D** 2nd-4th year with tutors ($n = 24$)
April	41.3%	37.3%	40.6%	44.5%
July	42.1%	56.1%	46.6%	62.5%
Difference	0.8%	18.8%	6.0%	18.0%

As can be seen in Table 3, all of the groups showed improvement to various degrees. However, group A's improvement was minimal. Both groups working with tutors showed noticeably more improvement than the control groups, 18.0% and 18.8% improvement with tutors as apposed to 0.8% and 6.0% without. Clearly, the tutoring program was more effective at generating achievement gains.

Changes in Classroom Behavior

Classroom behavior was monitored using attendance records and observations about the quality of participation. A summary of attendance and participation can be found in Table 4.

Table 4. Attendance and Participation Points

Points	**Group A** Freshmen control group ($n = 20$)	**Group B** Freshmen with tutors ($n = 20$)	**Group C** 2nd-4th year control group ($n = 28$)	**Group D** 2nd-4th year with tutors ($n = 28$)
Total points earned on average (66 points possible)	54.2	56.2	47.7	48.8
Number of absences	26	16	55	59
Number of times late	11	1	9	3
Number of times cell phones were used	1	0	3	0
Number of times sleeping	9	0	16	0

As can be seen in Table 4, the groups working with tutors earned more participation points on average, but only slightly. Analysis suggests that tutoring did not influence attendance. The quality of participation after coming to the study sessions, however, was much better for students working with tutors. There were no instances of sleeping or cell phone use in remedial classes with tutors. The difference in tardiness may best be explained by the order of the classes; tutoring sessions followed the lectures, whereas the control groups worked independently before the lectures. However, the tutoring sessions began earlier as the semester progressed to the point where it was abnormal not to start early. On one occasion, the teaching assistant was uncertain if she should deduct points from a student for being "late." The student was technically 2 minutes early, but all the other students had been working for several minutes. This instance suggests that tutoring had a beneficial effect regarding the start time.

Qualitative results, specifically weekly comments from tutees, also suggest that the tutoring sessions were beneficial for students' attitude. Translated comments included the following:

- "I tried solving questions by myself. I want to keep doing it!"
- "I want to review so I can remember what I learned today."
- "I prepared for the class."
- "I concentrated while studying. I want to concentrate while studying in the dormitory, too."
- "I realized the necessity of review."
- "I enjoyed studying English."
- "The explanations are easy to understand. I don't want to waste time, so I want to prepare questions before the class."
- "My image of English has changed."

Weekly comments from tutors suggest that tutoring had some positive effects, especially with regards to learning while helping others and gaining skills as a tutor. Comments included the following:

- "I can learn not only teaching skills, but also important grammar."
- "I recognized that my weak point is grammar."
- "I learned more about English by teaching."
- "I think I have improved my teaching skills!"
- "Today, I could teach better than before. I believe they will pass their tests."
- "I was sad because it is the last day. I learned a lot over the past 3 months."
- "I could learn, too! I enjoyed this class."

Further Discussion

Unlike the results for proficiency gains, the results for achievement gains were less likely to have been affected by external factors. None of the students had previous experience with the textbook used to generate the pre- and posttests. Furthermore, students all covered the same material at approximately the same pace. The differences in achievement gains between groups can be strongly attributed to the method of instruction during the study sessions. Introducing tutors did enhance the effectiveness of instruction in the remedial program. Now that students are showing more improvement, efforts can be focused on building a stronger correlation between achievement gains and proficiency gains. Perhaps the content of the remedial studies course can be changed to improve this correlation.

In retrospect, using a high school grammar workbook for remedial studies was an inappropriate choice, as shown by Uchibori, Chujo, and Hasegawa (2006). Their in-depth analysis

compares the frequency of grammar patterns found in high school English textbooks with those found on the TOEIC test. Their analysis shows that high school textbooks focus on complex grammar structures, whereas the TOEIC test frequently tests knowledge of simple grammar structures. Uchibori et al. (2006) concluded.

> In short, not only do high school textbooks *not* prepare students for the types of grammatical structures that frequently appear in TOEIC questions, but the grammatical features and structures that are so highly rated as to receive prominent coverage in the explanatory notes of the textbooks (other than sentence patterns) frequently do not appear in TOEIC questions at all. (p. 235)

Using Uchibori et al.'s (2006) list of grammar points, ranked by frequency of appearance on the TOEIC test, it should be possible to choose a more appropriate textbook. Future results of the remedial program can be monitored to determine if this change improves the correlation between achievement and proficiency gains.

Conclusion

In this study, I primarily sought to determine if, and to what extent, peer tutoring could be used as a means to improve remedial English studies within a Japanese university. The results demonstrate that peer tutoring can be used successfully for that purpose. Further investigation into the TOEIC test has suggested that changing the remedial study material has the potential to lead to an increase in future proficiency gains. In terms of achievement gains, tutees improved over three times as much as students in the control group. Tutees were also more able to stay on task and seemed to enjoy studying with tutors. Likewise, the tutors seemed to enjoy helping others while reinforcing and expanding their own knowledge.

While the program is far from perfect, the theories and methods discussed in this paper have lead to improvements in the remedial English course. Hopefully, these efforts will continue to develop a more enjoyable and effective academic support system that can be used to maintain academic standards in the future.

Bio Data

Craig Manning is currently researching the development and effectiveness of peer-support programs, aiming to make learning more enjoyable and effective in Japan. He welcomes opportunities to collaborate and enjoys helping new peer-support programs get started. <c-manning@u-shimane.ac.jp>

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