

# A Preliminary Study on Collaboration in Lecture Notetaking

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Notetaking is an important skill in academic listening. In second language (L2) contexts, research on this topic remains relatively limited, but is gradually increasing. However, there are still a number of gaps to be filled, one of which is collaboration. Notetaking is generally seen as a solitary activity, but having students collaborate with classmates and share their notes with one another may be beneficial. The purpose of this paper is to investigate this possibility. Learners in an intact academic listening class shared notes with each other six times over the course of one semester and answered questions about the experience. Most participants responded that they were open to sharing notes with classmates and that they found the activity useful, suggesting that it may be beneficial for the development of notetaking skills.

ノートテイキング（講義を要約しノートに書き取ること）はアカデミック・リスニングにおいて重要な学習技術である。第2言語（L2）において講義ノートをとることに関する研究は比較的少ないが、ここ数年少しずつ増えてきている。しかし、まだ取り上げられていない研究テーマがいくつかあり、その中の一つは協働学習である。講義ノートをとる事は一人で行う作業と思われがちだが、学生が自分で取った講義内容を同級生と共有することは効果的であると考えられる。本論の目的はこの可能性を探ることである。アカデミック・リスニングの授業を受講している学習者たちは1学期中6回同級生と講義内容を互いに共有し、その経験についてアンケートに答えた。その結果、学習者はノートを共有することに対しておおむね肯定的で、また効果的であると答えた。これは、同級生とノートを共有することがノートテイキング・スキルの発達につながることを示唆している。

In recent years, ELT textbooks that focus on academic listening tend to include notetaking activities, likely because it is considered a key academic listening skill. It is a skill that students will need if they intend to study overseas, and more and more it is also growing in importance in Japan as an increasing number of universities are offering regular non-language courses entirely in English, or English as a medium of instruction (EMI; see Brown & Lyobe, 2014).

Considering the emphasis on notetaking in many ELT materials, the amount of research on the practice in second language (L2) contexts is relatively small. This contrasts with first language (L1) contexts, where such research goes back to the seminal work of Crawford (1925). Nevertheless, recent years have seen a gradual increase in the

amount of research being conducted in L2 contexts, including here in Japan, with studies focusing on such issues as the development of notetaking strategies (Crawford, 2015), pedagogical approaches to notetaking (Siegel, 2018, 2019), and the relationship between notetaking and lecture comprehension (Sakurai, 2018). The gradual growth of research in L2 contexts is welcome, but one issue not sufficiently addressed to date is the role of collaboration in notetaking, which is the focus of the current study.

## Literature Review

Since the early 1980s, collaborative learning has been the focus of a great deal of research in the field of education, and meta-analyses of many of these studies have shown that its outcomes in terms of achievement and motivation are superior to those of competitive or individualistic learning (Gillies, 2016). In the field of language education, social constructivist approaches such as those of Vygotsky (1962) have attracted considerable attention, leading Williams and Burden (1997) to comment that “an important role for language teachers is to arrange their classes in ways which will encourage sharing behavior, and to find ways of helping learners to develop this ability through language learning tasks” (p. 78).

At first glance, notetaking is not something that appears to be suitable for collaborative learning, as generally speaking students take notes on their own. However, as part of a learning task to build notetaking skills, it clearly could be beneficial. This is one reason why it has not been ignored by L2 authors, such as Wilson (2008) and Lynch (2009). Wilson (2008) observed that the development of notetaking skills and strategies required “extended feedback after listening, as students compare their notes” (p. 36). Commenting on the benefits of self-access centers as a space for collaborative learning in L2 contexts, Lynch (2009) stated that they give students an opportunity to compare notes with their classmates and to give their individual opinions about listening passages. Finally, Aish and Tomlinson (2013) point out that learners can check the accuracy of their notes by going over them with classmates.

Although the authors cited above point out the potential benefits of collaboration in notetaking, they do not present empirical data to support this view. Addressing this issue, Tsuda (2011) empirically investigated the use of collaborative learning in listening classes at a Japanese university. In her classes, students discussed the topic to be covered for the day and then watched a recorded lecture. After watching it once or twice, they compared notes with a classmate. At the end of both the spring and fall semesters, they answered a questionnaire and rated how effective they perceived various class activities, including note sharing. In both semesters the ratings ranged from 3.4 to 3.9 on a 5-point Likert scale (with '5' being the highest rating), suggesting that they felt the activity was beneficial.

The main purpose of this study is to extend Tsuda's (2011) results regarding the usefulness of sharing notes. Additionally, I aim to explore three related issues that were not included in Tsuda's (2011) investigation but may suggest avenues for future research:

- Whether students are open to the idea of sharing their notes;
- whether there is a correlation between the perceived difficulty of notetaking and its perceived usefulness; and
- what differences learners noticed, if any, between their own notes and those of their classmates.

Accordingly, four research questions were addressed in this study:

- RQ1: Do learners who collaborate on notetaking by sharing their notes with classmates find the activity useful?
- RQ2: Do learners show openness towards sharing their notes with one or two classmates and/or the whole class?
- RQ3: Is there a correlation between the perceived difficulty of notetaking and the perceived usefulness of sharing?
- RQ4: What differences do learners find when comparing their notes with those of their classmates?

## Method

### Participants

Data was collected from an intact academic listening class at a medium-sized private university in the Kanto area. There were 30 students in the class. Their TOEIC scores ranged from 595 to 635. All students were non-English majors who were

taking the course as part of a language requirement. All students were informed that any data collected would be handled with care, including ensuring their anonymity, and that it would only be used for research purposes.

### Materials

#### For the course

An academic listening textbook, *Listening and Notetaking Skills 1* (Dunkel & Lim, 2013) was used. The book consists of 15 chapters, each of which contains one lecture and pre- and post-listening activities, including exercises aimed at improving learners' notetaking skills.

#### For the study

Two questionnaires were employed. The first was a 50-item questionnaire that asked students about their previous experiences with and opinions about notetaking. The reliability of the questionnaire was examined using Cronbach's alpha, yielding a result of 0.95. Due to space limitations, only four items from this questionnaire are used in this study to answer RQ2. The second questionnaire used in the study contained three 5-point Likert-scale items and two open-ended questions. As with the first questionnaire, due to space restrictions only three items (two scaled and one open-ended) are discussed here. The scaled items asked about the usefulness of comparing notes with classmates (RQ1) and the perceived difficulty of the day's notetaking (RQ3). The open-ended question asked students to note what differences, if any, they found between their own notes and their classmates' notes (RQ4).

### Procedures

The first questionnaire was anonymous and conducted at the beginning of the course at the start of the spring semester. All the students were present, so data was obtained from all 30 participants. The second questionnaire was not anonymous and was completed immediately after students took notes as they listened to a lecture and finished comparing them with their classmates. This second questionnaire was completed six different times over the course of the semester. For this reason, absences reduced the number of students for whom a complete set of data was available. In the spring semester complete data sets were available for 21 students. As the first questionnaire was anonymous, it was not possible to link answers between the first and second questionnaires.

**Results**

**RQ1: How useful is sharing notes with classmates?**

Table 1 presents the results of RQ1, which examined whether students found sharing notes to be a useful activity or not. The average usefulness ratings obtained from the second questionnaire are provided for each of the six times students compared notes.

As Table 1 shows, students appear to have found sharing notes to be useful. For all six times that learners compared notes, the average ratings for the usefulness of the activity were above 4 on the 5-point Likert scale, ranging from a low of 4.3 to a high of 4.7. These results, like those from Tsuda (2011), suggest that collaboration may have an important role to play in notetaking instruction.

**RQ2: How open are students to note sharing?**

Four items from the first questionnaire were used to examine how open the students were about sharing their notes with classmates and/or the whole class. Table 2 summarizes these results.

Table 2 shows more students stated that they would not be embarrassed showing their notes to one or two classmates (57%, 17 students) than

would (30%, 9 students). As for sharing their notes with the whole class, the corresponding percentages were 43% (13 students) and 40% (12 students), suggesting that there is slightly greater reluctance to share notes with the whole class than with one or two classmates. For questions three and four, the results were similar to questions one and two, with 57% (17 students) saying that they would feel comfortable sharing their opinions about notes or notetaking in a small group, as opposed to 26% (8 students) who responded that they would not. Finally, for sharing opinions in front of the whole class, 40% (12 students) said that they would be comfortable, as compared to 37% (11 students) who would not be. Overall, these results are positive, especially for note sharing in pairs or small groups, providing further support for note sharing.

**RQ3: Is there a correlation between the perceived difficulty of notetaking and the perceived usefulness of sharing notes?**

The purpose of RQ3 was to examine whether students rated the usefulness of note sharing more highly when the notetaking activity was more difficult. Table 3 displays the average ratings for difficulty and usefulness for each of the six times the

Table 1. Usefulness of sharing notes

	1 <sup>st</sup> time	2 <sup>nd</sup> time	3 <sup>rd</sup> time	4 <sup>th</sup> time	5 <sup>th</sup> time	6 <sup>th</sup> time
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Usefulness	4.4 (0.7)	4.7 (0.6)	4.5 (0.8)	4.3 (0.9)	4.6 (0.8)	4.5 (0.7)

Scale (usefulness): 1=not useful, 2=slightly useful, 3=neutral, 4=somewhat useful, 5=useful

Table 2. Learners' openness towards sharing their notes with their classmates and/or the whole class

Question	Strongly disagree N (%)	Disagree N (%)	Neither agree nor disagree N (%)	Agree N (%)	Strongly agree N (%)	Mean (SD)
1. I would be embarrassed to show my notes to one or two classmates.	8 (27%)	9 (30%)	4 (13%)	7 (23%)	2 (7%)	2.53 (1.31)
2. I would be embarrassed if the teacher showed my notes to the class.	7 (23%)	6 (20%)	5 (17%)	9 (30%)	3 (10%)	2.83 (1.37)
3. I would be comfortable sharing my opinion about notes or notetaking in a small group.	1 (3%)	7 (23%)	5 (17%)	9 (30%)	8 (27%)	3.53 (1.22)
4. I would be comfortable sharing my opinion about notes or notetaking to the whole class.	0 (0%)	11 (37%)	7 (23%)	7 (23%)	5 (17%)	3.20 (1.13)

Scale: 1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree

activity was done and the correlation between them using Pearson's  $r$ , and  $R^2$  for effect size.

As Table 3 illustrates, the answers for the difficulty of notetaking ranged from 3.3 to 4.3, and as was noted above the usefulness of sharing notes ranged between 4.3 and 4.7. In only one case was the correlation between the two statistically significant, namely the first time ( $p < 0.5$ ), and the effect size was medium. There are many possible reasons for this. One may be that because it was students' first time in the class to do notetaking, they felt anxious. For this reason, it is possible that the more difficult they rated the task, the more useful they found it to compare notes with classmates.

#### RQ4: Differences found between learners' notes

Students' comments about sharing notes were analyzed and classified into six categories. There were 63 comments in total, with the category "symbols and abbreviations" the most prevalent (21). Table 4 shows the six categories, the total number of comments for each, and three sample responses. The responses were all written in English and are unedited.

The topic that generated the most comments, 21, was "Symbols and abbreviations" (see Table 4). Seven students noted that their partners used more symbols and abbreviations than they did, so the activity was a good chance for them to notice a poten-

Table 3. Correlation between perceived difficulty of notetaking and usefulness of note sharing

	1 <sup>st</sup> time M (SD)	2 <sup>nd</sup> time M (SD)	3 <sup>rd</sup> time M (SD)	4 <sup>th</sup> time M (SD)	5 <sup>th</sup> time M (SD)	6 <sup>th</sup> time M (SD)
Difficulty	3.3 (0.9)	3.5 (0.7)	3.7 (0.7)	4.3 (0.7)	3.5 (1.0)	4.3 (0.6)
Usefulness	4.4 (0.7)	4.7 (0.6)	4.5 (0.8)	4.3 (0.9)	4.6 (0.8)	4.5 (0.7)
Pearson's $r$ ( $R^2$ )	0.47* (0.22)	-0.22 (0.05)	0.07 (0.00)	0.31 (0.10)	0.25 (0.06)	0.02 (0.00)

Scale 1 (difficulty): 1=very easy, 2=slightly easy, 3=neutral, 4=somewhat difficult, 5=difficult

Scale 2 (usefulness): 1=not useful, 2=slightly useful, 3=neutral, 4=somewhat useful, 5=useful

\*  $p < 0.05$

Table 4. Comments from students about sharing notes

Topics in responses	Number of comments	Sample comments		
Symbols and abbreviations	21	My partner's note used more symbols than me.	People around me used @ or .', but I couldn't use them so much.	My partners write a lot of abbreviations such as =, →, &
Quantity of information	11	There are more information than me.	The quantity of words weren't so much.	They wrote information in detail.
Clarity and simplicity	10	Yes, clearly than mine.	My partner's note is clear, so it is easy to see!	My handwriting is messy so it is difficult to read it again.
Other techniques besides symbols and abbreviations	10	Everyone write words, but I write figure.	My partners wrote pictures. They were good to see.	Yes, I did. My partner uses pictures, which are very useful.
Noticing mistakes	8	I could find missing spell by comparing with others.	I could check mistakes in my notes.	I wrote "19 month," but I noticed my mistake. Correctly, it was "18."
Accuracy of information	3	My partner was so accuracy to listen information.	They are more accurate than my note.	They take so accurate and many information.

tial gap in their notetaking strategies. Comments about the other five categories mirrored those for “Symbols and abbreviations,” with many students writing that their partner’s notes were superior to theirs, such as by having more information, better clarity and simplicity, and greater accuracy. They also wrote that their classmates used different techniques from symbols and abbreviations, namely pictures and figures, and that they could notice mistakes in their own notes after examining their classmates’ notes.

## Discussion

The results for RQ1 regarding the usefulness of note sharing were generally positive, with students’ answers to a 5-point Likert scale ranging from 4.3 to 4.7 (Table 1) over the six times that the activity was undertaken. This provides further empirical support for the benefits of note sharing first found in Tsuda (2011) and suggests that teachers who have not yet had their students compare notes may want to consider doing so.

Further support for note sharing was found in RQ2, which focused on students’ openness to it. Students generally viewed sharing notes favorably, especially in pairs or small groups, with the majority of students saying that they would not be embarrassed to show their notes or give their opinions with one or two classmates (see Table 2). With regard to sharing notes with the whole class, while more students than not responded that they would not be embarrassed to share, the fact that 40% replied that they would be embarrassed suggests that teachers need to take care when showing specific learners’ notes to the class, such as making sure that the notetaker’s name is concealed. As for having students share their opinions about notes or notetaking to the whole class, teachers should understand that not all students may be comfortable doing that.

RQ3 examined whether there was a correlation between the perceived difficulty and perceived usefulness ratings that students made after completing the notetaking and note sharing activities. The only statistically significant correlation occurred when students first completed the activity (see Table 3). It is possible that anxiety played a role in this. For many learners it was their first time to do lecture notetaking, so they may have been anxious, and because of this found it useful, and perhaps relieving, to be able to share their notes with their classmates. Further investigation of this issue, as well as the possibility that objective measures of difficulty may yield different results, is needed, but teachers may

want to keep in mind that students who initially appear to be struggling with notetaking may benefit from collaborating and sharing their notes with classmates.

Finally, RQ4 investigated what differences students found between their own notes and those of their classmates. A variety of differences were found, but it is interesting to point out that nearly all the learners used the opportunity to write comments praising their classmates’ notes (see Table 4) and few students wrote negative comments. This may result from a reluctance to criticize classmates’ work, something that can often be found in activities that require peer feedback (Wadden & Hale, 2019). Nevertheless, the opportunity to see classmates’ notes appears to have allowed learners to notice issues with their own notes, and this noticing may help to improve their own notetaking skills.

## Conclusion

This study has shed some light on the relatively unexplored area of collaboration in the context of L2 lecture notetaking, particularly post-lecture note sharing. While notetaking is generally seen as a solitary activity, the results of this study suggest that greater notetaking collaboration may benefit learners. For the most part, participants reported that they are open to sharing notes with one or two classmates, albeit less so when it comes to sharing with the whole class, and they consistently rated the usefulness of the activity highly. Additionally, they commented that they noticed different issues about their own notes after having looked at their classmates’ notes. It seems reasonable to suggest that such noticing could lead to improvements in their notetaking skills.

Despite the generally positive results, the small scale of the study precludes generalization. Consequently, follow-up studies with larger numbers of participants and deeper analysis are required before stronger conclusions can be made. Further research could explore additional ways of fostering collaboration in notetaking.

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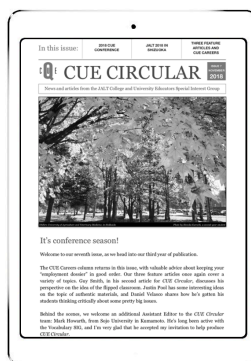
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