Collaborative Notes

When peers share notes, does it improve their notetaking stills and increase their understanding of the material?

Rachael Basra, Kelly Chan, Jacob Cruz, Carmela David, Belle Glaesman, Ihsan Imthiyaz, Elijah Maravilla, Johnathan Santana

Peer Assisted Learning at Sacramento State

Background

Students rely on notes to review content, expand the depth of their understanding, and prepare for exams. In grade school, students are encouraged to take their own notes and not share them with peers in order to actively engage in the lecture and avoid passive learning. **So, the question begs what can we learn by sharing our own notes with our peers?**

In higher education, students experience challenges in note-taking, especially in their first few years of college, yet their "unfamiliarity with note-taking in a university context cannot be attributed to individual students' deficits" (van der Meer 14). The process of curating our own note-taking process is a learning curve for students and sometimes lasts for years as we pick up little methods that help us along the way. Because of this, the question, "What makes a good page of notes?" is subjective.

Recent studies have shown that "the Seven Principles for Good Practice in Undergraduate Education [12] advocates developing reciprocity and cooperation among students, using active learning techniques, emphasizing time on task, and giving prompt feedback" (Reilly & Shen 3).

Using this, we have constructed a study to determine the efficacy of note collaboration.

Methodology

Facilitators from **BIO 131, CHEM 1B, and MATH 12** separated PAL sections into control or experimental groups.
Control Groups: the class was conducted as normal
Experimental Groups: the facilitator had their students take 10 minutes to collaborate on a **"note-taking"** worksheet.
The "**note-taking**" worksheet contained **pre-selected** topics from the corresponding course syllabus.

At the end of the semester, a survey was given, containing questions about the students' confidence level in ten topics, selected from the class syllabus, relating to each class. The results tell us whether the students have quality notes that are reliable enough enable them to relearn the material.

Results

In Math 12, there was no significant difference between the control and experimental group (unpaired t-test, $p > 0.05$). In Chem 1B, there was no significant difference between the control and experimental group (unpaired t-test, $p > 0.05$). Finally, in Bio 131, there was also no significant difference between the control and experimental group (unpaired t-test, $p > 0.05$). Math 12 n = 14; Chem 1B n = 14; Bio 131 n=12.

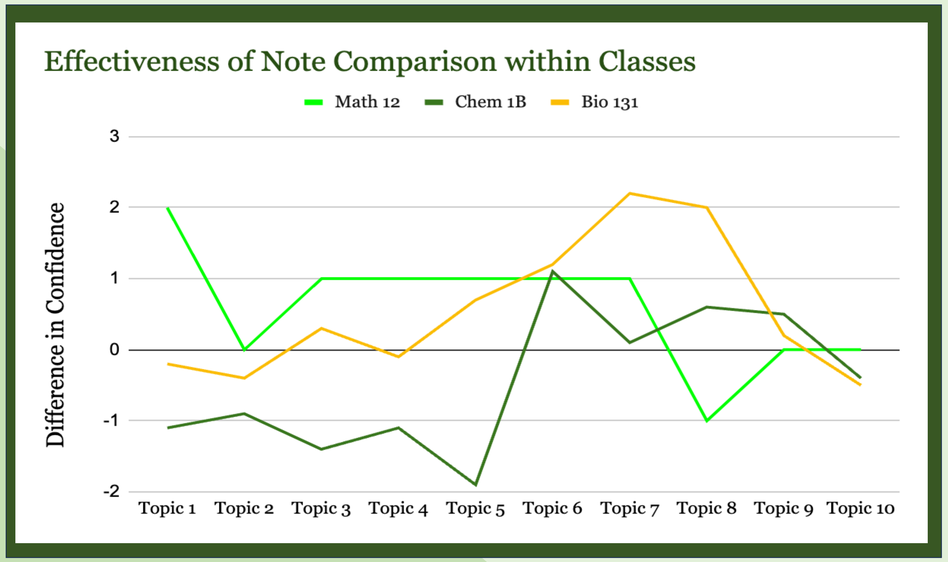
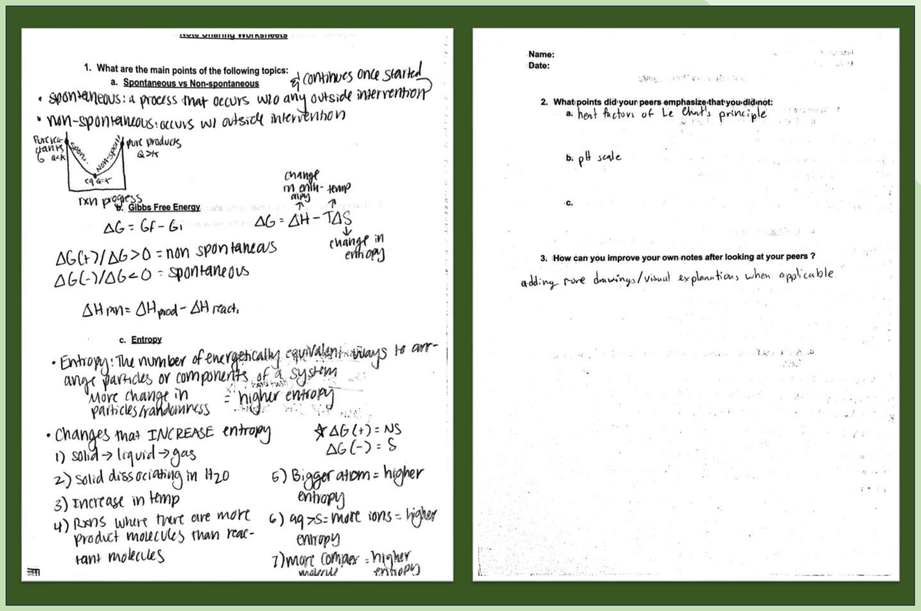


Figure 1: The y-axis represents the confidence level of the experimental group subtracted by the confidence level of the control group. The x-axis covers topics taken, sequentially. The more positive the confidence level is, the more successful the note taking activity was. If the confidence level is negative, the activity was not successful.



Worksheet Examples

These are samples collected from our CHEM 1B experimental section demonstrating how the students worked together to fill out these worksheets that had topics corresponding to what they were currently learning in the course.

Survey Questions

On a scale of 1 -10, how confident are you able to reread your notes and understand them? **#1 Graphing Interval Notation**

1 Being: I barely took any notes, there's nothing for me to reread
5 Being: I understand what I wrote, but I'm missing some parts
10 Being: I could relearn this topic using my notes and not miss anything

1 2 3 4 5 6 7 8 9 10

Discussion

While our data demonstrated no statistical difference between the control and experimental groups, there were some notable trends in the data. According to our results towards the end of the semester, collaborating notes had a greater impact on note-taking comprehension in Bio 131 in comparison to other classes. These findings could be due to the emphasis on conceptual knowledge in Bio 131 rather than calculation skills which are relied on in Chem 1B and Math12.

Furthermore, the outcome of this study may have been subjected to various errors. Due to inconsistency in student attendance, our sample sizes did not reflect the total enrollment of each class. Experimental error may have occurred due to miscommunication between the facilitators and students disregarding instructions given. Also, due to the PAL class time being limited to fifty minutes, students were not given sufficient time to adequately answer most of the questions on the worksheet and therefore were not able to reflect on their experiences collaborating on their notes.

With that in mind, if we were to repeat this experiment, we would improve several different factors to obtain more conclusive data. We would establish a more efficient way to communicate between facilitators to ensure that everyone understands the methodology. We would also provide students with more clarity in our instruction, allow them to have more time to complete each worksheet, and emphasize the importance of attendance to increase our sample size.

References

Haghvedri, H., Biria, R., & Karimi, L. (2010). Note-taking strategies and academic achievement. *Journal of Language and Linguistic Studies*, *6*(1)

Van Der Meer, J. (2012). Students' note-taking challenges in the twenty-first century: Considerations for teachers and academic staff developers. *Teaching in higher education*, *17*(1), 13-23.