Encouraging Interaction Within Online Discussion

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Background

When conducting online discussions, secondary education teachers report issues in subbing individual posts for an interactive discussion. To qualify as an interactive discussion, this study requires students to produce both **uptake questions**

- questions that use information about something said previously

and **high-level thinking questions**

- questions that generate generalization, speculation, or analysis.

The study looks at how group size and mode of communication might affect the level of interaction between the students.

Purpose

To investigate whether levels of interaction between students vary online vs. in a face-to-face setting, and what tools might allow for online interaction between students.

Research Questions

- How did levels of interaction between students change from a face-to-face scenario to one that was conducted online?
- Did prompting students with uptake questions and/or high-level thinking questions promote online interaction?
- Did group size affect online participation?

Participants

- The participants included 168 secondary students & 7 teachers from varying socioeconomic statuses in Auckland, New Zealand. After face-to-face studies were conducted in the seven classrooms
  - **four** of the classes placed students in whole-class online discussions, and
  - **three** of the classes placed students in small-group online discussions.

Uptake Question Frequency
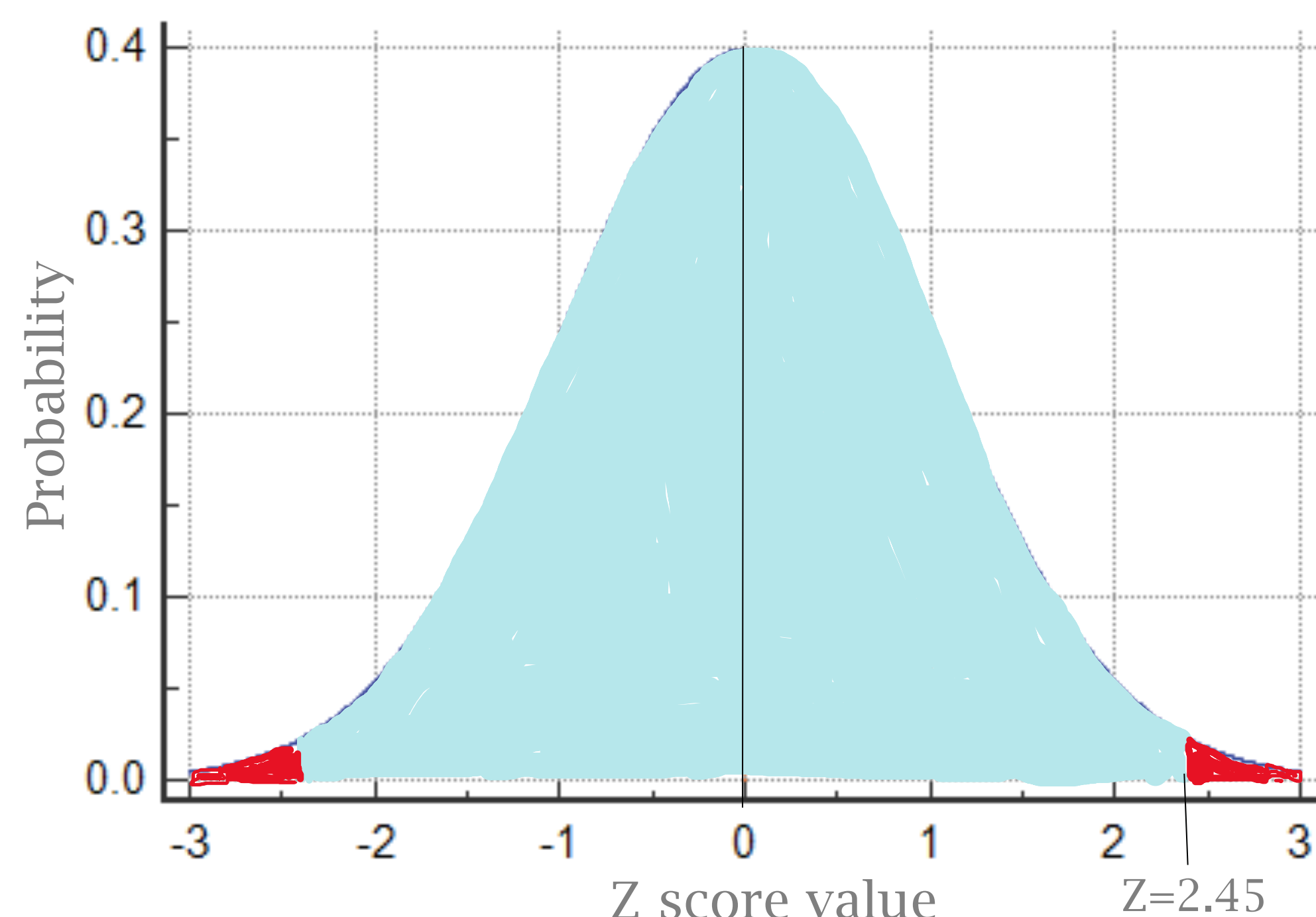
A 2.45 z score represents a significant increase in uptake questions by small groups with a very small probability; this finding was unrelated to the group size, only 1.4%.
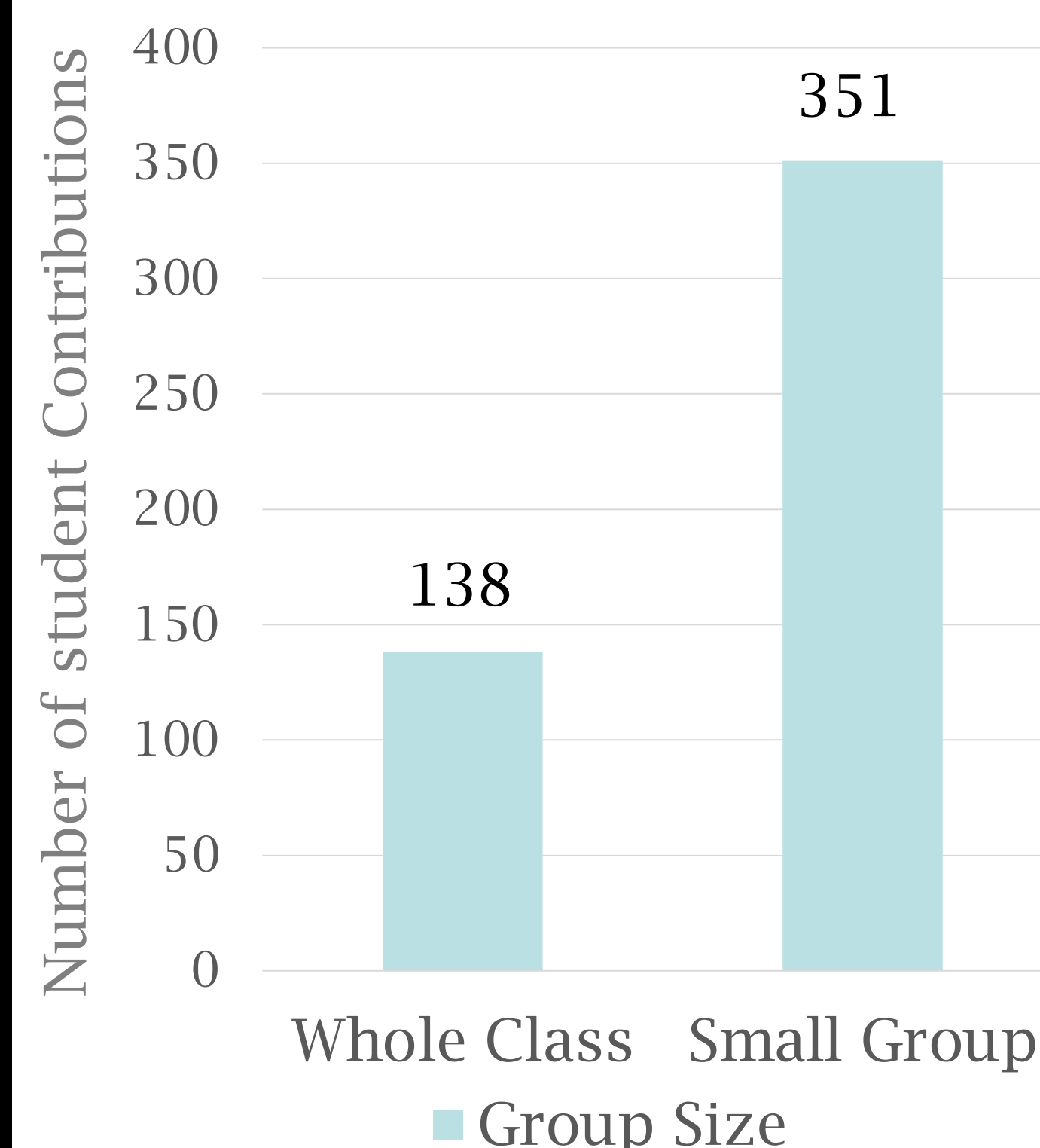
Procedure

For each of the seven classrooms, six discussions were evaluated. Three of the discussions occurred in class and the other three occurred online using Edmodo. For each of the online discussions, four of the classes conducted whole-class discussions whereas the other three classes were placed in small groups. For the first round of discussions (one in-class discussion and one online discussion) students were given minimal instruction. For the second and third rounds of discussions, students were taught the definitions of both uptake questions and high-level thinking questions. They were then instructed on how to use these types of questions in discussions. After all three rounds of discussions were completed (six total discussions), the data was analyzed using coding techniques.

Total Interactions

Future Research

Once I am able to conduct further research, I will look at the difference in frequency of interaction between students who discuss in person vs. those who hold discussions online. First, I will identify the current difference in frequency of interaction through these two modes of communication. Then, I will intervene with the same strategies used in this research. After identifying current student interaction in class and online, I will teach students the meanings of uptake and high-level thinking questions and see if their interactions with this knowledge will increase interaction in person differently than what was already observed online.

Conclusions

In order to evaluate the data, a research assistant was trained to analyze the interactions between students. Any discrepancies about what was considered an interaction were reconciled between the assistant and the researchers.

- Differences in the levels of interactions for students placed in online groups or whole class discussions were analyzed quantitatively.
- Transcripts of the students' interactions were analyzed qualitatively in order to better compare data.

Face-to-Face vs. Online
- Unknown

Uptake Question Frequency
- For both types of analysis, a z-test of the difference in proportions indicated that the use of uptake questions among students in online groups was significantly higher compared to those set up as a whole class.
- **(z=2.45, p=0.014)**

High-level Thinking Question Frequency
- There was no significant difference in the use of high-level questions.

Group Size
- Students in the whole-class discussions used fewer questions, resulting in fewer total interactions:
  - Contributions for whole-class groups: **138**
  - Contributions for small groups: **351**

Overall, these findings show that while high-level questions don't currently show a change in interaction, presenting students with the definition of uptake questions and showing them how to use them in discussions will increase their total interactions. Teachers may use this tool to encourage student discussion as opposed to individual posting online. This may become increasingly applicable as online secondary education continues to be a resource for teachers around the world.

References

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*Note: Data is based on a pre-conducted study due to constraints from COVID-19 (face-to-face interaction could not be measured)