

5

Obtaining student participation data from Zoom chat transcripts

William Pellowe, Kindai University (Fukuoka Campus)

Abstract

This short paper discusses the development and features of a piece of technology for language learning practices during online lessons. This tool was created to provide data on student participation. Maintaining student interest through active participation was challenging in the author's online Zoom classes of forty or more students. After considering many options, the author concluded that the most technologically accessible approach was to elicit answers through direct messages in the Zoom chat. Zoom can automatically save chat transcripts for later analysis. This tool, freely distributed as a Google Sheets document, allows teachers to analyze Zoom chat transcripts for quantitative and qualitative participation data by simply pasting the entire transcript into one sheet of the document, and other sheets will tally up each student's contributions, and display each contribution for qualitative assessment.

Keywords: online lessons, Zoom lessons, active participation, chat transcript analysis

Introduction

In a previous paper (Pellowe, 2023 b), I described the initial development of a tool to obtain quantitative and qualitative data from Zoom chat transcripts. In that paper, I argued one of the least complicated and most streamlined methods of providing opportunities for keeping students engaged during online classes, especially with large classes, was to periodically elicit responses from students as messages in the Zoom chat. The fact that Zoom automatically saves these transcripts in a structured text file means that the right tool would be able to extract and list the contributions from each student so that these responses could be counted and evaluated, thus quantifying students' participation in the class. In

this paper, I will briefly summarize the main points of the previous paper and describe the Zoom Chat Analysis Tool (ZCAT), including the further developments which address the shortcomings of the initial version of this tool.

The general English classes at my private university in Fukuoka Prefecture generally have forty (40) or more students in each class. When we started doing online classes in 2020 with Zoom in response to the COVID-19 Pandemic, having this many students per lesson posed challenges, especially with regard to video cameras; students were advised by the university to keep their cameras off to conserve bandwidth for both financial reasons (some were on limited WiFi contracts) and to maintain the quality of the video feed they were receiving from the teacher. With cameras off, it is difficult to know if students are maintaining interest in the content, or if they are “ghosting” the class. Wakefield (2020) describes “ghosting” as appearing in name only: While logged into Zoom, those ghosting the class are actually engaged in other activities, such as other classwork, social media, or household chores (Wakefield, 2020). Even those students who seem engaged may be only passively engaged; Peper et. al. (2021) likened watching Zoom lectures to steaming videos or watching television, and said that “learning requires engagement, which means a shifting from passively watching and listening to being an active participant shareholder in synchronous online classes” (Peper et al., 2021, p. 51).

There are several methods available to teachers of online classes to create opportunities for students to be active participant shareholders, such as Google Classroom activities, NearPod, Kahoot, Zoom polls, and so on, but I decided that the best approach to use on a regular basis during my lessons is Zoom Chat, as it is the most flexible and accessible method for all of my students (Pellowe, 2023 b), especially considering that some students are using older computers or smartphones. In essence, this approach involves posing questions to the students and receiving their answers through Zoom Chat. Usually, I plan the questions beforehand and include these questions as part of a slideshow, but the easily accessible nature of Zoom Chat means that spontaneous questions can also be posed.

I encourage students to answer with direct messages (DMs) rather than messages to the entire group. This provides privacy to those who may be shy about answering incorrectly (or conversely, shy about seeming to have a higher level of English than others) and DMs also prevent students from giving away the answers.

Method

Accessing the Zoom Chat Analysis Tool (1.2)

The previous version of my Zoom Chat Analysis Tool (ZCAT) was an Excel file (available for download at <http://billp.me/ps22> (Pellowe, 2022)). The updated version (1.2) is a Google Sheets document. The link I provide to this document automatically allows the viewer to create a copy of the document in their own Google Account, which is accomplished by replacing the “edit?usp=sharing” part of the

standard document share URL with the word “copy”: https://docs.google.com/spreadsheets/d/1XF-UGbtqHHxZIIeej1XO_DbbKXNDokC0vDOUQinS1A/copy

This link is available at <http://billp.me/jc23> (Pellowe, 2023 a). Also available on that page is a video tutorial on using the tool.

Prerequisites

At the beginning of the Zoom session, it is important to ensure that students are using a standardized name in Zoom. My university assigned a Zoom naming protocol that made use of an abbreviated version of the student numbers. This 6-digit Zoom name makes it very easy for me to match the chat contributions to each of the students in my classes.

Functionality

“Settings” page

When you open the Zoom Chat Analysis Tool (ZCAT), you are asked two questions:

- 1 How many characters are in the Zoom IDs for your students?
- 2 How many points to automatically give each contribution?

Regarding points, each contribution by a student is automatically given a participation point because it is far less time-consuming to assume contributions are on-task, which allows teachers interested in giving a qualitative score to simply mark off-task contributions as 0. Off-task contributions include procedural messages (apologies for being late, messages about equipment issues, etc.), emojis, and so on. The option to grant more than 1 point per contribution is for those teachers who are interested in awarding partial credit after evaluating each contribution.

“Students” page

The second tabbed page (“Students”) has a column for the teacher to paste their students’ Zoom IDs. This will be used when matching contributions, so the IDs have to match the beginning of the names used in Zoom. For example, all of my students use their 6-digit Zoom ID at the start of their name in Zoom. Some include their actual name in Japanese characters or in romaji, but this does not matter; all that matters is that the first 6 characters of their names match the 6 characters of their Zoom IDs. (Teachers who need to use a different number of characters can make that adjustment on the Settings page described above.)

The next column on the “Students” page is where teachers can opt to paste their students’ names. This has no effect on the functioning of the ZCAT.

The next two columns are “T1 Count” and “T1 Points.” The “T” stands for “Transcript”. After a Zoom transcript is copy/pasted into the “Transcript 1 Paste” page, these columns will automatically fill up with the number of contributions (T1 Count) and the points automatically awarded to each contribution (T1 Points).

There are four more columns for two additional transcripts; if more columns

are needed, instructions for how to set up additional columns are included in the video on <http://billp.me/jc23>.

“Transcript 1 Paste” page

The third tabbed page just says, “Copy the entire Zoom chat transcript, click in A1, and paste it.” The pasted Zoom chat will take up two rows per student contribution, as that is the way the Zoom chat transcript is formatted.

“Transcript 1 Formatted” page

The fourth tabbed page has five columns. After the transcript is pasted into the third tabbed page, these columns will become populated with excerpted data from the transcript. In the first column (“Student”) will be the Zoom ID. The length of this Zoom ID depends on the number typed on the Settings page in response to the first question. The fifth column (“Check”) will show “TRUE” if the Zoom ID in column A matches a Zoom ID on the “Students” page, and “FALSE” if there is no match (which means a student might have mistyped their Zoom ID; this can be fixed with a global search and replace of the Zoom chat transcript to change the erroneous ID to their actual ID).

The second column (“Time”) shows what time the comment was made, according to the first eight characters of the transcript contribution. The time format is taken as-is from the Zoom transcript in the HH:MM:SS format, which means hour in the 24-hour style, minute, and second.

The third column (“Answer”) shows the complete comment from the transcript. Teachers can use this information to evaluate the comment to see if a point should be awarded towards the qualitative participation tally. If not, the automatically-assigned value in the fourth column (“Points”) can be manually changed by typing a different value (such as 0) into the cell.

Upgrade: What is new?

A cleaner look

ZCAT 1.2 is much cleaner-looking and less cluttered than the previous versions. This was accomplished by adding conditional statements to the functions in each cell. For example, the first cell of the “Points” column of “Transcript 1 Formatted” page has this formula:

```
=IF(C2<>0,settings!$A$4,"")
```

This means if there is some content in the “Answers” cell (C2), then provide the points indicated on the “settings” page; however, if the answer cell is blank, then this cell should remain blank as well.

The same conditional is used in “Check” column of that page. Recall that if the student Zoom ID provided in the first column does not match one of the IDs in the “Students” page, the cell in the “Check” column will read “FALSE.” However, due to the fact that Zoom chat transcript contributions take two lines, every other

row of the “Transcript 1 Formatted” page will be blank. In the previous version of ZCAT, this resulted in every other row showing “FALSE” for the blank value, which impeded the teacher’s ability to quickly and effectively scan the column for actual “FALSE” values. In the upgraded version, any FALSE value will stand out and be detected easily.

More versatile

The “Settings” page is new. In previous versions of ZCAT, the number of characters for the Zoom ID was hard-coded into the relevant formulas, so changing this value required some work. Now, in ZCAT 1.2, the value included on the Settings page is automatically used in the relevant formulas.

Also, in previous versions, the “Points” cell for each student comment was blank, forcing teachers to manually award points for each on-task comment. In ZCAT 1.2, however, the teacher can set the number of points per comment on the “Settings” page, and this value will automatically be awarded to every comment in order to save teachers time when evaluating the comments. (If, however, a teacher finds that the majority of chat comments by students are off-task, then the teacher can opt to award “0” points per comment, and simply add points manually as in previous versions.)

Discussion

The Zoom Chat Analysis Tool has been useful to me, and I am glad to be able to share it with others. At first, I had considered creating an online tool, because server-side programming in PHP would be far more powerful and versatile than spreadsheet formulas; however, this would require teachers to upload students’ personal data to a web server, which institutions frown upon or even explicitly forbid. In terms of privacy, the earlier versions of ZCAT in downloadable Excel format were actually better, but the current version operates on the assumption that teachers are already entrusting Google with copious amounts of student data, so this tool is not a violation of institution policies.

In terms of future improvements, one feature that I considered adding was a word count for each comment, which is easily approximated by counting the number of spaces between words and adding one. However, I remain unconvinced that this would be very reliable or even useful.

I have used the ZCAT to calculate participation points, and creating a way for classroom teachers to do the same within the ZCAT spreadsheets could be useful. My approach was to copy paste the data into an Excel sheet and, after deciding on a value for the ceiling for full participation, working out a simple percentage for a score. I found that reporting these scores to students had the effect of motivating students who were ghosting or participating only passively to contribute more in subsequent online lessons. So, future versions of ZCAT could incorporate a way to calculate participation percentage scores for each lesson.

Conclusion

Now that the end of the pandemic seems to be in sight, a Zoom Chat Analysis Tool is arguably less relevant than it was during COVID-19 lockdown. However, makeup classes at my university are being held online these days, so this tool remains useful for me as well as anyone else doing online / hybrid classes. Also, this tool would be useful to teachers who would like to analyze the chat transcripts of their past lessons to see how well-distributed participation was at the time. Finally, in the worst case scenario, if we find ourselves in another crisis requiring emergency online teaching, a tool like ZCAT would be a useful one to have in our toolbox.

References

- Pellowe, W. (2022, July 8–10) *Using Zoom Text Chat to increase participation and engagement in online language classes* [Conference presentation]. JALT PanSIG 2022, Nagano City, Nagano Prefecture, Japan.
<https://pansig2022.edzil.la/session/2697>
- Pellowe, W. (2023 a, June 2-4) *Quickly analyze Zoom transcripts for data on student participation* [Conference presentation]. JALTCALL 2023, Kumamoto City, Kumamoto Prefecture, Japan.
<https://jaltcall.org/jaltcall2023/>
- Pellowe, W. (2023 b). A tool to extract quantitative and qualitative data from Zoom chat transcripts from online classes. *Reports of Faculty of Humanity-Oriented Science and Engineering, Kindai University*, 34(1), 14–20. Retrieved from <https://kindai.repo.nii.ac.jp/api/records/2000046>
- Peper, E., Wilson, V., Martin, M., Rosegard, E. & Harvey, R. (2021). Avoid Zoom fatigue, be present and learn. *NeuroRegulation*, 8(1), 47–56.
<https://doi.org/10.15540/nr.8.1.47>
- Wakefield, J. (2020). *Zoom ghost busting*. LX at UTS, University of Technology Sydney, Online <https://lx.uts.edu.au/blog/2020/05/07/zoom-ghost-busting>

Author bio

William Pellowe is an Associate Professor at Kindai. He has a long history of creating technological tools to help teachers, starting with an online course in 1997 to introduce students to using the Internet, and including an open source classroom response system (MOARS) in 2010 designed for mobile devices.