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# Teacher Perspectives on Breakout Rooms in Online Education in a K-12 Bilingual School in China

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## Abstract

*With a purpose of enhancing the current literature surrounding breakout room use, and focusing on teachers' experiences, this study assessed the viability of using breakout rooms in online classes. It employed a mixed methods research design to shed light on the use of breakout rooms during and after the COVID pandemic. From a survey of 113 teachers, employed in a Bilingual Chinese school, it was clear that respondents felt they needed further training to maximize the effectiveness of their use of this function (96%). They were of the opinion that groupwork is one of the most effective ways of increasing student participation and speaking time. This opinion was seconded both by the school's educational technologist, who was interviewed in detail and asked to reflect on the survey, and the literature more generally. Beyond this, there was a significant correlation between the opinions of Primary and Secondary teachers, while discursive responses also supported this data. At both levels, breakout rooms were generally used for group presentations, group and pair discussions, differentiated learning and group research.*

**Keywords:** elementary education, online learning, breakout rooms, teacher perspectives.

## Introduction

This three specific goals of this study included, firstly, to explore teacher opinions across a K-12 school with regards to the viability of breakout rooms in relation to enhancing learning in online classrooms; secondly, to see if teachers feel they need to know more about how to use breakout rooms, and thirdly to provide teacher reported methods of using breakout rooms. The ultimate aim of this study

was to elucidate teacher perspectives on the practicality and usefulness of breakout rooms, and to discover whether these opinions are represented similarly across Primary (K-5) and Secondary Schools (6-12). These findings will be helpful to future researchers, seeking to understand general teacher perspectives relating to breakout rooms, and they will indicate whether teachers are fully prepared for the use of breakout rooms.

This study was undertaken in a large bilingual school (around 2250 students, evenly split between Primary and Secondary) in Shanghai, China; 113 teachers and 1 Head of Educational Technology were involved. This means, almost all of the teaching staff were involved. This school has experienced multiple periods of online teaching and learning as a result of COVID lockdowns. Several teachers approached the researcher to complain about a lack of groupwork and knowledge about groupwork in online learning. Having some knowledge of breakout rooms, the researcher decided to examine how these were being used, whether they were viable, and suggest practical ways to use them for teachers in the school and globally.

Student-centered tasks, active learning, groupwork and student-to-student interactions are essential aspects of the educational domain (Zhou, 2022). With the recent surge of teachers and students transitioning to online learning due to COVID-19, a deeper need to consider these aspects of teaching and learning within the online setting has become apparent. Dialogic interaction is an effective way to ensure students at a distance reflect and solve problems, critical tools they need to develop (Jung & Brady, 2020).The primary tool teachers have embedded in live video platforms to support this is the breakout room function. Breakout rooms are a live video chat function that allows the presenter of a lesson to split the class into sub-groups. This is a function that has grown very popular in live video platforms, especially ones that are aiming at the education market such as Teams, Zoom and Tencent (Macur, 2022c). In breakout rooms, groups of students can collaborate and work together more closely (Macur, 2022d). Breakout rooms have been studied carefully regarding specific tasks or activities, but no clear paper identifying teacher perspectives on their viability for enhancing learning has been written, there was no literature on their use in large, private, bilingual schools in China, which was part of the motivation for the present study.

### Research Questions

1. Are breakout rooms a viable option for enhancing learning in online K-12 classrooms?
2. Do teachers need to know more about how to use breakout rooms?
3. What are some practical ways that teachers are using breakout rooms?

## Literature Review

The COVID-19 pandemic has led to teachers across the globe being forced to teach online, which was something with which many teaching professionals were unfamiliar (Macur, 2022e). As such, a need to better understand the current teacher perspectives on key learning tools has manifested. The literature surrounding COVID-19, breakout rooms, groupwork and interaction patterns will be explored.

### Relevant Reports on Online Learning

Collaborative learning and students interacting with each other are mentioned multiple times in relation to their positive impact on learning in a US Department of Education Report that evaluated evidence-based best practices in online learning. It is also made clear that online learning can be effective (Baxter & Hainey, 2022); (Means et al., 2010). This is backed up by a report titled Changing Course. This report demonstrates that most academic leaders in the US believe this to be true, over three quarters in total; however, there is still a sizable minority which believe online education is either somewhat inferior, or inferior (Allen & Seaman, 2013). Either way, it is clear that online learning is an increasing part of education. The 2022 Online Education Trends Report strongly indicates that higher education is moving more towards flexible options, including online programs (Venable, 2023). Taking into account that the field is growing, and that collaborative learning must be a part of this, it is necessary that the collaborative learning tools and processes are enhanced; breakout rooms are one such way to do this, however, these need to be correctly integrated (Savvidou & Alexander, 2022).

### English Bilingual Schools in China

English bilingual schools in China are typically established with the explicit goal of fostering linguistic proficiency in both Chinese and English among students. These educational institutions strive to integrate the educational philosophies of

both eastern and western traditions, aiming to create an environment (Santos, 2019) that facilitates the exploration of international and Chinese cultures. Furthermore, bilingual schools in China often provide students with unique learning experiences by offering instruction from both Chinese and international educators (Zheng & Macur, 2022). However, a contentious issue surrounds bilingual schools in China, specifically concerning the potential miscommunication of teaching and learning approaches to parents, as well as the perceived failure to fulfill promises made by these institutions (Santos, 2019). Notably, there exists an inherent challenge in the accessibility of bilingual education, primarily limited to the affluent segment of the population (Adam, 2020). This exclusivity raises concerns about exacerbating societal disparities, creating an evident divide in educational opportunities between the affluent and less privileged. Additionally, the effectiveness of the operational aspects of these bilingual schools may be challenging to assess, adding a layer of complexity to the overall evaluation of their performance (Gao & Ren, 2018).

## COVID-19 and Online Learning

The COVID-19 pandemic had a major impact on the skillsets that teachers need. Traditionally, only a minority of teachers needed to be competent in online teaching. However, it has now become clear that teachers may well need to routinely transition between online learning and in-class learning (Sánchez-Cruzado et al., 2021). One of the key aspects of education that teachers need to take into account is collaborative learning. This is due to the fact that the online learning space does not facilitate this critical aspect of education to the degree that a physical classroom does (Fauzi, 2020). This leads to a crucial question: how can teachers facilitate collaboration when teaching online? Breakout rooms are one such too accessible to teachers across a range of platforms that can help achieve this goal (Macur, 2022d).

## Break Out Rooms

Breakout rooms are a feature found in many live video platforms, such as Teams, Zoom and Tencent. This function allows teachers to form subgroups of students whereby they are isolated from the main online classroom space. This allows students to work in smaller groups and pairs, thereby increasing the amount of time each student has to talk. One common way these are used is in a Think Pair Share approach (Saltz & Heckman, 2020). It is also worth noting that discussion can play a key role in skill development such as student-led inquiry (Adam,

2021). Three of the main benefits of using breakout rooms are: the facilitation of collaborative learning and interaction; the empowerment of student voice and contribution, and the promotion of opportunities for peer-to-peer contact. Some of the potential issues include: automatic grouping functions and a lack of ability to monitor multiple groups (Díez & Arbex, 2022). While literature describes benefits and shortcomings of this tool, research has limited representation of K-12 teacher perspectives pertaining to breakout rooms.

## The Problems Teachers Face when Teaching Online

In a research conducted by (Macur, 2022e), the main problems elementary teachers encounter when teaching online were examined. 504 teachers from around the world participated in this research and 13 elementary teachers were interviewed. The study identified four problematic areas: issues of technology, engagement of students, assessment of students and involvement of parents. An issue with technology and online learning is that classes are hosted as one group and a single screen is shared. Although, in relation to engaging students, it is well established that one way of improving student engagement during lessons is to make use of collaborative learning (Macur, 2022b). However, sharing one screen means that only one person can speak at a time. This means in a 40-minute lesson, if there are 24 students, and the teacher does not speak at all, students can average less than 2 minutes of speaking each. Enabling collaborative learning in the online setting can happen through a range of approaches, but none enable student-to-student interaction, especially verbal real-time interaction as effectively as a breakout room. One solution to this is to put students in breakout rooms; as such, if a group of 24 students are put into breakout groups of 4 for half of the 40-minute lesson, their average talking time would increase to over 5 minutes (Macur, 2022c).

## Group Work

Group work is the process by which individuals work together on a project, task or process. It is utilized in all stages of education, but it is extremely popular in elementary schools (Slavin, 2015). Over the years, the benefits of group work have become increasingly evident. As a result of effective group work, students develop their ability to help others and receive help; listen to the perspectives and opinions of others; utilize different ways of clarifying differences; resolve problems collaboratively, and develop fresh views, understanding and knowledge. All of these

works together, positively impacting academic outcomes and motivation (Baines et al., 2017); (Veldman et al., 2020). Moreover, social networks ease the transfer of knowledge and are platforms for encouraging creativity (Pulgar, 2021). In an online setting, there are multiple ways in which group and collaborative learning can take place, such as live documents and chat spaces (Wicks et al., 2015). However, as far as the author of this paper is able to find, the breakout room function is currently the only option for students to move from a combined class online session into a sub-group to discuss and share ideas.

### Interaction Patterns

Students require a mixture of interaction patterns in order to maximize their learning potential both in traditional classrooms and in the online setting (Muzammil et al., 2020). Typically, these can be seen as student-to-student interaction, student-to-instructor interaction and student-to-content interaction. Ensuring students have access to all of these can boost student engagement and performance (Bolliger & Martin, 2018). This being the case, utilizing an online learning space that does not allow students to speak, be heard and share their opinions, could be problematic, not only from the students' perspective, but also from instructors' standpoint. For example, Bollinger and Martin found that over 93% of instructors valued collaborative activities that encourage learner-to-learner interactions (Bolliger & Martin, 2018). Based on this, it is logical to consider the integration of technologies to support learner-to-learner interactions. Incorporating educational technology such as gamification is one potential way to allow students to take advantage of interacting with each other and content simultaneously (Erbilgin & Macur, 2022).

## Methodology

### Design and Participants

A mixed methods research design was used by first providing a quantitative set of data which could demonstrate whether elementary teachers and secondary teachers held similar opinions. This data set would also provide a clearer picture of the perspectives on these questions. An additional qualitative data set would then be used to gain expert insights, based on the initial, quantitative data. There were two stages to the data collection, namely a survey stage and an interview stage. There were 113 K-12 teachers as participants in the survey stage of this study. There was one Head of Educational Technology in the second stage who has a Master's in

Educational Technology and was studying for an Ed.D in this field. The data for this can be split into the primary stage and the secondary stage. All participants were from a large private bilingual school in Shanghai China. This school is part of a global school group, which is well known for delivering world class private international education.

## Instrument

Much like Hascher's (2008) study which used a combination of qualitative and quantitative methods of data collection to draw conclusions from, these instruments were chosen to combine statistical analysis with qualitative analysis. The instruments used were surveys and an interview guide. Microsoft Forms was used for the survey stage and data collected was then transposed into Excel for data collation, comparison and analysis. A combination of question types were used including: A yes or no question, a selection question and a 5-point Likert-type scale. This followed a disagree/agree statement using the following 5-point Likert scale (strongly agree=1; agree=2; neutral=3; disagree=4; strongly disagree=5). In total, there were 7 responses required from teachers who took the survey. These were developed by the author of this paper which was reviewed by an expert. The interview was completed using Microsoft Teams as a medium. This interview consisted of 4 open ended questions, which were linked to those asked in the survey. The final question, looked specifically at the results of the surveys and had an expert review this data to see if it was in line with or different from what his experience and working knowledge indicated.

## Data Collection

Survey data were collected over a two-month period from March 19th 2022 to May 9th 2022. During this time, the author was active in sharing this research and attempting to collect responses from K-12 teachers. The questions are found attached as Appendix A.

The survey data was collected typically through the use of the school internal email and instant messaging service. Survey data was primarily collected by the author of this paper, although some teachers also encouraged their colleagues to take part. Interview data were collected solely by the author of this paper through a discussion with the Head of Educational Technology. A limitation of this data

collection method is that due to the anonymous nature of the survey stage, follow up interviews were not possible. A potential way to enhance this study would be to have the findings reviewed by some randomly selected survey participants. This does, however, leave the possibility open for future researchers to collate these findings into a meta-analysis.

## Data Analysis

The opinions of primary and secondary teachers in response to the Likert statements were compared using a Pearson correlation. This indicated whether teachers had similar views across these stages of schooling. Testing the correlation of two sets of data is one method of analyzing whether the data sets have a positive correlation. It is also another way to test the reliability of the data. This can be done to see if as one phenomenon increases, does the other phenomenon increase as well, or does it decrease at a similar rate. It is commonly considered that a 0-0.29 correlation is insignificant, a 0.3-0.49 correlation is low, a 0.5-0.69 is moderate, and 0.7-0.99 is significant, and 1 is a perfect correlation (Andrews University, 2005). These findings were compared with the thoughts and opinions of the Head of Educational Technology. This added a qualitative element to the research, enabling the author to use a mixed methods approach to enhance data triangulation. The interview responses of the Head of Educational Technology were also considered and compared in relation to the findings from the surveys, and the literature from the literature review. A limitation of the data analysis is that there was not an option for randomly selecting participants to comment on the data.

## Results

In the findings section of this study, the data that were gathered is presented in a clear and concise manner, so as to keep this study to the point and avoid a loss of focus and/or a dilution purpose.

### Question 1: What year/grade do you teach?

75 of the teachers who responded were from the primary phase and 38 teachers, who responded were from the secondary phase.

**Question 2: 5-point Likert-type scale statements (S)**

These questions were recorded in a table to display the numbers in a clear and specific manner.

**Table 1**

*The Total Percentage of Teacher Responses to the 5-Point Likert Statements and the Correlation of the Results Between Primary and Secondary*

| Statement (S) | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Correlation Between Primary & Secondary |
|---|---|---|---|---|---|---|
| S1: Breakout rooms are a viable option for enhancing online learning in your grade/ year level. | 8% | 9% | 24% | 38% | 21% | 0.92 |
| S2: Breakout rooms are more problematic than they are beneficial in your grade/year level. | 15% | 33% | 28% | 19% | 5% | 0.76 |
| S3: Teachers need to know which activities or tasks are more challenging to use in break out rooms. | 2% | 5% | 12% | 48% | 33% | 0.89 |
| S4: Teachers need to know more about how to effectively expose students to breakout rooms. | 1% | 3% | 18% | 50% | 29% | 0.92 |

Note: strongly agree=1; agree=2; neutral=3; disagree=4; strongly disagree=5

This table reveals a significant correlation between primary and secondary teachers' responses in relation to all questions. S1 correlated at 0.92, S2 at 0.76, S3 at 0.89 and S4 at 0.92. In response to S1, 59% of teachers agreed or strongly agreed that breakout rooms are a viable option. In contrast, only 17%, teachers disagreed or strongly disagreed with the option of breakout rooms being a feasible choice. Thus, the number of those in favor is almost 3 times higher compared to those who are not in favor of breakout rooms.

In response to S2, only 24% of teachers agreed or strongly agreed that breakout rooms are more problematic than beneficial in their grade/year, in contrast to 48% who disagreed or strongly disagreed with this statement.

In response to S3, 81% of teachers agreed or strongly agreed that they need to know which activities are more challenging to use in breakout rooms, in contrast to only 7% who disagreed or strongly disagreed. This is over 11 times as many in favor of wanting to know which activities are more challenging to use. In response to S4, 79% of teachers agreed or strongly agreed that teachers need to know more about how to effectively employ breakout rooms, in contrast to only 4% who disagreed or strongly disagreed. Thus, there were almost 20 times more teachers in favor of knowing how to more effectively expose students to breakout rooms.

**Question 3: What kinds of activities do you use break out rooms for?**

There were 101 responses to this question. Teachers answered this question with a range of different activities and procedures. The most frequent words were "group" which was used 36 times, followed closely by the word "discussion" which was used 29 times. Microsoft Forms supported this process by creating a word cloud. A possible implication of these two statistics is that the vast majority of teachers, who use breakout rooms, find that group tasks and discussions are effective activities. Discussion with 5 teaching professionals about the answers provided led to the consensus regarding the following 5 activities:

1. Group presentations – Students are grouped and put into breakout rooms to create a presentation about a given topic
2. Group and pair discussions – Students are put into breakout rooms and provided with questions which they discuss. Once they return, a group leader shares their thoughts
3. Differentiated learning – Students are put into breakout rooms and given tasks to suit their current level
4. Group research – Students are put into breakout rooms and given a topic to research
5. Performance rehearsal – Students are put into breakout rooms to practice and perform given tasks

Some answers which were not included in the above activities, but which stood out to the author of this paper include: playtime, as a reward for good performance in a lesson and ice-breaker activities.

## Qualitative Analysis

Two themes emerged as the qualitative thematic analysis was conducted, these includes parts of the discussion mostly related to the literature review, the surveys and the context of this study.

## Impact of Breakout Rooms

"Breakout rooms absolutely have a positive impact on student learning, especially whilst schools are only using online learning. It allows them to develop and use their collaboration skills, as they would in their normal classrooms; it also helps their social emotional learning and gives them a chance to speak and have their voices heard."

> They were considered a viable tool;
> "Absolutely, breakout rooms are essential. I would recommend a breakout room opportunity at least, well, being ambitious, in every lesson. Again, it fosters collaboration and student voice."
>
> "Teachers in our school have had training. We can expand on this training and develop teachers further. Once teachers understand the basics of implementing them and the technology skills required, the next steps for teachers include: What activities should we use break out rooms for? What lessons do they fit well into?"
>
> Looking at the results from these surveys, are you surprised?
>
> "I think the survey is pretty spot on. The last part is definitely something that we can work on. We need to give teachers a better understanding of what activities are effective in different circumstances and for different goals."

It is evident that the interviewee holds positive views on the use of breakout rooms, emphasizing their essential role in online learning. However, it is apparent that there is room for improvement in both the skills of the participants and teachers' competency regarding breakout rooms, especially in relation to activities and effective use of this tool.

## Analysis and Discussion of Survey Results

As Salvin (2015) establishes, group work is utilized in all stages of education. The data of this survey also indicates a consensus between primary and secondary teachers regarding the relevance of group work There was an average of a significant 0.87 positive correlation between these two phases across the questions which were asked. Through review of the literature, it was evidenced that the use of group work brought about a range of benefits. The data represented in Table 1 backs this up as well. It shows that in S1, 83% of teachers were neutral, agreed or strongly agreed that breakout rooms are viable for enhancing online learning, with only 24% of teachers at the neutral level. This was reflected in S2 in that 76% of teachers were neutral, disagreed or strongly disagreed that breakout rooms are more problematic than beneficial. Thus findings demonstrate teachers' agreement about breakout rooms for facilitation of group work and enhancement of online learning.

As stated in the literature review, technology is one of the four main problems teachers face when teaching online (Macur, 2022e). The data in S3 and S4 backs this up with a large consensus that teachers require more training on how to use this tool. Using breakout rooms increases the chances for students to talk, simple activities such as the Think Pair Share approach can support this (Saltz & Heckman, 2020). Findings also revealed that teachers felt that group presentations and discussions were effective ways to use breakout rooms. However, results of this study indicate that there is lack of training and competence and further training is required in this connection. A further and more detailed study specific to this would be the next step for researchers to consider. Using a survey approach to gather responses to these questions was overall an effective process. It created an opportunity to survey nearly the entire school teaching body and provided clear data in support of breakout rooms. Additionally, data from the Head of Educational Technology proved an effective piece of information. A much larger survey of teachers could enable a coherent strategy to be developed, one based on the facts of more widespread lived experience as opposed to managerial and institutional decisions.

## Analysis and Discussion of Interview Questions

The interview questions provided much-needed expert input, enabling a fuller conclusion to be developed. Question 1 asked: "In your experience, how

does the use of breakout rooms impact online education?" The Head of Educational Technology talked about how breakout rooms have a positive impact, which is amplified during sessions of online learning. The main benefits referenced were the support of collaborative learning and social-emotional skills. This was backed up by the findings from Question 4 in the survey, in which teachers repeatedly voiced group work/collaborative activities and how they use breakout rooms. It is known to be an important part of education that students have a range of interaction patterns (Muzammil et al., 2020).

Question 2 asked: "So, are they a viable tool?" The answer to this question was again a positive one, in favor of breakout rooms and the positives they provide, specifically referencing collaboration as one of the main benefits. As found in the Literature Review, this has a range of benefits including academic and motivational (Baines et al., 2017; Veldman et al., 2020). It was recommended as an ambitious target to use them in every lesson. This is in line with the results of Statement 2 in the survey which found that 59% of teachers agreed or strongly agreed regarding breakout rooms as a viable option, in contrast to only 17% who disagreed or strongly disagreed.

Question 3 asked: "Are teachers well equipped to use this tool or do they need to up their skill?" This question was answered with two different approaches. The first talked about how teachers in the school within this study had already undergone training for this tool, whereas the second pointed out that there are still those who need to develop this and that there was room to develop teachers' knowledge of appropriate activities. This is backed up by statement 3 in the survey, which found 81% of teachers agreeing or strongly agreeing that teachers need to know which activities are more challenging to use in breakout rooms, in contrast to only 7%, who disagreed or strongly disagreed. This is also backed by the Literature Review, which shows there are still a range of problems teachers face when teaching online (Macur, 2020a).

The final question asked in the interview was: "Looking at the results from these surveys, are you surprised? "I think the survey is pretty spot on " was the response of the specialist. This indicates the results of this survey, the correlations identified and consistency of professional perspectives are accurate, based on expert opinion. These results also support the academic consensus, providing valuable

empirical evidence from the digital sphere to bolster theoretical beliefs about the importance of group work and increased speaking time for students.

## Limitations and Future Research

The strengths of the study relate to its focus and uniqueness. This study is unique in that no other study has been done in relation to the topic in this context. In addition, since the data was collected from nearly the entire population of teachers in the school, the data is reliable and contextually appropriate in assessing the teacher's perspectives. Furthermore, having a prominent professional on board, one who has spoken at global conferences on EdTech, increased the strength of findings and provided the opportunity for mixed methods data collection.

The limitations of this study are its lack of global focus. It would have been more comprehensive if 5 or 10 schools from the school group in question participated in the study, each in major cities around the world. This would have given the opportunity to assess whether this data is limited to this particular school, or whether it is representative of a global consensus. However, this paper does give a practitioner's view focused on one school and the perspectives of the teachers within it. As a recommendation to future researchers, the author suggests observing the use of breakout rooms in elementary and secondary online classrooms to see what activities most positively impact student engagement. The rationale behind this is to provide a range of activities, which impact one of the four problematic areas for teachers, while also providing further training and information for future practitioners.

## Conclusion

The key numerical data which emerged as a result of this study was: a .87 correlation between secondary and primary teacher answers. 83% of respondents either agreed, strongly agreed or were neutral towards the viability of breakout rooms for enhancing online learning, with 76% considering them to be more beneficial than problematic. 93% of respondents believed that they needed more activities, while 96% of respondents felt they needed more training on how to effectively use breakout rooms.

This study aimed to answer 2 core research questions and a sub-question.

The first question was: "Are breakout rooms a viable option for enhancing learning in online K-12 classrooms?" This question was answered more comprehensively, within the scope of the study. Both the interview and the survey data showed that breakout rooms are a viable option. Interview data demonstrated that it would be ambitious yet beneficial to attempt to use them in every lesson. The third research question was "Do teachers need to know more about how to use breakout rooms?" Again, the results of the survey and of the interview were aligned. It was found that some teachers needed more in-depth training to gain competence with this tool, and that in general, more knowledge was required to expose students' more fully to the tool and that chalking out activities would be an important next step.

The consistency and reliability of these results was tested in a number of ways. Firstly, whether they aligned with the Literature Review, and results indicated that they did. Secondly, the results between Primary and Secondary teachers 'data were tested for correlation and there was a significant correlation between the two phases in all survey statements. Finally, the Head of Educational Technology was asked to comment on the results, and these comments supported the quantitative findings.

The final sub-research question, which was not a core focus, but grew into something that could be a practical benefit to teachers, was to find some practical ways that teachers recommend using breakout rooms. The four main methods, which emerged from the 113 teacher survey and were supported by the interview with the Head of Educational Technology were:

1. Group presentations
2. Group and pair discussions
3. Differentiated learning
4. Group research

While the findings of this study were consistent and reliable in the context of one particular school, there is a need for further research to find a more globally comprehensive perspective. That being said, the data collected, and the practical approaches that emerged from the research, are of practical and methodological significance for teachers, researchers and educators around the world.

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