EFFECTIVENESS OF USING THINK PAIR SHARE MODEL IN INCREASING STUDENT PARTICIPATION IN ECONOMIC SUBJECTS FROM GENDER PERSPECTIVES

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ABSTRACT

This study aims to examine the effectiveness of the Think Pair Share (TPS) cooperative learning method in increasing students' participation in Economics subjects and to analyze differences in participation between male and female students. An experimental class taught using the TPS model and a control class taught using traditional methods were part of a quasi-experimental design with a posttest-only control group. Two-Way ANOVA was used to evaluate the data, which were gathered through structured observation of students' participation in class. The results show that the TPS learning model is more effective in improving students' participation compared to conventional teaching methods. In addition, gender-based disparities in participation were found, with both male and female students benefiting from TPS. These findings highlight the importance of interactive and cooperative learning strategies in fostering active classroom engagement. However, this study is limited by the relatively small sample size and the focus on a single school context, which may restrict the generalizability of the findings. Furthermore, student participation was measured only through observational data without incorporating psychological factors. Therefore, future studies are recommended to involve larger and more diverse samples, apply mixed-method approaches, and include additional variables such as self-efficacy, motivation, and learning interest to obtain a more comprehensive understanding of student participation.

Keywords: *Think pair share method, class participation, gender*

INTRODUCTION

Teaching and learning process is the essential activity in education, where the main role is played by teachers and students. Teachers, as facilitators in learning, have challenges in choosing the right learning model to use in the learning process (Kamil et al., 2021). On the other hand, one of students' roles in the learning process is active participation (Kong, 2021), where active participation is one of the indicators of success in learning (Guenther & Abbott, 2024). Torsdottir et al. (2024) one of students' roles in the learning process is active participation.

Active participation in the learning process is a concern that includes student engagement in the classroom (Berti et al., 2023). Before the emergence of Distance Education (DE), student participation was usually measured through student attendance in class, then followed by the intensity of raising hands and responding to the teacher's questions (Bekkering & Ward, 2020). While according to Decristan et al. (2023) participation is defined as a condition where students play an active role in all classroom activities.

In the context of learning economics, active participation of students is becoming increasingly important because this subject requires critical and analytical thinking skills to understand economic concepts. However, low student participation is often a challenge in learning, one of the causes of lack of student participation is a less interactive learning model. This is similar to previous study data using the Cooperative Learning model, the level of student participation is 85.75% while the participation of student participation using conventional learning models is only 81.5% (Habibi & Adnan, 2021).

The Think Pair Share (TPS) learning model is one of the cooperative learning models that prioritizes students to take an active role and work together in groups to solve a problem (Rukmini, 2020). TPS provides opportunities for students in pairs to solve problems thus social interaction between students occurs (Rivai & Mohamad, 2021). TPS is developed on the basis of Vygotsky's constructivism paradigm, which states that students construct their knowledge of a phenomenon through social interaction by placing it in the context of their own experience (Yang, 2023).

The think pair share cooperative learning model was originally introduced by Professor Frank Lyman in 1981, but adapted by Tanner in 2009 which states that TPS involves three main steps, namely "think" students are required to think individually about the problem, and then "pair" students will be organized in pairs to discuss and compare their ideas, and "share" students will share their results of their ideas that have been validated to all class participants (Cooper et al., 2021; Mundelsee & Jurkowski, 2021).

Every student has a different way to solve problems, with diversity and different backgrounds, including from a gender perspective. A study conducted by Farid et al. (2025) indicates that male students tend to participate more actively in class if the material taught is relevant to their future career whereas female students tend to participate more actively if the material taught is relevant to their personal life. A

gender perspective in learning is important to ensure that the implemented learning model can support the active participation of all students, without any bias and discrimination (Severe et al., 2024).

The researchers recognize that conventional teaching methods result in low student participation in the learning process, therefore, we must find a solution to reduce this problem. To increase students' participation in classrooms, the cooperative learning model of think pair share can be the solution. With the assumption that all discussions require organization to manage the class environment and the learning procedures used in TPS can provide students with time to think, respond and help each other (Idayani, 2021).

Research by Emerson et al. (2023) shows that the application of think-pair-share in microeconomics learning in higher education does not have a significant effect on improving student learning outcomes. Learning outcomes were measured using TUCE with a positive learning approach and positive learning adjusted for guessing. However, individual characteristics such as gender, race, academic ability, and attendance proved to have a significant effect on learning achievement. Nevertheless, the study still focused on the cognitive domain and higher education students, and did not specifically examine aspects of student participation. Furthermore, gender was only positioned as a control variable, not as a main perspective in the learning analysis. Therefore, there are still research gaps regarding the effectiveness of think-pair-share in increasing student participation in economics subjects at the secondary school level from a gender perspective, which is the main focus of this study. So further research is needed on effectiveness of using think pair share model in increasing student participation in economic subjects in gender perspective.

While several research have shown that TPS is successful in improving student participation, the majority of these studies have not adequately investigated how its efficacy may differ depending on the gender of the students. From the perspective of theory, gender differences in classroom participation can be explained by socialization theory and expectancy-value theory, which contend that social and cultural influences may cause male and female students to develop distinct levels of confidence, communication styles, and learning motivation (Severe et al., 2024). According to empirical data, female students may participate more cautiously depending on the classroom environment and instructional techniques, whereas male students frequently participate more actively in class debates.

Therefore, it is crucial to incorporate a gender perspective into learning research to guarantee that instructional approaches encourage fair participation for all students. Participation gaps may be unintentionally reinforced by learning methods that do not take gender differences into consideration. Cooperative learning models such as TPS have the potential to reduce these disparities by creating structured and supportive interaction among students (Guenther & Abbott, 2024).

Based on preliminary observations at SMA Edu Global School Bandung, student participation in economics classes is still relatively low. This is due to the fact that many teachers still rely solely on conventional teaching model and lack creativity in designing lessons based on interactive learning models. Based on these observations, the researcher considered it necessary to enhance students' active participation in learning by using cooperative learning model of think pair share type. The importance of this study is that teachers can implement a variety of interactive learning models in economics classes to enhance students' participation in economics courses at SMA Edu Global Bandung.

Based on the theoretical review and empirical findings from previous studies, this research is directed to clearly examine the role of the Think Pair Share learning model and gender differences in influencing students' participation in economics learning. This study is designed to analyze the effect of the Think Pair Share learning model on students' participation in economics learning, to identify differences in participation based on gender, and to examine the interaction effect between learning models and gender on students' participation.

RESEARCH METHOD

This study used a research model of quasi-experiment with a 2x2 treatment by level design, which is looking for the influence between one or more variables (Sugiyono, 2025). In this study, there were two classes, the experimental class taught using the think pair share type cooperative learning model and the control class taught using the conventional learning model. More specifically, the research design can be viewed in table 1.

Table 1.
Research Design

| Gender (B) | Learning Models (A) | |
	Think Pair Share Model (A1)	Conventional Model (A2)
Male (B1)	Y [A1 B1]	Y [A2 B1]
Female (B2)	Y [A1 B2]	Y [A2 B2]
∑	Y [A1 B1] + [A1 B2]	Y [A2 B1] + [A2 B2]

This study used posttest only control group design, where there are two groups selected by probability sampling technique (Creswell & Creswell, 2018). The sample consisted of two classes at SMA Edu Global School Bandung, namely class 10A and class 10D, each consisting of 17 students. These classes were selected based on the economics teacher's recommendations to ensure that both groups had similar academic features and learning environments. Subsequently the class was selected according on teacher recommendations rather than true random assignment, there is a possibility of selection bias. This limitation is recognized as a requirement of the quasi-experimental design. To minimize its impact, both classes were taught with

the same learning objectives, topic content, time allocation, and evaluation procedures throughout the experiment. Researchers used an observation sheet to collect the data, which consisted of 5 observed with 2 indicators on each aspect with a likert scale.

The data analysis technique in this study uses descriptive statistical data analysis, where statistical data analysis is data analysis conducted by describing or explaining the data from the variables that have been collected as they are without intending to generalize conclusions (Sugiyono, 2025). The technique used in this study is used to describe the effectiveness of implementing the think pair share type cooperative learning model in enhancing student participation in economic learning at SMA Edu Global Bandung with statistical analysis.

The hypotheses tested in this study are formulated as follows.

H_1: The Think Pair Share (TPS) learning model has a significant effect on students' participation in economics subjects.

H_2: There is a significant difference in students' participation between male and female students.

H_3: There is a significant interaction effect between the learning model and gender on students' participation.

For hypothesis testing based on the formulated research hypotheses, the data were first tested using classical assumption tests consisting of normality and homogeneity tests. Normality test is one part of classical assumption test. The normality test is used to determine the distribution of random data in the study, with a number of samples less than 50 people, therefore this study uses the Shapiro-Wilk normality test, where the data is normal if the Sig. value is above 0.05 (Sugiyono, 2025). The results of the normality test can be viewed in table 2.

Table 2.
Normality Test

Variables	Class	Shapiro-Wilk		
		df	Statistic	Sig.
Students' Participation	Experiment	17	.943	.359
	Control	17	.913	.114

Based on the table above, it can be seen that the Sig. value of the student participation variable in both the experimental and control classes is 0.359 and 0.114 respectively, obtaining a value above 0.05, which means that the data obtained in either the experimental class or the control class are both normally distributed.

Additionally, after the normality test the data is also tested for homogeneity which aims to determine whether the sample groups taken from the population have the same variance. The homogeneity test is stated to be fulfilled or the data variance is homogeneous if the Sig. value on Based on Mean is above 0.05. The results of the homogeneity test in this study are in table 3.

Table 3.
Homogeneity Test

		Levene Statistic	Sig.
Students' Partisipation	Based on Mean	4.324	.120
	Based on Median	.956	.426
	Based on Median and with adjusted df	.956	.436
	Based on trimmed mean	4.253	.130

From table 3 it can be clearly seen that the Sig. value on Based on Mean in the student participation variable is 0.120 which is higher than 0.05, thus the student participation data in this study is homogeneous. Furthermore, to examine the main effects of the learning model and gender as well as their interaction effect on students' participation, a Two-Way Analysis of Variance (Two-Way ANOVA) was employed.

RESULTS AND DISCUSSION

The results of the study with two-way analysis of variance (Two Way Anova) can be described in table 4 below.

Table 4.
Summary of the Results Two-Way Analysis of Variance (Two Way Anova)

Dependent Variable: Students' Partisipation

Source	Sum f Squares Type III	df	Mean Squared	F	Sig.
Corrected model	1132.478a	3	377.493	333.149	.000
Intercept	52913.391	1	52913.391	46697.799	.000
Model	1119.417	1	1119.417	987.922	.000
Gender*	6.462	1	6.462	5.703	.023
Model * Gender	19.716	1	19.716	17.400	.000
Error	33.9993	30	1.133		
Total	57016.000	34			
Corrected Total	1166.471	33			

a. R Squared = .971 (Adjusted R Squared = .968)

The findings of this study based on table 4 indicate that the Think Pair Share (TPS) cooperative learning model is more effective in enhancing students' participation in economics learning than conventional teaching methods. It can be seen from the Calculated F-value of 333.149 is higher than the Critical F-value at the degree of

freedom df=3, which is 2.88 with Sig. 0.000 < 0.05 and the Calculated F-value of the learning model shows a value of 987.922 higher than the Critical F-value at the degree of freedom df=1 which is 4.13 with sig. 0.000 < 0.05. This means that there is significant effect of the use of cooperative learning model of think pair share type on students' participation in learning. This result reflected that students who were taught using TPS demonstrated higher levels of engagement during classroom activities, including discussion, questioning, and peer interaction. These results confirm that TPS creates a more interactive learning environment that encourages students to become active contributors rather than passive recipients of information.

Therefore, it could be concluded that the use of cooperative learning model of think pair share type is effective to enhance students' participation. TPS allows participation and interaction between students in the classroom (McConnell et al., 2017). The findings of this study are similar to Manda's study (2024) which states that TPS can enhance students' self-confidence which makes students more actively participate in class. TPS can enhance the level of hand raising, which is a pathway to student participation in class (Mundelsee & Jurkowski, 2021).

In addition, calculated F-value of gender shows a value of 4.642 higher than the critical F-value at the degree of freedom df=1, which is 4.13 with sig. 0.023 < 0.05. This implies that there is a difference in participation levels between male and female students. Furthermore, in the model*gender, the calculated F-value of 19.716 is higher than the critical F-value at the degree of freedom df=1, which is 4.13 with sig. 0.000 < 0.05. This means that there is an interaction between the learning model (cooperative type think pair share) and gender (male and female) on student participation in economic learning at SMA Edu Global Bandung.

The difference in the use of learning models in the experimental and control classes caused differences in student participation, either male students or female students. The experimental class implemented the cooperative learning model of think pair share (TPS) type in learning whereas the control class implemented the conventional learning model. The implementation of the cooperative learning model of think pair share type in the experimental class involved each student directly in the learning process through discussions with their peers. The results of the difference in participation between the experimental class and the control class for both male and female students can be viewed in Table 5.

Table 5.
Summary of Descriptive Statistical Analysis Results

Dependent Variable: Students' Participation

Class	Gender	Mean	Standard Deviation	Number of Students
	Male	47.83	.753	6
Experiment	Female	45.36	.924	11
	Total	46.24	1.480	17

Dependent Variable: Students' Participation

Class	Gender	Mean	Standard Deviation	Number of Students
Control	Male	34.43	.535	7
	Female	35.10	1.524	10
	Total	34.83	1.237	17
Total	Male	40.62	6.983	13
	Female	40.48	5.391	21
	Total	40.53	5.945	34

The average score of student participation in the learning of the experimental class is 46.24 and the control class is 34.83. It can be concluded that the experimental class has a higher average score than the control class. This indicates that the cooperative learning model of think pair share type is effectively to increase students' participation in learning instead of only using conventional learning models. This is consistent with previous studies which state that the think pair share learning model can enhance student participation in learning (Guenther & Abbott, 2024; Mundelsee & Jurkowski, 2021).

The results also show that there are differences in participation between male and female students. In the experimental class, the average score of student participation in the learning for male students is 47.83 and for female students is 45.36, which indicates male students exhibited slightly higher participation levels than female students, whereas in the control class, female students showed marginally higher participation than male students with average score of student participation in the learning for male students is 34.43 and for female students is 35.10. However, overall participation was higher for both genders in the TPS class than in the conventional class. This indicates that TPS benefits both male and female students, although the patterns of participation differ.

These gender-based differences can be explained using socialization theory and classroom interaction requirements. Previous research suggests that male students are often encouraged by social and cultural norms to speak up, compete, and dominate verbal exchanges, whereas female students may be more cautious, especially in whole-class discussions (Aguillon et al., 2020; Mundelsee & Jurkowski, 2021). TPS contributes to reducing this participation gap by giving students a safer and more organized place for discussion to each other in pairs before sharing with the entire class. This "think" and "pair" stage helps female students feel more confident before they share their ideas with the entire class. This lowers their fear and anxiety of making mistakes (Guenther & Abbott, 2024).

At the same time, TPS helps male students by directing their natural desire for verbal participation into deeper and organized discussions (Guenther & Abbott, 2024). Instead of dominating spontaneous classroom conversation, male students must listen to their teammates, negotiate ideas, and propose group decisions. This organized interaction illustrates how TPS increases participation for both genders

while simultaneously enhancing the quality of interaction in the classroom (Moraga-Pumarino et al., 2025).

The results of this study are similar to the results of a study conducted by Nadile et al. (2021). The results indicate that male voices dominate in class, while women are more passive. Male students ask and answer questions more frequently than female students. This is due to the gender ratio factor that exists in the classroom, class size and competition to be called. Students tend to be afraid to participate because they do not want to be wrong in front of their peers, this case is more prevalent in female students than male students (Farid et al., 2025). A study conducted by Severe et al. (2024) also stated that male students tend to be more confident participating in class than female students.

The impact of interaction between the learning model and gender reinforces the concept that learning strategies cannot be separate from characteristics of students. TPS offers advantages not only technically, but also socially and psychologically. TPS promotes self-confidence, peer support, and mutual respect, which are critical factors influencing students' willingness to participate. This aligns with previous research stating that TPS increases students' self-efficacy and communication confidence, both of which are closely linked to classroom participation (Samaila et al., 2024).

In contrast, the conventional learning model offers limited options for organized interaction. Students rely more on teacher questions, and participation becomes competitive rather than collaborative. Under these conditions, participation is controlled by a small number of confident students, which may exacerbate gender disparities and reduce the involvement of quieter learners. This explains why both male and female students' involvement levels in the control class stayed comparatively low (Aguillon et al., 2020).

Overall, the results show that TPS is successful in raising student participation both quantitatively and qualitatively by fostering a more inclusive, cooperative, and psychologically supportive learning environment in the classroom. The inclusion of a gender perspective in this study enhances the conclusion that TPS can serve as a gender-responsive learning paradigm that encourages more equal student involvement.

CONCLUSION

This study indicates that the Think Pair Share (TPS) cooperative learning model has the potential to increase student participation in economics learning compared to conventional teaching methods. Additionally, differences in participation between male and female students were found, suggesting that gender remains to play a significant role in determining how students interact in the classroom. However, because of the small sample size and constrained research setting, the extremely high coefficient of determination found in this work should be regarded cautiously. These limitations imply that the scale of the impacts found in this study might not accurately reflect the larger classroom setting.

In practice, the results suggest that teachers can use several of TPS-based methods of instruction to increase student participation. First, teachers ought to provide clear and controlled "thinking time" prior discussions to guarantee that all students, particularly those who lack confidence, have opportunities to develop ideas. Second, intentionally pairing students based on gender equality and academic competence can lead to more insightful peer interactions. Third, when the "share" stage, teachers should aggressively encourage equal speaking chances by employing strategies like random picking or changing presenters to avoid a few students from dominating the discussion. Fourth, teachers should develop a friendly and non-threatening classroom climate in which both male and female students feel comfortable expressing their thoughts.

Overall, when implemented wisely and reflectively, the Think Pair Share model can be an advantageous alternative to conventional teaching methods for encouraging active partisipation in economics learning. Future research should include deeper and more diverse samples, along with other psychological characteristics like self-efficacy, motivation, and learning interest, to better explain differences in student participation.

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REFERENCES

Aguillon, S. M., Siegmund, G. F., Petipas, R. H., Drake, A. G., Cotner, S., & Ballen, C. J. (2020). Gender Differences in Student Participation in an Active-Learning Classroom. *CBE Life Sciences Education*, *19*(2). https://doi.org/10.1187/cbe.19-03-0048.

Bekkering, E., & Ward, T. (2020). Class Participation and Student Performance: A Tale of Two Courses. *Information Systems Education Journal*, *18*(6), 86-98. https://eric.ed.gov/?id=EJ1258148.

Berti, S., Grazia, V., & Molinari, L. (2023). Active Student Participation in Whole-School Interventions in Secondary School. A Systematic Literature Review. *Educational Psychology Review, 35*(2), 52. https://doi.org/10.1007/s10648-023-09773-x.

Cooper, K. M., Schinske, J. N., & Tanner, K. D. (2021). Reconsidering the Share of a Think–Pair–Share: Emerging Limitations, Alternatives, and Opportunities for Research. *CBE Life Sciences Education*, *20*(1), 1–10. https://doi.org/10.1187/cbe.20-08-0200.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design Qualitative, Quantitative, and Mixed Method Approaches* (Fifth Edition). SAGE.

Decristan, J., Jansen, N. C., & Fauth, B. (2023). Student Participation in Whole-Class Discourse: Individual Conditions and Consequences for Student Learning in Primary and Secondary School. *Learning and Instruction*, *86*, 101748. https://doi.org/10.1016/j.learninstruc.2023.101748.

Emerson, T. L. N., McGoldrick, K., & Wagner, J. (2023). Decomposing A Pre-Post-Test Outcome to Measure the Effect of Cooperative Learning on Student Achievement. *International Review of Economics Education*, *44*, 100274. https://doi.org/10.1016/j.iree.2023.100274

Farid, J. A., Muzayanah, & Prasetya, S. P. (2025). The Role of Gender in Student Engagement: Insights from a Project-Based Learning Experiment. *Jurnal Pendidikan: Riset & Konseptual*, *9*(1), 65–74.

Guenther, A. R., & Abbott, C. M. (2024). Think-Pair-Share: Promoting Equitable Participation and In-Depth Discussion. *PRiMER: Peer-Reviewed Reports in Medical Education Research, 8*, 7. https://doi.org/10.22454/PRiMER.2024.444143.

Habibi, Y., & Adnan, M. F. (2021). Pengaruh Model Pembelajaran Kooperatif Tipe Picture and Picture Terhadap Partisipasi dan Hasil Belajar Siswa di Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 3399–3412. https://doi.org/10.31004/basicedu.v5i5.1316.

Idayani, N. P. (2021). Pembelajaran Kooperatif Model TPS (Think Pair Share) Meningkatkan Aktivitas dan Hasil Belajar IPA. *Journal of Education Action Research*, *5*(3), 416–422. https://ejournal.undiksha.ac.id/index.php/JEAR/article/view/37432.

Kamil, V. R., Arief, D., Miaz, Y., & Rifma, R. (2021). Pengaruh Penggunaan Model Pembelajaran Kooperatif Tipe Think Pair Share terhadap Motivasi dan Hasil Belajar Belajar Siswa Kelas VI. *Jurnal Basicedu*, *5*(6), 6025–6033. https://doi.org/10.31004/basicedu.v5i6.1744.

Kong, Y. (2021). The Role of Experiential Learning on Students' Motivation and Classroom Engagement. *Frontiers in Psychology*, *12*, 771272. https://doi.org/10.3389/fpsyg.2021.771272.

Manda, A. K. (2024). The Role of the 'Think-Pair-Share' Active Learning Strategy in Influencing Content Knowledge and Self-Confidence of Undergraduate Students in A Large Enrollment Geoscience Course. *Journal of Geoscience Education*, *73*(3), 305-317. https://doi.org/10.1080/10899995.2024.2419308.

McConnell, D. A., Chapman, L. A., Czajka, C. D., Jones, J. P., Ryker, K. D., & Wiggen, J. (2017). Instructional Utility and Learning Efficacy of Common Active Learning Strategies. *Journal of Geoscience Education, 65*(4), 604-625. https://doi.org/10.5408/17-249.1.

Moraga-Pumarino, A., Salvo-Garrido, S., & Ortiz-Cea, V. (2025). Gender, Self-Efficacy, and Academic Performance: Evidence in Business Education Program. *Behavioral Sciences*, *15*(5), 563. https://doi.org/10.3390/bs15050563.

Mundelsee, L., & Jurkowski, S. (2021). Think and Pair Before Share: Effects of Collaboration on Students' in-class Participation. *Learning and Individual Differences*, *88,* 102015. https://doi.org/10.1016/j.lindif.2021.102015.

Nadile, E. M., Alfonso, E., Barreiros, B. M., Bevan-Thomas, W. D., Brownell, S. E., Chin, M. R., Ferreira, I., Ford, S. A., Gin, L. E., Gomez-Rosado, J. O., Gooding, G., Heiden, A., Hutt, A. E., King, M. L., Perez, S. G., Rivera Camacho, Y. I., Salcedo, F., Sellas, C. F., Sinda, K. A., Katherine N. Stahlhut, K. N., Stephens, M. D., Wiesenthal, N. J., Williams, K. D., Yi Zheng, Cooper, K. M. (2021). Call on Me! Undergraduates' Perceptions of Voluntarily Asking and Answering Questions in Front of Large-Enrollment Science Classes. *PLoS ONE*, *16*(1), e0243731. https://doi.org/10.1371/journal.pone.0243731.

Rivai, S., & Mohamad, F. D. (2021). Pengaruh Penggunaan Model Pembelajaran Think Pair Share Pada Terhadap Hasil Belajar Siswa Pada Materi Penyajian Data Kelas IV Sekolah Dasar. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, *7*(2), 685-712. https://doi.org/10.37905/aksara.7.2.685-712.2021.

Rukmini, A. (2020). Model Kooperatif Tipe Think Pair Share (TPS) Dalam Pembelajaran Pkn SD. *Social, Humanities, and Educational Studies (SHES): Conference Series, 3*(3), 2176-2181. https://jurnal.uns.ac.id/SHES/article/view/57088.

Samaila, K., Tsong, C. K., Masood, M., & Bervell, B. (2024). Think-Pair-Share Based Flipped Classroom: A Model for Improving Students' Learning Achievement and Self-Efficacy. *Journal of Digital Educational Technology*, *4*(1), ep2410. https://doi.org/10.30935/jdet/14422.

Severe, E., Stalnaker, J., Hubbard, A., Hafen, C. H., & Bailey, E. G. (2024). To Participate or Not to Participate? A Qualitative Investigation of Students' Complex Motivations for Verbal Classroom Participation. *PLoS ONE*, *19*(2), e0297771. https://doi.org/10.1371/journal.pone.0297771.

Sugiyono. (2025). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.

Torsdottir, A. E., Olsson, D., Sinnes, A. T., & Wals, A. (2024). The Relationship Between Student Participation and Students' Self-Perceived Action Competence for Sustainability in A Whole School Approach. *Environmental Education Research*, *30*(8), 1308–1326. https://doi.org/10.1080/13504622.2024.2326462.

Yang, X. (2023). A Historical Review of Collaborative Learning and Cooperative Learning. *TechTrends*, *67*(4), 718–728. https://doi.org/10.1007/s11528-022-00823-9.