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Enhancing Team Communication and Critical Thinking Skills Through Case-Based Learning in Social Sciences Education for PGSD UMKABA Students

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ABSTRACT

Developing critical thinking and communication skills is essential for prospective teachers in facing the demands of 21st-century education. Case-Based Learning (CBL) provides authentic problem contexts that encourage active discussion, collaboration, and reasoning. This study examined the effect of CBL on team communication skills in the Social Science Education course for PGSD students at Universitas Muhammadiyah Kendal Batang (UMKABA). A quantitative descriptive design with a pre-test–posttest approach was used, involving 24 students selected through saturation sampling. Data were collected using questionnaires supported by observations and interviews, and analyzed using paired sample t-tests. The findings revealed a significant improvement in students' team communication skills after CBL implementation. The average communication score increased from 66.33% (Good) in the pre-test to 81.83% (Very Good) in the posttest ($t = -19.728$, $p < 0.001$). Improvements were also observed in collaboration and interaction indicators, demonstrating that CBL fostered active participation, constructive dialogue, and teamwork. These results confirm that CBL effectively enhances not only students' cognitive engagement but also their interpersonal skills, which are critical for future teachers. The findings align with constructivist learning theory, emphasizing that meaningful knowledge is developed through collaborative and interactive processes. CBL significantly improves PGSD students' communication, collaboration, and interaction skills in social science education. This study suggests that integrating CBL into teacher education curricula can strengthen graduates' readiness as adaptive and communicative educators.

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1. INTRODUCTION

Quality education aims to impart knowledge to students and equip them with the skills needed to face the challenges of an increasingly complex world (Widyasari, Martini, & Mahdiannur, 2023). One of the key skills that students must have is critical thinking skills, which enable them to analyze information

objectively, make informed decisions, and solve problems effectively (Alfiandra, Yusuf, & Barlian, 2022). This ability becomes even more essential in higher education, especially in teaching courses that prepare prospective educators, such as the Elementary School Teacher Education Study Program (PGSD). In addition, team communication skills are also a key competency that PGSD students must have because they will interact with students and colleagues, parents, and various other parties in the world of education. However, in many cases, traditional learning methods still dominant in educational institutions often prove insufficient to encourage the development of critical thinking skills and effective team communication. Lecture-based learning and one-way teaching suppress students' potential to think independently, collaborate in groups, and develop practical communication skills. On the other hand, case-based learning, which requires students to analyze real situations, debate, and collaborate in solving problems, offers a more dynamic and relevant approach to the needs of the modern education world. This model not only improves critical thinking skills but also strengthens team communication capabilities through more active and collaborative interactions in the classroom.

The digitalization era has made it very easy to access information for obtaining and consuming (Dziubaniuk, Ivanova-Gongne, & Nyholm, 2023; Lestari, 2020). Learning that is integrated with technology (TPACK) has a significant impact on the cognitive, affective, and psychomotor development of students (Shafie, Majid, & Ismail, 2019; Tanjung, Baharuddin, Ampera, Farihah, & Jahidin, 2022). Case-based learning is one of the learning methods that can be used as an effort to enhance students' critical thinking and reasoning skills, as well as to shape their personality and mentality (Kaddoura, 2011; Komang Novita Sri, 2021). Learning conducted through case study analysis and carried out in groups can complement the lack of arguments from each individual, fostering collaboration among students and greatly enhancing the opportunity to broaden perspectives and gain additional insights from team members or other teams. This is because this learning model involves all students in focusing on solving problems related to the analyzed topic. The critical thinking of students in generating opinions is a product of thought that can be interpreted in the form of speaking skills and manifested through team communication abilities. Team communication is a collaboration formed through the exchange of interactions and opinions within the team and is the most fundamental aspect (Liman & Idulfilastri, 2022; Ramadhani, Septia, Wijayanti, & Septianingtias, 2021). Team communication is very important as it impacts the development of trust, fosters camaraderie among team members, encourages a spirit of learning, and engages all students in active learning. Discussions on the topics addressed can also lead to conclusions, enabling students to reflect on the learning process.

Case-based learning is an approach that engages students in complex, real-world situations that require them to think critically and work collaboratively in groups to analyze problems and formulate solutions (Simbolon, 2022). This approach allows students to gain a deeper understanding of the material being studied and will enable them to hone their critical thinking and communication skills (Wospakrik, Sundari, & Musharyanti, 2020). In the context of PGSD, where prospective teachers are expected to be able to teach effectively and collaborate with various parties, case-based learning offers significant benefits. By implementing this model, PGSD students are expected to be able to develop the skills needed to become competent educators and adapt to various situations in the world of education. However, although many studies have examined the application of case-based learning in different educational contexts, there is still little research that specifically examines the effect of this model on PGSD students' team communication and critical thinking skills. This indicates a gap in the literature that needs to be bridged, especially in social education and teaching, which focuses on developing collaborative and analytical skills at the elementary education level. In addition, although many studies discuss the effectiveness of case-based learning models in general, not many have studied in depth how this model can be applied specifically to improve team communication skills in Social Science Education courses for PGSD students.

This study aims to fill this gap by analyzing the effect of implementing case-based learning on the team communication skills of PGSD students in the Social Science Education course at Universitas Muhammadiyah Kuningan (UMKABA). Specifically, this study will evaluate the effectiveness of the

case-based learning model in improving team communication skills before and after implementing this model. This study used a quantitative descriptive method to analyze changes in team communication skills that occurred in PGSD students after they participated in case-based learning. This study is expected to obtain empirical evidence that supports the use of case-based learning models in PGSD education and provide practical recommendations for developing curriculum and learning methods in higher education institutions.

Previous studies have shown that case-based learning (CBL) effectively improves critical thinking skills, conceptual understanding, and learning motivation among students at various levels of education. However, most of these studies have focused more on individual achievement and cognitive aspects alone. In contrast, the impact of CBL on communication skills in the context of student team collaboration has rarely been systematically studied, especially among students in elementary school teacher education programs (PGSD). In addition, some studies on student communication have focused more on individual presentation skills or written communication, rather than on interpersonal communication skills that occur naturally in team dynamics. This condition indicates a gap in the literature regarding applying CBL to develop team communication skills among prospective teachers, which is crucial in their future professional practice. This study offers a novelty by empirically testing the effectiveness of a case-based learning model in improving the team communication skills of PGSD students in social studies education. The focus on the communication of prospective teachers is a significant difference from previous studies that only highlighted individual learning outcomes. Thus, this study expands the understanding of CBL implementation in elementary education and adds a new dimension to the scientific discussion on the importance of collaborative skills in teacher education. This novelty is expected to enrich the educational literature by providing a perspective on how CBL can shape social-communicative skills relevant to cooperation demands in academic settings.

The urgency of this research is based on the need to equip prospective teachers with good team communication skills from the undergraduate level. In professional practice, teachers interact with students and collaborate with parents, colleagues, and various other parties to create an effective learning environment. Therefore, developing team communication skills through innovative learning approaches such as CBL is highly relevant to the demands of 21st-century education, which emphasizes collaboration, communication, and problem-solving. This study's findings contribute theoretically to filling gaps in the literature and provide practical implications for curriculum designers and lecturers in implementing learning strategies that enhance the quality of PGSD graduates as competent and adaptive educators.

The urgency of this research lies in the need to optimize case-based learning (CBL) as a strategy to enhance students' critical thinking and problem-solving skills, fostering adaptive reasoning aligned with current educational challenges. Effective communication, as a foundation for meaningful interaction and collaboration, must also be maximized within this learning model. CBL has been recognized as an effective pedagogical approach for addressing real-world problems, as it encourages active engagement, dialogue, and the exchange of diverse perspectives. Team communication skills, in particular, are essential for generating holistic ideas and shared knowledge through peer interaction, ultimately promoting higher-order thinking through collaborative discussions.

Research by Arianto and Fauziyah (2020), titled *"Students' Response to the Implementation of Case-Based Learning (CBL) Based on HOTS in Junior High School,"* demonstrated that HOTS-oriented CBL fosters student motivation, enthusiasm, and active participation. Their findings, supported by questionnaire data, indicated that this approach mitigates boredom and enhances students' willingness to engage in learning activities. Similarly, studies by Bergdahl, Nouri, and Fors (2020), as well as Wati and Sunarti (2019), in *"The Implementation of Case-Based Learning to Enhance Scientific Reasoning Skills in High School,"* reported very positive outcomes. The CBL implementation across three classes achieved performance scores of 91%, 90%, and 90%, all falling into the 'very good' category, highlighting the model's effectiveness in promoting scientific reasoning and student engagement.

Building on these findings, this study aims to apply the CBL model specifically to improve team communication skills within the context of social studies education. Beyond contributing to pedagogical innovation, this research also supports the advancement of the Primary School Teacher Education (PGSD) program by emphasizing collaborative, competency-based learning. The results will provide valuable insights for curriculum development, enabling the program to design more contextual and workplace-relevant learning experiences. Integrating CBL into discussion- and practice-based courses will not only enhance students' academic achievement but also develop essential interpersonal communication and teamwork competencies—key attributes for future elementary school teachers. Moreover, this research reinforces the PGSD program's role as a leader in promoting innovative, adaptive learning approaches in response to the evolving demands of modern education.

2. METHODS

This study employed a quantitative quasi-experimental design with a one-group pre-test–posttest approach to examine the effect of Case-Based Learning (CBL) on the team communication skills of PGSD students in the Social Science Education course at Universitas Muhammadiyah Kendal Batang (UMKABA). The research population comprised one class of 24 students, all of whom were included through saturation sampling.

Data were collected using questionnaires, supported by observations, interviews, and documentation to ensure data triangulation. The questionnaire was developed based on three main dimensions: (1) communication (oral expression, receptive skills, clarity of goals), (2) collaboration (productivity, valuing opinions, compromise, shared responsibility, self-regulation), and (3) interaction (individual-to-individual, individual-to-group, and group-to-group relations). Items were validated through expert judgment to establish content validity, and reliability testing indicated satisfactory internal consistency.

The questionnaire used a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Scores were categorized into five levels: Very Poor (1–20%), Poor (21–40%), Fair (41–60%), Good (61–80%), and Very Good (81–100%).

Data analysis began with a normality test to meet the assumptions for parametric analysis. Subsequently, a paired-sample t-test was applied to compare pre-test and posttest scores, determining whether CBL led to a statistically significant improvement in students' team communication skills. This analytical strategy was selected to provide robust evidence of the effectiveness of CBL in fostering collaboration and interaction among PGSD students.

3. FINDINGS AND DISCUSSION

3.1 Findings

The results of the research conducted show that the application of the case-based learning model to optimize team communication in social studies learning for PGSD students at UMKABA is indeed inseparable from the indicators of collaboration and interaction. Team communication is formed through interaction and collaboration. Students can collaborate when there is interaction, and they can also cooperate when there is communication. They are interconnected and influence one another. The data obtained from the research can be more clearly seen in Table 3, which presents a summary of the research results that have been conducted and have undergone the process of summarization and analysis.

Table 3. Results of the Data Analysis Recapitulation of the Research

No	Identity	Pre-Test			Post-Test		
		Communication	Collaboration	Interaction	Communication	Collaboration	Interaction
1	AK	14	17	19	19	20	22
2	AA	15	21	17	21	24	22
3	DW	19	19	21	24	22	21
4	EA	17	17	19	22	18	22
5	HA	18	20	22	21	25	24
6	IA	22	23	22	25	25	24
7	IS	16	19	15	17	19	18
8	IH	16	17	19	21	20	19
9	KP	16	21	21	18	22	24
10	LF	17	20	17	20	25	20
11	LP	17	17	19	21	19	20
12	LN	17	21	21	21	21	21
13	MR	12	19	21	15	20	21
14	NS	17	20	17	20	22	21
15	NK	16	18	17	22	20	20
16	RN	14	17	18	18	21	23
17	RS	20	21	21	22	23	25
18	RI	19	17	19	21	18	19
19	SR	18	15	18	22	22	25
20	UK	15	18	15	18	20	19
21	YA	14	20	21	17	21	21
22	BP	16	17	21	21	21	25
23	AH	17	18	19	23	18	21
24	NL	16	16	16	22	20	19

The results of the data analysis in Table 3 show a significant impact of implementing the case-based learning (CBL) model on improving the communication skills of PGSD students in the Social Studies Education course. The data show an increase in scores on the three leading indicators measured, namely communication, collaboration, and interaction, in almost all respondents. Before the CBL intervention, the average communication score of students was in the "good" category, with a relatively low score distribution and considerable variation between individuals. This reflects disparities in communication skills among students, where some students appeared to be quite confident in expressing their opinions and participating in team discussions, while others still showed limitations in expressing ideas and responding to team members. After the CBL intervention, the average communication score increased significantly from 66.33% to 81.83%, and almost all students moved to the "outstanding" category. This increase indicates that CBL successfully created a learning environment that encouraged students to communicate boldly, practice speaking skills in a more structured manner, and provided equal opportunities for each team member to participate.

Furthermore, the increase in scores on the collaboration indicator also reflects the success of CBL in instilling productive cooperation values within the team. Before the intervention, students already tended to work together, but they tended to be passive or follow the flow of the discussion without much real contribution. Data shows an increase in the average collaboration score from 74.67% to 84.33% after implementing CBL. This demonstrates that the group dynamics built through real-world case analysis enhance functional interactions within the team and encourage students to value differing opinions, negotiate, share responsibilities, and achieve common goals. Students who initially had low collaboration scores showed significant improvement, although the increase was minor compared to students with high initial scores, who tended to achieve maximum scores post-intervention. This pattern indicates that while CBL is effective across all initial ability levels, students with lower social

skills require more time to adapt and may need additional interventions such as personal guidance or remedial learning to optimize outcomes.

In addition, interaction indicators showed the highest results compared to the other two indicators. The increase from an average of 75.83% to 86.00% on this indicator confirms that CBL is highly effective in building interpersonal relationships among team members. This is unsurprising given that interaction is essential for effective communication and harmonious collaboration. Students are trained to interact within their own groups and across groups, thereby expanding their social communication networks. The pattern of score improvement across the three indicators also shows a strong correlation between communication, collaboration, and interaction skills, where development in one dimension simultaneously strengthens the others. Interestingly, students with low initial scores still significantly improved the interaction indicator. However, they did not always reach the optimal level, indicating that social interaction is easier to form in a CBL context than in formal verbal communication.

Overall, the data analysis in Table 3 shows that the case-based learning model effectively improves PGSD students' soft skills, particularly in terms of interpersonal communication, teamwork, and social interaction. This has important implications for teacher education, as these skills are core competencies highly needed in elementary school professional practice. Furthermore, the data also provides empirical evidence that learning based on active participation, open discussion, and real-world problem solving is more capable of accommodating individual differences among students compared to conventional methods that tend to be one-way. Thus, Table 3 presents quantitative figures on improvement and provides a holistic picture of how CBL shapes an inclusive, communicative, and collaborative learning culture in the classroom. These findings reinforce the urgency for PGSD programs to integrate CBL more systematically into the curriculum as a learning strategy that emphasizes cognitive aspects and cultivates social skills characteristic of adaptive and competent professional educators in the 21st-century education era. Based on the data from the research that was carried out through the distribution of pre-test and posttest questionnaires, the results can be displayed in the following Figure 1.

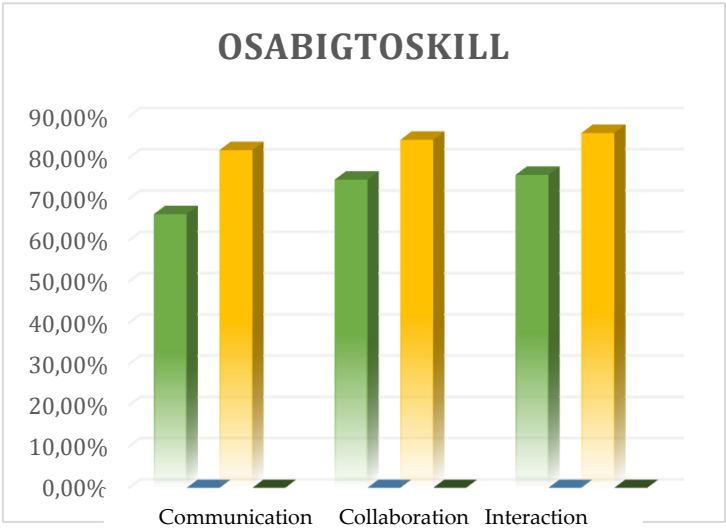

Figure 1. Data from the Research Results Through Pre-test and Posttest Questionnaires

It can be seen in image 1 that there is a significant difference between the pretest and posttest data that was obtained by applying the case-based learning model. The percentage of research results from the communication indicator before applying the case-based learning model was 66.33% (good), and after the treatment with the case-based learning model, it increased to 81.83% (very good). For the collaboration indicator, before applying the case-based learning model, the result was 74.67% (good), while after applying the model, it improved to 84.33% (very good). Regarding the interaction indicator,

before the treatment, the result was 75.83% (good), and after the implementation of the case-based learning model, it reached 86.00% (very good). The data from the research that has been conducted, it shows that the case-based learning model brings about changes in the learning process related to communication, collaboration, and interaction.

Before implementing the case-based learning model (pre-test), the average student team communication skills score was 66.33, with a standard deviation indicating relatively low variation among students. After the implementation of the case-based learning model (post-test), the average score increased to 81.83, marking a significant increase in student-team communication skills. To test whether the difference between the pre-test and post-test scores was substantial, a t-test was conducted for paired samples. The t-test results showed a t-value of -19.728 with a degree of freedom (df) of 23 and a very small p-value of 0.000. Thus, the t-test results indicate a significant difference between the pre-test and post-test scores. The significant t-test results ($p < 0.05$) suggest that the case-based learning model significantly improves the communication skills of PGSD student teams. The application of this model successfully enhanced the communication skills of student teams, as reflected in the increase in the average score from 66.33 to 81.83. These findings support the hypothesis that case-based learning can improve team communication skills through collaborative interactions and deeper problem analysis.

3.2 Discussion

These results indicate that case-based learning effectively improves team communication skills, which are essential in higher education, especially in the PGSD study program. This increase in team communication skills can be explained through the basic principles of the case-based learning model, which requires students to collaborate in groups in analyzing and solving complex problems. Unlike conventional learning methods that are often one-way, case-based learning allows students to learn actively and critically. According to the constructivist theory proposed by (Astriawati & Yennita, 2023), learning that occurs in a social and interactive context, as applied in the case-based learning model, can improve understanding and social skills, including team communication skills. This study supports previous findings that case-based learning can improve communication skills, especially in the context of professional education. For example, research conducted by (Purnamawati, 2021; Taher, 2023) showed that interactions between group members in case-based learning strengthened students' communication and collaboration skills. Through this model, students were encouraged to think critically and express their opinions clearly and effectively, which improved their team communication skills.

The results of this study provide essential contributions to the development of active learning theory, especially in the context of case-based learning. As previously explained, the case-based learning model relies on active learning principles, emphasizing student involvement in the learning process. In the context of learning theories, this study adds insight into how this model improves critical thinking skills and team communication skills. This aligns with (Yosep, Suryani, Mediani, Mardhiyah, & Maulana, 2023) view that effective education must involve students in a process that allows them to interact and collaborate. From the perspective of collaboration theory, this study's results also underline the importance of social interaction in the learning process (Al-Rahmi et al., 2023) state that structured collaboration supported by the right learning model can improve students' social and cognitive skills. Case-based learning encourages students to discuss and solve problems in groups, strengthening their communication skills in arguing and conveying opinions in a structured manner.

The results of this study indicate that case-based learning can be applied effectively in PGSD education to improve students' team communication skills. In Social Science Education courses, this model allows students to collaborate in analyzing complex social issues, improving their understanding of the material and their communication skills. With empirical evidence supporting the effectiveness of this model, educators can consider integrating a case-based approach into their curriculum, especially for courses that require students to interact and work in teams. Another practical implication is that higher education, especially in PGSD study programs, needs to consider case-based

learning to improve students' communication and collaboration skills. In a world of education that increasingly prioritizes teamwork and interaction between individuals, these skills are needed to create competent educators who can work effectively in various social contexts.

To delve deeper into the effectiveness of the case-based learning model, interviews were conducted with students to assess its efficacy. The results of the interviews provided additional information that the learning process using the case-based learning model, particularly in terms of communication indicators, led students to assume that this model is very effective in enhancing speaking skills. This is because the formation of small teams makes students feel awkward if they do not communicate with their group members. Students feel a responsibility to communicate and express their opinions in presenting solutions to the issues at hand, so that they also understand the core problems being faced. In the collaboration indicator, students feel uncomfortable if they cannot solve problems together, so they must be able to work together to find solutions and make the best use of their time in discussions. Through communication and discussion, there are sometimes differing opinions, but students can accept other ideas or concepts to achieve the best results, even if those ideas or concepts sometimes come from their group mates or other groups. In the interaction indicator, students feel the need to engage in conversations among themselves, involving interactions between students and other students, between students and groups or teams, as well as between different groups.

Overall, the results of the research conducted indicate that the case-based learning model is very effective for implementation in the learning process. Communication, collaboration, and interaction that occur can run optimally by involving students' active participation in arguing. This is in line with what has been conveyed by (Fauziah, Fitriansyah, Sutedjo, & Said, 2022; Hidayati & Evy Wisudariani, 2023) that the case-based learning model can enhance motivation as it involves more participation in discussions and employs higher-order thinking skills that can ignite critical thinking and reasoning in responding to and seeking solutions for the problems faced. Furthermore, (Li et al., 2021) states that problem-based learning can improve student communication and knowledge. In accordance with this, (Har, Arsyad, & Rusli, 2024) mention that through case-based learning, students will be able to broaden their horizons and think critically.

The study's results show significant findings, several limitations need to be considered. One of the main limitations is the relatively small sample size, which is 24 PGSD students. This limited sample can affect the generalizability of the results of the study because it does not cover a wider variety of the existing PGSD student population. Therefore, the findings of this study are more contextual and may not be fully applicable to student populations outside UMKABA. In addition, the use of a questionnaire instrument as a tool to measure team communication skills also has limitations. This questionnaire, although well-designed, only measures certain aspects of communication skills and may not cover all dimensions of more complex team communication. For example, the questionnaire may not fully cover non-verbal communication and active listening skills. Therefore, to get a more comprehensive picture of team communication skills, future research can combine other instruments, such as direct observation or in-depth interviews, providing more holistic information about student group interactions. Another limitation that needs to be considered is the implementation duration of the case-based learning model, which is only one semester. Although there was a significant improvement in team communication skills, the limited duration may not provide enough insight into the long-term effects of this learning model. Longitudinal research spanning a more extended period may offer more profound insight into the long-term impact of case-based learning on students' team communication skills.

Given the limitations described, several suggestions for future research can be made. First, further research can expand the sample size to include students from various universities and study programs. By involving a larger and more diverse sample, the study's results will be more generalizable and can be applied to a wider context. Second, future research can explore other dimensions of team communication skills that have not been covered in this study. For example, direct observation methods

or interviews with students and lecturers can provide more in-depth qualitative data on the communication process in groups. Thus, further research can provide a more comprehensive picture of how team communication develops during the implementation of case-based learning. In addition, longitudinal research conducted over a more extended period can provide insight into the sustainability of improvements in team communication skills after implementing case-based learning. This long-term research can reveal whether the changes in team communication skills are permanent or only temporary. Finally, future research can also explore other factors that influence the effectiveness of the case-based learning model, such as student motivation, the role of the instructor, and the influence of technology in supporting group collaboration.

The selection of a quantitative method with a descriptive approach in this study is strongly justified, given that the study's main objective is to objectively measure changes in the communication skills of student teams before and after implementing a case-based learning model. A quantitative approach allows researchers to obtain measurable data, analyze patterns of change statistically, and draw conclusions based on empirically verifiable evidence. The pre-test and post-test design on the same population is also appropriate to minimize external variables that may influence the results, thereby enhancing the reliability of the findings. The research instrument, in the form of a questionnaire developed based on communication, collaboration, and interaction indicators, has undergone content validity testing involving education experts to ensure that each question item is relevant to the measured construct. Reliability testing was also conducted on the instruments, yielding good internal consistency results. This is important because the validity and reliability of the instruments are prerequisites for ensuring that the data collected truly reflect the communication abilities of the student teams, rather than merely measurement artifacts. Thus, the methods used and the validated instruments provide a strong foundation for the conclusions of this study and strengthen the argument that the improvements found are indeed the result of case-based learning interventions.

The social implications of this study's findings are significant, especially in an educational context that increasingly emphasizes communication and collaboration skills. Implementing case-based learning can enrich students' learning experiences by providing them with opportunities to hone social skills essential for their professional lives. Practical communication skills are key in education, where teachers must be able to interact with students, colleagues, and parents to create an inclusive and supportive learning environment. Ethically, it is essential to consider the digital divide that can affect the implementation of case-based learning, mainly when technology is used in teaching. This study shows that technology can support collaboration and communication in groups, but it also reminds us to pay attention to accessibility. In this context, ensuring all students have equal access to the technology needed to engage in case-based learning effectively is essential. This is all the more relevant given the inequality of access to technology in some communities or educational institutions. Thus, this study also reminds us of the social responsibility to ensure that case-based learning enhances academic skills and strengthens ethical values, such as equity, accessibility, and inclusivity in education. In addition, this research also opens up space for further discussion regarding the role of technology in education and how technology can be used in a socially and ethically responsible manner.

4. CONCLUSION

This study empirically proves that implementing case-based learning (CBL) can significantly improve the communication skills of PGSD students in social studies courses. Quantitative data shows an increase in the average team communication score from "good" to "very good," which is reflected in three leading indicators: communication, collaboration, and interaction. These findings confirm that CBL effectively creates a participatory learning environment, encouraging students to be more confident in expressing their ideas, valuing others' opinions, working together productively, and interacting across individuals and groups. Theoretically, this study enriches the literature by filling a gap in previous research that has not yet highlighted the impact of CBL on the communication dimension of prospective teacher students. Practically, the results of this study provide an empirical

basis for higher education policymakers and curriculum designers of PGSD study programs to systematically integrate CBL as a learning strategy that not only hones cognitive skills but also social competencies that are very important in the teaching profession. Several recommendations can be proposed based on this study's results and limitations. First, the implementation of CBL must be carried out continuously and expanded to various discussion- or practice-based courses in the PGSD program to ensure that students gain consistent experience developing team communication skills. Second, lecturers must provide more intensive guidance to students with low initial communication skills to adapt quickly and achieve optimal results. Third, further research is recommended to involve a larger and cross-institutional sample to enhance the generalizability of findings and combine quantitative and qualitative methods, such as direct observation and in-depth interviews, to obtain a more comprehensive picture of team communication dynamics in CBL. Finally, it is also essential to conduct longitudinal research to evaluate the sustainability of the positive effects of CBL on students' communication skills in the long term, including in the early stages of their professional careers as educators. Thus, the development of innovative learning strategies such as CBL can continue to be directed toward strengthening the competencies of graduates who are adaptive, collaborative, and ready to face the challenges of 21st-century education.

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REFERENCES

Al-Rahmi, W. M., Al-Adwan, A. S., Al-Maatouk, Q., Othman, M. S., Alsaud, A. R., Almogren, A. S., & Al-Rahmi, A. M. (2023). Integrating Communication and Task–Technology Fit Theories: The Adoption of Digital Media in Learning. *Sustainability (Switzerland)*, *15*(10), 1–17. https://doi.org/10.3390/su15108144

Alfiandra, Yusuf, S., & Barlian, I. (2022). Improving Students' Critical Thinking Skills Through Case Based Learning Oriented Textbook. *Jurnal Penelitian Dan Pengembangan Pendidikan*. https://doi.org/10.23887/jppp.v6i3.56179

Arianto, H., & Fauziyah, H. N. (2020). Students' Response To The Implementation Of Case Based Learning (Cbl) Based Hots In Junior High School. *INSECTA: Integrative Science Education and Teaching Activity Journal*. https://doi.org/10.21154/insecta.v1i1.2058

Astriawati, F., & Yennita, Y. (2023). Collaborative case-based learning: its implications on students' analytical abilities on the topic of monera and protista. *Diklabio: Jurnal Pendidikan Dan Pembelajaran Biologi*. https://doi.org/10.33369/diklabio.7.2.240-249

Bergdahl, N., Nouri, J., & Fors, U. (2020). Disengagement, engagement and digital skills in technology-enhanced learning. *Education and Information Technologies*, *25*(2), 957–983. https://doi.org/10.1007/s10639-019-09998-w

Dziubaniuk, O., Ivanova-Gongne, M., & Nyholm, M. (2023). Learning and teaching sustainable business in the digital era: a connectivism theory approach. *International Journal of Educational Technology in Higher Education*, *20*(1). https://doi.org/10.1186/s41239-023-00390-w

Fauziah, F., Fitriansyah, F., Sutedjo, B., & Said, M. (2022). Case Based Learning Innovations Of Environmental Management. *JURNAL PAJAR (Pendidikan Dan Pengajaran)*. https://doi.org/10.33578/pjr.v6i6.8932

Har, B. H., Arsyad, N., & Rusli. (2024). Cultivating Characteristic Critical Thinking: Exploring Critical Thinking Abilities through the CBL Learning Model. *International Journal of Scientific Research and Management (IJSRM)*. https://doi.org/10.18535/ijsrm/v12i02.el06

Hidayati, F. H., & Evy Wisudariani, E. W. (2023). The Influence of Case Based Learning in Improving Students' Creativity and Thinking Skills. *BIODIK*. https://doi.org/10.22437/biodik.v9i2.20821

Komang Novita Sri, R. (2021). Educational synergy to welcome the future of Indonesia in the era of

society 5.0. *Edukasi: Jurnal Pendidikan Dasar*.

Lestari, D. E. (2020). Rethinking the Roles of English Lecturers in the Digital Era. *Metathesis: Journal of English Language, Literature, and Teaching*, *4*(2), 137. https://doi.org/10.31002/metathesis.v4i2.2508

Li, H., Sun, J., Zhou, Y., Ding, S., Guo, Y., Jiang, Q., … Ma, P. (2021). The utility of competency-oriented clinical laboratory teaching combined with case-based learning (CBL). *Clinical Chemistry and Laboratory Medicine*. https://doi.org/10.1515/cclm-2021-0467

Liman, W., & Idulfilastri, R. M. (2022). The role of collaboration as a mediator in the relationship between knowledge sharing and virtual team effectiveness. *Jurnal Muara Ilmu Sosial, Humaniora, Dan Seni*. https://doi.org/10.24912/jmishumsen.v6i1.15436.2022

Purnamawati, H. (2021). Developing Communication and Collaboration Skills Through Active Learning with the MIKiR Approach. *Jurnal Ilmiah Universitas Batanghari Jambi*. https://doi.org/10.33087/jiubj.v21i2.1521

Ramadhani, A. E., Septia, A. Y., Wijayanti, R., & Septianingtias, A. (2021). Self-Management As An Effort To Build Cooperation In Student Exchange In Higher Education. *Perspektif Ilmu Pendidikan*. https://doi.org/10.21009/pip.351.8

Shafie, H., Majid, F. A., & Ismail, I. S. (2019). Technological pedagogical content knowledge (TPACK) in teaching 21st century skills in the 21st century classroom. *Asian Journal of University Education*. https://doi.org/10.24191/ajue.v15i3.7818

Simbolon, D. H. (2022). Pengaruh Model Case Based Learning (CBL) Terhadap Hasil Belajar Mahasiswa. *Bullet: Jurnal Multidisiplin Ilmu*.

Taher, T. (2023). Analysis of Introvert Students' Communication and Collaboration Skills with Culturally Responsive Teaching Approach. *Jambura Journal of Educational Chemistry*. https://doi.org/10.34312/jjec.v5i1.17463

Tanjung, S., Baharuddin, Ampera, D., Farihah, & Jahidin, I. (2022). Problem Based Learning (PBL) Model with Technological, Pedagogical, and Content Knowledge (TPACK) Approach. *International Journal of Education in Mathematics, Science and Technology*. https://doi.org/10.46328/ijemst.2510

Wati, D. A., & Sunarti, T. (2019). *The Implementation of Case Based Learning (CBL) to Improve Scientific Reasoning Skills in High School*. *08*(02), 552–555.

Widyasari, S. R., Martini, M., & Mahdiannur, M. A. (2023). Analysis of Implementation and Student Learning Activities Using the Case Based Learning Model on Environmental Pollution Material. *Jurnal Ilmiah Profesi Pendidikan*. https://doi.org/10.29303/jipp.v8i4.1604

Wospakrik, F., Sundari, S., & Musharyanti, L. (2020). The effect of implementing case-based learning methods on student motivation and learning outcomes. *JHeS (Journal of Health Studies)*. https://doi.org/10.31101/jhes.515

Yosep, I., Suryani, S., Mediani, H. S., Mardhiyah, A., & Maulana, I. (2023). Digital Therapy: Alleviating Anxiety and Depression in Adolescent Students During COVID-19 Online Learning-A Scoping Review. *Journal of Multidisciplinary Healthcare*, *16*(June), 1705–1719. https://doi.org/10.2147/JMDH.S416424