

The Impact of Dialogical Learning Approach on Enhancing Students' Speaking Skills in Senior High Schools

Abdul Haris Faisal* , Dadang S. Anshori , Andoyo Sastromiharjo , Yeti Mulyati 

Faculty of Language and Literature Education, Universitas Pendidikan Indonesia, Bandung, Indonesia

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* Corresponding author:

abdulharisfaisal24@upi.edu

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Abstract

Objectives: This study investigated the impact of dialogic learning approach on improving speaking skills among senior high school students in Indonesia. The study involved 84 students from senior high schools located in Tangerang City, Banten Province randomly. Students were assigned into one control group and two experimental groups and with the same number of students in each class (n=28). Information relating to the equality of student ability between the three groups was confirmed by the results of the speaking test according to the assessment provisions in the Indonesian curriculum and through teacher interviews.

Methodes: This study used an experimental quantitative method. SPSS version 26 was used to analyze the data and prove the difference in scores between the two groups involved. For three meetings, both experimental groups were involved in different dialogic learning approaches either dialogic learning approach or data literacy-based dialogic learning approach, while the control group was involved in conventional speaking learning that had been implemented by the teacher.

Results: The comparison of the mean scores of students' speaking skills between the experimental group and the control group showed that the dialogic learning approach and data literacy-based dialogic learning approach helped and supported students' speaking skills. This research describes an important phenomenon about how the implementation of dialogic learning approach can improve students' speaking skills.

Conclusions: We highlight the strong potential in the dialogic learning approach with and without data literacy. This approach is strongly centered on students' autonomy of thinking and active engagement in learning to improve their abilities.

Keywords: Dialogic Learning Approach; Data Literacy-Based; Speaking Skill; High School Students.

تأثير منهج التعلم الحواري على تعزيز مهارات التحدث لدى الطلاب في المدارس الثانوية العليا

عبد الحريس فيصل*، ودادانج س. أنشوري، وأندويو ساستروميهارجو، ويلي مولاتي
كلية اللغة والأدب، جامعة بنديديكان إندونيسيا، باندونغ، إندونيسيا

ملخص

الأهداف: تهدف هذه الدراسة إلى البحث في أثر منهج التعلم الحواري في تحسين مهارات التحدث لدى طلبة المدارس الثانوية في إندونيسيا. وشملت الدراسة 84 طالبًا من المدارس الثانوية العليا الواقعة في مدينة تانجيرانج بمقاطعة باتن بشكل عشوائي. تم توزيع الطلاب على مجموعة ضابطة واحدة ومجموعتين تجريبتين، وبنفس عدد الطلاب في كل فصل (n=28). تم تأكيد المعلومات المتعلقة بالمساواة في قدرات الطلاب بين المجموعات الثلاث من خلال نتائج اختبار المحادثة وفقًا لأحكام التقييم في المنهج الإندونيسي، ومن خلال مقابلات مع المعلمين.

المنهج: استخدمت هذه الدراسة المنهج الكمي التجريبي. تم استخدام الإصدار 26 من برنامج SPSS لتحليل البيانات، وإثبات الفرق في الدرجات بين المجموعتين المعنيتين. في ثلاثة لقاءات، شاركت المجموعتان التجريبتان في مناهج تعليمية حوارية مختلفة، سواءً منهج التعلم الحواري أو منهج التعلم الحوار القائم على محو الأمية البيانية، بينما شاركت المجموعة الضابطة في التعلم التقليدي للمحادثة الذي طبقه المعلم.

النتائج: أظهرت المقارنة بين متوسطات درجات مهارات التحدث لدى الطلاب بين المجموعة التجريبية والمجموعة الضابطة، أن نهج التعلم الحواري ونهج التعلم الحوار القائم على محو أمية البيانات ساعد ودعم مهارات التحدث لدى الطلاب. ويصف هذا البحث ظاهرة مهمة حول كيفية تطبيق نهج التعلم الحوار في تحسين مهارات التحدث لدى الطلاب. الاستنتاجات: تسلط الضوء على الإمكانيات القوية في نهج التعلم الحوار مع محو أمية البيانات وبدونها. ويركز هذا النهج بقوة على استقلالية تفكير الطلاب ومشاركتهم النشطة في التعلم لتحسين قدراتهم.

الكلمات الدالة: نهج التعلم الحواري، القائم على محو أمية البيانات، مهارة التحدث، طلاب المرحلة الثانوية.

1. Introduction

In the last decade, learning with a dialogic approach has continued to develop through theoretical and empirical reviews. This development is marked by the emergence of real efforts to develop learning patterns in the field of secondary education in Indonesia. The real efforts that have developed have given rise to quite diverse perspectives on teaching practices with a dialogic learning approach. In the context of rapidly developing language learning research conducted in various countries, there is a diversity of positive research results on dialogic learning (Aguilera-Jiménez & Gallardo, 2020; Aubert et al., 2009; Dörr, 2021). A number of researchers have proposed theoretical and empirical discussions about dialogic learning and educational approaches (Contreras León & Chapetón Castro, 2017; Gupta & Lee, 2015; Guzmán & Larrain, 2021). Meanwhile, several other researchers have developed applied approaches, especially in the field of language learning.

Teaching aspects of speaking skills lays the foundation for the importance of the communication process for students (Daff, 2013). Students are taught to involve themselves in order to interact communicatively. In implementing the latest curriculum in Indonesia, teaching Indonesian as a subject is more than just a regulation, but as a language resource that must be developed in students. Therefore, real efforts in teaching practice must emphasize the freedom of student interaction in communication.

In the digital era and the increasingly rapid development of data and information flows, the education curriculum in Indonesia continues to adapt to the needs of the times (Hasanah et al., 2022). Educational innovation in the field of language learning continues to be carried out as a form of special attention to the skills needs that students must master. The basic assumption that currently dominates is that language learning, such as speaking skills, must provide flexibility for learning and collaborative activities (Mahdi, 2022; Rao, 2019). Learning with flexibility and emphasis on interaction directs students to be able to complete tasks and solve various contextual problems so that they are directed to the skills needed.

Data literacy skills in the digital era are increasingly important for students to master to support their speaking skills (Beck & Nunnaley, 2021; Deahl, 2014). This competency encourages students to think critically about the use of data and information before presenting it in public speaking activities. To explain data and information, students need to have good skills in public speaking. Therefore, the main goal in learning Indonesian in the speaking aspect is to be able to prepare students who are skilled at communicating. In this research, a dialogic learning approach was also developed through the integration of data literacy in learning. This effort was made to develop students' data literacy competencies at the high school level that are adaptive to 21st century learning developments. This integration was carried out as a form of confirmation of the orientation of the latest curriculum in Indonesia which must be based on strengthening literacy (Hattarina et al., 2022).

1.2 Statement of the Problem

The orientation of the educational curriculum in Indonesia directs students to be able to communicate and reason according to goals, social, academic context and the world of work environment (Melani & Gani, 2023). However, phenomena and obstacles in the field provide ample explanation for differences in students' inability to speak in public. Each student has different ability characteristics so that not all students are able to absorb the material that is considered necessary for communication (Hughes, 2011). Students also cannot learn from a series of learning activities easily if the dominant learning time is allocated to completing material that does not involve them interactively. This condition creates obstacles in improving communicative speaking skills.

The latest curriculum in Indonesia has provided quite clear signs about how teachers should teach students' speaking skills at the high school level in certain contexts and purposes (Setiawan & Suwandi, 2022). The classroom is a place to teach communication skills and makes it the main space for students to be able to use language as a tool for interaction with other students. Therefore, teachers must strive to equip students with the use of appropriate methods and can increase the active engagement of all students. One learning organization that is considered good is making students work in groups because it gives them a freer interaction and communication environment.

In the era of very rapid information development, communication skills are very important for all students as a way for

them to express their views well and precisely (Rao, 2019). The main goal of learning speaking skills is to be able to provide correct information through oral communication. However, we reviewed that students in Indonesia still experience obstacles and difficulties in speaking skills related to data. Yu et al., (2021) states that one of the common difficulties in learning to speak is caused by an inappropriate approach to language learning and the possibility of inappropriate learning environments in learning speaking skills. This condition describes the emphasis on language skills other than speaking so that students very rarely practice speaking.

Skilled communication skills and understanding context are things that students must have to achieve their success. The Indonesian education system, through its cutting-edge curriculum, seeks to prepare students to become professionals who are skilled at communicating. In the latest curriculum regulations that are adaptive to needs, the government is very aware that language knowledge for communication needs to be strengthened with an understanding of communicative conventions, literacy and ethics in the professional world. This research article seeks to investigate a transformational approach that can improve speaking skills and increase communicative achievement in student interactions.

Student competence in Indonesia is more dominant in reading and writing skills. These two skills dominate speaking skills as a form of oral communication which is as important as other language skills. In an effort to help students learn speaking skills, teachers can make adjustments to their teaching methods and methods in class (Eriyanti, 2018). Teachers can develop models, techniques and strategies that will improve students' speaking abilities. In addition, teachers can make appropriate adjustments to students' opportunities to interact and communicate verbally according to the information they convey. One of the learning approaches in the last decade is the transition from a monologic learning model to a dialogic learning model (Yıldırım & Uzun, 2021). This paradigm is a shift from a learning model that is centered on teacher autonomy to a learning model that makes students the center of learning.

Currently, the shift to a student-centered learning model is a new era in Indonesian language learning that offers them to be actively involved in expressing ideas through learning to speak. The dialogic learning approach is a good and positive alternative to the conventional learning process that has been carried out in Indonesia. This approach is an effective teaching paradigm for increasing students' competence in speaking and improving their social attitudes in learning (Halloush et al., 2021). The expansion of the dialogic learning approach emphasizes learning principles that involve students as the main actors in learning (Akkerman & Meijer, 2011; Palmgren-Neuvonen et al., 2021). A dialogic learning approach is defined as learning that invites students to work together to improve the quality of their learning and jointly achieve certain abilities and knowledge (Asterhan et al., 2020). The dialogic learning approach can be implemented in the latest curriculum in Indonesia in stages, both in high school and university contexts.

1.2 Literature Review

In several relevant literature reviews, a dialogic learning approach is believed to be the best option for increasing students' abilities through learning because it emphasizes active collaboration between students with variations in their backgrounds and abilities (Aguilera-Jiménez & Gallardo, 2020; Martinez Calvit & Ford, 2023). The dialogic learning approach has shown good and promising learning outcomes and progress in the social behavioral aspects of effective learning (García-Carrión et al., 2020; Guzmán & Larrain, 2021). In the classroom, teachers need to emphasize the importance of social ground rules that will invite groups to question the fundamentals of framing their contributions and to introduce divergent and convergent ideas to broaden and deepen the dialogic space.

In this research, we want to compare a data literacy-based dialogic learning approach with conventional learning so that we can determine the effect of dialogic learning instruction on students' speaking skills. A data literacy-based dialogic learning approach has become one of the main instructional models that can be used in language learning to improve students' speaking skills and their active involvement in communication (Beck & Nunnaley, 2021). Data and information have an important role in improving speaking skills so that data literacy competence for students is also very important. Data and information are important aspects for students when they want to convey their opinions through speaking skills. Therefore, this instructional model with dialogic learning can influence the success of speaking learning.

More specifically, this research article aims to find the impact of implementing a dialogic learning approach on efforts

to develop Indonesian students' speaking skills at a high school located in Tangerang City, Banten Province. The premise of this research is that implementing a dialogic learning approach can help students improve their speaking skills effectively. In addition, it provides important information about data literacy competencies in supporting speaking learning in a dialogic learning approach in the classroom. This research has two important variables, namely the dialogic learning approach as the independent variable and speaking skills as the dependent variable.

The urgency of this research is to attempt to present a concept in the form of a dialogic learning approach practice, specifically to improve students' speaking skills. Speaking skills as one of the achievements of Indonesian language skills, on the other hand, are the main priority for creating a generation that is able to communicate efficiently, effectively and meaningfully, while communication and interaction are the most important aspects of speaking to express ideas based on correct data and information. Positive results from this research will be able to improve students' speaking skills as the main aim of the research.

In addition, although there has been a lot of research on dialogic learning approaches for education, there is a gap in the literature on dialogic learning approaches for students' speaking learning at the high school level in Indonesia.

According to our review, this research has the potential to support a dialogic learning approach to improve students' social interactions and is oriented towards developing their speaking skills in the classroom. This assumption is based on Vygotsky's (1987) ideas, the key to which is the mediation of thought and action, and the interdependent relationship between an individual's thinking and language use. Vygotsky's thinking is currently known as sociocultural theory, which asserts that language is a semiotic system for collective participation and individual development. Teachers who teach language in high school can take advantage of the results of this research by applying a dialogic learning approach in learning speaking. Language learning in the speaking aspect is no longer dominated by the teacher's monologic autonomy but must be oriented towards a learning context that is centered on student autonomy with the teacher's role as an active and adaptive facilitator (Eriyanti, 2018; Wijaya, 2017). So, this will add variety to the learning context and create fun learning for students to improve their speaking skills well. The impact of the dialogic learning approach has been widely demonstrated and strengthened by a number of studies conducted in classroom learning (Asterhan et al., 2020; Böheim et al., 2021).

1.3 Research Question

The application of dialogic learning approaches in language learning has been the subject of extensive research. Most of the research has shown that implementing a dialogic learning approach can create positive results on students' attitudes and language skills. Our research contributes to increasing knowledge by presenting evidence to verify existing research so that language teachers in Indonesia can determine the use of a dialogic learning approach in their speaking lessons in the classroom. So, based on the explanation above, this research question is whether the dialogic learning approach has an impact on students' speaking skills at the high school level?

2. Research methods

This research implements a true experimental design, which is a form of quantitative descriptive research. The form of experimental design used is pretest and posttest randomized control group design. In this research, the learning model is considered the independent variable, while the speaking skill of high schools students is regarded as the dependent variable.

2.1 Participants

This research involved 84 students from high schools in Tangerang City, Banten Province, Indonesia. Students have been learning speaking skills since middle school. The students' ages ranged from 15 to 17 years. This research applies a quasi-experimental research method, namely by conducting a pre-test before being given treatment and a post-test after being given treatment. The 84 students were then divided into three groups. The two experimental groups were divided into one experimental group with a dialogic learning approach and one experimental class with a data literacy-based dialogic learning approach. One control group (CG) applied conventional learning, so that each group had 28 students.

Cluster Random Sampling (CRS) enables the selection of naturally formed groups of students without any intervention from researcher. CRS sampling produce more representative samples (Creswell & Creswell, 2014). A sample of high school

students in Tangerang City were randomly selected, and each cluster contained a diverse subpopulation. We selected the CRS for accessibility due to the inability to reach every student at the 88 high schools located in Tangerang City. Research conducted in a familiar and comfortable environment, such as students' own school, enhance their inclination to participate. CRS enables targeted data collection in particural schools, thereby enhancing the probability of student participation.

2.3 Instrument

The initial speaking ability test is carried out to check the level of students' abilities in public speaking in the aspects of content, organization, language and presentation. These four aspects were designed based on an assessment of speaking skills which has been modified according to the assessment provisions in the latest curriculum in Indonesia. Instrument validity testing was carried out by involving speaking skills experts through content validity index analysis.

2.4 Data Collection Techniques and Procedures

We use a speaking skills assessment rubric that has been adapted from the authentic assessment of speaking assessment developed by DeVito (2017). The rubric for assessing speaking skills in this performance assignment is a 1—4 assessment scale by providing specific criteria for each aspect being assessed. These assessment aspects include content, material organization, language and presentation. The data collection procedure was carried out on 84 students at a high school in Tangerang City, Banten Province. This research sampling was carried out randomly and ensured that the sample represented the population. Eighty-four students with one standard deviation above and one standard deviation below the mean were selected as research participants. The eighty-four students were randomly divided into three groups, two experimental groups DLB (n-28) and DLBDLA (n-28) and a control group (n-28).

As a way to determine the significance of the impact of the dialogic learning approach on students' speaking skills, their public speaking activities during presentations were recorded. The recording transcription was carried out carefully and thoroughly based on the rubric for assessing public speaking skills through presentations.

2.5 Data Analysis Procedures

The data analysis procedure in this study used SPSS version 26 to determine the differences between the DLB and DLBDLA groups and the control group. The research question was answered by calculating the average and one-way ANOVA test in order to determine students' performance in speaking skills. Our research is experimental and quantitative to test hypotheses about causality. Therefore, the aim of our research is to investigate the impact of implementing a dialogic learning approach on speaking skills in presentation activities for high school students in Indonesia. The dialogic learning approach is actually the independent variable in this research and speaking skills through presentations are the dependent variable.

3. Results

In this section, we describe the research results by checking the normality of the data distribution first before analyzing the pretest and posttest data. The normality test uses Kolmogorov-Smirnov on a number of data obtained to check the normality of the distribution. The following are the results of the distribution normality test which are presented in Table 1.

Table 1: Normality test of pretest and posttest scores of the three groups

Kolmogorov-Smirnov^a			
	Statistic	df	Sig.
DLA Pretest	.173	28	.015
DLA Posttest	.167	28	.026
DLBDLA Pretest	.130	28	.036
DLBDLA Posttest	.196	28	.044
Control Group Pretest	.147	28	.464
Control Group Posttest	.146	28	.233

Table 1 shows the *p* value is under the Sig column. which determines the normality of the distribution. A *p* value greater than 0.05 means the distribution is normal, while a *p* value smaller than 0.05 means the distribution is not normal. All *p*

values in Table 1 show greater than 0.05, so it is concluded that the distribution of pre-test and post-test scores obtained from the DLA and DLBDLA groups and the conventional group (control) is normal. On the basis of this normality check, parametric testing was then carried out via one-way ANOVA test and we made comparisons between the three groups.

Eighty-four students were taken as research participants and put into two experimental groups and a control group. We tried to ensure the homogeneity of the two groups in aspects of speaking skills before treatment, then the pre-test scores of the 84 students were compared using one-way ANOVA.

Table 2 shows that the average score of the DLA and DLBDLA group students on the pre-test was 67.32 and the average score of conventional group students (control) was 68.21. We check the *p* value under the Sig column. (2-tailed) in the one-way ANOVA table to be able to review the differences between the three pre-test average values so that their statistical significance is known. In Table 2, it can be seen that the *p* value is less than 0.05, which means it shows a statistically significant difference between the DLA, DLBDLA groups, and the control group (CG), while the *p* value is greater than 0.05, indicating a difference that fails to reach significance. statistically.

Table 2: Descriptive statistical results comparing the average pretest scores of the DLB, DLBDLA, and Control Group (CG)

Groups	Mean	N	Std. Deviation	Std. Error
DLA	67.32	28	3.080	.582
DLBDLA	68.21	28	2.740	.518
CG	67.61	28	2.315	.437
Total	67.71	84	2.722	.297

Note: DLA: Dialogic Learning Approach; DLBA: Data Literacy-Based Dialogical Learning Approach; CG: Control Group

Furthermore, the data in Table 2 does not show any statistically significant differences in pre-test scores, namely for the DLA group (Mean= 67.32, Std. Deviation=3.080), DLBDLA group (Mean= 68.21, Std. Deviation=2.740), and CG (Mean= 67.61, Std. Deviation=2.315). The *P* value is under the Sign column. greater than the specified significance level, namely $66 > 0.05$, which means that the DLA, DLBDLA, and CG groups did not differ significantly in the pre-test. Thus, we concluded that students from the three groups were at the same pre-test level.

Table 3: One-way ANOVA results for comparison of the average pretest scores of the DLA, DLBDLA, and Control Groups (CG)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.643	2	5.821	.781	.461
Within Groups	603.500	81	7.451		
Total	615.143	83			

The posttest implementation aims to identify differences in students' speaking skills in two experimental groups and one control group. In this testing stage, students' speaking skill scores from the three groups were compared using a one-way ANOVA test. The results of this ANOVA test were used to compare the post-test scores of the DLA, DLBDLA and CG groups. To see the comparative descriptive statistical results of the three groups in the post-test implementation, they are presented in Table 4 and Table 5. Table 4 shows the average values of DLA (82.71), DLBDLA (86.04), and CG (70.68). The three groups showed differences from each other on the posttest. To find out whether the difference between the average ratings is significant or not, we test the *p* value under the Sig column. in the ANOVA table and can be seen in Table 5.

Table 4: Descriptive statistical results comparing the average posttest scores of the DLA, DLBDLA, and Control Group (CG)

Groups	Mean	N	Std. Deviation	Std. Error
DLA	82.71	28	2.275	.430
DLBDLA	86.04	28	1.319	.249
CG	70.68	28	1.806	.341
Total	79.81	84	6.882	.751

In Table 5, it can be seen that there is a statistically significant difference in posttest scores with scores for the DLA group (Mean= 82.71, Std. Deviation=2.275), DLBDLA group (Mean= 86.04, Std. Deviation=1.319), and CG (Mean = 70.68, Std. Deviation=1.806) in the posttest of speaking skills because the p value is below the Sign column less than the predetermined significance level ($0.000 < 0.05$). The scores of the three groups showed significant differences in speaking skills after receiving treatment. To find out the group comparison in pairs, also see Table 6, which shows significant differences between the two groups in the posttest.

Table 5: Posttest mean scores for DLA, DLBDLA, and Control Groups (CG)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3656.167	2	1828.083	538.874	.000
Within Groups	274.786	81	3.392		
Total	3930.952	83			

A comparison of the DLA groups (Mean= 82.71) and DLBDLA (Mean= 86.04) shows that the two groups using the dialogic approach used in teaching speaking skills for high school level students in Tangerang City are not significantly different. These findings show that the p value corresponding to the comparison of the two groups is 0.853, which means it exceeds the significance level. Apart from that, there is also a difference between the control group (CG) (Mean=70.68) and DLBDLA (Mean=86.04) which is statistically significant because the Sig value. which is in accordance with this comparison ($p = 0.001 < 0.05$). So, this means that the application of a data literacy-based dialogic learning approach contributes to a significant influence on students' speaking skills at the high school level.

For the control group (CG), it can be seen that students in CG have an average score (M=70.68). Statistically, this score is lower than the average score for students in the DLBDLA group (Mean=86.04) because the p value associated with this comparison is 0.000, lower than the significance level. Thus, we conclude that the implementation of DLBDLA can also have a positive and significant influence on students' speaking skills at the high school level.

Table 6: Hoc Bonferroni Test Results for multicomparison of the post-test average scores of the three groups

(I) Groups	(J) Groups	Mean Difference (IJ)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
DLA	DLBDLA	-3.321 *	.492	.853	-4.52	2.12
	CG	12.036 *	.492	.001	10.83	13.24
DLBDLA	DLA	3.321 *	.492	.853	2.12	4.52
	CG	15.357 *	.492	.000	14.15	16.56
CG	DLA	-12.036 *	.492	.002	-13.24	-10.83
	DLBDLA	-15.357 *	.492	.000	-16.56	-14.15

*. The mean difference is significant at the 0.05 level.

4. Discussion

Based on the results of the statistical data analysis above, the dialogic learning approach developed shows positive and effective evidence of improving students' speaking skills at high school level in the two experimental groups (DLA and DLBDLA) compared with the control group (CG). Both experimental groups, DLA and DLBDLA, exhibited a similar level

of learning effectiveness in improving student speaking skills, despite there being no significant difference in the ratio between the two groups.

The intervention in the DLA experimental group involves implementing the authentic principle of dialogic learning during the learning process. The authentic principle promotes dialogic interaction during the learning process, whereas the intervention in the DLBDLA experimental group involves incorporating the authoritative principle of dialogic learning approach along with data literacy competencies. The integration is a result of the recent curriculum regulation in Indonesia, which focuses on the advancement of learning by combining different literacy skills. Thus, we have selected the integration of data literacy as a distinctive intervention method in the implementation of dialogic learning approaches. The sole distinction between the two lies solely in the incorporation of data literacy. However, the learning syntax in DLBDLA strengthens the principles of data literacy as the foundation for speaking learning.

Both experimental groups receive intervention in three sessions, with each session consisting of three hours of instruction. The distribution of time and meetings pertains to the rules and assignments for obtaining access to oral instruction at senior high school level. Every meeting grants access to learning objectives, which are a prerequisite for completing the speaking skills test.

In regards to the control group, an equal number of meetings as the experimental group were held. In the control group, conventional methods were employed for speaking learning during three sessions. In these circumstances, we conduct learning without enhancing dialogic interaction and collaboration in each syntactic domain (Lisanza, 2014; Shirkhani & Jamalinesari, 2015).

The results of this study demonstrate that the use of dialogic learning approaches has brought about transformative paradigm for language learning in Indonesia. Recent research conducted by practitioners and learning experts, such as Guzmán & Larrain (2021) and Huang et al. (2020), supports the notion that dialogic learning approaches necessitate active students based on their knowledge and abilities. Hasanah et al. (2022) and Suprayogi et al. (2023) have found that teachers in Indonesia are making efforts to provide differentiated learning experiences based on students' individual preferences, knowledge, and skills.

In previous relevant research on the impact of a dialogic learning approach in English subjects, Elhassan & Adam (2017) explored English language learning through increasing dialogue practices in facilitating learning and an emphasis on student interaction activities. These dialogue practices are tested further through activities that encourage students to actively explain complex information during presentations, ask them to answer directly, and provide positive appreciation of the collaborative learning series. Several relevant studies also show effective results from implementing a dialogic learning approach on students' understanding and skills (Díaz, 2017; Elhassan & Adam, 2017; Ramasamy & Zainal, 2023). The results of their research show that student learning outcomes improve and they are more creative in learning. Other research such as Aguilera-Jiménez & Gallardo (2020) suggests that dialogic interaction in learning is an important key that can improve students' cognitive development. Ramasamy & Zainal (2023) explored a dialogic approach to help cognitive and social aspects in language learning. Students need strengthening of interactional aspects which can be improved through a dialogical approach. Several studies have shown that a dialogic learning approach supports effective learning.

The implications of the dialogic learning approach used in the experimental group, reviewed from the content, material organization, language, and performance aspects, showed positive results. Students in experimental groups have shown an improvement in their speaking skills by paying attention to those aspects. The experience of dialogic interaction gives students the opportunity to cooperate in learning (Gillies, 2014). These results are supported by Yıldırım & Uzun's study (2021), which found that dialogic learning supports the view that students' ability to speak and learn can be shaped through continuous interaction with other students and their conversations. The condition is different from before the intervention of dialogic learning approach, which shows some limitations and difficulties for students in public speaking. Students are not yet able to pay attention to important aspects such as content, material organization, language usage, performance.

In the control group, the implementation of conventional approaches used by teachers has not been able to improve the students's speaking skills. With the same assessment aspect of students speaking skills, they are still unable to show positive

results in terms of content, material organization, language, and performance. The attention and role of the teacher in the control group have not given priority to the existence of dialogue and interaction among the student.

Guzmán & Larrain (2021) found that using a dialogic learning approach is important to reflect on classroom learning. This form of reflection centers on discursive repertoire efforts to encourage transformational learning. This research is also in line with several previous studies that review the various benefits of a dialogic learning approach for learning (Aguilera-Jiménez & Gallardo, 2020; García-Carrión et al., 2020). The findings of this research are also supported by research by Santiago-Garabieta et al., (2022) which was conducted empirically in Spain. They found that a dialogic learning approach has implications for improving social development and learning thereby helping students to improve their use of spoken language.

The experimental group in the posttest in this study showed more effective and better learning than the control group who received a conventional approach during speaking learning. It can be observed that students in the two experimental groups with a dialogic learning approach got higher scores than the control group. This research is relevant to previous research conducted by Contreras León & Chapetón Castro (2017) . They show a finding that applying a dialogic approach to language education and understanding collaborative learning as a form of social construction of knowledge can trigger opportunities to change conventional learning practices. This also shows a way to balance student interactions and relationships in class. Apart from that, they also revealed that the dialogic approach seeks to promote student empowerment during learning (Aubert et al., 2009).

As the results in this study show that implementing a dialogic learning approach strategy can help students improve their speaking skills, Dörr (2021), Teo (2019), and Yıldırım & Uzun (2021) found that students' speaking skills will be able to develop by implementing the dialogic learning approach. In a similar study, Halloush et al. (2021) conducted research in Jordan. They compared the experimental and control groups of early semester students which showed that the experimental group experienced significant improvement through the use of a dialogic learning approach. The findings of another study conducted by Böheim et al. (2021) found that students who received a dialogic learning approach had better learning motivation compared to conventional classes. This is in line with research by Contreras León & Chapetón Castro (2017) which shows that students have significant learning motivation and active involvement during learning.

It is important for us to say that in this research this was carried out well during the learning of speaking skills at the high school level. Student activities during class show good interaction and mutual cooperation. Students also utilize various learning resources to strengthen their data literacy to support speaking activities. The findings in the research also support several previous relevant studies conducted by Rojas-Drummond et al. (2017) that literacy competence helps students in oral communication activities significantly. The results of this research reveal that the dialogic learning approach directs students to collaborate and interact and is different from approaches that tend to be implemented with monologic teacher dominance (Gupta & Lee, 2015; Simpson, 2016; Teng, 2019).

Another finding in this research that is important to mention is that a data literacy-based dialogic learning approach helps students to improve their understanding of new concepts in speaking. Students show much better speaking skills when they speak to convey data and information in public. This is in line with the learning outcomes planned in the latest curriculum in Indonesia for high school students. These findings also confirm that students can develop their abilities in oral presentations and strengthen them through data and information visualization so that they are more confident in speaking in front of the class.

The research seeks to investigate the impact of a dialogic learning approach on improving high school students' speaking skills. The findings revealed that a positive relationship was created between the dialogic learning approach and students' speaking skills in Indonesian language subjects. Based on the research results obtained through the statistical analysis process with SPSS version 26 of the research data, we assess that there is a significant comparison of scores so that there is a difference in learning outcomes between students' speaking skills with a dialogic learning approach and students' speaking skills with conventional learning. Significant improvements in students' speaking skills and motivation are also caused through collaborative activities and interactional intensity in groups during learning. They took advantage of the

fun atmosphere and class to discuss.

Thus, the dialogic learning approach in students' speaking learning at the high school level begins with the introduction of a conceptual framework and the formation of small groups in the class. This dialogic learning approach has the potential to be effective and therefore useful for developing learning at the high school level or equivalent. We believe that a dialogic learning approach has the potential to provide flexibility for students to be motivated in learning and foster a responsible attitude towards their learning. They are directed to be expressive and confident speakers when speaking in front of the class. Another important thing is that this learning approach creates a democratic and enjoyable atmosphere for students.

5. Recommendations and Limitations

We provide recommendations for using a dialogic learning approach as an option that can be implemented by teachers at the high school level. Therefore, in the context of educational development in Indonesia, the dialogic learning approach is an effective tool in increasing the potential of students' language skills, especially their speaking skills. The findings in this research as a whole provide reinforcement that speaking skills must be carried out through intensive interaction and collaboration in learning. In addition, the use of a dialogic learning approach that is applied must facilitate students in a pleasant situation and feel free to talk (Halloush et al., 2021).

We acknowledge that this research has limitations and cannot accommodate all obstacles and difficulties in speaking learning for high school students in Indonesia. Our research only involved students at the high school level aged between 15 and 17 years so it cannot be generalized to the vocational high school level or above age groups. The number of participants in this research was also limited to only 84 students so it is difficult to make generalizations. However, the potential implications of these findings could be a reference to teachers giving students flexibility in dialogic interaction as an attempt to build confidence and deeper understanding during speaking skills learning. Good practices through literacy integration can be an attempt to explore students' skills to understand the important aspects of speaking at an equal or higher educational level.

6. Conclusion

Based on the discussion of the research results above, we conclude that the use of a dialogic learning approach in teaching speaking to students at the high school level in Indonesia has had a positive impact. It is proven that using a dialogic learning approach can improve students' speaking skills compared to conventional approaches. We believe that this dialogic learning approach is effective in improving students' speaking skills and intrinsic motivation to meet their skill preferences. The dialogic learning approach has significant implications for the process of learning speaking skills for students in high school. The use of a dialogic learning approach in teaching speaking skills for high school students in Indonesia produces good understanding and gives students freedom to develop speaking skills. The findings of this research can increase students' motivation and active involvement during learning. This research encourages students' active participation in interaction and dialogue to trigger their critical thinking in speaking.

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