

Correlation Between Students' Perceptions of English Teachers' Instructional Methods and Critical-Creative Thinking Skills

Muhammad Riko Yohansyah Zulfahmi¹, Veni Roza², Melyann Melani³, Absharini Kardena⁴
{hanmuhammad2206@gmail.com¹, veniroz_501@yahoo.com², melyannmelani@uinbukittinggi.ac.id³,
absharinikardena@yahoo.co.id⁴}

Universitas Islam Negeri Sjech M. Djamil Djambek Bukittinggi, Indonesia¹²³⁴

DOI: 10.37729/scripta.v13i1.7637

Abstract. This study employed a quantitative correlational design to investigate the relationship between students' perceptions of English teachers' teaching methods and their critical and creative thinking skills at SMK Negeri 1 Guguk. The participants of this study were twelfth-grade students (Grade XII). Data were collected from 80 students through questionnaires and tests using a quantitative approach. Data analysis using the Pearson product-moment correlation test revealed a positive correlation between students' perceptions of teachers' teaching methods with students' critical thinking skills, with a correlation value of 0.600 and significance of 0.007, a negative correlation between students' perceptions of teachers' teaching methods with students' creative thinking skills, with a Pearson value of -0.170 and a significance level of 0.048 (<0.05), and a positive correlation between students' perceptions of teachers' teaching methods with students' critical and creative thinking skills, with a Pearson value of 0.273 and a significance level of 0.014 (<0.05). These findings suggest that innovative and creative teaching methods play an important role in developing students' critical and creative thinking skills. The results indicate that active, student-centered teaching approaches can help students improve their abilities in analysis, evaluation, and problem-solving. Therefore, the study highlights the importance of effective teaching methods in promoting higher-order thinking skills and improving students' learning outcomes.

Keywords: Students' perception, Critical thinking, Creative thinking

1. INTRODUCTION

Students' perceptions of teachers' instructional methods play an important role in shaping their learning experiences and academic outcomes in educational settings. These perceptions are formed through interactions with teachers, peers, and classroom experiences during the learning process. Students often express opinions, suggestions, and feedback regarding classroom instruction to improve the quality and effectiveness of learning activities. Such evaluative input holds significant pedagogical value, as it allows educators to reflect upon and modify their instructional approaches, thereby cultivating a learning environment that is both supportive and responsive to learners' needs.

Critical thinking and creative thinking are considered essential competencies in 21st-century education. Critical thinking encompasses the cognitive capacity to systematically analyze and evaluate information through logical reasoning, whereas creative thinking pertains to generating novel ideas and formulating innovative solutions to complex problems [1]-[4]. The development of these higher-order thinking skills is closely related to the instructional methods implemented by teachers, as teaching methods influence students' engagement, participation, and learning experiences in the classroom [5]-[7]. In addition, students' perceptions of teaching methods affect how they interpret and respond to instructional practices. Positive perceptions toward teaching methods may encourage greater classroom engagement and support the development of students' critical and creative thinking skills [8]-[10].

A substantial body of prior scholarly literature has extensively examined the nexus between pedagogical approaches and the development of higher-order thinking skills among learners. Student-centered and interactive teaching approaches have been found to improve students' participation, problem-solving abilities, and idea generation during the learning process [5]-[7]. Similarly, teaching methods emphasizing discussion, analysis, exploration, and active learning activities can enhance students' critical and creative thinking skills [14], [15]. Research by Reffiane dan Muawiyah [16], [17] also revealed that

active and creative teaching methods contribute positively to the development of students' higher-order thinking skills[18].

However, most previous studies mainly focused on the effectiveness of teaching methods from teachers' perspectives or general educational contexts. Limited studies have specifically examined students' perceptions of English teachers' instructional methods in relation to both critical and creative thinking skills through a correlational approach, particularly in Indonesian vocational high school contexts [11]-[13]. Vocational school students have different learning characteristics and practical learning orientations compared to students in general high schools because vocational education emphasizes practical competencies and workplace readiness[11]-[14]. Therefore, investigating students' perceptions in vocational school settings may provide more contextual insights into how English teaching methods contribute to the development of higher-order thinking skills in English as a Foreign Language (EFL) learning [15]-[17].

This study focuses on students at SMK Negeri 1 Guguk because vocational school students often encounter challenges in developing higher-order thinking skills in English learning due to differences in academic backgrounds, learning motivation, and practical learning orientations. Understanding how students perceive English teachers' instructional methods is important to identify whether these methods support the development of students' critical and creative thinking skills in vocational school classrooms. Therefore, this study is expected to contribute new insights into the relationship between students' perceptions of English teachers' teaching methods and higher-order thinking skills within the Indonesian vocational EFL context.

The principal objective of the present study is to examine the degree of correlation between learners' perceptions of the pedagogical strategies employed by English educators and the manifestation of their critical and creative thinking competencies among students at SMK Negeri 1 Guguk. Specifically, this study addresses the following research questions:

1. How do students perceive English teachers' instructional methods at SMK Negeri 1 Guguk?
2. Is there a significant correlation between students' perceptions of English teachers' instructional methods and students' critical thinking skills?
3. Is there a significant correlation between students' perceptions of English teachers' instructional methods and students' creative thinking skills?

2. METHOD

This study employed a quantitative correlational research design to examine the relationship between students' perceptions of English teachers' instructional methods and students' critical and creative thinking skills. The theoretical foundation of the research is based on Constructivist Learning Theory, proposed by Piaget and Vygotsky which emphasizes that active participation, social interaction, and student-centered learning experiences contribute to the development of students' critical and creative thinking skills [29],[30]. The study was conducted at SMK Negeri 1 Guguk during the 2023/2024 academic year. The participants were twelfth-grade students (Grade XII) from several vocational majors. The total population consisted of 390 students, while 80 students were selected as the sample through stratified random sampling to ensure proportional representation from different majors and academic backgrounds. The selection of participants was based on students' active participation in English-learning activities and their availability during data collection. In addition, four English teachers involved in the teaching and learning process participated indirectly in the study context. These teachers had teaching experience ranging from 5 to more than 15 years and were professionally qualified to teach English at the vocational school level.

In this study, students' perceptions of English teachers' instructional methods served as the independent variable, while students' critical and creative thinking skills functioned as the dependent variables. The instruments used in this research consisted of closed-ended questionnaires and thinking skill assessments. The questionnaire employed a five-point Likert scale to measure students' perceptions of English teachers' instructional methods, including teaching clarity, classroom interaction, instructional variation, student participation, motivation, and problem-solving activities. Meanwhile, students' critical and creative thinking skills were assessed through tests focusing on analysis, evaluation, problem-solving, fluency, flexibility, originality, and elaboration.

Before data collection, the questionnaire items were reviewed and validated by experts in English education to ensure the content validity and clarity of the instrument. Furthermore, a pilot test was conducted to examine the reliability of the questionnaire before its administration to the participants. The data collection process began with the distribution of questionnaires, followed by the administration of critical and creative thinking assessments. The collected data were analyzed quantitatively using the

Pearson Product-Moment Correlation formula through SPSS software with a significance level of 0.05 to determine the strength and direction of the relationships among the variables.

Ethical considerations were also taken into account throughout the research process. Permission to conduct the study was officially obtained from the school administration and English teachers at SMK Negeri 1 Guguk. Additionally, all participants were informed about the objectives of the study, and their participation was entirely voluntary. The researcher also ensured that all participants' responses and personal information remained confidential and were used solely for academic purposes.

3. FINDINGS

This research aimed to explore whether there is a connection between how students perceive their English teachers' methods and their own critical and creative thinking skills. Specifically, it looked at whether students' views on their teachers' methods correlate with their critical and creative thinking abilities in English classes at SMK Negeri 1 Guguk, Kec. Guguk.

Description of Data

The research data came from twelfth-grade students at SMKN 1 Guguk. Scores were collected from questionnaires about students' perceptions of their English teachers' methods, as well as from tests measuring their critical and creative thinking skills. Statistical analysis was then used to evaluate these scores.

Students' Perception of English Teachers' Methods

The test administered to obtain the students' perception data in this study was a questionnaire, with 15 questions given to 80 students as the sample, resulting in the following outcomes:

Table 1. Students' Perception

N	Valid	80
	Missing	0
Mean		50.98
Std. Deviation		7.114
Variance		50.607
Minimum		16
Maximum		75

Table 1 presents a descriptive statistical overview of the sample class, reflecting a considerable range of scores on the learners' perception questionnaire. The minimum score recorded was 16, while the maximum score attained was 75, yielding a mean score of 50.98. Furthermore, the data revealed a variance of 50.607 and a standard deviation of 7.114, indicating a moderate degree of score dispersion among the respondents.

Students' Critical Thinking Skills

The test administered to obtain the students' critical thinking data in this study was a test, with 20 questions given to 80 students as the sample, resulting in the following outcomes:

Table 2. Students' Critical Thinking

N	Valid	80
	Missing	0
Mean		65.44
Std. Deviation		18.542
Variance		343.794
Minimum		15
Maximum		95

Table 2 illustrates the descriptive statistical profile of the sample class with respect to the distribution of scores on the critical thinking assessment. The data demonstrate a substantial range of performance, with the minimum score recorded at 15 and the maximum score attained at 95, yielding a mean score of 65.44. Additionally, the variance was computed at 343.794 and the standard deviation at 18.542, suggesting a

notably high degree of score dispersion among the respondents, which reflects considerable heterogeneity in learners' critical thinking competencies.

Students' Creative Thinking Skills

The test administered to obtain the students' critical thinking data in this study was a test with 10 questions given to 80 students as the sample, resulting in the following outcomes:

Table 3. Students' Creative Thinking

N	Valid	80
	Missing	0
Mean		57.38
Std. Deviation		24.064
Variance		579.098
Minimum		10
Maximum		100

Based on table 3 shows the sample class had a range of scores on the test for students' creative thinking. The lowest score was 10, and the highest score was 100. The average score was 57.38, with a variance of 579.098, and a standard deviation of 24.064.

Analysis Data

This table shows whether there was a correlation between students' perception of English teachers' methods and their critical and creative thinking skills. The analysis data table summarizing the research findings is shown below:

No	Hypothesis	Research results	Sig.	Interpretation	Correlation
1	There is a correlation between students' perception of English teachers' methods and students' critical thinking skills	$R_{x_1,y} = 0.600$	0.007	H_0 rejected, H_1 accepted	Positive correlation
2	There is a correlation between students' perception of English teachers' methods and students' creative thinking skills	$R_{x_2,y} = -0.170$	0.048	H_0 rejected, H_1 accepted	Negative correlation
3	There is a correlation between students' perception of English teachers' methods with students' critical thinking skills and students' creative thinking skills	$R_{x_1,x_2,y} = 0.273$	0.014	H_0 rejected, H_1 accepted	Positive correlation.

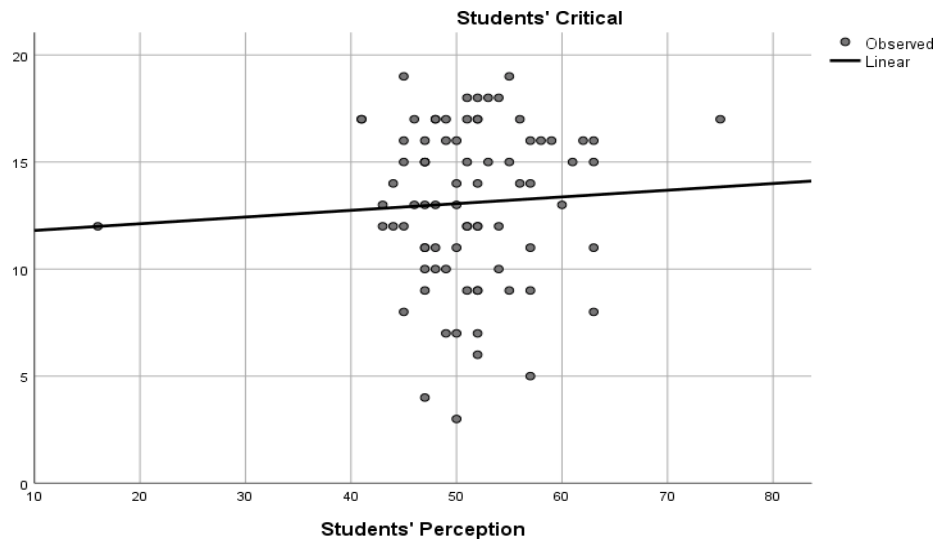
There is a correlation between students' perception of English teachers' methods and students' critical thinking skills

Table 4. Correlation Between Perception and Critical

Perception	Pearson Correlation	1	.600
	Sig. (2-tailed)		.007
	N	80	80
Critical	Pearson Correlation	.600	1
	Sig. (2-tailed)	.007	
	N	80	80

Based on Table 4, the results of the statistical analysis test using the SPSS version 26 computer application, it is explained that N, which represents the number of data samples in this research, is 80 samples. It can be seen that the value of Pearson Correlation is 0.600, which is greater than 0.00, meaning there is a significant relationship between students' perception of English teachers' methods and students' critical thinking skills. This indicates a high correlation and a strong relationship.

Table 5. Students' Perception of English Teachers' Method and Students' Critical Thinking Skills



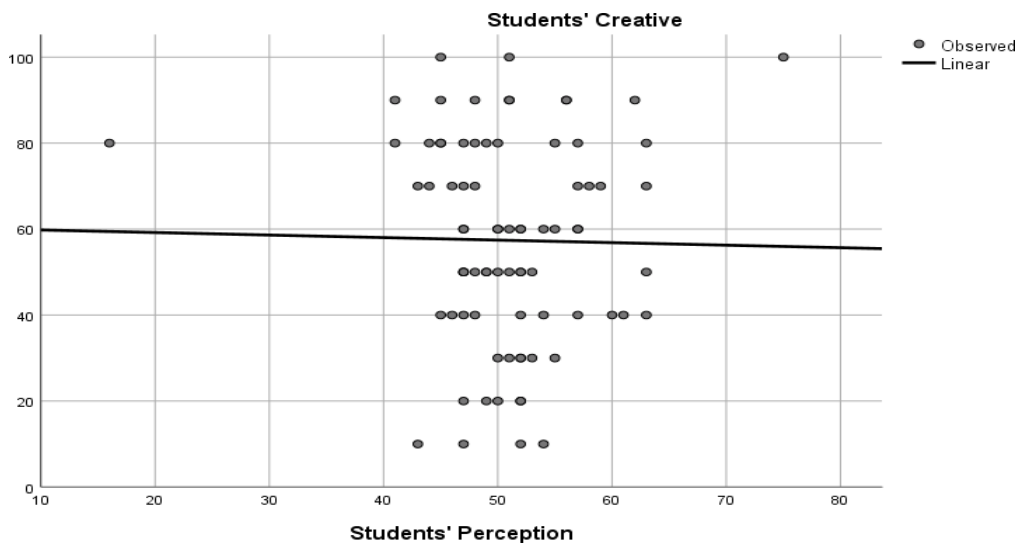
As depicted in Table 5, a positive correlation denotes a directional relationship between two variables in which both variables exhibit a concurrent movement pattern, whereby an increment in one variable is correspondingly associated with an increment in the other. There is a correlation between students' perception of English teachers' methods and students' creative thinking skills.

Table 6. Correlation Between Students' Perception and Critical

Students' Perception	Pearson Correlation	1	-.170
	Sig. (2-tailed)		.048
	N	80	80
Students' Creative	Pearson Correlation	.170	1
	Sig. (2-tailed)	.048	
	N	80	80

Based on this table 6, the results of the statistical analysis test using the SPSS version 26 computer application, it is explained that N, which represents the number of data samples in this research, is 80 samples. It can be seen that the value of Pearson Correlation is 0.170, which is greater than 0.00, meaning there is a significant relationship between students' perception of English teachers' methods and students' creative thinking skills. This indicates a very low correlation and a very weak relationship.

Table 7. Students' Perception of English Teachers' Method and Students' Creative Thinking Skills A



As illustrated in table 7, a negative correlation represents a relationship between two variables in which an increase in one variable is correspondingly associated with a decrease in the other variable. There is a correlation between students' perception of English teachers' methods with students' critical thinking skills and students' creative thinking skills

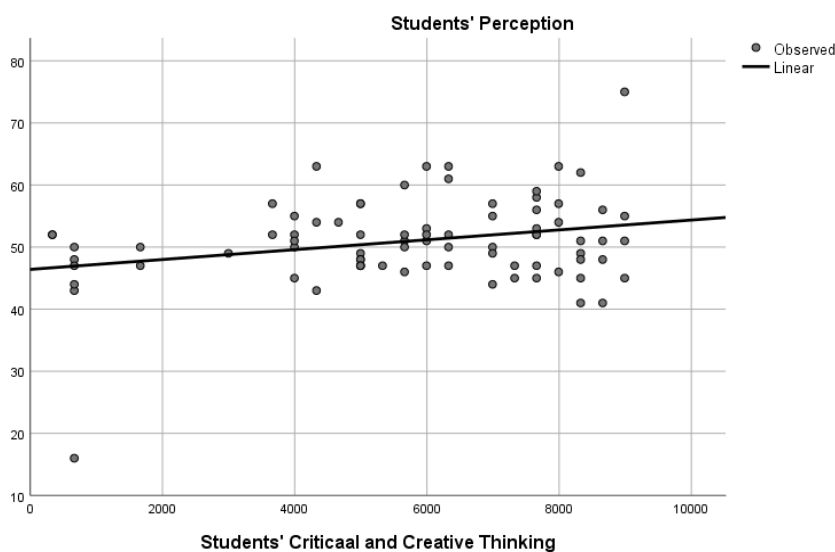
Table 8. Students' Perception of English Teachers' Method and Students' Creative Thinking Skills B

Correlations		Students' Perception	Students' Critical and Creative Thinking
Students' Perception	Pearson Correlation	1	.273*
	Sig. (2-tailed)		.014
	N	80	80
Students' Critical and Creative Thinking	Pearson Correlation	.273*	1
	Sig. (2-tailed)	.014	
	N	80	80

*. Correlation is significant at the 0.05 level (2-tailed).

As presented in Table 3.6, the statistical analysis conducted using SPSS version 26 indicates that the total number of data samples (N) in the present study comprised 80 respondents. The computed Pearson Correlation coefficient was 0.273, exceeding the threshold value of 0.00, thereby signifying the existence of a statistically positive relationship between learners' perceptions of English teachers' instructional methods and their respective critical and creative thinking competencies.

Table 8. Correlation between Students' Perception of English Teachers' methods with Students' critical and creative thinking skills



Based on Figure 4.3, a positive correlation is a relationship between three variables where the increase in two variables is associated with an increase in the other variable.

4. DISCUSSION

The obtained student score data were subjected to quantitative analysis utilizing SPSS version 26, wherein the Pearson Product-Moment Correlation formula was applied as the primary statistical instrument to examine the degree of relationship between learners' perceptions of English educators' pedagogical strategies and their respective critical and creative thinking competencies. In order to facilitate a more structured and coherent interpretive framework, the ensuing discussion is systematically organized into several thematic subheadings predicated upon the empirical findings of the present study.

Students' Perceptions of English Teachers' Instructional Methods and Critical Thinking Skills

The Pearson correlation analysis yielded a correlation coefficient of 0.600 between learners' perceptions of English educators' pedagogical strategies and their critical thinking competencies, with a significance level of 0.007, which falls below the conventional threshold of 0.05. This finding substantiates the existence of a statistically significant and robustly positive relationship between the two variables under investigation. Consequently, it can be inferred that learners who held favourable perceptions of their English educators' instructional approaches demonstrated a correspondingly higher manifestation of critical thinking competencies throughout the learning process.

The findings indicate that interactive and student-centered instructional methods contributed positively to students' analytical and evaluative abilities. Classroom activities involving discussion, problem-solving, questioning techniques, and real-life learning contexts encouraged students to analyse information critically, evaluate arguments, and express ideas more effectively. Students also appeared to be more engaged when teachers provided opportunities for active participation and collaborative learning activities.

These findings are consistent with previous studies conducted by Tari and Rosana emphasized that effective instructional strategies and teachers' professional competence play important roles in fostering students' critical thinking skills [31]. Similarly, Putra et al found that active learning activities significantly contribute to the development of students' analytical and evaluative abilities [32]. The findings also support Aziz et al and Wijaya reported that integrating critical thinking activities into classroom instruction improved students' learning performance and problem-solving skills [33], [34]. Furthermore, Alfira et al [35] highlighted the importance of both teachers' and students' perspectives in implementing critical thinking practices effectively in classroom settings.

From a theoretical perspective, these findings are closely related to constructivist learning theory, which emphasizes that students develop higher-order thinking skills more effectively when they are actively involved in meaningful learning experiences. Constructivist theory suggests that knowledge is constructed through interaction, reflection, and problem-solving processes. Therefore, positive student perceptions toward English teachers' instructional methods may strengthen students' critical thinking skills because supportive and interactive classroom environments encourage students to participate actively, reflect critically, and construct knowledge independently.

Students' Perceptions of English Teachers' Instructional Methods and Creative Thinking Skills

The Pearson correlation analysis revealed a correlation coefficient of -0.170 between learners' perceptions of English educators' pedagogical strategies and their creative thinking competencies, with a significance level of 0.048, which remains below the conventional threshold of 0.05. Notwithstanding its statistical significance, the magnitude of the correlation coefficient was classified as negligibly weak, suggesting that learners' favorable perceptions of their educators' instructional approaches were not substantially associated with a meaningful enhancement of creative thinking competencies.

Nevertheless, several classroom practices still appeared to support students' creativity during the learning process. Activities such as project-based assignments, brainstorming sessions, classroom presentations, and collaborative learning encouraged students to express ideas, explore different perspectives, and participate more actively in classroom discussions. Students who perceived the instructional methods as flexible and engaging tended to show greater confidence in sharing creative opinions and completing learning tasks.

These findings partially support Fitriani [36], who found that creativity contributes positively to students' academic achievement and learning development. Likewise, Lam [37] argued that innovative and varied instructional approaches may stimulate students' creativity, whereas traditional and teacher-centered instructional methods may limit opportunities for creative exploration. In addition, constructivist learning theory explains that creativity develops more effectively when students are involved in exploration, experimentation, discussion, and problem-solving activities during the learning process.

Although the correlation identified in this study was relatively weak, the findings still suggest that instructional methods may contribute to students' creative thinking development when teachers provide supportive, flexible, and student-centered learning environments. Therefore, creativity development may require more specific instructional strategies that explicitly encourage innovation, idea generation, and creative problem-solving activities in English language learning.

Students' Perceptions of English Teachers' Instructional Methods and Both Critical and Creative Thinking Skills

The Pearson correlation analysis yielded a correlation coefficient of 0.273 between learners' perceptions of English educators' pedagogical strategies and their combined critical and creative thinking competencies, with a significance level of 0.014, which falls below the conventional threshold of 0.05. This finding corroborates the existence of a statistically significant positive relationship between the variables under investigation, intimating that the implementation of effective instructional methods may substantively contribute to the cultivation and advancement of learners' higher-order thinking skills within the EFL learning context.

The findings demonstrated that students who perceived English teachers' instructional methods positively tended to show better performance in analytical thinking, problem-solving, idea generation, and classroom participation. Teaching methods involving collaborative learning, project-based activities, classroom discussions, and real-life learning contexts appeared to enhance students' engagement in higher-order thinking processes. In vocational school settings, these instructional activities may help students connect theoretical knowledge with practical learning experiences relevant to their academic and future professional needs.

These findings are in line with Carrió et al. [38], who found that Problem-Based Learning (PBL) significantly improved students' critical and creative thinking skills through collaborative and active learning activities. Similarly, Narayanan [39] and Rahmawati et al. [40] reported that innovative instructional methods increased students' learning satisfaction, participation, and academic achievement. The findings also support constructivist learning theory, which emphasizes that meaningful and student-centered learning experiences enable students to develop higher-order thinking skills more effectively through active engagement and reflective learning processes.

Overall, the findings of this study confirm that students' perceptions of English teachers' instructional methods are significantly related to students' critical and creative thinking skills. Students who perceived instructional methods positively were generally more engaged in classroom interaction, problem-solving activities, and idea-generation processes. These findings highlight the importance of implementing interactive, innovative, and student-centered instructional methods in vocational school contexts to support the development of students' higher-order thinking skills. Furthermore, the findings imply that English teachers should continue improving their professional competence and instructional practices to create more engaging, reflective, and supportive classroom environments that encourage students' active participation, critical analysis, and creative exploration during the learning process.

5. CONCLUSION

Based upon the empirical findings of the present study, it can be conclusively inferred that learners' perceptions of English educators' pedagogical strategies are significantly correlated with their higher-order thinking competencies, with particular reference to critical and creative thinking skills. The data demonstrated a statistically significant and robust positive correlation between learners' perceptions of English educators' instructional approaches and their critical thinking competencies, as evidenced by a Pearson correlation coefficient of 0.600 at a significance level of 0.007, thereby indicating that learners who held favorable perceptions of their educators' pedagogical strategies correspondingly exhibited superior analytical, evaluative, and problem-solving capabilities throughout the learning process [41].

With respect to creative thinking competencies, the analysis revealed a statistically significant yet negligibly weak negative correlation, as reflected by a Pearson correlation coefficient of -0.170 at a significance level of 0.048, suggesting that learners' favorable perceptions of instructional methods were not substantially associated with a meaningful enhancement of creative thinking competencies [42]. Furthermore, the findings corroborated the existence of a statistically significant positive correlation between learners' perceptions of English educators' instructional strategies and the simultaneous development of both critical and creative thinking competencies, as indicated by a Pearson correlation coefficient of 0.273 at a significance level of 0.014.

Collectively, these empirical findings substantiate the assertion that learners' perceptions of pedagogical practices constitute a contributory factor in the cultivation of higher-order thinking competencies within the English language learning milieu, with particular salience in vocational educational contexts.

The empirical findings of the present study suggest that pedagogical strategies play an indispensable role in shaping learners' engagement, active participation, and cognitive development within the context of classroom-based learning activities. Interactive, student-centered, and innovative instructional approaches

may encourage students to become more actively involved in discussion, problem-solving, analysis, and idea-generation activities. In vocational school settings, instructional methods that integrate meaningful learning experiences and real-life contexts may further support students in developing higher-order thinking skills relevant to both academic and practical learning needs. Furthermore, the findings support constructivist learning theory, which emphasizes that students develop knowledge and higher-order thinking skills more effectively through active participation, interaction, and reflective learning experiences.

Therefore, English teachers are encouraged to implement varied instructional strategies that promote active learning, collaboration, critical inquiry, and creative exploration in classroom instruction. Schools should also provide continuous professional development opportunities to support teachers in designing engaging and innovative learning environments that foster students' higher-order thinking skills. In addition, future researchers are recommended to explore other variables that may influence students' critical and creative thinking skills, such as learning motivation, classroom climate, learning styles, and technological integration, by involving larger samples and applying broader research designs to obtain more comprehensive findings.

Despite providing important findings regarding the relationship between students' perceptions of English teachers' instructional methods and students' critical and creative thinking skills, this study has several limitations that should be acknowledged. First, the study was conducted only at one vocational school and involved a relatively limited number of participants, which may restrict the generalizability of the findings to broader educational contexts. In addition, the data were collected primarily through questionnaires and thinking skill assessments, which may be influenced by participants' subjective interpretations and response bias. Therefore, future studies are recommended to involve larger and more diverse samples, apply mixed-method or longitudinal research designs, and incorporate classroom observation or interviews to obtain more comprehensive and in-depth findings regarding the relationship between instructional methods and students' higher-order thinking skills.

Nevertheless, the findings of this study provide important implications for English language teaching, particularly in vocational school contexts. The findings indicate that interactive, student-centered, and innovative instructional methods may contribute positively to the development of students' critical and creative thinking skills. Therefore, English teachers are encouraged to implement instructional strategies that promote active participation, collaborative learning, problem-solving activities, and meaningful classroom interaction. In addition, teachers are expected to create supportive learning environments that encourage students to express ideas, think critically, and engage creatively during the learning process. Schools should also support teachers through continuous professional development programs focusing on instructional innovation and the integration of higher-order thinking skills into classroom practices.

6. REFERENCES

- [1] R. H. Ennis, *A taxonomy of critical thinking dispositions and abilities*. psycnet.apa.org, 1987.
- [2] R. H. Ennis, "Investigating and assessing multiple-choice critical thinking tests," 2022, *ecampusontario.pressbooks.pub*.
- [3] M. Scriven dan R. Paul, "Defining critical thinking," 1987.
- [4] R. Paul dan L. Elder, "Critical thinking: The nature of critical and creative thought," *Journal of Developmental Education*, 2006.
- [5] N. Prihatini, S. Sudar, T. Tusino, dan E. S. Masykuri, "The Impact of Using Blended Learning to Improve Reading Comprehension," *scripta*, vol. 10, no. 1, hlm. 128–139, Mei 2023, doi: 10.37729/scripta.v10i1.2361.
- [6] K. Khotimah, E. Sunjayanto, dan I. Istiqhfarin, "Combining new technology in elt to create innovation in student's learning," dipresentasikan pada SEMINAR NASIONAL BAHASA, SASTRA, DAN BUDAYA, 2017.
- [7] E. Masykuri, "Optimizing Video in Zoom Meetings to Improve EFL Students' Speaking Performance," *Premise: Journal of English Education*, vol. 12, hlm. 31, Feb 2023, doi: 10.24127/pj.v12i1.4878.
- [8] E. Sunjayanto Masykuri, S. Sukarni, T. Tusino, dan P. Dewi, "The Cohesive Devices in Hiver.Com and Its Implication in Teaching Online Writing," *jibsp*, vol. 1, no. 2, hlm. 124–135, Nov 2022.
- [9] Indra Kusuma, A. Ngafif, dan E. S. Masykuri, "E-Learning Usage Analysis in English Language in Universitas Muhammadiyah Purworejo," *scripta*, vol. 8, no. 2, hlm. 35–44, Des 2021, doi: 10.37729/scripta.v8i2.1136.
- [10] C. Li, S. Osman, D. Kurniati, E. S. Masykuri, J. A. Kumar, dan C. Hanry, "Difficulties that Students Face when Learning Algebraic Problem-Solving," *UJER*, vol. 8, no. 11, hlm. 5405–5413, 2020, doi: 10.13189/ujer.2020.081143.
- [11] D. S. Al-Baihaqi, A. J. Q. A'yun, F. A. Firdaus, dan ..., "Students Perception on Teacher's Teaching Styles Affect Their Interest in Reading English Text," *EDUKATIF: JURNAL ...*, 2023.

- [12] S. Shintiani, S. Sukarni, dan E. S. Masykuri, "Teacher's Strategies of English Online Learning during COVID-19 Pandemic in SMA N 8 Purworejo," *scripta*, vol. 9, no. 2, hlm. 172–181, Okt 2022, doi: 10.37729/scripta.v9i2.1470.
- [13] N. M. Rodzi, J. A. Kumar, S. Osman, dan E. S. Masykuri, "Exploring Lecturers' Acceptance of Learning Management Systems in Malaysian Higher Educational Institution," 2020. [Daring]. Tersedia pada: <https://api.semanticscholar.org/CorpusID:215813181>
- [14] P. C. Abrami, R. M. Bernard, dan ..., "Strategies for teaching students to think critically: A meta-analysis," *Review of Psychology*, 2015, doi: 10.3102/0034654314551063.
- [15] Y. Y. Yumashina, "Development of intellectual and creative abilities as a pedagogical phenomenon," *Vestnik of Samara State Technical University ...*, 2021.
- [16] F. Reffiane, D. H. Kristyaningrum, dan ..., "Improving Creative Thinking Problem Solving and Communication Skills of Prospective Teachers through Ethnoscience Learning in a Basic Science Concepts Course," *AL-ISHLAH: Jurnal ...*, 2023.
- [17] S. N. Muawiyah, "Fostering Creative and Critical Thinking Skills through Collaborative Learning: A Theoretical Approach," *International Student Conference on Business ...*, 2023.
- [18] E. Sunjayanto Masykuri dan B. Basuki, "Students' perception of digital media for English teaching learning," *Teach English as a Foreign Lang. J.*, vol. 1, no. 1, hlm. 64–73, Nov 2022, doi: 10.12928/tefl.v1i1.171.
- [19] M. S. Bella, J. Triana, dan E. S. Masykuri, "The Effectiveness of Interactive Learning Method toward Students' Speaking Ability," *Scripta: English Department Journal*, vol. 12, no. 1, 2025.
- [20] E. S. Masykuri dan E. K. Alekseevna, "Enhancing Vocabulary Acquisition through Asynchronous Learning: The Use of YouTube Channels in Indonesian Secondary Classrooms," *Lensa: Kajian Kebahasaan, Kesusastraan, dan Budaya*, vol. 15, no. 1, hlm. 174–193, Jun 2025, doi: 10.26714/lensa.15.1.2025.174-193.
- [21] Y. Lila Baruna, A. Nuriza Johan, dan E. Sunjayanto Masykuri, "An Analysis of Students' Grammatical Errors with AI Assistance in Writing Descriptive Texts," *scripta*, vol. 12, no. 1, hlm. 75–84, Jun 2025, doi: 10.37729/scripta.v12i1.6306.
- [22] E. Sunjayanto Masykuri, V. O. Vladimirovna, dan M. I. Evgenevich, "First-year-students' perceptions of asynchronous media platform (AMP) for learning English," *Engl. Lang. Teach. Educational. Journal*, vol. 6, no. 3, hlm. 188–198, Jul 2024, doi: 10.12928/eltej.v6i3.6661.
- [23] E. S. M. Masykuri, "Self-Motivation in Using English on Group Presentation in Student of SMK Muhammadiyah Kajen," dalam *Contemporary Issues in English Linguistics, Literature, and Education.*, vol. 1, 1 vol., Yogyakarta: UIN Sunan Kalijaga, 2017, hlm. 95–100. [Daring]. Tersedia pada: <http://digilib.uin-suka.ac.id/id/eprint/23594>
- [24] P. Paramarti, T. Tusino, S. Widodo, dan E. Masykuri, "The Students' Writing Anxiety at The Fourth Semester Students in Academic Writing Class," *Edulitics (Education, Literature, and Linguistics) Journal*, vol. 8, hlm. 19–26, Jun 2023, doi: 10.52166/edulitics.v8i1.4099.
- [25] N. A. Nurhidayah, T. Tusino, dan E. S. Masykuri, "Students' Perception toward EFL College Teacher Pedagogical Competence in Teaching Writing," *scripta*, vol. 9, no. 2, hlm. 209–216, Okt 2022, doi: 10.37729/scripta.v9i2.1475.
- [26] E. Masykuri, I. Mezentse, N. M.S, N. Anastasi, dan Y. Kamin, "New Perspectives of Flipbook as Asynchronous English Reading Media," *Journal of Languages and Language Teaching*, vol. 12, hlm. 1538, Jul 2024, doi: 10.33394/jollt.v12i3.11352.
- [27] E. S. Masykuri, E. K. Alekseevna, A. Y. Nikitina, O. A. Petrovna, dan R. Y. Purwoko, "How synchronous learning changes the workload of teachers: Experiences learned from expanding countries," *JPSE*, vol. 10, no. 2, hlm. 158–171, Des 2024, doi: 10.37729/jpse.v10i2.5782.
- [28] B. Agung Prasajo, A. Ngafif, A. Nuriza Johan, E. Sunjayanto Masykuri, dan B. Basuki, "The Analysis of Difficulties in Speaking English Encountered by Non-English-Students," *jibsp*, vol. 2, no. 2, hlm. 121–133, Nov 2023.
- [29] J. Piaget, "Piaget's theory of cognitive development," 2000, *Blackwell Malden, MA*.
- [30] L. S. Vygotsky dan M. Cole, *Mind in society: Development of higher psychological processes*. books.google.com, 2018.
- [31] D. Tari dan D. Rosana, "Contextual Teaching and Learning to Develop Critical Thinking and Practical Skills," *Journal of Physics: Conference Series*, vol. 1233, hlm. 12102, Jun 2019, doi: 10.1088/1742-6596/1233/1/012102.
- [32] I. Putra, P. N. Riastini, dan ..., "Fifth Grade Students' Critical Thinking Skills in the Post-Pandemic Face-to-Face Learning Period," *International Journal of ...*, 2022.
- [33] C. N. Aziz, E. P. Prasetya, dan ..., "STUDENTS' PERCEPTION OF CRITICAL THINKING CONCEPTS IN WRITING CLASS," *Bogor English Student And ...*, 2021.
- [34] K. Wijaya, "English education master students' perceptions on developing critical thinking skills in academic writing," *SAGA: Journal of English Language Teaching and ...*, 2022.
- [35] D. W. Alfira, C. A. Korompot, dan N. Noni, "EFL Students' Critical Thinking Skills: The Perceptions of SMA IT Wahdah Islamiyah Makassar Teachers and Students," *Journal of Excellence in English ...*, 2022.
- [36] Fitriani, "The Correlation between Students' Creativity and English Learning Achievement (A Descriptive Research at the Eighth Grade of SMP Wahdah Islamiyah Makassar).," 2018.
- [37] M. Lam, "Teachers' and students' perceptions of creative thinking in liberal studies," 2013, *hub.hku.hk*.

- [38] M. Carrió, G. Rodríguez, dan J. E. Baños, *Effect of PBL implementation on student and teacher perceptions of improvement in 21st century skills*. researchsquare.com, 2020.
- [39] S. Narayanan, "A study on the relationship between creativity and innovation in teaching and learning methods towards students academic performance at private higher ...," 2017, *researchgate.net*.
- [40] Y. Rahmawati, A. Ridwan, dan ..., "Developing critical and creative thinking skills through STEAM integration in chemistry learning," *Journal of Physics ...*, 2019, doi: 10.1088/1742-6596/1156/1/012033.
- [41] A. J. H. Esparrago, "Categories of Questions and Critical Thinking," 2021, *researchgate.net*.
- [42] E. P. Torrance, "Teaching for creativity," 1987, *researchgate.net*.