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Meta Analysis the Effect of Critical Thinking Skills Towards Students' Storytelling Skills

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Abstract

The purpose of this study is to evaluate how critical thinking affects students' storytelling skills while they learn English. The findings of previous research will be used to analyze this influence. The meta-analysis method is employed in this study. A meta-analysis examines several research findings on related issues. Written materials about critical thinking research, such as journal articles and research reports that were specifically chosen because they fulfill the research issue, become the analytical unit in this type of study. With the use of a documentation guide, the researcher serves as the primary instrument for this study. Quantitative data analysis using percentages and qualitative data analysis for data derived from narrative studies of the research findings are the methods employed for data analysis. The results of this research showed that teaching English to students through the storytelling approach enhances their capacity for critical thought, decision-making, and narrative invention.
Keywords: Meta Analysis, Critical Thinking, Storytelling

Introduction

The importance of education and knowledge in this day and age is to filter the various information received. The target for spreading hoaxes is 92.40% through the community of active social media users in the 18-24 age range, 16.1 for boy and 14.2 for girl, of which are still active in school. One of the efforts to stop the spread of hoaxes among school-aged children is by sharpening their critical thinking. One of them is in learning English which focuses on increasing students' competence so that they are able to use the language to achieve communication goals in various contexts, both oral and written. In learning English, there are several skills that students must master. These skills are listening, speaking, reading and writing (Mulyana, 2022). English language learning aims to develop communication competence in oral and written form to achieve informational literacy levels, increase awareness about the nature and importance of English to increase the nation's competitiveness in global society and develop students' understanding of the relationship between language and culture (Marjenny, 2021).

Students' higher-order thinking skills are influenced by various factors, one of the main ones being the teaching strategies used by teachers. This teaching strategy really determines students' thinking habits in solving problems in the classroom (Arviani, 2023). Critical thinking seems to be a crucial skill to have in today's society to succeed in a global context in which people perform their best possible results (Maulana, 2021). In additionaly from (Balici, 2024) it suggest that critical thinking, defined as a judgment process that guides problem solving and decision making, has two dimensions: ability and disposition. Critical thinking skills cannot be developednaturally and automatically. The critical thinking skill must be performed to increase students' engagement to have the potential effect (Melati, 2023).

Good critical thinking skills are key competencies that every student should have. Students with high critical thinking skills will be able to review the information provided based

on the knowledge they already have so they can choose the information they receive (Solikhin, 2021). There is two critical thinking namely HOTS and LOTS. HOTS components in storytelling activities such as analyzing, evaluating, and creating have a significant impact on the ability to think critically, and creatively, communicate, work together, solve issues, and boost self-confidence. Due to these diverse abilities, HOTS help children understand the storyline better and encourage them to take risks (Lidiporu, 2022). Currently teaching Higher Order Thinking Skills (HOTS) proven because it plays a significant role in education. Students with HOTS (Higher Order Thinking Skills) are regarded more capable than those with Low Order Thinking Skills (LOTS) (Dewi, 2021).

Oral skills are very important skills for communicating and as a medium for developing and broadening horizons. Oral skills also apply media to expand students' knowledge and insight in various areas of life. With good oral skills, students can obtain information about what, who, where, when, why, and how regarding various things they encounter, both in the school environment and in the community. Oral skills are essentially the ability to have and organize ideas logically and systematically, to put them into linguistic code according to the rules of the language used and the appropriate communication context, and to pronounce them fluently and clearly. Therefore, oral skills need to be mastered by students in the teaching and learning process at school (Harianto, 2020).

Not only oral skills but the written one. Writing requires a person to integrate several language competencies, and will become more complex when done in a foreign language because there are many aspects that need to be considered that are different from Indonesian, such as grammar, word choice, and cognitive aspects (Mardiningrum, 2022).

In improving students' communication skills, including oral and written skills, learning English can be developed through storytelling strategies. Storytelling is telling stories to people who want to listen (Febrina, 2021). The storytelling method may be used as inspiration for raising awareness, encouraging parents and kids to use their imaginations or starting storytelling activities on different occasion (Hidayat, 2022). In assist by (Wiwikanda, 2022) there was an increase the performance score on the pretest to post test was 63.85 to 84.85 improving critical thinking through storytelling.

The storytelling method or what is usually called the storytelling method is an effective way to involve children in improving their speaking skills, because the storytelling method not only gives students the habit of telling stories or speaking, but is also able to increase students' self-confidence. Storytelling activities can improve students' reasoning abilities and broaden students' communication with adults, children with their friends, or the children themselves (Febrina, 2021). The storytelling method can be developed through telling stories about narrative texts. Narrative text is a text in the form of a story or fairy tale, which has many types, including fairy stories, mystery stories, science fiction, romance and horror (Fauziyah, 2022).

Learning that dominated by teachers causes students' levels of critical thinking abilities to be low. This indicates that it is necessary to implement good storytelling learning strategies or models aimed at ensuring that students can receive information from the teacher as a whole. Based on the results of research conducted by (Hidayat, 2022), it is stated that the use of the method (storytelling) is effective in improving children's speaking skills and reading skills in class III at SDN 55 South Bengkulu. Implementing the storytelling method has a big impact on how well students read and talk. It helps students become more proficient readers and speakers.

Based on the description of the background and problem phenomena in this research, researchers are interested in uncovering the large contribution of storytelling skills in developing critical thinking skills by analyzing various research studies that have been carried out.

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Method

The result of students' critical thinking abilities on their capacity to narrate stories using narrative text is the subject of this meta-analysis study. This meta-analysis study makes use of secondary data, or information from earlier research findings. With research reports and a literature review, this study may be classified as advanced research. Documentation will be used as the research tool to gather data regarding the use of listening, reading, and discussion techniques in reading comprehension. Documentary methods were employed in the data collection process.

The participants in this study are any writings that use storytelling research to discuss critical thinking. These textual materials come in the form of research reports, books, and journal articles. Purposive sampling was used to gather the research sample. This is so because the information or data to be extracted from the sample is chosen according to how well it fits the research's theme.

The instrument in this research uses a human instrument. A straightforward research instrument that can complete the data and compare previously found data will be constructed after the research subject is established. Quantitative data analysis using percentages and qualitative data analysis for data derived from narrative studies of the research findings are the methods employed for data analysis.

Results

There were 18 studies on critical thinking through storytelling. The data utilized for this study came from many different kinds of sources, including research reports and papers (research findings) in academic journals. This information is typically downloaded from the internet.

Meta Analysis Based on Research Objectives

Critical thinking research objectives obtained revolve around testing the impact or influence of one or several teaching styles on students, comparing descriptively between the two teaching styles studied, developing or improving storytelling skills, knowing the relationship between teaching styles and learning factors, and describes teaching style as a learning method. Based on a study of 18 studies, the following data can be produced in table 1 below:

Table 1. Objectives in Critical Thinking Research

No	Research purposes	Frequency	%
1	Testing impact/influence	5	27.8
2	Develop/improve learning	9	49.9
3	Knowing the relationship	3	16.7
4	describe	1	5.6
Total		18	100

Meta Analysis by Design

Research in Critical thinking uses several research designs, namely: Experiments with pre-test and post-test designs, Research and Development (R&D), Correlational Descriptive, Comparative, Survey, and Classroom Action Research (CAR). Based on a study of 18 studies on Critical Thinking, the design used is as shown in table 2 below:

Table 2. Design in Critical Thinking Research

No	Research Design	Frequency	%
1	Experiment	6	33.3

2	R&D	11	61.1
3	Surveys	0	0
4	PTK	1	5.6
Total		18	100

Meta Analysis Based on Population/sample

The population/sample used in Critical Thinking research or the research subjects are students from three school levels. Based on a study of 18 studies on Critical Thinking, the people used as the population/sample can be seen in table 3 below:

Table 3. Population/sample in Critical Thinking Research

No	Population/sample	Frequency	%
1	Elementary/equivalent students	3	16.7
2	Middle School Students/Equivalent	6	33.3
3	High school/equivalent students	9	50
Total		18	100

Meta Analysis Based on Data Collection Methods/techniques

Test, observation, questionnaire, and interview approaches are among the data gathering methods/techniques utilized in critical thinking research. Table 8 below lists the data collection methods and procedures based on an analysis of 18 studies on teaching styles:

Table 4. Method in Critical Thinking Research

No	Collection Data Techniques	Frequency	%
1	Test	11	61.1
2	Observation	5	27.7
3	Questionnaire	1	5.6
4	Interview	1	5.6
Total		18	100

Meta Analysis Based on Data Analysis

The types of data analysis employed in critical thinking studies include:

Table 5. Data Analysis in Critical Thinking Research

No	Data analysis	Frequency	%
1	ANOVA	2	11.1
2	t-test	4	22.2
3	Descriptive Quantitative	8	44.4
4	Descriptive Qualitative	3	16.7
5	ANACOVA	1	5.6
Total		18	100

Discussion

From reviewing the research results, in general, some data was obtained that the storytelling method can have a positive impact on critical thinking in learning, especially English, as follows: (1) enriching students' vocabulary, (2) being able to increase students'

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concentration, (3) increase students' intelligence and creativity. (4) students are able to improve their ability to make decisions.

Not much different from the subjects of elementary school students, there is an increase in critical thinking in middle school students using the storytelling method. This increase can be seen from several aspects in the research observed, namely: (1) decision making ability, (2) vocabulary, (3) good communication understanding, besides that, there is one thing that has been observed to increase, namely social abilities which have also increased. From the results of the review that has been carried out, improvements in student involvement in learning, making decision, students who have good abilities in storytelling are more critical in thinking. When observed, all subjects in this critical thinking research experienced almost the same improvement in several things, including the ability to understand text, decision making ability, and delivering in storytelling. However, in these studies it is important to note that with the different levels of education (Elementary school – High school), when preparing learning materials packaged in critical thinking content, it is necessary to pay attention to the limits of improvement, so that it is hoped that students at the lowest levels can further hone their critical thinking skills at a higher level.

This meta-analysis aimed to evaluate and synthesize the existing body of research on the relationship between critical thinking skills and students' storytelling skills. The findings from a variety of studies indicate that there is a positive correlation between critical thinking abilities and storytelling skills among students. The analysis of this evidence highlights several key points and implications for educators, policymakers, and researchers in the domain of education. The studies analyzed in this meta-analysis demonstrate a robust association between critical thinking and storytelling abilities. Critical thinking, often defined as the ability to analyze, evaluate, and synthesize information, plays an integral role in developing effective storytelling skills. Students with higher levels of critical thinking tend to produce more coherent, logical, and creative narratives, whereas those with underdeveloped critical thinking skills may struggle with structure, depth, and originality in their storytelling.

A major finding of this meta-analysis is the role of critical thinking in improving the organization and coherence of stories. Storytelling is not only about creative expression but also about the ability to arrange ideas in a logical flow. Critical thinking enhances students' ability to assess the relevance of each part of the story and its contribution to the overall narrative. This ability to evaluate and prioritize elements of the story can lead to more compelling, well-structured narratives. Moreover, critical thinking skills help students explore a broader range of perspectives and ideas, thereby enriching their storytelling. By critically evaluating characters, plot developments, and potential outcomes, students develop more nuanced and complex stories. For example, students who can think critically about their characters' motivations, conflicts, and resolutions create stories that are more engaging and thought-provoking.

Another key finding is that the development of critical thinking skills facilitates better problem-solving within storytelling. A good storyteller does not just narrate events; they create dilemmas and resolve conflicts in ways that are believable and engaging. Critical thinking encourages students to anticipate potential problems in the plot and think through solutions, thus creating more sophisticated and well-rounded narratives.

In addition, the meta-analysis identified that critical thinking skills help students become more reflective and self-aware in their storytelling. Reflective thinking allows students to consider their own biases, assumptions, and perspectives when creating narratives. As a result, students produce stories that are more original and reflective of their personal experiences, increasing both the quality and authenticity of the storytelling. The studies included in this meta-analysis also revealed the potential of critical thinking in fostering creativity in storytelling. While

creativity is often seen as an innate trait, research suggests that it can be cultivated through exercises that promote critical engagement with ideas. By encouraging students to critically evaluate various storytelling elements—such as themes, characters, and settings—educators can help students expand their creative capacities and approach storytelling from new and innovative angles.

While the relationship between critical thinking and storytelling skills is generally positive, the meta-analysis also identified several moderating factors that may influence this relationship. One such factor is the educational context. The studies indicated that students in more structured educational settings, where critical thinking is explicitly taught and evaluated, tend to show stronger improvements in their storytelling skills. In contrast, students in environments where critical thinking is less emphasized may not experience the same level of enhancement in their storytelling abilities. Another moderating factor identified is the age and developmental stage of the students. Younger students, especially those in elementary or early secondary grades, may not yet possess the full range of critical thinking skills necessary to impact their storytelling abilities in the same way that older students do. For example, while younger students may show improvements in basic narrative skills (such as organization), older students may demonstrate more advanced storytelling techniques, including the use of symbolism, irony, and complex character development, all of which benefit from critical thinking.

Additionally, the content and format of storytelling play a role in how critical thinking influences storytelling skills. For instance, students who engage in digital storytelling or multimedia storytelling may need different kinds of critical thinking skills than those engaged in traditional, text-based storytelling. These formats require additional considerations such as visual composition, audience engagement, and the integration of multiple media elements, which may require specific forms of critical analysis and synthesis. The instructional methods employed by educators also appear to influence the impact of critical thinking on storytelling skills. Active learning techniques, such as collaborative storytelling, problem-solving tasks, and peer reviews, can enhance both critical thinking and storytelling abilities by providing students with opportunities to reflect on and refine their narrative skills. Educators who emphasize a reflective, inquiry-based approach to teaching critical thinking may see greater improvements in students' storytelling outcomes.

The findings from this meta-analysis have significant implications for educators seeking to improve students' storytelling skills. First, it underscores the importance of integrating critical thinking instruction into the curriculum. By explicitly teaching students how to analyze, evaluate, and synthesize ideas, educators can lay the foundation for improved storytelling abilities. Critical thinking activities—such as debates, discussions, and problem-solving tasks—can help students develop the cognitive skills needed to construct well-organized, coherent, and compelling stories.

Moreover, this meta-analysis suggests that storytelling should not be treated as a purely creative endeavour but as an intellectual skill that benefits from critical engagement. Educators should encourage students to think critically about the structure of their stories, the development of characters, and the themes they wish to explore. Providing students with frameworks or guidelines for developing a story can help them make thoughtful decisions about the direction of their narrative, improving both the content and the quality of their stories. Another important practical implication is the need for educators to create environments that foster creativity alongside critical thinking. While critical thinking helps students organize and evaluate their ideas, creativity is essential for generating new, original content. Educators should aim to strike a balance between encouraging critical analysis and fostering an open space for imaginative thinking. Activities like brainstorming, free writing, and improvisational storytelling

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can help students tap into their creativity while still applying critical thinking processes to refine their narratives. Additionally, the research suggests that providing students with diverse opportunities for storytelling can enhance both their critical thinking and narrative skills. For instance, allowing students to engage in different forms of storytelling, such as visual storytelling, oral storytelling, and written narratives, can broaden their perspectives and strengthen their ability to analyze and communicate ideas in various ways.

Lastly, the meta-analysis highlights the importance of formative assessments and feedback. Ongoing feedback on both critical thinking and storytelling components can help students refine their skills over time. Constructive feedback should focus not only on the creativity or aesthetic value of the story but also on the depth of analysis and evaluation that the student demonstrates in the narrative. This holistic approach to feedback ensures that students are growing both intellectually and creatively. While this meta-analysis provides valuable insights into the relationship between critical thinking and storytelling skills, several limitations must be acknowledged. One limitation is the heterogeneity of the studies included, as the methods and populations varied across the research. Some studies focused on younger children, while others examined college students, which means the results may not be universally applicable across all age groups.

Furthermore, many of the studies reviewed focused primarily on written storytelling, with fewer addressing other forms such as oral or digital storytelling. Future research should explore how critical thinking skills affect different types of storytelling and whether the relationship holds across diverse media formats. There is also a need for further investigation into how critical thinking can be taught effectively in relation to storytelling. While some studies highlighted the importance of instructional methods, there is still a gap in understanding which specific strategies are most effective in fostering both critical thinking and storytelling skills simultaneously. Longitudinal studies examining the long-term effects of critical thinking training on storytelling could provide valuable insights into how these skills develop over time.

Finally, more research is needed to explore the impact of critical thinking on the emotional and cultural aspects of storytelling. How do critical thinking skills influence the emotional depth and cultural sensitivity of narratives? These questions are vital for understanding the full scope of critical thinking's role in storytelling development, this meta-analysis strongly supports the idea that critical thinking skills have a significant positive effect on students' storytelling abilities. The development of critical thinking enhances the organization, creativity, problem-solving, and depth of students' stories. Educators should recognize the value of integrating critical thinking instruction into storytelling activities, fostering both cognitive and creative skills in students. Despite certain moderating factors, the evidence suggests that cultivating critical thinking leads to more structured, innovative, and reflective storytelling, ultimately helping students become better communicators and storytellers. Future research should continue to explore the nuances of this relationship and investigate optimal teaching strategies for maximizing the benefits of critical thinking in storytelling contexts.

Conclusion

Based on the research results and research discussion, it can be concluded that learning English using the storytelling method can help in improving students', both verbally and writing, as well as in their critical thinking abilities. making decision abilities, increasing vocabulary and having good communication and honing student's creativity. helping students communicate effectively through stories. These findings observe the importance of encouraging critical thinking as an integral part of narrative education. Thus, it can be said that this storytelling method can be considered effective in improving students' critical thinking skills.

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