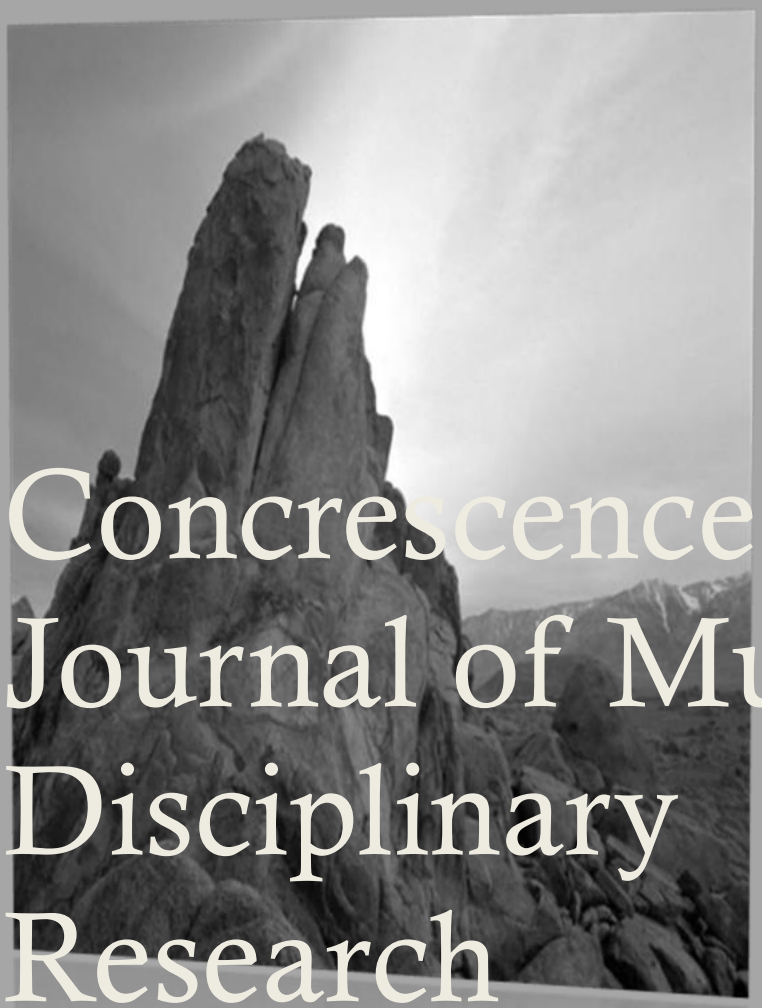

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Assessment of Reflective Thinking Strategy and its Efficacy on Reading Comprehension of Students in Secondary Schools

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Abstract
Reflective thinking is a pivotal component of effective learning, particularly in the context of secondary education. This paper explores the efficacy of reflective thinking strategies in enhancing comprehension among secondary school students. By reviewing existing literature, analyzing methodologies, and assessing the impact of reflective practices, the study provides evidence of the positive effects on students' cognitive processes and academic performance. Findings suggest that integrating reflective thinking into educational practices significantly improves comprehension skills, fostering a deeper understanding of content.

Introduction

Reflective thinking, defined as the process of critically analysing and evaluating one's experiences and learning (Dewey, 1933), is essential for developing deeper understanding. This paper assesses the efficacy of reflective thinking strategies in improving comprehension among secondary school students. The complex nature of modern curricula demands that students develop higher-order thinking skills, which reflective practices can facilitate (Moon, 2013). The study investigates various reflective strategies, including journaling, peer discussions, and guided reflections, to evaluate their impact on student comprehension.

Literature Review

Importance of Reflective Thinking

Reflective thinking is crucial for fostering metacognitive skills, which enable students to become aware of their learning processes. Schön (1983) emphasizes that reflective thinking encourages students to engage with material at a deeper level, facilitating connections and application in various contexts. Research indicates that reflective practices can improve academic performance and critical thinking skills (Boud, Keogh, & Walker, 1985; Hatton & Smith, 1995).

Reflective Strategies in Education

Several strategies have been identified as effective in promoting reflective thinking among students. Journaling allows students to articulate their thoughts and feelings about their learning experiences, providing a personal space for reflection (Perry, 2004). Peer discussions foster collaborative reflection, where students gain insights from each other's perspectives (Nicol & Macfarlane-Dick, 2006). Guided reflections, facilitated by educators, provide structured opportunities for deeper inquiry into content (Hattie & Timperley, 2007).

Reflective Teaching Process

Ashwin et al. (2015) described reflective teaching using Dewey's ideas: "Reflection is the active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion which it tends". They also pointed out the key component of reflective teaching: systematically re-evaluating the teaching experience when necessary to change teaching practices. Spalding and Wilson (2002) defined reflective teaching as "an activity or process in which an experience is recalled, considered, and evaluated, usually about a broader purpose" (Spalding & Wilson 2002).

Cirocki and Farrelly (2016), in turn, also established the nature of reflective teaching and distinguished between three types of reflection such as content reflection (what), process reflection (how), and premise reflection (why). Furthermore, Senge (1990, cited in Taggart & Wilson, 2005) identified three types of reflection: (1) technical reflection, (2) practical reflection, and (3) critical reflection. Technical reflection in education includes reflecting on teaching strategies, techniques, and skills. This type is related to Schön's reflection-on-action 19 types and focuses on the questions the teacher asks: What did I implement? How can I teach more effectively? Practical reflection highlights concentration on professional practice, what it means, and why it is important. Critical reflection unites the previous two levels of reflection. In addition, it contains a reflection on the teaching context in the broadest sense, including political, financial, and ethical factors.

Richards and Lockhart (2007) noted that reflective teaching denotes a process which generally describes how the teacher teaches in the classroom and what kinds of methods they apply; they viewed it as "the ongoing process and a routine part of teaching, it enables teachers to feel more confident in trying different options and assessing their effects on teaching". They also indicated that it is a cyclical process in which the teacher moves from one teaching stage to the next to grasp how they matter in the classroom fully. Additionally, they introduced reflective teaching as an action plan which comprises the following components: planning, action, observation, and reflection. Richards and Lockhart (2007)

clearly stated that "their book does not set out to tell teachers what effective teaching is, but rather tries to develop a critically reflective approach to teaching, which can be used with any teaching method or approach" (Richards & Lockhart, 2007). According to them, reflective teaching can be applied with several teaching methods and strategies to support students' learning.

Babaei and Abednia (2016) examined the connection between reflective teaching and English language teachers' self-efficacy beliefs. In their reflective teaching process, they agreed with Calderhead (1989) that "reflective teaching involves critical inquiry, analysis, and self-directed evaluation". Other researchers, such as Dewey (1933) and Schön (1983), also explored a cyclical structure of reflective thinking. In their conception, the first stage is to identify a problem. The next stage is to go back to the root of the problem and examine it from the perspective of a third person. Based on this step, the decision can be made if the problem needs to be changed. In this stage, the following activities are required: observation, reflection, data collection, and consideration of moral principles. The next stage is evaluation, which refers to a review of the implementation of the process, its consequences, and outputs. The next stage in the cyclical structure can be accepting or rejecting the final solution (Taggart & Wilson, 2005). Quite a few years ago, Kolb (1984, cited in Dennison, 2009) also experimented with his reflective teaching model and confirmed the cyclical structure of learning and teaching. He identified four main parts of the reflective teaching process: (1) experience that was gained in the past or the present; (2) observation, which records what happened during the teaching event; (3) reflection, which involves defining, analyzing, and concluding; and (4) planning, which makes it possible to make plans for further action.

In one distinct study, Pollard et al. (2014) mentioned that reflective teaching is a cyclical process where teachers continuously monitor, evaluate, and revise their teaching practice. In line with this view, reflective teaching is "a systematic self-evaluation cycle conducted by teachers toward their teaching through an open discussion with colleagues or written analysis. Since it is a cyclical process, the teachers should monitor, reflect, evaluate and revise their practice constantly to meet the high standard of teaching" (Ratminingsih et al., 2017). Reflective teaching is defined by Farrell (2007) and Garzon (2018) as "the process of teachers' consciously subjecting their beliefs about teaching and learning to critical analysis, assuming their responsibility in the classroom, and engaging in the process of improving teaching practices". Kennedy-Clark et al. (2018) also emphasized the role of observation, engagement, and beliefs. According to their theory, "reflective practice is a process of learning that occurs through observation and engaging in discussion of practice so that questions about tacit beliefs and pedagogical practices could be examined" (Kennedy-Clark et al., 2018).

Conceptualizing Reading Comprehension

Reading comprehension is one of the most important skills for language learners to develop and enhance (Salari & Hosseini, 2019). And 70% of the information that arrives at the human brain is through the eyes (Durna & Arı, 2016). Manguel's (2015) study even mentions that a text which is seen is kept in mind better than a text which is heard, introducing the idea that 'the keenest sense is eyesight'. People cannot stand without reading every day, and they have to read the news, messages, notes, books, and other different writings in different ways. Reading is, therefore, very important for students, and they have greater achievement if they have a higher reading ability (Rahim et al., 2017).

Reading cannot be regarded simply as a mechanical, automated process of recognizing certain signs and the meaning of the different words. It is a more complex endeavor involving interpretation, the attempt to reveal the communicative function of the text, namely the intention of the writer (Kovács, 2018).

Reading can be defined as a process of meaning construction based on the reading context (Kim et al., 2016) and the process of receiving and interpreting information encoded in language form via print (Rahimi & Sadeghi, 2014). Furthermore, reading literacy is an essential skill for everyone's real-life situations, and it is also a process of understanding, using, evaluating, and engaging with text to help individuals achieve their goals, to develop their knowledge and potential enough to participate in a successful society (Habók & Magyar, 2019). Therefore, reading comprehension skill is considered one of the major skills providing students with a huge amount of information (Salehi & Vafakhah, 2013).

Reading comprehension is the mental process the reader goes through in an effort to understand the content of a reading text (Suyitno, 2017a). Grabe and Stoller (2002) simply define reading comprehension as the ability to draw meaning from the printed page and interpret this information appropriately. To achieve successful comprehension, the students have to fit their new learning from the text with their background knowledge, and they have to use flexible reading strategies for fostering, monitoring, and maintaining comprehension (Alfassi et al., 2009).

Impact on Comprehension

Studies suggest that reflective practices enhance comprehension by encouraging active engagement with material. Hattie (2009) found a strong correlation between reflective practices and academic achievement in a meta-analysis of educational interventions. Reflective thinking has been linked to improved retention and transfer of knowledge (Rogers, 2001), suggesting that students who engage in reflection are better equipped to understand and apply what they learn.

Methodology

This study employs a mixed-methods approach, combining quantitative and qualitative research to assess the efficacy of reflective thinking strategies. A sample of 200 secondary school students was selected from two schools, one implementing reflective practices and the other utilizing traditional teaching methods. Pre- and post-tests measured comprehension levels, while focus group discussions provided qualitative insights into student experiences.

Quantitative Data Collection

Quantitative data were collected through standardized comprehension tests administered before and after a semester of instruction. The tests assessed various comprehension skills, including summarization, inference, and critical analysis.

Qualitative Data Collection

Qualitative data were gathered through focus group discussions with students and interviews with teachers. These discussions explored students' perceptions of reflective practices and their impact on learning.

Findings

Quantitative Data

The analysis revealed that students exposed to reflective thinking strategies showed a statistically significant improvement in comprehension scores compared to their peers in the traditional setting ($p < 0.05$). The reflective group exhibited an average score increase of 15%, whereas the traditional group showed a 5% increase. This suggests that reflective practices have a substantial effect on enhancing comprehension.

Qualitative Data

Focus group discussions highlighted that students valued reflective practices for deepening their understanding of content. Many students reported that journaling helped them connect theoretical concepts with real-life applications, enhancing their comprehension. Teachers noted increased student engagement and participation in classes where reflective strategies were employed.

Discussion

The findings support the hypothesis that reflective thinking strategies positively influence comprehension among secondary school students. The increased scores in the reflective group underscore the importance of engaging students in their learning processes. This aligns with Dewey's (1933) assertion that education should promote reflective inquiry, enabling students to construct meaning from their experiences.

Moreover, the qualitative feedback indicates that students appreciate the opportunity to reflect on their learning, suggesting that such practices not only improve comprehension but also foster a positive attitude towards learning. Reflective thinking encourages students to take ownership of their learning, promoting self-regulation and motivation.

The study also highlights the role of educators in facilitating reflective practices. Teachers who guide students in reflection create a supportive environment that encourages critical thinking and exploration. This suggests that professional development for teachers in reflective strategies could further enhance student outcomes.

Conclusion

Incorporating reflective thinking strategies in secondary education significantly enhances students' comprehension skills. This study underscores the importance of fostering a reflective learning environment, which can lead to better academic outcomes. Future research should explore the long-term effects of reflective practices and their applicability across different subjects and educational contexts. Additionally, investigating the role of technology in supporting reflective practices could provide insights into modern educational strategies.

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