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IMPLICATIONS OF RADICAL CONSTRUCTIVISM THEORY ON LEARNING STRATEGIES AT NURUL YAQIN JUNIOR HIGH SCHOOL IN PRINGSEWU LAMPUNG

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Abstract

This research aims to analyze the implication of radical constructivism theory on learning strategy in Nurul Yaqin Junior High School Pringsewu Lampung and its impact on students. The research method used is a case study at Nurul Yaqin Junior High School in Pringsewu Lampung with data collection techniques through in-depth interviews, observations, and document studies. Data analysis was conducted using interactive analysis from Miles and Huberman. While the validity of the data is done by triangulation technique. The results showed that the implementation of radical constructivism triggered a shift in student-centered learning strategies, such as project-based learning, problem-based learning, scientific inquiry, and collaborative learning. The implementation faces challenges related to teacher readiness, availability of infrastructure, classroom management, and resistance to change. However, positive impacts are starting to be seen such as increased student engagement, creativity, learning motivation, and critical thinking and problem-solving skills. It is concluded that a strong commitment from various parties is needed for the optimal implementation of radical constructivism in order to realize more meaningful learning and produce quality graduates.

Keywords: Construktivism; Learning Strategies; Nurul Yaqin Junior High School; Pringsewu Lampung

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INTRODUCTION

Over the past decade, constructivist theories have significantly influenced the field of education. One of the main streams within constructivism is radical constructivism, developed by Ernst von Glasersfeld (Taylor, 2004). This theory emphasizes that knowledge is not an objective representation of external reality but rather an individual construction based on personal experiences and interpretations of their groups. In other words, each individual builds their own knowledge through an active process of adapting to their environment and integrating new experiences into their existing cognitive structures (PIAGET & DEWEY, n.d.).

Delving deeper, radical constructivism views knowledge as a continuous process of adaptation, where individuals strive to align their cognitive structures with the new experiences they encounter. According to von Glasersfeld in Schorner, individuals cannot directly acquire knowledge from the external environment but must construct it through an active process of adapting and assimilating new experiences into their pre-existing cognitive structures. This theory also stresses that each individual has a unique perspective and interpretation of reality, shaped by their background, experiences, and socio-cultural context. Therefore, there is no single objective reality accessible to all individuals. Instead, each individual constructs their own subjective reality based on their interpretations and constructions of the experiences they have encountered (Schorner, 2015).

In the context of education, the implications of radical constructivism are that the learning process cannot solely focus on the passive transfer of knowledge from teacher to student. Instead, learning must actively engage students in building their own knowledge through experience, exploration, and reflection. Teachers act as facilitators, helping to create a learning environment that supports students in actively constructing their knowledge (Nugraha & Herdiana, 2024). Consequently, learning strategies aligned with radical constructivism should encourage students to participate actively, explore concepts independently, collaborate with peers, and reflect on their own learning processes.

Previous studies have examined the application of constructivist theory in education across various levels. The study by Voon et al. revealed that constructivist learning can enhance student engagement and motivation (Voon & Amran, 2021). Similar findings were presented in Husna's research, which concluded that problem-based learning in line with radical constructivism principles has the potential to develop critical thinking and problem-

solving skills in students (Amin, 2015). Additionally, research by Saputro et al. recommended implementing constructivist learning strategies such as project-based learning, scientific inquiry, and contextual learning to facilitate more meaningful knowledge construction (Saputro & Pakpahan, 2021). However, these studies have mostly been conducted at the primary and secondary education levels. Meanwhile, research on the implementation of radical constructivism in learning strategies at the junior high school level (Junior High School) remains limited. Yet, the junior high school level is a critical phase for the cognitive development of adolescents, requiring appropriate learning strategies for optimal knowledge construction (Husna, 2023).

METHODS

This research used a qualitative approach (Albi & Setiawan, 2018) using a case study design and incorporating interactive analysis by Miles and Huberman as a data analysis technique. In addition, triangulation was used to test the validity of the data to ensure that the research findings can be trusted (Darmalaksana, 2020). The choice of qualitative method is based on the nature of the research which aims to explore and deeply understand the implications of radical constructivism theory on learning strategies at Nurul Yaqin Junior High School in Pringsewu, Lampung, as well as its implications in the context of junior high school education. The interview research was conducted for approximately two months from December 2023 to February 2024 with the main data sources of this research are in-depth interviews conducted with principals and teachers, followed by indirect observation and documentation as complementary data sources.

RESULTS

Based on initial observations conducted by the author at Junior High School Nurul Yaqin Pringsewu, Lampung, it was found that despite efforts to implement the constructivist approach in learning, there are still several challenges and obstacles in its implementation. Most learning remains teacher-centered, with lectures and practice exercises being quite dominant. Learning activities involving direct experience, independent exploration, and group work are still limited. These findings align with previous research indicating that although radical constructivism theory has been widely accepted in the educational world, its application in the classroom still faces challenges. Some factors that hinder the

implementation of constructivist learning strategies at Nurul Yaqin Junior High School include:

Table 1. Factors Inhibiting the Implementation of Constructivism Learning Strategy

The lack of support and training for teachers	The lack of training and support has resulted in many teachers not receiving adequate training in constructivist learning strategies. They may understand the theory in general but struggle to implement it effectively in the classroom.
Resource constraints	The implementation of experiential, exploratory, and collaborative learning strategies often requires adequate resources, such as equipment, materials, and flexible classrooms. Resource constraints can pose challenges in the implementation.
Curriculum and Assessment Pressure	Some teachers feel constrained by a tight curriculum and the demands to meet specific assessment targets. This can make it difficult for them to allocate sufficient time for constructivist learning activities, which tend to be more open-ended and time-consuming.
Teacher's Belief and Mindset	Some teachers still have a strong belief and mindset regarding traditional teacher-ceantered learning methods. They feel comfortable in the role of primary information deliverer and find it challenging to shift their teaching practices to a more constructivist approach.

In the first factor, the sentence describes the challenges faced by teachers regarding the lack of adequate support and training. More specifically, this lack of training and support results in many teachers not receiving sufficient training on constructivist teaching strategies. While they may have a general understanding of the theory, they struggle to apply it effectively in the classroom. The main point conveyed is that there is a gap between teachers' theoretical understanding of modern educational concepts (such as constructivist learning) and their ability to implement these concepts in daily teaching practice. This highlights the importance of ongoing training and support to help teachers apply methods that better meet the learning needs of students.

The second factor, resource limitations result in Experiential learning refers to a learning approach that emphasizes direct or practical experiences experienced by students. Students not only receive theory, but are also actively involved in the learning process through activities that engage them directly, such as experiments, case studies or simulations.

Exploratory learning emphasizes the search and discovery of knowledge through an active process, where students are given the opportunity to explore ideas, concepts or issues in a creative and open-ended way. This could involve discussions, conversations, or activities that pique students' curiosity. Collaborative learning involves working together between students in groups to achieve a common learning goal. In this approach, students share ideas, solve problems together and learn from the perspective of their classmates. Resource constraints can pose challenges in the implementation.

The third factor, Several Challenges Faced by Teachers. *First*, a strict curriculum. The curriculum referred to here involves a well-planned and organized learning structure, both in terms of the material that must be taught and the time allocated for each topic. With a strict curriculum, teachers are required to follow a set schedule and plan without much flexibility, which can limit creativity in teaching. *Second*, the demand to meet specific assessment targets. In this context, there is pressure to achieve certain assessment results, which may be related to exams, evaluations, or standards that students must meet. This demand often prioritizes achieving measurable outcomes in the form of numbers or grades, forcing teachers to focus on delivering content quickly and efficiently to prepare students for these assessments. *Third*, difficulty in allocating time for constructivist learning activities. Constructivist learning emphasizes a more flexible, interactive approach that is based on discovery or direct experimentation by students. This approach requires more time because students are given the opportunity to discuss, explore ideas, and actively build their knowledge. However, due to time constraints and the pressure to meet the curriculum and assessment targets, teachers find it challenging to implement this method to its fullest potential.

The fourth factor, Teachers face difficulties in changing. This sentence also notes that some teachers find it challenging to shift their teaching practices to a more constructivist approach, which emphasizes the active role of students in constructing their own knowledge. The constructivist approach focuses on a learning process involving interaction, discussion, and exploration, where teachers function more as facilitators rather than the primary source of information. The shift in mindset from this traditional approach can be very challenging, as it requires teachers to relinquish their dominant role and entrust more responsibility to students in the learning process. Overall, teachers experience a tension between traditional beliefs about conventional methods and the paradigm shift required to transition to more modern and participatory teaching approaches. This becomes a barrier for some teachers in implementing more innovative teaching methods that align with the needs of the evolving

times.

To address these challenges, a comprehensive effort is required, such as continuous teacher training, provision of adequate resources, and support from schools and policymakers in creating an environment that supports constructivist learning. This is why this research was conducted at Junior High School Nurul Yaqin Pringsewu, a private secondary school that has been trying to implement a constructivist approach in teaching. The main objective of this study is to explore and analyze the implications of radical constructivism theory on the teaching strategies applied at this school. This research also aims to identify the challenges and opportunities in implementing teaching strategies aligned with radical constructivism at the primary education level.

DISCUSSION

1. Radical Constructivism Learning Theory

Radical constructivism theory represents a paradigm shift in education that alters the perspective on the learning and teaching process. Developed by Ernst von Glasersfeld, an Austrian philosopher and psychologist, the core of this theory is that knowledge cannot be simply transferred from the teacher's mind to the student's mind. Instead, it must be constructed by each individual student through real-life experiences(Habsy et al., 2023). According to radical constructivism, knowledge is not something that exists pre-formed and ready to be received by the individual. Instead, knowledge is the result of construction or formation by the individual as they strive to understand new experiences by relating them to previously held knowledge. This process involves the assimilation of new knowledge into existing cognitive structures or the accommodation of cognitive structures to adjust to the new experience (Cardellini, 2006).

A key principle of this theory is that cognitive development occurs when there is a state of disequilibrium between existing knowledge and new experiences(Pramono, 2023). This imbalance drives individuals to make cognitive adaptations to achieve a new understanding. Without this adaptation process, new knowledge would be difficult to construct. Furthermore, radical constructivism views knowledge as subjective, constructed by each individual based on their own experiences. No knowledge is truly objective or universal. Knowledge is always formed within the individual's conceptual framework (Supardan, 2016).

Experience is a central element in this theory(Suparlan, 2019). Concrete experiences shape new cognitive structures or assimilate and accommodate existing cognitive structures. Additionally, intrinsic motivation, such as curiosity and the desire to understand, plays a significant role in knowledge formation. While knowledge is constructed individually, the socio-cultural context in which an individual is situated also influences knowledge formation. Interaction with others, the language used, and local cultural values contribute to shaping an individual's perspective in constructing knowledge. In radical constructivism, language is viewed as a tool for negotiating meaning and constructing reality (Suryani & Hasanah, 2023). Language facilitates the exchange of ideas and the testing of knowledge constructed by an individual with those around them.

In addition to the previously explained principles, radical constructivism also has its own views on the role of the teacher and teaching methods. In this theory, the teacher is no longer the sole source of knowledge transferring information to students. Instead, the teacher acts as a facilitator who helps students construct their own knowledge. The teacher's main task is to create a learning environment rich in real-life experiences and provide the resources needed for students to independently build their understanding. Teachers need to design learning activities that actively involve students, both individually and collaboratively (Z. V. Harefa et al., 2022). Teaching methods that align with radical constructivism include project-based learning, problem-based learning, collaborative learning, contextual learning, and scientific inquiry (M. Harefa et al., 2023). These methods encourage students to engage directly in learning experiences, explore concepts, find solutions, and construct their own knowledge.

Assessment in radical constructivism also differs from traditional paradigms. Assessment focuses not only on final outcomes such as grades but emphasizes the process of knowledge construction by students. Appropriate forms of assessment include portfolios, projects, performances, and other authentic assessments that measure the application of knowledge in real-world contexts (Ndaru Kukuh Masgular & Pinton Setya Mustafa, 2021). Despite its controversial nature, radical constructivism theory has brought significant changes in teaching strategies and methods across various educational levels. The theory emphasizes the importance of real-life experiences, social interaction, and student activity in the learning process to build knowledge that is more meaningful and retains longer in students' memory.

2. Implications of Radical Constructivism Theory on Learning Strategies in Junior High School

Radical constructivism theory provides revolutionary implications for the perspectives and practices of teaching in schools, including at the Junior High School (Junior High School) level. This theory transforms the paradigm that knowledge is not something that can be merely transferred from teacher to student but must be constructed individually by each student through real-life experiences. In the context of Junior High School learning, the main implication of radical constructivism is the shift from a teacher-centered approach to student-centered learning. The teacher's role is no longer as the sole source of knowledge transferring information but rather as a facilitator who helps students construct their own knowledge (Z. V. Harefa et al., 2022).

To facilitate this knowledge construction process, teaching strategies must be designed to actively and participatively engage students. Activities such as group discussions, research projects, experiments, and problem-based learning are effective means for students to explore concepts, find solutions, and build understanding independently. Real and contextual experiences are crucial in radical constructivism. Learning needs to connect the subject matter with everyday life and the students' surroundings. This will help them build more meaningful knowledge as it relates closely to their world. Collaboration and social interaction are also key elements. In this theory, knowledge is not only built individually but also involves the negotiation of meaning through interactions with others. Strategies such as group projects, discussions, and presentations can facilitate this process (Pramana et al., 2024).

Furthermore, assessment systems must shift from traditional approaches that tend to measure rote memorization. Authentic assessments like portfolios, projects, and performance-based assessments are more relevant for measuring students' ability to apply knowledge in real-world contexts. Changing teaching strategies is certainly not easy. There are many challenges to face, from teacher readiness and available resources to more complex classroom management and resistance from those still clinging to old paradigms (Silaban, 2006). However, if implemented well, radical constructivism has the potential to transform education to be of higher quality. Students will not just memorize concepts but actively build their knowledge through real experiences. Knowledge will become more meaningful, enduring, and applicable in daily life. Ultimately, this is the main goal of the educational process itself (Shadiq & Ini, 2006).

In addition to fundamental changes in teaching approaches and methods, radical constructivism also impacts other aspects of Junior High School learning implementation, including:

Table 2. Implications of Radical Constructivism

Teachers' Roles and Competencies	In the constructivism paradigm, the teacher is no longer the sole source of knowledge. The teacher acts as a facilitator, motivator, and learning manager who helps students build their own understanding. Therefore, teachers need to possess specific competencies such as the ability to design active learning experiences, utilize technology and multimedia, and provide appropriate guidance and feedback to students.
Curriculum Development	The curriculum needs to be developed by considering the principles of radical constructivism. For instance, by integrating subject matter into contextual themes, emphasizing exploratory activities and project-based learning, and providing ample opportunities for collaborative activities among students.
Learning Facilities and Infrastructure	The implementation of constructivist strategies requires adequate facilities and infrastructure, such as flexible classrooms, laboratories, comprehensive libraries, internet access, practical materials, and other authentic learning resources. This facilitates students in exploring knowledge concretely.
Classroom Management	Classroom management in constructivist learning tends to be more complex due to the involvement of many independent activities, group discussions, presentations, and other activities. Teachers need to have strong classroom management skills to ensure that the learning process remains conducive and effective.
Learning Assessment	As previously explained, assessment in radical constructivism does not only measure final outcomes but also the process of knowledge construction by students. Forms of assessment such as portfolios, projects, presentations, and performances are more relevant to apply.
Parental and community involvement	Constructivism learning provides greater opportunities for involving parents and the community. For example, by engaging students in projects within their local environment, visiting specific places, or interacting with community resource persons (Wahyuni, 2015).

Considering these various implications, the implementation of radical constructivism in junior high schools will be more optimal. However, this paradigm shift will require adaptation and commitment from all parties, including teachers, students, parents, school authorities, and other educational stakeholders. The transition to constructivist learning cannot be achieved instantly; it must be carried out gradually with necessary adjustments. The key is the readiness to continually learn and adapt in order to achieve a higher quality education process for students.

3. Implementation of Radical Constructivism Theory at Nurul Yaqin Junior High School

Nurul Yaqin Junior High School Pringsewu Lampung is one of the schools that has been striving to implement radical constructivism strategies over the past few years. This paradigm shift in learning is driven by the desire to improve the quality of teaching and to produce more competent graduates. Nurul Yaqin Junior High School decided to adopt the radical constructivism paradigm in their teaching strategy, based on the belief that the old, teacher-centered paradigm is no longer relevant to contemporary demands (Atik, 2024). In this rapidly evolving era of knowledge, students need to be equipped with the ability to build knowledge independently through real experiences in line with radical constructivist principles. In practice, Nurul Yaqin Junior High School employs various teaching strategies that align with radical constructivism theory. The role of teachers is no longer as the sole source of knowledge transferring information. Instead, teachers act as facilitators who design and create a rich learning environment for students (Kornelius et al., 2022). One strategy implemented is project-based learning. In this method, students are given real project tasks to complete either independently or collaboratively. They are required to use inquiry skills, construct knowledge through investigation, integrate various concepts, and produce tangible outcomes as the result of their projects (Amineh & Asl, 2015). For example, in science lessons, students often engage in experiments and lab work. Through these concrete experiences, students can construct an understanding of science concepts directly, rather than merely receiving information from teachers (Pramono, 2023).

Another strategy applied is problem-based learning. This method uses real-world problems as the starting point for the learning process. Students are presented with a problem and must individually or in groups, identify, analyze, and find solutions to the problem. This approach encourages knowledge construction through investigation and problem-solving. In

mathematics lessons, for instance, students are encouraged to discover concepts and formulas independently through a series of discovery activities (Gorghiu et al., 2015). They no longer simply receive formulas from teacher explanations but construct their own understanding based on their experiences (Rosyidah, 2024). Moreover, collaborative learning is also an important element in the implementation of radical constructivism at Nurul Yaqin Junior High School. Students are frequently involved in group discussions, joint projects, and presentations as a means to exchange ideas, negotiate meanings, and test the validity of the knowledge they build (Atik, 2024). In this knowledge-building process, real and contextual experiences that are close to students' daily lives are crucial. Learning is designed to link the concepts learned with real-world contexts to make the built knowledge more meaningful.

However, transitioning to constructivist learning is not easy. Many challenges must be faced, such as teacher readiness, the availability of facilities, more complex classroom management, and resistance from those still attached to the old paradigm (Atik, 2024). Teachers at Nurul Yaqin Junior High School acknowledge that initially, they struggled to design constructivist learning. However, through training and mentoring, they gradually became more accustomed to and proficient in facilitating students knowledge construction. Facilities also present their own challenges. Although not yet complete, the school continues to work on enhancing facilities such as science laboratories, internet access, and other authentic learning resources progressively (Atik, 2024).

Amid various challenges, positive changes from the implementation of radical constructivism strategies are beginning to be observed. Students are becoming more active, creative, and enthusiastic about learning. They also exhibit better critical thinking, problem-solving skills, and the ability to apply knowledge in real-world contexts (Rosyidah, 2024). Nurul Yaqin's Junior High School experience shows that implementing radical constructivism is not an instant process but requires readiness, commitment, and ongoing effort from all parties. Nonetheless, this strategy offers significant potential for achieving superior teaching processes and quality, as well as producing competent graduates who can build their knowledge independently (Supardan, 2016). By providing rich and meaningful learning experiences and encouraging students' independence in knowledge construction, radical constructivism is expected to equip them with 21st-century skills such as critical thinking, creativity, communication, and collaboration, which are essential for facing contemporary challenges. Ultimately, the implementation of radical constructivism is an

effort to realize the main educational goal of helping students not only master knowledge but also develop positive abilities and character for continuous independent learning and growth throughout life (Anjelita & Supriyanto, 2024).

CONCLUSION

The radical constructivism paradigm has brought a refreshing change to the education sector, including at the Junior High School (Junior High School) level. This theory transforms the view of the learning process, which has traditionally been dominated by teacher-centered approaches. In radical constructivism, knowledge is not something that can be transferred from teacher to student but must be constructed by each student through real-life experiences. Consequently, the role of the teacher shifts to that of a facilitator who designs a rich learning environment. Learning strategies such as project-based learning, problem-based learning, scientific inquiry, and collaborative learning serve as means to encourage students to construct their knowledge independently and meaningfully. The implementation of radical constructivism at Nurul Yaqin Junior High School Pringsewu Lampung has shown positive results. Students have become more active, creative, and highly motivated to learn. Their critical thinking, problem-solving skills, and ability to apply knowledge in real contexts have also improved. However, the journey towards constructivist learning is not easy. Challenges such as teacher readiness, the availability of infrastructure, complex classroom management, and resistance to change must be addressed with hard work and strong commitment from all parties involved. The school must commit to providing facilities, training teachers, and socializing with stakeholders. Teachers are also required to continually develop their competencies in designing creative and meaningful constructivist learning activities. Support from the government, parents, and the community is also crucial for the successful implementation of radical constructivism. With consistent efforts and solid collaboration from various parties, the application of radical constructivism has the potential to transform Junior High School education. Learning will become more meaningful, contextual, and empowering for students to continuously build their knowledge independently throughout life. Ultimately, this effort will produce graduates who are competent, creative, independent, and ready to face the ever-evolving challenges of the times.

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