

Challenges Encountered by Novice Teachers in Applying Deep Learning Approaches in Classroom Practice

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Abstract. The Deep learning has become an important approach to improving the quality of education in the 21st century by fostering meaningful knowledge, active participation, and higher-order thinking. Nonetheless, its implementation remains difficult, especially for inexperienced educators. The objective of this study is to investigate the challenges a novice instructor faces in implementing deep learning methodologies in educational practice. Using a qualitative design, we gathered data through semi-structured interviews with a new English teacher and then analyzed it using thematic analysis. The results show that the problems are linked in three ways: through mindful involvement, meaningful learning, and happy learning. The teacher had trouble keeping the students' attention, helping them grasp concepts more deeply than just memorizing, and matching fun activities to learning goals. These results emphasize the need for improved instructional proficiency and structured professional support. The study also emphasizes the need for additional research that encompasses diverse contexts and intervention-oriented methodologies to enhance the deployment of deep learning.

Keywords: deep learning, novice teachers, lived experience, classroom practice

RESEARCH BACKGROUND

Deep learning has become increasingly well-known as a way to improve the quality of classroom instruction in the 21st century. Deep learning emphasizes not just acquiring facts but also developing higher-order thinking skills, including creativity, critical thinking, teamwork, and problem-solving in real-life situations. Surface learning is all about memorizing facts, but deep learning is about helping students make sense of things, connect concepts, and use what they have learned in their everyday lives (Fullan & Langworthy, 2014). Consequently, deep learning signifies a transition from mere knowledge transmission to the development of meaningful knowledge, which is vital for modern education. Additionally, deep learning incorporates cognitive, social, and emotional aspects of learning, establishing students as active participants in the educational process. This method changes the way teachers teach in the classroom, shifting the focus from the teacher to the students and making learning more participatory and meaningful (Fullan et al., 2017). In these kinds of settings, students are expected to show that they are paying attention, learning in ways that matter, and having fun. These aspects show that deep learning works best when students not only learn what is taught, but also how they feel and interact with the learning process.

A growing body of research on meaningful and engaged learning supports this point of view. Barron and Darling-Hammond (2008) stress that students gain a deep understanding when they are actively engaged in real and inquiry-based learning assignments. Fredricks et al. (2004) also view student engagement as a multidimensional construct, encompassing cognitive, emotional, and behavioral aspects, that has a significant effect on learning outcomes. Hattie (2008) emphasizes that visible learning is closely linked to active student engagement and proficient instructor direction. These

findings collectively underscore that profound learning necessitates meticulously crafted educational settings that foster enduring interest and significant involvement. Nevertheless, implementing these theoretical principles in the classroom remains especially difficult for new teachers. As new teachers, they typically have little experience teaching and find it hard to translate what they know into effective teaching techniques. Teaching requires intricate decision-making skills, especially in managing classroom dynamics and fostering substantive learning (Darling-Hammond, 2017). This indicates that the adoption of deep learning is significantly correlated with teachers' professional preparedness, particularly during the initial phases of their careers.

Empirical research consistently demonstrates that beginning educators have considerable difficulties with classroom implementation. Veenman (1984) listed classroom discipline, student motivation, and the management of individual differences as enduring challenges for novice educators. Recent investigations corroborate analogous trends. Shank and Santiague (2022) found that beginning teachers often perceive themselves as inadequately equipped to manage classroom conduct, whereas Stahnke and Blömeke (2021) showed that novice teachers differ from expert teachers in their ability to interpret and respond effectively to classroom conditions. These findings suggest that the difficulties faced by inexperienced teachers are both enduring and intricate, highlighting deficiencies in actual teaching proficiency. Also, new teachers often struggle to connect what they learn in school with what they see in the classroom. Kozikoğlu and Senemoğlu (2018) found that new teachers have difficulty adapting their teaching methods to different classroom situations. Farrell (2012) notes that inexperienced educators often experience “reality shock” when their expectations diverge from the realities of classroom practice. Akçor and Savaşçı (2020) also discusses challenges in maintaining student interest and employing effective teaching methods in the EFL setting. These studies underscore that the transfer from theory to practice remains a significant challenge in novice teachers' development.

Another crucial aspect concerns students' level of involvement and engagement. Skinner and Belmont (1993) show that teacher support and teaching practices have a significant effect on student engagement. Reeve (2012) stresses the importance of teaching in ways that give students the freedom to make their own decisions, thereby boosting their motivation. However, establishing such environments requires robust pedagogical skills, which inexperienced educators are currently developing. So, problems with getting students interested in deep learning make it even harder to use in the classroom. These problems are worsening because there is insufficient professional help. According to the OECD (2019), new teachers typically have lower self-confidence and receive insufficient mentoring, making it harder for them to adopt new teaching methods. Structured induction and mentoring programs greatly enhance teacher performance, as demonstrated by (Ingersoll & Strong, 2011). Also, teacher professional development is very important for improving teaching skills and supporting changes in how teachers teach (Avalos, 2011). This shows that new teachers need support from their schools and other professionals to do deep learning well.

While prior research has thoroughly investigated deep learning and the obstacles faced by beginning teachers, these topics are often treated as distinct fields of study. Research has examined the conceptual framework of deep learning and the overarching issues encountered by beginner teachers; however, there has been insufficient focus on how these teachers experience and address the practical difficulties of applying deep learning in actual classroom settings. Specifically, the integration of attentive, meaningful, and joyful learning characteristics has been inadequately examined in empirical research. This absence of integrative and experiential research underscores a significant gap in understanding how inexperienced educators implement deep learning in classroom settings.

This study seeks to examine the difficulties faced by beginner teachers in implementing deep learning methodologies in classroom settings. This research aims to elucidate the disparity between pedagogical theory and classroom reality by concentrating on instructors' experiences inside authentic classroom settings. Ultimately, this study aims to inform the development of more effective pedagogical practices and professional support structures to help novice teachers implement deep learning.

REVIEW OF RELATED LITERATURE

Deep Learning in Education

Deep learning is considered a way to foster meaningful understanding, information transfer, and higher-order thinking rather than just memorization (Fullan & Langworthy, 2014). It stresses student-centered learning, where students actively build knowledge and use it in real-life situations. Deep learning goes beyond only teaching methods. It also includes cognitive, social, and emotional aspects, meaning students need to be mentally, socially, and emotionally immersed in learning Fullan et al. (2018) on engagement bolster this viewpoint. Fredricks et al. (2004) delineate behavioral, emotional, and cognitive engagement as critical factors affecting learning outcomes, whereas Reeve (2012) underscores the significance of autonomy-supportive instruction in maintaining student motivation. Hattie (2009) also says that clear teacher leadership is important for active student involvement to lead to effective learning. So, deep learning depends on how well meaningful interaction and intentional instructional design work together.

Challenges in Implementing Deep Learning

Even though deep learning has great potential, it is still hard to put into practice. To create meaningful, inquiry-based learning, teachers need to be flexible and responsive to their students' needs (Barron & Darling-Hammond, 2008). It might be hard to switch from teacher-centered to student-centered practices simultaneously, especially if teachers are not accustomed to helping students learn actively. Also, just being interested in something does not mean you will learn it. Hattie (2008) contends that in the absence of adequate direction, learning activities might become misaligned with instructional objectives. Furthermore, variations in students' backgrounds, motivation, and prior knowledge exacerbate implementation challenges. So, deep learning requires both engaging activities and effective instructional control to maintain consistency in lessons.

Novice Teachers and Classroom Challenges

New teachers always have problems with classroom management, getting students to do their work, and making decisions on how to educate. Veenman (1984) characterized these difficulties as enduring, and further research corroborates their persistence. Shank and Santiago (2022) state that new instructors typically feel unprepared to handle a classroom. illustrate that they are not as good at understanding and handling classroom situations as teachers who have been there for some time. These issues are frequently associated with the disparity between theory and practice. Farrell (2012) refers to this phenomenon as "reality shock," indicating a disparity between expectations and actual classroom experiences, whilst Kozikoğlu and Senemoğlu (2018) emphasize the challenges of tailoring training to varied situations. Akçor (2020) also discusses challenges in maintaining student engagement and employing effective strategies in EFL settings. This indicates that inexperienced

educators are still acquiring the skills necessary to navigate intricate and evolving educational settings.

Professional Support and Teacher Development

Professional help is quite important for dealing with these problems. Induction and mentoring programs have demonstrated efficacy in enhancing teacher effectiveness and classroom practices (Ingersoll & Strong, 2011). In the same way, ongoing professional development helps teachers improve their teaching skills and get used to new ways of doing things (Avalos, 2011). But this kind of help is not always there. The OECD (2019) reports that new teachers receive insufficient mentoring, which undermines their confidence and performance. So, institutional support is very important for new teachers to effectively use sophisticated methods like deep learning.

Previous studies have demonstrated that deep learning necessitates significant engagement, efficient instructional design, and proactive student involvement. Concurrently, studies of novice teachers consistently underscore difficulties with classroom management, instructional modification, and the transition from theoretical concepts to practical application. These findings suggest that the pedagogical intricacy of deep learning and novice teachers' inexperience significantly influence classroom practices. Nonetheless, current research predominantly investigates deep learning as a conceptual framework or concentrates on the obstacles faced by inexperienced teachers in isolation, failing to sufficiently explore the interplay of these factors within actual classroom environments. Consequently, there is limited understanding of how inexperienced educators encounter and manage the practical challenges of adopting deep learning, particularly in promoting conscious engagement, meaningful learning, and enjoyable classroom experiences. Consequently, additional research is required to examine how rookie educators implement deep learning in genuine classroom contexts. To address this gap, this study is directed by the following research questions:

- 1) What challenges do novice teachers encounter in applying deep learning approaches in classroom practice?
- 2) How do novice teachers experience the implementation of deep learning in fostering mindful, meaningful, and joyful learning?

RESEARCH METHOD

This study employed a qualitative research methodology to investigate the challenges novice teachers face in implementing deep learning in classroom settings. A qualitative approach was used to facilitate a comprehensive understanding of participants' experiences, perceptions, and reflections within authentic teaching environments (Creswell & Poth, 2014). The study uses an interpretive framework, focusing on how novice educators understand their experiences facilitating deep learning, especially in promoting attentive engagement, meaningful learning, and joyful learning.

The subject of this study was an inexperienced English instructor teaching at the junior secondary school level in Ngabang, Landak Regency. The teacher had about seven months of experience, making them a new teacher. The participant was selected through purposive sampling because they were directly involved in using deep learning methods in the classroom. This selection approach ensured that the data collected were useful and provided substantial information for the research goals.

Data were gathered through semi-structured interviews, allowing flexibility to examine participants' experiences while maintaining a clear focus on the research aims (Creswell & Poth, 2014). The interview protocol was structured around the pillars of deep learning: attentive involvement, meaningful learning, and joyful learning. The questions focused on identifying the participant's challenges in keeping students focused and interested, linking lesson content to real-life situations, and developing engaging yet effective ways for students to learn. This method allowed the researcher to gather extensive information on how the participant felt and managed the use of deep learning in the classroom. The data were analyzed using the interactive model established by Miles and Huberman (2015), encompassing data reduction, data display, and conclusion formulation. First, the interview data were transcribed and carefully reviewed to ensure the participant was comfortable with the subject matter. The relevant data were then coded and grouped into topics related to the obstacles of adopting deep learning. These themes were subsequently organized under the three qualities of attentive, purposeful, and joyful learning. Finally, the results were interpreted by linking the identified themes to relevant theoretical frameworks, providing a comprehensive picture of the participant's experience.

Credibility and confirmability were used to ensure the study's reliability. Credibility was achieved by meticulously aligning the data with the research topic, while confirmability was ensured through a clear, transparent procedure for data collection and processing. Furthermore, ethical standards were upheld by securing informed consent from the participant and maintaining confidentiality throughout the research process.

RESULTS AND DISCUSSION

The results of this study indicate that the novice teacher encountered numerous problems when applying deep learning methodologies in classroom practice. These issues are grouped into three linked areas: conscious engagement, meaningful learning, and happy learning. This thematic framework shows how deep learning works in practice and how difficult it is to translate educational theory into classroom practice.

Challenges in Mindful Engagement

One of the biggest problems this survey found is keeping students' attention and focus throughout class activities. The participant said that students were easily distracted, especially when they found the teaching methods boring or the topic irrelevant. Even while in the classroom, students did not always pay attention to what they were studying. This state indicates a disparity between participation and authentic cognitive engagement. This finding is consistent with Fredricks et al. (2004), who assert that involvement encompasses not just observable activity but also cognitive and emotional investment. Hattie (2008) asserts that meaningful learning transpires when students are actively engaged and adeptly directed by the teacher. However, for new teachers, it is hard to keep students interested because they do not have much experience managing classroom dynamics or maintaining students' attention.

Another problem with mindful participation is getting students to take an active role in class discussions. The participant said that many students were reluctant to share their thoughts for fear of making mistakes, leading to passive learning. This corroborates Skinner and Belmont's (1993) assertion that the caliber of teacher assistance and the classroom environment significantly impact student involvement. The novice teacher's insufficient expertise in fostering a supportive, low-risk

learning environment may contribute to the students' lack of confidence. These results indicate that attentive involvement necessitates not only student focus but also the teacher's capacity to establish a psychologically safe learning environment.

Challenges in Meaningful Learning

The participant had trouble connecting what they learned in class to what they did in real life for meaningful learning. The teacher had a hard time giving examples that were relevant and easy to understand because the students came from different backgrounds and had different experiences. Consequently, students frequently struggled to comprehend the content's underlying significance and tended to rely on rote memory rather than conceptual understanding. This finding aligns with Barron and Darling-Hammond (2008), who contend that significant learning occurs when students can connect new information to real-world contexts. When these linkages are weak or missing, learning is shallow. The participant also said that students had trouble expressing their understanding in their own words, suggesting they relied on the teacher's examples. This illustrates the concern raised by Fullan and Langworthy (2014), who posit that deep learning requires students to actively develop and apply knowledge rather than merely reproduce information.

It was also hard to tell if the learning was really meaningful, which was another problem. Even though students seemed to grasp the content during lessons, they had a hard time demonstrating their understanding on their own when asked to apply it. This corroborates Farrell's (2012) concept of "reality shock," in which educators encounter unforeseen discrepancies between pedagogical objectives and student outcomes. These results show that effective learning is not just about providing information; it is also about ensuring that students understand and independently apply what they have learned.

Challenges in Joyful Learning

The third dimension, joyful learning, shows that it is hard to strike a balance between engagement and the achievement of learning goals. The participant tried to increase students' interest in learning by using interactive activities, such as games. But sometimes, these activities made students pay more attention to the activity itself than to what they were supposed to be studying. This made it hard to balance having fun while learning and being focused on schoolwork. This finding is in line with Hattie's (2009) view that effective engaging activities must be based on defined learning goals. If there is no such alignment, activities could become diversions rather than opportunities to learn something useful. The participant also observed that not all kids were similarly driven by the same activities, since individual interests differed. This supports Reeve's (2012) claim that student motivation is affected by freedom and personal relevance, which call for diverse teaching approaches.

Another problem is ensuring that fun learning does not get in the way of achieving learning goals. The participant said it was hard to keep a balance between having fun and staying focused, especially when the students got too into the sport itself. These results indicate that joyful learning necessitates meticulous instructional design when engagement is intentionally connected with educational objectives rather than regarded as an ultimate aim.

Overall, the results show that the problems new teachers face when trying to use deep learning are not just one thing but many interconnected issues. It is hard to keep students' attention, help them grasp things in a meaningful way, and balance fun activities with learning goals. These three things are connected because they affect how well the others work. These problems illustrate the complexity

of implementing deep learning concepts in educational settings, especially for educators who are enhancing their pedagogical skills. This outcome aligns with prior research indicating that novice educators frequently have difficulties in classroom management, instructional adaptability, and the shift from theory to practice (Veenman, 1984; Shank & Santiago, 2021; Kozikoğlu & Senemoğlu, 2018). Moreover, the results support the assertion that deep learning requires not only engaging instructional methods but also the capacity to align student engagement with significant learning outcomes (Fullan et al., 2017; Hattie, 2009). In this regard, the difficulties encountered by inexperienced educators are not solely technical; they reflect broader concerns about professional preparedness and pedagogical decision-making. Consequently, these findings highlight the necessity of providing structured professional support, including mentoring and specialized training, to help novice teachers implement deep learning methodologies effectively in educational settings

CONCLUSION

This study examined the difficulties faced by an inexperienced instructor in applying deep learning methodologies in educational practice, specifically in promoting conscious engagement, significant learning, and enjoyable learning experiences. The results show that these problems are interrelated. For example, it is hard to hold students' attention, help them grasp concepts beyond mere memorization, and strike a balance between fun activities and learning goals. These problems show how hard it is to put deep learning ideas into reality, especially for teachers who do not have much expertise in teaching. The study also shows that using interactive methods alone is not enough to achieve deep learning. To do that, teachers need to connect student participation to meaningful learning outcomes through well-planned teaching methods. In this sense, the obstacles faced by novice teachers are not solely technical; they also pertain to the cultivation of professional judgment and instructional proficiency. Structured professional support, including mentoring, reflective practice, and specialized training, is crucial for inexperienced teachers to successfully implement deep learning methodologies.

Nevertheless, this study is constrained by its focus on a single subject and a specific classroom setting, which may limit the generalizability of the results. Future research should include a larger number of participants from diverse educational contexts to improve the understanding of deep learning applications. Moreover, subsequent studies could employ comparative or longitudinal methodologies to investigate the progression of abilities among beginner teachers over time. It is also suggested that intervention-based studies, such as mentoring programs or professional development models, be used to identify effective ways to help new teachers address these problems. Investigating students' viewpoints and classroom interaction dynamics may enhance comprehension of the practical experience of deep learning.

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