A Comprehensive Review of Bloom's Taxonomy Integration to Enhancing Novice EFL Educators' Pedagogical Impact

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Abstract
Bloom's Taxonomy is a logically sequenced structure depicting the cognitive skills required for students to grasp knowledge comprehensively and meaningfully. The integration of Bloom's Taxonomy into education promotes mastering the cognitive skills and analytical ability of learners. In this review article, the significance of integrating the taxonomy into instructional frameworks for novice teachers in the EFL context was explored. This article also aims to signify the importance of using Bloom's Taxonomy as an instructional tool and aid for new teachers to help connect their theoretical knowledge with practical implementation in the classroom setting. Additionally, it focuses to revolve around the following research questions: What are the benefits of integrating Bloom's Taxonomy into the teaching methods used by English as a Foreign Language (EFL) teachers, and how does it contribute to improving language learning outcomes and teaching effectiveness? Through a thorough examination of existing literature on integrating Bloom's Taxonomy in the EFL context, this article presents evidence that showcases how Bloom's Taxonomy empowers novice teachers to create more organized, diverse, and student-oriented lessons. The results of this review analysis demonstrate that using Bloom's Taxonomy provides EFL teachers with a guide and diverse set of tools to support the development of language skills and cognitive abilities suitable for all types of learners. The review article goes beyond addressing the challenges that novice teachers face, offering a framework that helps new educators master their teaching skills which could result in better language acquisition for EFL students.
Keywords: assessment, Bloom's Taxonomy, collaborative learning, the EFL context, cognitive skills, novice teachers

Introduction

To effectively communicate, one should develop critical thinking skills. This is particularly imperative in EFL settings to foster analytical and proper evaluation skills in students. Educators must develop effective lesson plans and assessment tools to achieve it. One of the proven practical approaches to achieving educational goals is to devise educational materials based on Bloom's Taxonomy.

This article profoundly reviews existing studies on the advantages of implementing Bloom's Taxonomy for preservice teachers in the EFL setting. The article also aims to explore the benefits and limitations of integrating the taxonomy into the EFL classroom and its immense role in designing instructional approaches that can significantly enhance the quality of English language classes for novice teachers. Furthermore, this review article intends to offer essential guidelines and recommendations and valuable insights from existing literature regarding the proper implementation of Bloom's Taxonomy for preservice educators.

Bloom's Taxonomy of Educational Objectives was created by Benjamin Bloom and a group of psychologists dealing with cognitive skills to streamline the process of making standardized annual examinations and aligning educational goals across acidic organizations (Bloom, 1956). The ultimate goal was to decrease the amount of labor required to administer these exams while promoting higher forms of thinking (Krathwohl, 2002).

Bloom's Taxonomy may help novice and veteran instructors build their lesson plans as a method that develops higher-order thinking abilities and stimulates student involvement, as stated by Krathwohl (2002). Educators can develop the required skills in students by gradually integrating the six stages of the taxonomy into their lesson plan objectives. It will enable students to implement critical thinking abilities in acquiring a target language. Unfortunately, not all language teachers design their instructional strategies under the hierarchical stages of the taxonomy.

Literature Review

Bloom's Taxonomy

Bloom's Taxonomy has gained immense popularity in the EFL context for its potential to enhance language learning outcomes. It offers a framework for triggering the cognitive skills of learners as well as designing targeted learning objectives. Bloom's Taxonomy focuses on the intellectual skills of individuals and categorizes the learning process into six different cognitive processes (Radha et al., 2021). This review article analyzes existing literature on the benefits, challenges, and limitations of integrating the framework for novice EFL teachers.

The framework of Bloom's Taxonomy suggests a sequential learning process in which the foundational theoretical knowledge moves on to more complex forms of practical learning, such as analysis, synthesis, and evaluation (Nentl & Zietlow, 2008).

It can assist inexperienced and veteran teachers in engaging in more critical reflection on the instruction and evaluation of necessary thinking abilities. Adams (2015) describes Bloom's taxonomy as a structure that consists of six cognitive skill categories covering a range of abilities. "These categories start with fundamental skills that require minimal cognitive effort and progress to more advanced skills that involve deeper learning and greater cognitive engagement" (p. 152).

Remembering: The act of remembering involves recollecting information or understanding that one had previously acquired.

Understanding: This stage entails understanding the content's significance, extrapolating from it, and providing a personal explanation.

Applying: Applying ideas and methods to solve issues and accomplish tasks at this level entails utilizing the knowledge in a new setting or context.

Analyzing: At this level, analysis of complex information, recognition, and connection of linked ideas is fostered.

Evaluating: Here, the learners are encouraged to evaluate the information by judging and constructing arguments based on specific rules and principles.

Creating: This stage includes generating new ideas by combining prior knowledge and concepts with new ones.

Adams (2015) states that teachers can employ taxonomy as a framework to generate instructional objectives that articulate the specific skills and competencies they aim for their students to acquire and showcase. Additionally, the research by Gul et al. (2020) indicates the following:

> Teachers should dedicate their time to creating instructional approaches that foster advanced cognitive abilities in students, thereby enhancing their academic achievements. They can employ various methods to facilitate critical thinking and active engagement among students, such as encouraging discussions, promoting independent information retrieval, establishing connections between cause and effect, soliciting student perspectives, incorporating diverse characters, and relating concepts to real-world scenarios (p.258).

Importance of Bloom's Taxonomy

Bloom's Taxonomy consists of a six-level logically arranged structure involving different cognitive processes, varying from critical thinking to concept development.

According to Krathwohl (2002), even inexperienced educators can use the framework to create instructional objectives appropriate for their students' developmental stages. They can also modify their instructional approach to address the diverse learning needs of students using Bloom's taxonomy.

At this juncture, Marzano (2001) suggests that Bloom's Taxonomy serves as a framework for novice educators to plan learning experiences that facilitate the development of higher-order questions and tasks. It supports a more profound comprehension of concepts and provides opportunities for student-organized interactions and functions. Likewise, McTighe and Wiggins (2005) point out that it is crucial to ensure that the learning objectives are appropriately aligned with the required level of thinking skills. Riazi et al. (2010) proposed some instructional techniques to promote the implementation of Bloom's taxonomy in textbook content teaching. It included generating an appropriate plan for textbooks with fewer shortcomings that specified learning and teaching stages. The authors argued that educators in high schools could not go beyond developing LOTS (lower-order thinking skills)in students; therefore, learners were not able to examine, evaluate, or apply HOTS (higher-order cognitive skills) when they were at the university level. If

proper instructional tactics were employed at each stage of the taxonomy, the learners would have a chance to develop higher-order thinking abilities (Fadel & Trilling, 2009).

When teachers are newly employed, they usually face difficulties assessing their learners. The use of Bloom's taxonomy can be of great help for novice educators to improve the authenticity of their assessments by easily aligning them with the learning objectives of students. Bloom's Taxonomy integration also aids new educators in determining to what extent the learners have accomplished the educational purposes regarding the student's level of cognitive process.

Benefits of Bloom's Taxonomy Integration into Education

The six stages of the taxonomy can be used to modify instructional strategies with different learning requirements (Tomlison, 2014). The learners will have various chances to display their learning inputs through different suitable challenges at every stage of the taxonomy.

Additionally, Sousa and Tomlinson (2011) highlight that educators can design educational opportunities that align with students' current cognitive capabilities and subsequently utilize feedback and repetitive instruction to facilitate classroom management and the advancement of the learning process.

Another advantage for novice teachers to employ Bloom's Taxonomy is that it fosters the critical thinking ability of students. Athanasiou et al. (2003) proposed that creating different assessments to analyze, synthesize, and make logical guesses by implementing the taxonomy as a teaching method, increased the level of student engagement and better essential critical thinking abilities. The authors state that Bloom's Taxonomy has the potential to facilitate the development of learning objectives and assessments that promote critical thinking among students, which can help students better prepare themselves academically and professionally. If the students are challenged, they are more likely to understand and appreciate what is being taught (Krathwohl, 2002).

As to the taxonomy integration into classroom instruction, it can be used in various approaches, including inquiry-based learning, project-based learning, or problem-based learning.

An inquiry-based learning educational methodology focuses on bringing the learner's complete engagement to the class by fostering their curiosity and critical thinking skills through quick question-answer and exploration processes (Krathwohl, 2002). Bloom's Taxonomy aids in generating educational objectives and suitable assessments that advance students' cognitive skills.

Sasson et al. (2018) investigated the significance of critical thinking and question-posing abilities in project-based learning for students. The authors stated that project-based learning employed in different educational contexts helps foster students' critical thinking and higher-order thinking skills.

Bloom's Taxonomy helps develop the critical thinking abilities of learners in a **P**roject-**B**ased **L**earning (PBL) setting. The study of Wang (2022) employed Bloom's Taxonomy stages as a framework to advance analytical skills in learners. Analysis of his research study revealed that learners developed higher-order thinking skills through comprehending and analyzing reading texts concerning real-world events. The learners were able to combine multiple skills to provide evaluations of the readings and could confidently make decisions regarding the reading project.

Integrating Bloom's Taxonomy in project-based teaching and learning requires students to evaluate the pertinence of various credible sources, collaborate with their peers, and evaluate the sources they've collected.

As Athanasiou et al. (2003) stated, novice educators can utilize Bloom's Taxonomy to facilitate successful classroom instruction via inquiry-based, project-based, or problem-based learning approaches. Teachers can enhance their students' readiness for academic and vocational triumphs by developing learning objectives and assessments that prompt students to interact with course material at varying cognitive levels.

Challenges and Limitations

Many studies reviewed invaluable insights into using Bloom's Taxonomy in the EFL context. Meanwhile, it is significant to highlight that there are limitations of the studies that used the theory in terms of methodological consistency, the experience of EFL preservice teachers in implementing the taxonomy, and the theory-practice gap.

This review article examined the importance of integrating the taxonomy into EFL classrooms despite the scarcity of research that directly explores limitations and challenges from the viewpoint of novice EFL teachers. The limitation of published sources underscores the necessity for additional research focusing on preservice educators. Existing research studies have a primary focus on the theoretical aspects of Bloom's Taxonomy integration into educational purposes rather than practical implementation of it for novice teachers. It could potentially limit the usefulness of the taxonomy for new EFL teachers because of the gap resulting from the theoretical framework and its practical implementation in the actual classroom environment.

It's been proven that implementing Bloom's Taxonomy in educational settings as a prominent tool to generate instructional objectives, tasks, and assessments has successfully worked for years because it aimed to develop learners' cognitive skills hierarchically. However, without proper training or support from veteran instructors, it could create immense problems for novice teachers to employ taxonomy appropriately in their teaching methodology.

Lack of knowledge could lead to misunderstandings and incorrect implementation of the taxonomy's levels, resulting from a lack of instruction and practice. Novice teachers are not familiar with proper strategies for aligning the learners' language learning objectives to a relevant level of taxonomy. Thus, they may not be able to consider the students' cognitive abilities when designing lesson plans and assessments. Novice teachers struggle with integrating Bloom's Taxonomy into language learning due to the critical requirement of a thorough comprehension of the language proficiency levels of their students (Riazi & Mosalanejad, 2010). The biggest challenge new teachers may encounter when using the taxonomy in the EFL context is creating assessment questions that effectively evaluate the cognitive competence of learners. Riazi and Mosalanejad (2010) stated that novice teachers may struggle to create assessment questions that align with learning objectives and adequately measure students' cognitive skills. It results in exams that do not meet learning objectives or accurately measure cognitive skills.

At this juncture, Athanasiou et al. (2003) suggested that the taxonomy focuses on developing the cognitive skills of learners, overlooking the emotional component of learning as a whole.

Besides, implementing specific verbs in Bloom's Taxonomy to ensure that both higher-and lower-order thinking skills are appropriately leveled is significant for language teachers to bear in mind when conducting a lesson constantly. Many novice educators know that employing Bloom's Taxonomy gives fruitful learning outcomes; however, they still face challenges in selecting appropriate verbs and cognitive levels when dealing with mixed classrooms of high-achieving and low-achieving students. The results of Zohar and Dori's study (2009) suggested that

encouraging multi-leveled students, regardless of their academic achievement to participate in activities involving the HOTS by properly implementing appropriate verbs of six stages in Bloom's taxonomy greatly benefitted the students' academic progress.

Besides, inexperienced educators may encounter challenges when applying Bloom's taxonomy, primarily due to limited resources such as time, materials, and support. The novice teachers face difficulties structuring a well-designed lesson plan and assessments due to limited resources and time (Chien & Lee, 2018). Lack of support and teaching resources deficiency creates another obstacle to the productive implementation of the taxonomy in the ELF context.

Above all, novice teachers generally apply theoretical knowledge rather than practical one when conducting a class because of the lack of teaching experience. Teaching is a complex process as it involves using and incorporating multiple types of expertise concurrently when educating the students (Shulman, 1986; Smith & Neale, 1989). To effectively and successfully conduct the classes by implementing Bloom's taxonomy, the teachers require specific knowledge in seven distinct areas: content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners and their unique characteristics, understanding of educational contexts, and knowledge of educational ends, purposes, and values (Shulman, 1987).

Recommendations for Implementation Bloom's Taxonomy

Bloom's Taxonomy offers valuable guidance on generating level-appropriate instructional objectives and assessments for their learners. The taxonomy helps EFL teachers align the students' learning outcomes to the hierarchical stages of taxonomy and tailor a lesson design accordingly.

Research conducted by Gokhale (1995) suggested that when applied in a multi-level classroom environment, Bloom's Taxonomy has had an encouraging effect on the cognitive skills of students, fostering their language skills and creativity.

Bloom et al. (1956) asserted that novice teachers can face difficulties in employing taxonomy in a teaching context without appropriate training and professional aid. Smith and Altieri (2019) suggested that new educators would greatly benefit from attending professional development training on the proper implementation of Bloom's Taxonomy in their lesson planning and assessment aligned to an appropriate hierarchical stage of taxonomy. Mullen (2017) promoted the idea that continuous support and constructive feedback given by veteran teachers to the novice during the internship years can help effectively incorporate Bloom's taxonomy into the teaching practices of novice teachers.

Kencana et al. (2022), in their research study, concluded that the learning process significantly improves when activities and tasks are aligned with the learning objectives of students. It would greatly benefit students to understand the lesson content and also contribute to the professional growth of teachers.

Additionally, using real-life examples can aid novice teachers in understanding and comprehending better the cognitive skills required for each taxonomy level (Bloom, 1956). The novice teachers can develop their expertise in understanding the cognitive skills for each hierarchical stage of Bloom's Taxonomy by seeking guidance from professionals with experience in the teaching field (Smith & Altieri, 2019). Additionally, creating a collaborative learning environment where teachers can provide and receive feedback can help them gain insight into different teaching strategies and approaches according to Onafowora (2005). The author also states

that novice teachers can overcome challenges by peer-reviewing one another's classes and by working with veteran colleagues who share best practices and experiences in their field of teaching.

Having said it, in a teaching context, Bloom's Taxonomy can benefit novice teachers in designing their educational goals upon the necessary acquisition and training on instructional guidance, constructive evaluation and feedback, and a collaborative learning environment that will later aid them to meet learners' academic objectives by designing instructional methods that foster cognitive skills students.

All in all, the significance of implementing Bloom's Taxonomy in the EFL context is invaluable, for it aids novice teachers with approaches to design the best instructional objectives that develop critical thinking skills suitable for different types of learners.

Conclusion

This review article examined the integration of Bloom's Taxonomy into the context of teaching English as a Foreign Language (EFL) for novice teachers. It addressed the benefits, challenges, and limitations of implementing the taxonomy to frame educational instructions in the EFL setting. The review has revealed that using Bloom's Taxonomy fosters the students' engagement in the classroom and stimulates critical thinking ability and problem-solving skills in learners in the English language setting. The article has also explored the taxonomy's excessive emphasis on developing cognitive skills and its rigid structure that triggers challenges in designing instructional methods for preservice educators. The review identified limitations in previous studies, remarkably inconsistent implementation quality, and a lack of exploration of the viewpoints of preservice educators on Bloom's Taxonomy. When refining educational practices and training sessions, it is essential to take these factors into account to empower new EFL teachers to incorporate the taxonomy efficiently into their initial practical lessons.

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