

Enhancing Quality of Basic Level Education through Demonstration Method

Toyenath Adhikari, PhD

Central Department of Education, Tribhuvan University

Abstract

The article, 'Enhancing Basic Level Quality Education Through Demonstration Method' explores the different aspects of demonstration method. The use of suitable and effective teaching methods plays a crucial role in shaping the learning experiences of basic school students. This study aims to explore the implementation of the demonstration method in basic education. Among various teaching methods in the field of education, the demonstration method is notable for engaging students through experiential learning. This article employs a qualitative research design, incorporating interviews with teachers, focus group discussions with students, and literature reviews to gather data. Empirical evidence is presented to support the findings, offering insights into the application of the demonstration method in diverse educational contexts. The study reveals that the demonstration method enhances students' learning outcomes when utilized in classroom teaching. It ensures that all students have the opportunity to understand the material presented by the teacher. This method is particularly effective for subjects that involve practical skills and processes, such as science experiments and mathematical problem-solving.

Keywords: basic education, demonstration method, teaching learning, materials and learning experience

Introduction

The basic level of education is crucial as it provides children with foundational knowledge and skills. According to Umoh (2006), education aids in the spiritual, emotional, physical, social, and mental development of every child through appropriate teaching and

learning activities, enabling them to be beneficial to themselves and their society. Basic education is essential for the holistic development of individuals.

Basic education lays the groundwork for a child's academic journey, significantly influencing their cognitive development and future learning outcomes. Zaman (2024) highlighted that a child's educational career is shaped through basic education, which offers the first opportunity for formal learning. It forms the basis of our education, playing a vital role in higher education attainment. Therefore, basic education is seen as the foundation of higher education and is considered a milestone in the educational journey.

The process of presenting teaching materials along with lessons to achieve the intended objectives is known as a teaching method. In education, various methods exist. One such method is the demonstration method, which involves using visual aids like flip charts, posters, and PowerPoint presentations to convey an idea. The demonstration method entails presenting something by providing proof and evidence of the content. In teaching and learning, the demonstration method can be defined as presenting a demo or performing a specific activity.

Regarding the demonstration method, Aggarwal (2001) explained that it involves showing and explaining something with proof. The term "demonstration" means providing a demo related to the subject matter. This method involves teachers using teaching materials relevant to the lesson to help students learn by observing their teacher's activities. The demonstration method plays a crucial role in determining the effectiveness of classroom teaching and learning. It is particularly effective in helping children understand abstract concepts and enhances their proficiency, competency, receptivity, and confidence (Hussain, 2020). Essentially, the demonstration method is a practical approach where teachers perform activities to help students grasp both the theory and application of the subject. Teachers use

tools like film charts, posters, and PowerPoint presentations to convey ideas. When using the demonstration method, teachers follow a step-by-step process to teach students.

Aggarwal (2001) outlined several steps in the demonstration method, starting with the planning and preparation stage. This includes determining objectives and content, selecting and testing materials, preparing a plan, and rehearsing. The next step is the performance or presentation stage, which involves demonstrating pre-planned activities. The final step is the evaluation of teaching and learning, where the teacher assesses the demonstration's effectiveness and gathers feedback from students through discussion. The demonstration method is a visual teaching technique that presents concepts pictorially, allowing students to learn by observing rather than just hearing explanations. According to Basheer (2016), a demonstration in this context involves illustrating points in a lesson using methods beyond standard visual aids, emphasizing the visual presentation of subject matter to enhance student understanding.

The demonstration method is often regarded as a teacher-centered approach. It can be defined as an instructional technique aimed at illustrating a scientific concept (Taylor, 1988). According to Chiappetta and Koballa (2002) and Shakhashiri (1992), well-structured and effectively delivered demonstrations can significantly improve students' comprehension of subject-related concepts. Similarly, Hofstein and Lunetta (2004) found that demonstrations can enhance learning, motivation, and attitudes. This method supports theoretical perspectives by offering opportunities for active exploration, social interaction, and guided discovery, thus fostering meaningful learning experiences at the basic level.

The demonstration method is rooted in constructivist learning theories, which emphasize the construction of knowledge by presenting subject matter alongside relevant materials. Constructivist learning theory highlights the importance of first-hand experiences

in building knowledge. Developed by Jean Piaget and Lev Vygotsky, this theory underscores the importance of experiential learning and scaffolding in cognitive development.

Jean Piaget asserted that children actively construct their understanding of the world by interacting with their environment, integrating new information into existing schemas, and adapting their mental structures (Piaget, 1964). He described a circular relationship between stimulus and response, where each response influences the perception of subsequent stimuli. Cognitive schemas, or ways of thinking about a topic or object, are updated through external stimuli. This adaptation can occur through either assimilation or accommodation: assimilation involves fitting new information into pre-existing schemas, while accommodation involves altering cognitive schemas to incorporate new information. These processes operate simultaneously and alternately throughout life.

Lev Vygotsky's socio-cultural theory, in contrast, emphasizes the role of social interactions and cultural tools in cognitive development. Vygotsky introduced the concept of the zone of proximal development (ZPD), where learning happens through collaboration with more knowledgeable individuals, such as teachers or peers (Vygotsky, 1978). The demonstration method is implemented in a systematic manner, aligning with these constructivist principles.

A demonstration method is an instructional approach that involves teaching someone how to make or do something through a step-by-step process. This method is crucial for creating meaningful learning experiences, particularly at the basic education level. One of the most effective strategies for young students is the demonstration method, which involves visually presenting actions, activities, or practical work related to the lesson's facts and principles. This approach aims to enhance the teaching and learning process in the classroom. The demonstration method is highly effective in addressing the diverse needs of basic students by showcasing specific skills, concepts, and processes through real-life

demonstrations. It engages multiple sensory modalities, thereby enhancing comprehension and retention among young learners.

Objective

The basic aim of this article is to explore how the demonstration method is utilized in elementary education. Additionally, it seeks to examine the efficiency, obstacles, and consequences of using the demonstration method in teaching and learning processes within basic education. The specific objectives of this study are as follows:

- To investigate the use of the demonstration method in basic school classrooms.
- To analyze the effectiveness, challenges, and implications of the demonstration method for teaching and learning in basic education.

Research Questions

This study replies the research questions as follows:

- How is the demonstration method implemented in basic school classrooms, and what are the observable outcomes?
- What are the effectiveness, challenges, and implications of the demonstration method on teaching and learning activities in basic education?

Methodology

Data for this qualitative research article were collected through semi-structured interviews, focus group discussions, and a review of related literature. The participants included basic level teachers currently teaching and students currently enrolled in fifth grade. Teachers were interviewed individually, while students participated in guided focus group discussions. The collected data were described and interpreted using descriptive language. The study focused on basic level students from community schools in the Kathmandu districts of Nepal. Additionally, content analysis was conducted for this research.

Literature Review

The demonstration method involves presenting something through performance, providing proof and evidence of the content used. In the teaching and learning field, this method can be defined as presenting a demonstration or performing a specific activity. According to Aggarwal (2001), the demonstration method involves showing something while explaining it using proof. The term "demonstration" means giving a demonstration related to the subject matter. Teachers can effectively teach their students by using relevant teaching materials and showing activities related to the lesson. This approach, known as the demonstration method, is crucial for enhancing the effectiveness of the teaching and learning process in the classroom.

Demonstration is an effective method to enhance children's understanding of abstract concepts, improving their proficiency, competency, receptivity, and confidence (Hussain, 2020). This method is an applied teaching approach where teachers perform activities to help students grasp both the theory and application of the subject. Tools like film charts, posters, and PowerPoint presentations are used to convey ideas to students. Teachers follow a step-by-step process in the demonstration method. According to Aggarwal (2001), this process includes planning and preparation, which involves determining objectives and content, selecting and testing materials, preparing the plan, and rehearsing.

The next step is the performance or presentation of the subject matter, where pre-planned activities are demonstrated. Finally, there is the evaluation step, where the teacher assesses the demonstration's effectiveness and gathers student feedback through discussion. The demonstration method is a pictorial presentation of concepts based on specific subject matter, allowing students to learn by observing rather than just through explanations. Basheer (2016) noted that a demonstration involves illustrating a point in a lesson using methods other

than routine visual aids. This visual approach is teacher-centered, providing students with a clear visual understanding of the subject matter.

The demonstration method can be defined as an instructional approach aimed at illustrating scientific concepts (Taylor, 1988). According to Chiappetta and Koballa (2002) and Shakhashiri (1992), well-organized and effectively delivered demonstrations have the potential to deepen students' understanding of subject matter concepts. Similarly, Hofstein and Lunetta (2004) found that demonstrations can boost learning, motivation, and attitudes. This method supports these theoretical views by offering opportunities for active exploration, social interaction, and guided discovery, thus facilitating meaningful learning experiences at the basic level.

The demonstration method is rooted in constructivist learning theories, which emphasize knowledge construction through direct engagement with subject matter and materials. Constructivist learning theory, developed by Jean Piaget and Lev Vygotsky, highlights the importance of experiential learning and scaffolding in cognitive development. Piaget suggested that children build their understanding of the world through interaction with their environment, integrating new information into existing schemas and adjusting their mental structures as needed (Piaget, 1964). He also noted that a stimulus-response relationship can influence the interpretation of subsequent stimuli, with schemas evolving through assimilation (fitting new information into existing schemas) and accommodation (modifying schemas to incorporate new information). Both processes can occur simultaneously or alternately throughout life.

In contrast, Vygotsky's socio-cultural theory emphasizes the impact of social interactions and cultural tools on cognitive development. Vygotsky introduced the concept of the zone of proximal development (ZPD), where learning occurs through collaboration with more knowledgeable individuals, such as teachers or peers (Vygotsky, 1978). The

demonstration method is implemented in a highly systematic manner, aligning with these constructivist principles.

Results and discussion

The analysis and discussion draw on responses from teachers and students, as well as a review of literature related to the demonstration method.

Context of Schools and Participants

The demonstration method is widely employed in basic education. It involves various activities where teachers use demonstrations to enhance learning. Teachers utilize visual aids, models, and examples to help students grasp concepts. This method is particularly valued for its effectiveness in teaching practical subjects like science and mathematics. It allows teachers to present complex material through a step-by-step approach.

One of the teachers commented on the demonstration method as follows:

The demonstration method is highly effective for teaching science, mathematics, and social studies; however, schools often lack the necessary teaching materials. Even when efforts are made to gather these materials for demonstration-based learning activities, the school environment may not support their use effectively.

While all teachers recognize the value of the demonstration method, they often find it difficult to implement due to a lack of supportive resources and materials. Despite its effectiveness, resource limitations can hinder its use. Not all schools have access to the necessary equipment for successful demonstrations. Additionally, the challenge of teaching in multilingual classrooms can complicate effective communication during demonstrations. Although the demonstration method is commonly integrated into curricula across all educational levels, teachers are encouraged to use it to promote active learning and critical thinking. It remains an important pedagogical approach in basic education.

Although the demonstration method is widely acknowledged for its benefits in enhancing student engagement and understanding, its application is often restricted by practical challenges. Many schools face difficulties due to inadequate resources and materials needed for effective demonstrations. Additionally, the presence of multiple languages in the classroom can create communication barriers, further complicating the implementation of this method. Despite these obstacles, the demonstration method is a crucial component of the curriculum, designed to foster active learning and critical thinking. Its importance in basic education remains significant, but overcoming these limitations is essential for maximizing its potential.

Benefits of the Demonstration Method

There are numerous benefits to using the demonstration method at the basic level. This teaching approach offers various advantages for both students and teachers. For instance, the demonstration method captures students' interest, keeping them engaged throughout the learning process. Highlighting the benefits of this method, one teacher remarked:

Using demonstrations to visualize abstract concepts or complex processes enhances conceptual understanding and promotes retention among basic-level learners. This approach helps students develop essential skills such as problem-solving, critical thinking, and scientific inquiry, contributing to their overall development. Employing visual aids, manipulatives, and interactive simulations engages various sensory modalities, accommodating diverse learning styles and preferences. Research has shown that the demonstration technique encourages students' active participation in the learning process.

This method creates a supportive learning environment for students and encourages cooperative learning between the teacher and students. Among the many teaching techniques

available, the demonstration method stands out by offering students a visual understanding of the material. Relying solely on theoretical explanations makes it extremely difficult to convey the concept of the subject matter. Therefore, the demonstration method is essential for grasping abstract topics. After observing a demonstration, students can easily understand the practical applications of the theoretical knowledge they have been taught. This suggests that this approach effectively bridges the gap between theory and practice. Interactive demonstration methods can promote student collaboration, as they work together to understand the process or discuss the outcomes, fostering cooperation and communication skills. Demonstrations are crucial in elementary education because they make learning more engaging, comprehensible, and enjoyable. They significantly contribute to the holistic development of students by stimulating their natural curiosity, critical thinking, and practical skills.

Regarding demonstration method, one of the students said as follows:

When our teacher used the demonstration method, we found it easy to understand the material. Therefore, we believe the demonstration method is one of the most important teaching techniques. However, our teacher rarely uses this method.

It is recognized that both teachers and students regard the demonstration method as highly important for teaching. However, due to a lack of teaching materials, most teachers are unable to use this method frequently.

Shortcomings in Managing Demonstration Method

According to Smith (2010), the demonstration technique has been a cornerstone of education for centuries. It is characterized by the use of real-world examples or practical images to convey information. The demonstration approach is recognized as essential for presenting the visual aspects of instructional materials. However, its effectiveness and implementation have been questioned in modern educational settings. This essay highlights

the shortcomings of the demonstration method, focusing on issues such as low levels of engagement, potential cognitive overload, and inconsistent student learning outcomes. One of the main criticisms of the demonstration method is its tendency to promote passive learning (Brooks & Brooks, 1993). In this context, a teacher noted that students become passive learners through the demonstration method. It was found that while students actively watch the teacher's presentation, they remain passive participants in the learning process.

Pupils frequently observe without actively participating, which can lower interest and decrease information retention. The lack of interaction in the presentation technique usually prevents students from interacting with peers and teachers, thereby hindering collaborative study and critical thinking skills (Barnett & Ceci, 2002). One respondent noted that students cannot develop their critical capacity through the demonstration method, as it stifles creativity. Furthermore, complicated demonstrations can lead to cognitive overload, a condition where students' cognitive processing abilities are overwhelmed by the complexity or volume of the material presented (Sweller, 1988). This can hinder understanding and retention of key concepts, as individual backgrounds, prior knowledge, and learning preferences significantly influence the effectiveness of presentation techniques (Lorsbach & Tobin, 2017).

Alternative teaching strategies or hands-on activities may be more beneficial for certain students. The demonstration method's shortcomings include its inability to foster creativity and the time and financial costs associated with material acquisition. This approach places the teacher in a more active role while students remain passive, which can lead to poor habits if the teacher engages in ineffective practices. Additionally, this method is not suitable for every class or subject, and is less effective for upper-level classes. Teachers must therefore consider other methods that actively involve students and cater to diverse learning needs to promote better engagement and understanding.

Challenges of Demonstration Methods

The demonstration method has been employed in education for many years, featuring live presentations or real-life examples to teach concepts (Smith, 2010). Despite its historical significance, teachers today encounter several challenges when using this approach in modern classrooms. To improve learning outcomes, this research examines these challenges and highlights the need for more advanced instructional methods. One major drawback of the demonstration method is its tendency to foster passive learning (Brooks & Brooks, 1993). Students often assume observer roles during demonstrations, which diminishes their active participation in the learning process. This limited engagement can hinder interactions between students and teachers, as well as among peers (Barnett & Ceci, 2002). Consequently, this may impede collaborative learning and the development of critical thinking skills.

Complex or rapid demonstrations can lead to cognitive overload for students, making it difficult for them to understand and retain key concepts when faced with too much information at once (Sweller, 1988). Additionally, this method may not cater to diverse learning styles or needs, particularly for students with specific learning preferences or disabilities, thereby necessitating more inclusive teaching practices (Rose & Meyer, 2002). Teachers often face the challenge of implementing these practices effectively while ensuring that the demonstration approach accommodates all learners. Furthermore, successful demonstrations usually require considerable resources, such as specialized tools and materials, which may not be readily available in many educational settings (Olson & Loucks-Horsley, 2000). This scarcity of resources can limit the feasibility of comprehensive demonstrations.

For educators, the logistics of conducting hands-on demonstrations and acquiring necessary supplies can be particularly challenging in low-resource environments. Managing adequate time and preparation within the constraints of the curriculum adds to the difficulty

of organizing effective demonstrations. Ensuring student safety during experiments requires careful supervision and risk management. Variations in schools' access to resources and technology for virtual or digital demonstrations can also affect the equitable application of this method. To maintain pedagogical effectiveness and instructional quality, educators need proper training and professional development before effectively integrating the demonstration approach into their teaching.

Enhancing Comprehension through Demonstrative Teaching Methods

The demonstration technique is a fundamental teaching method employed in educational settings, offering students hands-on and visual learning experiences (Smith, 2010). This study critically explores the impact of the demonstration method on teaching and learning, particularly its effects on student motivation, knowledge retention, and skill development. By utilizing visual aids, the demonstration technique assists students in grasping abstract concepts (Mayer, 2001). Visual presentation of complex information can enhance understanding and memory retention. Demonstrations help bridge the gap between theory and practice by providing tangible examples of theoretical concepts (Brooks & Brooks, 1993), thereby fostering a deeper understanding through practical application.

Students are motivated to actively participate and engage when involved in thoughtfully crafted demonstrations (Prince, 2004). When students observe and interact with demonstrations, their involvement in the learning process tends to increase. The demonstrative technique encourages students to analyze, evaluate, and understand material within real-world contexts (Kolb, 2014), which promotes the development of critical thinking and problem-solving abilities. Demonstrations offer valuable opportunities for hands-on learning and skill development (Olson & Loucks-Horsley, 2000). Through guided demonstrations, students can acquire practical skills and observe techniques in action.

Implication of Demonstration Method

The implications of the demonstration technique in educational contexts through this study are as follows:

Enhanced Real-World Application

The demonstration technique remains a crucial part of instructional pedagogy, as it provides students with real-world experience and practical applications of theoretical concepts (Smith, 2010). This underscores the method's effectiveness in bridging the gap between abstract theories and their practical use in everyday scenarios.

Diverse Learning Styles

Demonstrations cater to various learning styles by offering dynamic and engaging learning experiences (Prince, 2004). This implies that such methods can accommodate different sensory preferences and learning approaches, enhancing overall educational effectiveness.

Increased Engagement and Motivation

By actively involving students and appealing to multiple senses, demonstrations stimulate curiosity and internal motivation, leading to improved engagement and attention during lessons (Mayer, 2001). This suggests that interactive presentations can significantly boost student interest and participation.

Improved Comprehension and Retention

Demonstrations help students contextualize abstract concepts, thereby enhancing their comprehension and long-term retention of material (Brooks & Brooks, 1993). This indicates that practical demonstrations are instrumental in solidifying students' understanding of complex topics.

Development of Critical Thinking

Through the analysis, evaluation, and synthesis of material in real-world contexts, demonstrations foster critical thinking and problem-solving skills (Kolb, 2014). This highlights the role of practical applications in developing higher-order cognitive skills.

Effective Use of Technology

Incorporating multimedia resources and technology-enhanced demonstrations can maximize learning outcomes and cater to various learning styles (Mayer, 2001). This suggests that integrating modern technological tools with traditional demonstrations can further enrich the learning experience and accommodate diverse student needs.

Conclusion

In conclusion, while the demonstrative teaching method is a valuable tool in education, its effectiveness can be significantly enhanced by integrating alternative strategies that address its inherent limitations. Active learning techniques such as problem-based learning and group projects can significantly boost student participation and engagement (Prince, 2004). Moreover, leveraging interactive and multimedia technologies allows for more personalized learning experiences, thereby increasing the overall impact of demonstrations (Mayer, 2001). Additionally, incorporating interactive discussions and reflective tasks alongside demonstrations helps mitigate the drawbacks of passive learning (Kolb, 2014).

To optimize the impact of demonstrative method in basic education, several actionable recommendations should be considered: incorporating experiential exercises and hands-on demonstrations to complement theoretical knowledge, providing teachers with targeted training and professional development to enhance their demonstration skills, ensuring adequate funding for necessary materials and technologies, and establishing clear safety protocols to protect student welfare. Furthermore, fostering collaborative learning

environments during demonstrations can help students develop crucial social and cooperative skills. By adopting these strategies, educators can create a more dynamic and effective learning environment that better meets the needs of all students.

To conclude, the demonstrative technique significantly boosts teaching and learning by enhancing visual learning, engagement, and skill acquisition through interactive lessons that connect theory with practice and foster critical thinking. However, its limitations in modern classrooms call for a reevaluation and the exploration of alternative pedagogical strategies to improve educational outcomes and address diverse student needs. Future research should focus on integrating experiential and hands-on activities to enrich learning environments, support holistic development, and tap into students' curiosity. When used alongside other teaching methods, the demonstrative technique has substantial potential to enhance student engagement, understanding, and skill development, aligning with constructivist learning theories and encouraging a lifelong passion for learning.

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