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Mechanisms and Tasks of Implementation of Pedagogical Technologies in Training Lessons of Non-Government Higher Education Institutions

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Abstract: The research investigates the implementation processes of pedagogical technologies in non-government higher education institutions specifically regarding their impact on lesson structure and student learning activities. The increasing focus on modern teaching approaches has not filled the knowledge gap about structured uses of pedagogical technology within lesson planning and assessment processes. A qualitative research design serves to evaluate critical strategies which include Bloom's taxonomy and cognitive learning frameworks and structured goal-setting approaches. Pedagogical technologies serve as major contributors to educational goal clarity and structured lesson planning that leads to better student cognitive learning outcomes and affects student understanding in psychomotor and affective domains. The study demonstrates that educational taxonomies give teachers the ability to enhance their instructional delivery and evaluation approaches efficiently. Non-government institutions need to provide continuous educational support and training to teachers who need help implementing pedagogical technologies smoothly. Future research needs to conduct longitudinal assessments of technological impact on academic achievement and teaching efficiency since this study reveals educational requirements for such investigations.

Key words: Pedagogical Technologies, Bloom's Taxonomy, Lesson Organization, Cognitive Learning, Non-Government Higher Education, Structured Teaching Methods, Student Engagement, Educational Objectives.

Introduction

Pedagogical technologies play a crucial role in modern higher education, shaping the effectiveness of teaching and learning processes. In non-government higher education institutions, the integration of advanced pedagogical methods has become essential to ensure structured lesson planning, student engagement, and knowledge retention. With the rapid development of digital tools and cognitive learning frameworks, educators are increasingly focusing on systematic approaches to lesson design and instructional delivery. However, the effectiveness of these pedagogical technologies depends on their proper implementation, which requires a clear understanding of learning objectives, instructional strategies, and assessment methods.

One of the key frameworks in pedagogical technology is Bloom's Taxonomy, which classifies cognitive learning into hierarchical levels such as knowledge, comprehension, application, analysis, synthesis, and evaluation. This classification provides a structured way for educators to develop learning objectives and design assessments that align with students' cognitive development. Additionally, the use of cognitive, affective, and psychomotor domains ensures a well-rounded educational approach that caters to different aspects of student learning. Despite the established benefits of structured pedagogical approaches, there is a knowledge gap regarding the application of these methodologies in non-government higher education institutions, where teaching strategies often vary due to institutional policies, resource availability, and faculty training.

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Previous studies have explored the role of pedagogical technologies in traditional academic settings, highlighting the importance of interactive learning, digital integration, and student-centered instruction. However, limited research has focused on how non-government higher education institutions implement and adapt these methods to optimize student learning outcomes. The review of existing literature suggests that while structured lesson planning and goal-setting frameworks are widely acknowledged, their practical application in diverse educational settings requires further investigation. The relationship between pedagogical technology and student performance, particularly in private universities, remains an area that necessitates deeper exploration.

This study employs a qualitative research methodology, analyzing pedagogical strategies used in non-government higher education institutions. Data is gathered through literature reviews, expert opinions, and observational analysis of lesson planning and instructional implementation. The research examines how structured teaching methodologies, including Bloom's Taxonomy, cognitive learning models, and systematic goal-setting techniques, influence the effectiveness of lesson delivery and assessment. By identifying recurring patterns and best practices, the study aims to provide a framework for improving teaching methodologies in private academic institutions.

The expected findings suggest that implementing structured pedagogical technologies enhances lesson organization, student engagement, and knowledge retention. The results will offer insights into the practical application of cognitive learning frameworks and instructional planning techniques in non-government higher education institutions. The implications of this study emphasize the necessity of continuous faculty training, institutional support, and curriculum adjustments to optimize the integration of pedagogical technologies. Furthermore, future research should explore the long-term impact of these methodologies on academic performance and instructional efficiency, ensuring their adaptability to evolving educational needs.

Methodology

This study employs a qualitative research approach to analyze the implementation of pedagogical technologies in training lessons within non-government higher education institutions. Data were gathered through a comprehensive review of academic literature, expert opinions, and observational analysis of lesson organization and instructional methods. The study focuses on identifying the structured integration of pedagogical technologies, such as Bloom's Taxonomy, cognitive learning frameworks, and systematic goal-setting techniques, to assess their role in enhancing lesson effectiveness and student engagement. The research examines how these methodologies are applied in real-world educational settings, considering factors such as faculty training, institutional policies, and available resources. A comparative analysis of different instructional approaches is conducted to determine the extent to which structured teaching models influence student learning outcomes. Furthermore, case studies from various non-government institutions were reviewed to understand how educators adapt and modify pedagogical strategies to fit institutional needs. The reliability of the findings is ensured by cross-examining multiple sources, identifying recurring patterns, and validating best practices. Ethical considerations were maintained by relying on publicly available data and institutional reports without direct interaction with students or faculty members. The study aims to provide a deeper understanding of how structured pedagogical technologies contribute to student-centered learning, lesson optimization, and cognitive development. The findings from this research will serve as a framework for improving instructional methodologies in non-government higher education institutions, offering insights into best practices and highlighting areas that require further exploration and empirical validation.

Results and discussion

Mechanisms for introducing pedagogical technologies. They are:

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- familiarizing the pedagogical team with the basics of pedagogical technologies, recommending lectures, literature;
- identifying a team of teachers working on the basis of pedagogical technology;
- through them, conveying to teachers the intended goal of using pedagogical technology, its essence;
- carrying out organizational work such as organizing seminars, trainings, individual consultations, demonstration lessons;
- monitoring the work of those working on the basis of pedagogical technology, providing methodological assistance, listening to their reports;
- organizing a room with didactic materials and tools necessary for working on pedagogical technology; ensuring continuity and continuity of updating.

Tasks of pedagogical technology:

- developing a general, holistic project of the lesson;
- setting specific goals and objectives to be solved in the lesson;
- developing the content of the lesson;
- selection of the most effective methods, techniques and technical means that will help ensure the effectiveness of the lesson;
- organization of monitoring and evaluation of student activities;
- creation of conditions for independent activity of students in the lesson and formation of skills and qualifications.

The essence of pedagogical technology is the clarity of the educational goal and the independent activity of the student in order to achieve it, mastering each educational module in a strictly defined sequence. Determining the goal includes the process from designing the educational process to checking its effectiveness, testing it and popularizing it. Educational goals are the most important of the components that make up the pedagogical process.

Indeed, this process, regardless of its complexity and duration, begins first of all with determining the goal. The constituent parts, such as principle, content, method, form, are selected in accordance with the established goal and are mutually coordinated.

It is important to arrange the objectives in a sequence of interrelationships, that is, to create their taxonomy (ordering). This was first developed by the American B. Bloom, who described the expression of educational objectives in the cognitive (knowledge-related) sphere and is recognized worldwide.

Cognitive (cognitive) sphere. It includes solving problems, from memorizing and retelling the studied material, to independently fully comprehending the acquired knowledge and visualizing it in combination with previously studied methods and techniques. B. Bloom's cognitive taxonomic categories include knowledge, understanding, application, analysis, synthesis, and evaluation. In addition, there are categories of learning objectives in the affective and psychomotor spheres.

Affective (emotional) sphere. It includes goals that range from simple perception, interest, readiness to master value orientations and relationships to forming students' emotional and personal attitudes towards the environment.

Psychomotor (motor) sphere. It includes goals related to the formation of quick and agile changes in the direction of movement, coordinated neuromuscular control in a particular movement activity.

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Creating a clear, orderly and hierarchical set of goals is very important for teachers. The reasons for this are as follows:

- focusing the educational process on the goal. Using pedagogical taxonomy, it is possible to determine not only these goals, but also the main tasks, the order and course of further activities.
- clarity and openness of the activities of the teacher and students. Clear goals allow the teacher to explain and discuss the main directions of the students' general activities.
- creation of a system for assessing educational results. Goals clearly expressed through the results of activities create the opportunity to assess them reliably and objectively. Creating a taxonomy is one of the important factors in increasing the effectiveness of teachers' activities. The faster they master this method, the more they will contribute to accelerating education with their advanced experience. With the help of Bloom's taxonomy, the teacher will be able not only to clarify educational goals, but also to place them in a strict sequence that is interconnected. As a result of such an expression of goals, mastery monitoring is created. This taxonomy also makes it easier for test makers to determine which categories the elements of the educational material fit into. First of all, these goals are defined in a more general form according to taxonomy categories, then a verb corresponding to them and more clearly expressing the final result is selected, and then test tasks are created.

List of verbs representing Bloom's taxonomy categories by cognitive domain

- knowledge: evidence, terms, signs, classifications, evaluation criteria, methods used in solving problems, explaining and predicting events;
- understanding: transforming content from one system to another, explaining, applying the results obtained;
- application: applying methods, concepts and tasks in practice;
- analysis: dividing a whole (phenomenon) into parts, establishing connections between them, analyzing parts, knowing the principles of organizing integrity;
- synthesis: generalizing given parts in order to form a new structure, drawing up a plan of work, creating a holistic image based on the given;
- evaluation: evaluating the material or methods used in a purposeful manner, expressing an opinion. Evaluation based on internal and external criteria.

In solving various problems and mastering scientific concepts, processes such as analysis, synthesis, application, and evaluation are especially helpful. Depending on the specific purpose of the applied problem, these processes have their own characteristics. In analysis, the student expresses vague assumptions, sees errors and shortcomings in thinking, identifies differences between evidence and reasons, analyzes connections; in synthesis, determines the correspondence of the conclusions of the material to the given values, writes an essay based on internal criteria, draws up an experimental plan; in application, demonstrates the ability to apply concepts, principles, laws and theories in specific practical situations; in evaluation, assesses the significance of the activity based on the correspondence of the conclusions of the material to the given values. The clarification of educational goals based on this taxonomy is carried out in two stages. In the first, general, and in the second, the goals of educational activity are determined. The clarified goals are formalized in the form of a table, with sections of the subject or educational tasks in the column, and the main types of intellectual activity of the student in the process of mastering them are placed in the row. For example:

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Categorize learning objectives

№	Section Contents	Intellectual operations					
		Knowing	Comprehension	Applying	Analysis	Synthesis	Evaluation
1							
2							

This two-dimensional clarification is a guideline for determining educational goals. According to the method of J. Block and L. Andersen, these goals are clarified according to the content of the sections. Then, within each section, the content of new sections for students is determined and categorized. The intellectual operations of students corresponding to the level of mastery determined by the teacher are indicated. For example:

Determination of the purpose of education on the topic

№	Section Contents	Intellectual operations					
		Knowing	Comprehension	Applying	Analysis	Synthesis	Evaluation
1							
2							

A clear judgement about the achievement of identifiable goals can be made only by the externally expressed activity of the student and its product (answer, solving a problem, disassembling and assembling mechanisms, determining the sequence of the technological process, etc.). When identifying learning outcomes, the teacher should pay attention to the expression of the student's externally observed movement.

This technology arose in the 60s-70s under the influence of the idea and methods of behaviorism. It has a practical orientation and is conceived as consisting only in analyzing his externally expressed and observable behavior. In this case, the mastery scheme can be written in the form S→R→P. Here S is the driving force (stimulus). The condition of the problem, question, order, team, etc. can act as a stimulus. R – action performed as a result of influence, answering a question, solving a problem, carrying out an order, etc. are examples of this. P–(rgor) reinforcement of the correct execution of the action. For example, in pedagogical training, teaching, verbal approval, assessment, and encouragement can be used as reinforcement. In this case, P is an important component of reinforcement. The rules of teaching in the behaviorist interpretation are as follows: dividing the educational material into separate parts as much as possible; taking into account all the manifestations of educational elements in activity; promptly reinforcing a positive reaction (control-correction); achieving a high mastery rate through repeated repetition of the exercise (action).

Conclusion

This study highlights the significance of structured pedagogical technologies in enhancing lesson organization, student engagement, and cognitive development in non-government higher education institutions. The findings indicate that the integration of Bloom’s Taxonomy, cognitive learning frameworks, and systematic goal-setting techniques contributes to a more structured and effective teaching-learning process. These methodologies facilitate clear learning objectives, improve instructional delivery, and establish a reliable assessment system that aligns with students’ intellectual development. Additionally, the study underscores the importance of faculty training and institutional support in ensuring the successful implementation of these pedagogical strategies. The implications of this research emphasize the necessity for educators to adopt evidence-based teaching methods that cater to diverse learning needs while maintaining a balance between traditional and technology-driven approaches. Moreover, institutions should focus on developing policies that encourage continuous innovation in pedagogical practices. Future research should explore the long-term impact of structured

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pedagogical technologies on student performance and knowledge retention across various disciplines. Additionally, further studies could examine the effectiveness of adaptive learning models and digital learning environments in complementing traditional pedagogical techniques, ensuring that higher education institutions remain responsive to evolving educational demands.

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