The Effectiveness of Learning Taxonomies in the Teaching of the Azerbaijan Language

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ABSTRACT
In the contemporary pedagogical environment, there is an increasing need for systematic and scientifically grounded approaches to enhance the efficiency of the learning process. In this context, learning taxonomies, particularly Bloom's taxonomy, serve as a significant methodological framework in the teaching of the Azerbaijani language. Taxonomies allow students to approach the language not merely as a set of grammatical rules but as a complex system of skills encompassing various levels of cognitive activity. In Azerbaijani language lessons, the primary goal is not only the transmission of knowledge but also the development of students' abilities to think critically, make connections, analyze, demonstrate creativity, and apply knowledge. Therefore, the application of taxonomies directly influences the quality of the learning process. Bloom's taxonomy structures cognitive activity across six levels—knowledge, comprehension, application, analysis, synthesis, and evaluation—providing teachers with a structured model for lesson planning and assessment. In the teaching of Azerbaijani, this model proves especially effective in areas such as text analysis, speech culture, writing skills, and the acquisition of language rules. Through the use of the taxonomy, students do not merely memorize information; they internalize it, apply it in new situations, analyze texts, establish logical connections between ideas, and justify their own viewpoints.
Research indicates that lesson models incorporating taxonomies enhance students' self-expression, strengthen reflective thinking skills, and foster an interactive learning environment. In Azerbaijani language classes, this approach contributes both to the effective development of language competencies and to student-centered teaching. Taxonomies enable teachers to adopt a differentiated approach, design tasks according to students' varying levels, and ensure a more objective assessment process. Consequently, the application of learning taxonomies in the teaching of Azerbaijani is not only a methodological innovation but also an effective pedagogical tool that supports students' cognitive development, thinking flexibility, and communicative skills. The purposeful implementation of this model positively impacts the quality of language education and facilitates the cultivation of competent students who meet the demands of the twenty-first century.
Keywords: learning taxonomies, Bloom's taxonomy, educational process, language learning, communicative functions

INTRODUCTION
In the contemporary educational process, the formation of students' knowledge is not limited to the mere transmission of information. The effectiveness of teaching is closely linked to the development of students' cognitive skills, as well as their analytical and creative thinking abilities. In this context, learning taxonomies hold a significant place in both pedagogical theory and practice, as they systematically classify different levels of learning activity and enable teachers to plan lessons purposefully. The teaching of the Azerbaijani language, like that of other languages, targets not only the acquisition of grammatical rules but also the development of students' abilities to think, communicate, and express themselves through language. For this purpose, the use of taxonomies—particularly models such as Bloom, Krathwohl, Harrow, and SOLO—supports the systematic development of students' cognitive, affective, and psychomotor skills. Bloom's taxonomy facilitates the organization of learning tasks according to levels of knowledge, comprehension, application, analysis, synthesis, and evaluation. Krathwohl's taxonomy emphasizes the formation of emotions, motivation, and values, while Harrow's taxonomy focuses on the development of psychomotor skills. The SOLO taxonomy, on the other hand, assists in assessing the structure and quality of students' responses. The implementation of these taxonomies in Azerbaijani language lessons renders the teaching process more purposeful, interactive, and student-centered. They provide teachers with a structured approach for lesson planning, regulating task difficulty, and assessment, while simultaneously supporting the effective development of students' language skills and enhancing their analytical thinking and communicative competence. The primary aim of this study is to examine the effectiveness of learning taxonomies in the teaching of the Azerbaijani language, determine the role of various taxonomies in the lesson process, and evaluate their impact on the development of students' cognitive, emotional, and motor skills. Within the scope of the research, the comparative analysis of theoretical and practical approaches, along with the evaluation of lesson examples and teaching methods, will explore how these approaches contribute to the

efficiency of student-centered learning. Language teaching is an instructional activity directed at forming relevant competencies in students through the interactive process between the teacher and learner. Language acquisition encompasses a set of tasks that require the development of target competencies, particularly those necessary for successful communicative activity. These competencies include listening to general or specific information, drafting business documents, writing personal letters, preparing congratulatory speeches, or delivering scientific presentations. Teaching methods in language education can be determined based on theoretical approaches and incorporate theoretical insights regarding the structural and communicative functions of the language. Depending on the methodology employed, the roles of the teacher and the student may vary: the teacher may act either as a corrector of errors and a more passive participant in the learning process or as a leader who directly influences the outcomes of instruction. Likewise, the student's role may range from memorizing material without understanding to fully comprehending its essence. Learning can be considered effective when information is transmitted from the teacher to the student and the knowledge acquired is enriched by the student with new insights. Language learning is a purposeful process of mastering a language, conducted both in formal settings with a teacher and independently in informal environments (Anderson & Krathwohl, 2001).

LITERATURE REVIEW

The process of language learning can be described through the framework of educational taxonomy. A learning taxonomy encompasses characteristic features related to the domain of learning. Among the most widely recognized taxonomies are those presented by Bloom, which cover the cognitive, psychomotor, and affective domains. These domains are of particular importance in the process of language acquisition.

Recent pedagogical studies emphasize that the integration of learning taxonomies contributes significantly to the development of higher-order thinking skills. When teachers design tasks according to hierarchical cognitive levels, students gradually move from simple recall to complex intellectual operations such as critical evaluation and creative production. In language education, this process is especially important because communicative competence requires not only knowledge of grammar but also the ability to interpret, analyze, and produce meaningful discourse.

The educational taxonomy was developed in 1956 by a group of researcher-psychologists led by the renowned American psychologist Benjamin Bloom, who specialized in teaching methods in pedagogy. In the 1960s, Bloom authored and published two significant scientific works that laid the foundation for his concept, known as Bloom's taxonomy. These works are "*Stability and Change in Human Characteristics"* and "*Taxonomy of Educational Objectives"* (Povey, 2019).

It is important to note that Bloom's taxonomy gained considerable popularity in U.S. educational institutions during the 1960s, although its application in schools declined somewhat over time due to critical perspectives.
An educational taxonomy is a system based on the principle of classifying and categorizing different levels of learning. It provides a framework that allows teachers to apply the principles of a six-stage diagram and the foundations of intellectual education in ordinary classroom settings. The levels of Bloom's taxonomy, arranged from simple to complex, include knowledge, comprehension, application, analysis, evaluation, and creative activity. All six levels belong to the cognitive domain, which relates to how the brain processes information and thought.

Another important advantage of taxonomic models is their ability to support differentiated instruction. Students possess varying levels of cognitive readiness, and the taxonomy framework allows teachers to create tasks that correspond to these differences. Lower-level tasks help learners establish basic knowledge, while higher-level tasks challenge advanced learners to synthesize ideas and formulate independent conclusions (Marzano, & Kendall, 2007). Such differentiation increases motivation and encourages active participation in the learning process.

From a methodological perspective, learning taxonomies also contribute to the transparency and objectivity of assessment. Clearly defined levels of cognitive activity allow educators to formulate measurable learning outcomes and design evaluation criteria that reflect the depth of student understanding (Richards, & Rodgers, 2014). As a result, assessment becomes not merely a measurement of memorized information but a comprehensive evaluation of students' analytical and communicative abilities.

If Bloom's taxonomy is visualized as a pyramid, the base represents the level of knowledge, which involves the ability to remember and reproduce previously learned information. Methods of demonstrating this stage include reading, repetition, and highlighting key points in textbooks and notebooks.

The next level, comprehension, involves understanding meaning, translation, interpretation, and the ability to express information in one's own words. Methods of expression include identifying similarities and parallels, describing analogous events, and searching for information online.

The third level, application, requires the student to use previously acquired knowledge in various situations. Methods of expression at this stage involve applying methods, theories, laws, principles, and concepts in new and concrete practical contexts.

One of the central stages of Bloom's taxonomy is analysis. This stage involves breaking down material into its constituent parts and identifying similarities and differences among them. Methods of expression include identifying hidden assumptions, recognizing errors and gaps during reasoning, and distinguishing facts from consequences.

The fifth stage, synthesis, entails the ability to combine and generalize knowledge to create a new, original solution or product, such as a novel approach to a problem. Means of expression include writing presentations or essays, preparing action plans, and systematizing existing information.

At the apex of the pyramid is evaluation, which involves assessing a position, work, or study. Evaluation may include analyzing and critiquing the concepts of others, as well as assessing one's own perspective. Methods of expression include the ability to evaluate the logic of a concept and to determine the significance of specific outcomes.

METHODOLOGY

The process of language learning can be analyzed through the framework of educational taxonomy. Bloom's taxonomy, introduced in 1956, classifies learning objectives into hierarchical levels ranging from simple recall to complex evaluation and creation. This structure allows teachers to organize instructional activities systematically and design tasks that gradually increase cognitive complexity.

FINDINGS AND DISCUSSION

Three primary approaches can be identified in language acquisition. First is the classical accumulation of knowledge through memorization, consistent with the traditions of behaviorism established in the mid-20th century. In this approach, learning relies on mechanical memorization and repetitive practice of language patterns, with skill acquisition facilitated through repeated "stimulus–response" sequences.

According to B. F. Skinner, operant conditioning or reinforcement prepares learners to use their knowledge in previously unspecified, naturally occurring situations. In operant conditioning, spontaneous behavior and unprepared reactions to unexpected circumstances are positively reinforced (Pikhart & Klimova, 2019).

The cognitive approach, based on E. Tolman, teaches learners to use their knowledge for problem-solving in communicative contexts and aims to prepare students to "navigate real-life situations appropriately" (Tsulaia, 2023). Instruction should focus on students' mental processes and actions that involve understanding and correctly applying language structures in speech.

According to the theory of the renowned American linguist Noam Chomsky, language acquisition is directly associated with the brain's internalization of language rules, resulting in progressively fewer errors. Chomsky proposed that language learning is governed by specific rules, and the child's mind applies these rules in real-world situations, enabling human cognition to handle an infinite range of communicative contexts (Krathwohl, 2002).

Cognitivism presents the learner as an active processor of information. Language acquisition occurs most effectively when students gain experience by solving problems according to their own understanding.

The primary goal of language instruction is the formation and development of students' communicative competence, which entails mastering various types of speech activities. The subject of speech activity is thought itself; in essence, every speech task is a speech–thinking task. Language serves as a tool for the formation and expression of thought. Two key methodological implications arise from this perspective. First, for the successful development of skills and abilities in any type of speech activity, each student must be provided with opportunities for active oral practice. Second, through engaging in problem-solving tasks, students' attention should be directed toward the content of their speech, placing thought at the center while using language as a tool for shaping and expressing ideas.

The use of Bloom's taxonomy in English and other language lessons helps address these pedagogical challenges by organizing students' cognitive activity and supporting the development of oral communication skills. The cultivation of communicative competence remains a central aim of language teaching. Within the communicative approach, all tasks and exercises should inherently promote speech, emphasizing interaction and meaningful communication. E.I. Passov categorizes exercises into two types: conditional-speech and speech exercises. Conditional-speech exercises are specifically organized to develop a particular speech skill, often through repetitive practice of lexical units of the same type. In contrast, speech exercises require students to engage in cognitive–speech problem-solving during task performance.

Bloom's taxonomy facilitates the logical sequencing of speech–thinking tasks from simple to complex, stimulating motivation, engaging learners in communication, and promoting the development of higher-order thinking skills. Krathwohl's taxonomy, developed under Bloom's guidance, focuses on the affective domain, emphasizing learners' attitudes, emotional responses, and value-based development. This taxonomy describes the sequential stages of affective growth, from information reception to the integration of values as an intrinsic part of the learner's personality (Krathwohl, 2002). At the initial stage, the student is prepared merely to receive information, focusing on listening and comprehension. In the subsequent stage, the learner actively participates and demonstrates engagement through behavior, such as contributing to discussions and forming personal viewpoints on the topic. In the third stage, value internalization occurs, whereby the student adopts specific ideas as personal beliefs and demonstrates these values in behavior. In the following stage, learners organize their values, establish priorities, and create a structured hierarchy among them. Finally, in the last stage, these values are fully integrated into the student's personality, guiding behavior, decisions, and daily choices. At this level, values cease to be mere behaviors and become central elements of character.

This structured combination of cognitive and affective taxonomies provides educators with a comprehensive framework to develop language skills that are not only functional but also meaningful, reflective, and deeply embedded in learners' personal and social contexts.

The Harrow taxonomy addresses the psychomotor domain, classifying the development of physical skills and motor coordination. This model describes a sequential progression from reflex-level movements to complex motor activities. Initially, reflexive reactions are observed in the learner. Subsequently, the learner develops basic control of physical movements, such as walking, running, and jumping. At the next stage, learners coordinate their movements with sensory information—for example, catching a ball or accurately copying a geometric figure—demonstrating the integration of perception and action. Following this, the quality indicators of physical abilities, including endurance, strength, and flexibility, are developed. At more advanced stages, the learner masters complex motor tasks requiring sequential coordination, such as playing a musical instrument, driving, or swimming. The highest stage of psychomotor development involves non-verbal communication, where the body is used expressively to convey emotions and meaning, as in dance, pantomime, or acting.

The SOLO taxonomy (Structure of the Observed Learning Outcome), developed by John Biggs and Kevin Collis, is a classification system focused on the structure and quality of learners' responses rather than the thinking process itself (Biggs & Collis, 1982). It allows educators to evaluate how a learner's response is structured, the level of integration, and the degree of generalization. At the initial stage, the learner's response may be irrelevant to the topic or absent altogether. At the next level, the learner grasps only one aspect of the topic. In subsequent stages, multiple aspects may be identified, but logical connections between them are not established. At the relational stage, learners integrate various aspects into a unified structure, demonstrating understanding of the relationships and the essence of the topic. The extended abstract stage, the highest level of SOLO, involves generating new hypotheses, extrapolating beyond the given context, and producing broader theoretical generalizations. This stage represents the pinnacle of creative, analytical, and conceptual thinking.

Table 1. Comparative Characteristics of Learning Taxonomies

Taxonomy	Domain	Main Levels	Educational Application
Bloom	Cognitive	Remember, Understand, Apply, Analyze, Evaluate, Create	Planning lessons and assessing cognitive development
Krathwohl	Affective	Receiving, Responding, Valuing, Organizing, Characterizing	Developing attitudes, motivation and value orientation
Harrow	Psychomotor	Reflexes, Basic movements, Perceptual abilities, Skilled movements	Development of motor and physical performance skills
SOLO	Cognitive structure	Pre-structural, Uni-structural, Multi-structural, Relational, Extended abstract	Evaluation of the structure and quality of students' responses

A comparative analysis of these taxonomies demonstrates that each system organizes a different dimension of learning, providing teachers with critical analytical tools for instructional planning. Bloom's taxonomy allows teachers to evaluate students' cognitive sequencing, including what they can think, analyze, and create. Krathwohl's taxonomy monitors learners' affective and value-based development, showing what they feel and which values they internalize. Harrow's taxonomy organizes students' motor skills, coordination, and physical performance, indicating what learners can do. SOLO taxonomy provides a structured framework for assessing the depth and quality of learners' responses, offering an objective measure of response sophistication.

As an example of applying Bloom's taxonomy to the development of speech–thinking activities, a lesson model for the 4th-grade Azerbaijani language topic "Punctuation in Writing" is presented, illustrating how cognitive, affective, and psychomotor dimensions can be systematically integrated into classroom instruction.

Lesson Topic: "Punctuation in Writing"
Grade: 4
Subject: Azerbaijani Language
Method: Bloom's Taxonomy (Tasks organized across six levels)

1. REMEMBERING
Objective: Students recall the main punctuation marks and name them.
Teacher's Activities:
• Displays punctuation marks on the board: . , : ; ? ! - " " ( )
• Provides a brief explanation; the main recall comes from students.
Student Tasks:
• List the names of the punctuation marks.
• Complete sentences:
○ "A question mark is placed at the end of …"
○ "Quotation marks are used for …"

2. UNDERSTANDING
Objective: Students explain the usage of punctuation marks.
Teacher's Activities:
• Writes examples on the board and asks students to explain them.
Student Tasks:
• Read the following sentences and explain correctly:
1. "Grandmother said: 'Come quickly!'" — Why are the colon and quotation marks used here?
2. "Emil, bring the book." — Explain why the comma is used.
3. "The book – is the key to knowledge." — Why is the dash used here?

3. APPLYING
Objective: Students correctly apply punctuation marks in new sentences.
Tasks:
• Insert appropriate punctuation marks into the following sentences:
1. Nermin said to me this morning do not forget your book
2. What beauty is this
3. Ali Leyla Samir and Gunel registered for the club
4. Atatürk said My greatest work is the Republic of Turkey

4. ANALYZING
Objective: Students analyze the functional differences of punctuation marks.
Task:
• Compare the following sentences:
1. He said he will come.
2. He said: "I will come."
Questions:
• Which punctuation marks are used in each sentence?
• What is the difference in meaning between the sentences?
• Why are colon and quotation marks used in one, and a comma in the other?

5. EVALUATING

Objective: Students justify correct or incorrect usage of punctuation marks.
Task:
- Teacher displays the sentence: “Children said teacher is coming.”
- Students discuss:
  - How should this sentence be written correctly?
  - Which punctuation marks are present and why?
  - What is the most correct version? Explain with reasoning.

6. CREATING
Objective: Students produce original texts using punctuation marks.
Tasks:
- Students choose one option:

Option A: Write a short 3–4 sentence dialogue using quotation marks correctly.
Option B: Write a mini-story (5 sentences) using at least six different punctuation marks (., ?, !, :, –, “ ”).
Option C: Prepare a small announcement (e.g., “Found,” “Lost,” “Event”) using appropriate punctuation.

Lesson Conclusion and Reflection:
- Students are asked: “Which punctuation mark was the most difficult to use today, and why?”
- Teacher summarizes students’ answers and provides brief feedback.

Learning taxonomies are a powerful methodological tool for planning pedagogical activities, structuring lessons, and developing all components of learning. They allow teachers to define learning objectives precisely, design tasks that address cognitive, affective, and psychomotor domains, and conduct assessments in an objective and transparent manner. Purposeful use of these taxonomies makes learning more systematic, meaningful, and oriented toward comprehensive student development.

CONCLUSION AND RECOMMENDATIONS

The study demonstrates that learning taxonomies provide an effective methodological framework for Azerbaijani language instruction. Taxonomies such as Bloom, Krathwohl, Harrow, and SOLO support the systematic development of cognitive, affective, and psychomotor aspects of learning. Their integration into classroom practice facilitates student-centered learning, enhances communicative competence, and promotes higher-order thinking skills.

The results suggest that the systematic application of taxonomies transforms language instruction from simple knowledge transmission into a comprehensive educational process aimed at developing analytical thinking, creativity, and communication abilities. Consequently, the use of learning taxonomies represents a significant step toward modernizing Azerbaijani language education in accordance with the demands of twenty-first-century pedagogy.

The application of learning taxonomies in Azerbaijani language instruction allows the language learning process to be viewed not merely as the transmission of linguistic information, but as a complex domain of development integrating students’ cognitive, emotional, and motor skills. Taxonomy models such as Bloom, Krathwohl, Harrow, and SOLO provide teachers with practical, systematic, and transparent frameworks for lesson planning, task structuring, and assessment criteria. This approach enhances students’ abilities not only to recall and repeat content but also to comprehend and apply new material, analyze texts, and produce creative responses.

Specifically, in Azerbaijani language lessons, the use of these taxonomies facilitates the creation of student-centered tasks with high-level thinking requirements. Bloom’s taxonomy assists in planning questions and activities across different cognitive levels, while Krathwohl’s taxonomy promotes affective and value-oriented development, such as establishing an emotional connection with language meaning. Harrow’s taxonomy focuses on physical and motor skills, enabling attention to body language, gestures, and other psychomotor expressions during language instruction. SOLO taxonomy, in turn, serves as a scientific tool to evaluate the structure, depth, and coherence of students’ responses.

Research findings indicate that the purposeful implementation of these taxonomies makes the teaching process more active, interactive, and motivating. Students not only passively receive information but also actively organize knowledge analytically, solve problems, and express their ideas creatively. Teachers can differentiate tasks according to students’ needs and employ a broad range of assessment formats based on structured levels.

Nevertheless, the effectiveness of taxonomies is accompanied by certain challenges. Integrating this approach deeply into lesson plans requires teachers to have substantial knowledge and training. Additionally, assessment criteria must be carefully developed to ensure objectivity and alignment with the taxonomy, so that student performance is measured fairly and accurately.

REFERENCES

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.

Biggs, J. B., & Collis, K. F. (1982). *Evaluating the quality of learning: The SOLO taxonomy*. Academic Press.

Bloom, B. S. (1956). *Taxonomy of educational objectives*. Longman.

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice, 41*(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2

Marzano, R. J., & Kendall, J. S. (2007). *The new taxonomy of educational objectives*. Corwin Press.

Pikhart, M., & Klimova, B. (2019). Utilization of linguistic aspects of Bloom's taxonomy in blended learning. *Education Sciences, 9*(3), 235. https://doi.org/10.3390/educsci9030235

Povey, E. (2019). A framework for language teaching based on Bloom's taxonomy. *International Journal of Educational Research, 2*(12), 1–13.

Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*. Cambridge University Press.

Tsulaia, N. (2023). Crafting classroom activities for EFL learners using Bloom's taxonomy. *Collection of Scientific Works of Sokhumi State University*. https://doi.org/10.52340/sou.2023.21.42