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THEORETICAL FOUNDATIONS OF TEACHING METHODS IN HIGHER EDUCATION INSTITUTIONS

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Abstract. This article systematizes the theoretical foundations of teaching methods in higher education institutions at the philosophical-epistemological, psychological, didactic, and organizational levels. The study aims to distinguish among the concepts of method, technique, technology, and mode of instruction; identify evidence-informed criteria for selecting teaching methods; and propose an integrated theoretical model for university course design. National regulatory documents, foundational works in didactics, meta-analyses, and international reports published between 2020 and 2025 were examined through an integrative literature review and comparative content analysis. The findings demonstrate that the effectiveness of a teaching method is determined not by its novelty but by the alignment among the intended learning outcomes, content, student activities, learning environment, and evidence of learning. The author proposes a five-component Outcome–Content–Activity–Environment–Evidence model. Rather than treating lectures, problem-based learning, case studies, project-based learning, collaborative learning, and digitally supported learning as mutually exclusive, the model enables their purposeful integration according to the intended learning outcomes. The conclusions can be applied to improve course design, faculty members' methodological competence, and quality monitoring in higher education.

Keywords: higher education, teaching method, didactics, constructive alignment, active learning, learning activity, assessment, course design.

Annotatsiya. Ushbu maqolada oliy ta'lim muassasalarida o'qitish metodlarining nazariy asoslari falsafiy-epistemologik, psixologik, didaktik va tashkiliy darajalarda tizimlashtirilgan. Tadqiqotning maqsadi metod, usul, texnologiya va ta'lim shakli tushunchalarini o'zaro farqlash, o'qitish metodlarini tanlashning dalillarga asoslangan mezonlarini aniqlash hamda universitet kurslarini loyihalash uchun integratsiyalashgan nazariy modelni taklif etishdan iborat. Tadqiqot jarayonida 2020–2025-yillarda chop etilgan milliy me'yoriy-huquqiy hujjatlar, didaktikaga oid fundamental ilmiy ishlar, meta-tahlillar va xalqaro hisobotlar integrativ adabiyotlar sharhi hamda qiyosiy kontent-tahlil usullari orqali o'rganilgan. Natijalar o'qitish metodining samaradorligi uning yangiligiga emas, balki ko'zlangan ta'lim natijalari, mazmun, talabalarning faoliyati, ta'lim muhiti va o'zlashtirish natijalarini tasdiqlovchi dalillar o'rtasidagi muvofiqlikka bog'liqligini ko'rsatadi. Muallif "Natija–Mazmun–Faoliyat–Muhit–Dalil" nomli besh komponentli modelni taklif etadi. Ushbu model ma'ruza, muammoli ta'lim, keys-stadi, loyihaviy ta'lim, hamkorlikda o'qitish va raqamli vositalar yordamidagi ta'limni bir-birini istisno qiluvchi metodlar sifatida emas, balki ko'zlangan ta'lim natijalariga muvofiq maqsadli ravishda integratsiyalash imkonini beruvchi yondashuv sifatida talqin etadi. Tadqiqot xulosalaridan o'quv kurslarini loyihalash sifatini oshirish, professor-o'qituvchilarning metodik kompetentligini rivojlantirish va oliy ta'limda sifat monitoringini takomillashtirishda foydalanish mumkin.

Kalit so'zlar: oliy ta'lim, o'qitish metodi, didaktika, konstruktiv muvofiqlik, faol ta'lim, o'quv faoliyati, baholash, kursni loyihalash.

Аннотация. В статье систематизированы теоретические основы методов обучения в высших учебных заведениях на философско-эпистемологическом, психологическом, дидактическом и организационном уровнях. Цель исследования заключается в разграничении понятий метода, приёма, технологии и формы обучения, определении научно обоснованных критериев выбора методов обучения, а также в разработке интегрированной теоретической модели проектирования университетских курсов. Национальные нормативно-правовые документы, фундаментальные труды по дидактике, метаанализы и международные отчёты, опубликованные в 2020–2025 годах, были изучены с использованием интегративного обзора литературы и сравнительного контент-анализа. Результаты исследования показывают, что эффективность метода обучения определяется не его новизной, а согласованностью между планируемыми результатами обучения, содержанием, деятельностью студентов, образовательной средой и доказательствами достижения результатов обучения. Автором предложена пятикомпонентная модель «Результат–Содержание–Деятельность–Среда–Доказательство». Данная модель позволяет рассматривать лекции, проблемное

обучение, кейс-стади, проектное обучение, совместное обучение и обучение с использованием цифровых технологий не как взаимоисключающие подходы, а как методы, которые могут целенаправленно интегрироваться в соответствии с планируемыми результатами обучения. Выводы исследования могут быть использованы для совершенствования проектирования учебных курсов, повышения методической компетентности профессорско-преподавательского состава и улучшения мониторинга качества высшего образования.

Ключевые слова: высшее образование, метод обучения, дидактика, конструктивное согласование, активное обучение, учебная деятельность, оценивание, проектирование курса.

INTRODUCTION

The quality of higher education is determined not only by curriculum content or classroom infrastructure but also substantially by how the content is transformed into student activity, how interaction between instructors and students is organized, and what evidence is used to demonstrate the achievement of learning outcomes. A teaching method is, therefore, not merely a technical element of the didactic system; it is a central mechanism that connects objectives, content, learning activities, and assessment.

The Law of the Republic of Uzbekistan "On Education" identifies the priority of education, freedom of choice regarding the mode of education, non-discrimination, and quality assurance among the fundamental principles governing education [1]. The Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030 establishes the transition from education focused primarily on theoretical knowledge to the development of practical skills, together with the introduction of advanced pedagogical and digital technologies, as priority objectives [2].

In educational practice, however, the terms *modern method*, *pedagogical technology*, *interactive technique*, and *digital education* are sometimes used interchangeably. As a result, a digital platform or an isolated instructional technique may be treated as a teaching method, while the visible form of an activity may be prioritized over its didactic function. For example, group work does not in itself constitute collaborative learning; it acquires the characteristics of a pedagogical method only when it includes a shared goal, positive interdependence, individual accountability, and reflection.

The purpose of this study is to systematize the theoretical foundations of teaching methods in higher education institutions, clarify the distinctions among key concepts, and develop an integrated theoretical model for selecting teaching methods. The following questions guided the study: Which theoretical levels define the essence of a teaching method? How do method, technique, technology, and mode of instruction differ? What alignment criteria can be used to evaluate the effectiveness of a teaching method?

LITERATURE REVIEW

In didactics, a method is understood as a mode of interrelated activity through which instructors and students work toward an intended objective. This interpretation makes it possible to view a method not merely as a means of transmitting information but as a system for organizing students' cognitive activity. According to the theory of constructive alignment developed by Biggs and Tang [3], intended learning outcomes, teaching and learning activities, and assessment tasks should target the same level of cognitive performance.

A meta-analysis synthesizing 225 studies found that approaches that engage students in answering questions, solving problems, explaining ideas, and participating in discussions improve learning outcomes [4]. A subsequent meta-analysis showed that, when properly implemented, active learning can reduce achievement gaps affecting students from underrepresented groups [5]. However, the mere presence of activity does not necessarily lead to deep learning. Without appropriate scaffolding, clear instructions, and timely feedback, a complex task may impose excessive cognitive load [6; 7].

The scholarly debate on discovery learning likewise centers on the degree of instructional guidance. Mayer [6] demonstrates that guided discovery is more effective than pure, unguided discovery. Kirschner, Sweller, and Clark [7] argue that minimal guidance in a new domain fails to account for the limitations of working memory. Therefore, a modern teaching method does not remove the instructor from the learning process; rather, it changes the instructor's role from that of a primary source of information to that of a designer, diagnostician, and facilitator.

Digital environments expand the possibilities of teaching methods but do not invalidate their underlying theoretical principles. Rapanta et al. [8] associate instructors' cognitive, social, and facilitative presence in online university education with meaningful learning activities. The OECD conceptualizes digital education not as a collection of platforms but as an ecosystem integrating governance, infrastructure, content, pedagogical

capacity, and the use of evidence [9]. UNESCO likewise emphasizes that technology should support human-centered education rather than replace pedagogical relationships [10].

Generative artificial intelligence can rapidly produce explanations, examples, and adapted exercises; however, its outputs must be evaluated in terms of accuracy, authorship, privacy, and potential bias [11; 12]. From this perspective, artificial intelligence is not an independent didactic method. Rather, it is a tool that performs a specific function within problem-based, project-based, dialogic, or formative assessment approaches.

RESEARCH METHODOLOGY

The study employed an integrative literature review and comparative content analysis. An integrative review makes it possible to analyze different forms of evidence—including regulatory documents, foundational theoretical sources, meta-analyses, systematic reviews, and reports published by international organizations—within a common conceptual framework. Sources were selected according to their direct relevance to the topic, the verifiability of authorship and publication details, the availability of a DOI or stable URL, and the provision of evidence concerning the mechanisms or effectiveness of teaching methods.

The primary analytical corpus comprised 18 sources: two national regulatory documents, seven empirical or review articles, four publications by international organizations and professional bodies, three foundational works in didactics, and two contemporary studies on educational technology. The sources were coded according to the following categories: concept, theoretical foundation, student activity, instructor role, learning environment, assessment evidence, and implementation conditions. In preparing and linguistically refining the article, artificial intelligence tools were used to a limited extent, not exceeding 10 percent.

The analysis was conducted in three stages. First, the boundaries among the key concepts associated with teaching methods were established. Second, recurring theoretical ideas were grouped into philosophical-epistemological, psychological, didactic, and organizational levels. Third, the Outcome–Content–Activity–Environment–Evidence model for selecting teaching methods was developed. The study is conceptual in nature and does not claim that an experiment involving new participants was conducted.

ANALYSIS AND RESULTS

Conceptual Boundaries of Key Terms Related to Teaching Methods

The analysis demonstrated the need to distinguish among the concepts of method, technique, technology, tool, and mode of instruction. A method defines the general pathway of instructor–student activity directed toward achieving an intended objective. A technique is a specific operation used within a method, such as asking a question, making a comparison, providing an example, engaging in reflection, or eliciting peer feedback.

Pedagogical technology integrates objectives, stages, resources, monitoring procedures, and intended outcomes into a predesigned system. A tool is a material or digital resource that supports a particular activity. A mode of instruction refers to the external organization of the educational process, such as a lecture, seminar, practical class, independent study, or online session.

Table 1. Distinctions among the Main Didactic Concepts in Education

Concept	Guiding question	Example	Risk of incorrect equivalence
Method	Through what activity is the objective achieved?	Problem-based learning, case study, project work, explanation	Treating every engaging exercise as a separate method
Technique	Which specific operation is performed within the method?	Questioning, comparison, one-minute paper, reflection	Substituting a technique for the methodology of an entire course
Technology	Through which sequence and monitoring procedure is the process replicated?	Flipped-classroom technology, modular instruction	Considering a digital platform alone to be a pedagogical technology
Tool	What resource supports performance of the activity?	LMS, simulator, video, AI assistant	Equating the availability of a tool with educational quality
Mode	Where and in what organizational format does instruction take place?	Lecture, seminar, practical class, online session	Confusing the organizational mode with the didactic content of the method

Source: Compiled by the author on the basis of an analysis of sources [3; 6–10; 13].

The analysis presented in Table 1 indicates that one of the principal errors in educational modernization is treating a tool as a method or an organizational mode as a pedagogical technology. For example, the Moodle platform does not in itself create blended learning; it acquires methodological value only when it is linked to a clearly defined objective, learning activity, and assessment method.

Four Levels of the Theoretical Foundations of Teaching Methods

The first level is philosophical-epistemological and determines the nature of knowledge and the manner in which it is acquired. Under a reproductive approach, knowledge is transmitted as systematically organized content; under a constructivist approach, students construct new knowledge on the basis of prior experience and learning activities; under a pragmatic approach, knowledge is valued through problem-solving and its practical consequences. A higher education course should not be confined to any single one of these positions: systematic explanation is appropriate for foundational concepts, whereas active application is required for the development of complex competencies.

The second level is psychological and takes into account perception, working memory, long-term memory, motivation, and metacognition. Novice learners require examples, step-by-step guidance, and segmented practice; as their expertise develops, scaffolding should gradually be reduced and opportunities for independent problem-solving should be expanded. This approach resolves the false dichotomy between complete reliance on lecturing and complete learner independence and supports the principle of guided activity.

The third level is didactic and ensures the alignment of objectives, content, methods, and assessment. If a learning outcome states that a student “analyzes,” the student should decompose a real or simulated situation into its constituent parts, apply relevant criteria, and justify a conclusion. Merely listening to a lecture and completing a closed-ended test do not provide sufficient evidence that such an outcome has been achieved.

The fourth level is organizational-social and encompasses group size, time, instructor capacity, digital access, academic integrity, and inclusion. A method may be effective in a small seminar but may require redesign when applied to a large cohort. The Universal Design for Learning Guidelines recommend proactively reducing barriers to learning and providing multiple means of accessing content and demonstrating learning outcomes [13].

The Outcome–Content–Activity–Environment–Evidence Model

On the basis of the theoretical levels identified above, a five-component model is proposed. *Outcome* denotes the observable result that the student is expected to demonstrate; *content* comprises the concepts, principles, and practices required to achieve that outcome; *activity* refers to the cognitive and practical actions performed by the student; *environment* includes the classroom setting, digital tools, collaboration, and scaffolding; and *evidence* denotes the product or performance that demonstrates learning.

Table 2. Matrix for Selecting a Teaching Method Aligned with the Intended Learning Outcome

Intended learning outcome	Primary student activity	Aligned method	Evidence of learning
Explain and distinguish a concept	Compare; provide examples and counterexamples	Brief explanation, concept question, peer explanation	Reasoned response, concept map
Apply theory to a situation	Identify conditions; make a criterion-based decision	Case study, problem-based task, simulation	Decision and its evidence-based justification
Create a new solution or product	Plan, test, refine, and defend	Project- and research-based learning	Prototype, report, presentation, portfolio
Collaborate and communicate professionally	Assign roles, negotiate, conduct peer assessment	Collaborative learning, role play	Group product and individual reflection
Regulate one's own learning	Set goals, monitor progress, and reflect	Formative assessment, learning journal, adaptive practice	Evidence of progress and a plan for the next step

Source: Developed by the author on the basis of constructive alignment [3] and evidence on active learning [4-7].

The analysis presented in Table 2 shows that the starting point for selecting a teaching method is not the instructor's preferred technique but the intended learning outcome that students are expected to achieve. The combined use of explanation, problem-based tasks, projects, and formative assessment within a single course

is not theoretically contradictory. Methodological coherence emerges when these approaches serve different learning outcomes and are integrated into a unified and logically structured learning process.

The findings indicate that a strict distinction between “traditional” and “modern” teaching methods is not scientifically adequate. A lecture can be effective for presenting a foundational model, explaining a concept, or making expert thinking visible; its limitations arise when students remain passive listeners. Conversely, an active method is not inherently effective. If the task is not aligned with the intended learning outcome, instructional guidance is insufficient, or feedback is absent, observable activity may not develop into deep learning.

Deslauriers et al. [14] found that students may learn more in an active class while feeling that they have learned less. This finding highlights the need to explain the purpose of a teaching method in advance, calibrate the level of difficulty, and make evidence of progress visible to students. Students’ psychological responses to a teaching method are therefore an integral component of course design.

The findings concerning digital technology and artificial intelligence also confirm the primacy of theoretical alignment. An AI tool may support idea generation or provide rapid feedback, but it cannot replace students’ responsibility to verify evidence, engage critically with sources, and assume authorship of their work [11; 12]. Institutional policies on the use of AI in higher education should therefore extend beyond simple prohibition or permission and should establish the purposes of use, disclosure requirements, verification procedures, and assessment criteria.

The scientific contribution of the proposed model lies in its interpretation of a teaching method as an alignment among five components. The model evaluates methods not by their labels but by the nature of student activity and the evidence of learning they produce. It positions the digital environment as a condition that supports learning activity rather than as an end in itself and links methodological decisions to educational quality monitoring. Accordingly, the model can serve as a practical diagnostic instrument for syllabus review, classroom observation analysis, and the professional development of academic staff.

The study is limited by its conceptual and review-based nature. The effectiveness of the model should be tested empirically across specific disciplines, class sizes, and learning environments. Future mixed-methods research should combine students’ initial and final learning products, rubric-based assessment results, student reflections, and instructor observations.

CONCLUSION AND SUGGESTIONS

The theoretical foundation of a teaching method consists of the interrelationship among philosophical views on how knowledge is acquired, psychological principles concerning students’ cognitive capacities, the didactic principle of alignment among objectives, activities, and assessment, and the organizational conditions required for implementation. Therefore, interpreting a method solely as an instructor’s mode of presentation or as an isolated classroom technique narrows its scientific meaning.

The study demonstrates that the modernity of a teaching method is determined not by its name or by the use of a digital tool, but by the alignment among learning outcomes, content, student activities, the learning environment, and evidence of learning. Explanation and active learning, individual and collaborative work, and classroom-based and digital learning environments are not mutually exclusive; rather, they should be progressively integrated according to students’ prior preparation and the intended learning outcomes.

The first practical recommendation is to incorporate an Outcome–Content–Activity–Environment–Evidence map into every course syllabus. This map should be used to verify that each learning outcome is supported by an aligned learning task and appropriate assessment evidence.

The second practical recommendation is to shift faculty professional development from short seminars that merely introduce the names of teaching methods to course-design workshops. In such workshops, instructors should develop an authentic task, an assessment rubric, and a feedback cycle for their own courses.

The third practical recommendation is to extend educational quality monitoring beyond the number of platform logins or the volume of topics covered to include students’ evidence-based responses, authentic products, patterns of error correction, and reflective activities.

The fourth practical recommendation is to conduct an expert review of the pedagogical value, accessibility, implications for academic integrity, and data security of digital and artificial intelligence tools before introducing them into the educational process. A tool should be adopted only when it creates demonstrable added value for learning activities.

The fifth practical recommendation is to test methodological innovations in small pilot courses, refine them on the basis of students’ learning products and feedback, and subsequently scale them across other disciplines. This evidence-informed approach enables higher education institutions to move from arbitrary changes in teaching methods to the systematic management of educational quality.

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