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THE USE OF MODERN SCIENTIFIC RESEARCH TRENDS IN PEDAGOGICAL SCIENCE

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Abstract: This article examines various perspectives and contradictions concerning pedagogy and its scientific research methods. It discusses the emergence of pedagogy as an independent science, as well as its development as a branch of philosophy focused on the upbringing and education of the younger generation.
Keywords: skills, qualifications, research, implementation, discussion, didactics, epic, legend, folk proverbs, educational progress.

What is pedagogy? What are you doing? A person who has just begun studying pedagogy is preoccupied with the question of what needs to be studied. In pedagogy classes and pedagogical encyclopedias, the definition and discussion of pedagogy vary and, in some cases, are interpreted at different levels. For instance, pedagogy is the science of upbringing; pedagogy is the science of educating the younger generation; pedagogy is the science of holistic human education, and so forth. Without departing from these definitions, it is appropriate to consider the educational activities carried out in educational institutions by the individuals responsible for them as a pedagogical process. Pedagogy, as the science of upbringing, entails comprehending the essence of education, revealing its underlying laws, and thereby influencing the educational process in the interest of the individual.

Education originated at the very dawn of human society and has served the interests of humanity. Education ensures continuity between generations. Adults transferred the life experiences they accumulated to the succeeding generation. Throughout its historical evolution, humanity has traversed various social stages and traveled a long path.

As social formations changed, labor relations and relations of production developed. This directly influenced the improvement of the educational process. With the development of society and the advancement of labor tools, the scope of experience passed on to future generations has grown steadily. While at the dawn of primitive society children acquired skills, competencies, and knowledge through direct participation in the labor process of adults, later, as a result of the differentiation of primitive social structures, types of labor also transformed. A need arose to instruct certain children (the children of those who conducted religious rites for tribal chiefs) in religious beliefs. Thus, the tradition of differentiating knowledge emerged in the most primitive society.

By the era of slave-owning society, this tradition became distinctly pronounced. For example, children of slaves were trained to perform heavy physical labor, whereas slaveholders' children were prepared to rule over slaves. This necessitated instruction, which in turn required the involvement of people who possessed specialized knowledge of teaching. Consequently, this generated the need for schools and teachers. The further development of social formations led to the expansion of schools and the emergence of new educational institutions that met the demands of social progress.

The establishment of pedagogy as a science is linked to the necessity of preparing the younger generation for life and implementing their upbringing effectively. Once educational experience accumulated, this necessity required generalizing such experience and elaborating rules for educating youth. First and foremost, the theoretical rudiments of pedagogy emerged on the foundation of philosophy. In slave-owning societies, certain philosophical ideas had already begun to take shape. Since ancient times, ideas about human upbringing have been reflected in folk proverbs, legends, and epics, extolling virtues such as honesty and respect for parents. Epics and tales such as "Alpomish" and "Tomiris" celebrate sentiments of patriotism, kindness, and compassion. Matters of education and upbringing have perpetually occupied the minds of thinkers, writers, and scholars. By profoundly understanding children's nature and nurturing them into well-rounded individuals, these thinkers contributed to the advancement of pedagogical ideas.

Great philosophers such as Socrates, Plato, and Democritus created complex philosophical systems. The Czech educator and scholar Jan Amos Comenius made monumental contributions to the establishment of pedagogy as an independent science. His work "The Great Didactic" is rightfully considered the first foundational scientific work in the field of pedagogy. Numerous sources enrich and advance the content of pedagogical science. Proverbs, fairy tales, epics, songs, rituals, and riddles embody the wisdom of folk education. Scholarly perspectives on pedagogical theory are productively utilized in science, while pedagogical science continues to be enriched with new ideas. In pedagogy, the term "education" is applied in various contexts. For example, in a broad social sense, when education is considered as a social phenomenon, it encompasses the activities of all educational instruments in society: the family, preschool organizations, educational institutions, trade unions, and educational information resources.

Contemporary pedagogy is a multidisciplinary science closely linked to the history of pedagogy, primarily from the perspective that education is a social phenomenon. Special pedagogy (surdopedagogy, typhlopedagogy, oligophrenopedagogy) is closely intertwined with defectology. In this sense, a purposeful process directed under the teacher's guidance is understood. Education is a collaborative activity of the teacher and the learner, through which children acquire knowledge, develop skills and competencies, and undergo moral and intellectual growth. Information refers not only to the reception of knowledge, but also to self-directed learning, media influence, assimilation of scientific systems, and the formation of a scientific worldview. Human maturity represents the broad process of becoming a personality under the influence of internal and external factors, in which education plays a pivotal role.

Personality formation is a distinct mode of human development throughout life, emerging as the outcome of purposeful educational influences. Within pedagogy, there are several other concepts addressed during the study of its various subfields. Rapid advancements in science and technology alongside knowledge expansion across diverse disciplines lead to the differentiation of science and its division into specialized branches. In pedagogy, having branched out from philosophy relatively recently, this process of extensive branch specialization is particularly prominent.

Since the object of pedagogy within education is the younger generation, pedagogy is inherently linked with the humanities. Philosophy forms the methodological foundation of pedagogical science, as the goal of education is to cultivate a scientific worldview, address collective and individual dilemmas, and more. Economics, especially the economics of public education, is likewise connected with pedagogy.

Every science possesses its own scientific research methods, through which it enriches and updates its content. In life and in the theory of cognition of the objective world, the interrelated

questions of what to teach, how to teach, and whom and how to educate are fundamental. In order to enrich and modernize its content, pedagogy investigates existing pedagogical phenomena and processes using methods aligned with its goals and objectives. The more refined, rational, and accurately chosen these scientific research methods are, the more the content of education and upbringing will be improved, thereby enriching pedagogical science. Pedagogical research methods represent specialized modes of investigating and understanding the internal essence, interrelations, and regularities of the pedagogical process—determining the principles, objective conditions, and subjective factors involved in educating an individual and imparting profound, comprehensive scientific knowledge in specific areas. Under contemporary conditions, the following methods are employed when conducting research in pedagogy:

1. Pedagogical observation method.
2. Conversation (dialogue) method.
3. Questionnaire (survey) method.
4. Interview method.
5. Educational institution documentation analysis method.
6. Testing method.
7. Pedagogical analysis method.
8. Study of children's creative work method.
9. Pedagogical experiment method.
10. Mathematical and statistical method.

Pedagogical observation method. Through its application, the state of the investigated problem is determined based on studying the instructional and educational activities of educational institutions, providing data regarding differences between indicators recorded at the beginning and conclusion of the experiment. Pedagogical observation has complex and distinct characteristics. When observation is purposeful, continuous, consistent, and systematic, the expected outcomes can be achieved. If the conducted pedagogical observation serves to enhance the quality of education and foster the student's personality, the significance of this method increases further. It is essential to avoid errors when organizing pedagogical observation.

For this purpose, the researcher is required to:

1. have a clear objective during the observation process;
2. conduct observation systematically;
3. resolve specific tasks at each stage of observation;
4. thoroughly examine the essence of every situation;
5. avoid rushing to draw conclusions.

Conversation method. This method helps enrich data gathered during pedagogical observation, properly assess current situations, establish pedagogical conditions that facilitate problem solving, and engage the capabilities of experimental subjects in resolving the problem. As appropriate, conversations may be conducted in individual, group, or mass formats. During the conversation, it is crucial to ensure that respondents' perspectives and capacities are fully expressed.

Questionnaire method (from the French for "investigation/inquiry"). This method enriches the factual evidence gathered during pedagogical observation and conversations. The questionnaire method is based on structured communication with respondents via formulated questions. In most instances, responses to questionnaire items are obtained in written form. Based on the nature of the studied process, questionnaire questions are categorized as follows:

1. open-ended questions (questions allowing respondents to answer freely and in detail);

2. closed-ended questions (questions where respondents answer by selecting from provided options such as "yes", "no", "partially", or "positive", "satisfactory", "negative", etc.).

Interview method. This method enables the respondent to articulate their stance toward phenomena highlighting particular facets of the investigated problem. The interview is conducted by presenting a series of questions to the respondent. Feedback and interaction provided by the researcher regarding responses obtained during the interview enhance its overall efficacy.

Analysis of educational institution documents method. To examine pedagogical phenomena and evidence, reviewing documentation reflecting the core operational activities of educational institutions is highly advisable. This method is utilized to investigate the implementation of the requirements of the Law of the Republic of Uzbekistan "On Education" and the "National Program for Personnel Training" in institutional practice, measure activity levels, identify achievements and deficiencies, disseminate advanced pedagogical practices, and improve institutional educational experience. Documents reflecting the essence of institutional activities include: class schedules, syllabi and curricula, group (or class) grade journals, student personal files, administrative orders, minutes books of Pedagogical Council meetings, Pedagogical Council decisions, institutional budget estimates and passport, moral education plans, reports on academic and educational organization, equipment inventory registries (desks, tables, chairs, upholstered furniture, etc.), and so forth.

Testing method. This method serves to determine the level of theoretical knowledge and practical skills and competencies acquired by respondents in a particular scientific discipline or sphere of activity (including professional activity). When utilizing the testing method, it is expedient to ensure that the assessed knowledge, skills, and competencies are structured systematically. The primary advantages of this method include the capacity to analyze respondents' answers according to strict criteria and time efficiency. However, the method is not without limitations. Specifically, responses are typically gathered in written or multiple-choice formats where respondents must select one of the predetermined answer choices. Consequently, respondents lack the opportunity to articulate their perspectives in depth.

Pedagogical analysis method. In conducting research, the objective of utilizing this method is to determine the extent to which the selected problem has been examined from philosophical, psychological, and pedagogical perspectives, thereby serving to theoretically substantiate the validity of the ideas posited by the researcher.

Study of children's creative work method. This method is utilized to identify students' aptitudes and abilities in specific areas, as well as their levels of knowledge, skills, and competencies in particular subject areas. In its application, students' creative work—diaries, essays, written compositions, term papers, and reports—serves as essential empirical material. The advantage of this method lies in its capacity to identify, assess, and establish a foundation for developing the individual potential unique to a specific student.

In conclusion, pedagogical research methods elevate the efficacy of an educator's pedagogical activity by enhancing the precision of research objectives aimed at professional improvement and by thoroughly taking into account the age-specific traits of students and the fundamental regularities of child psychology.

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