

THE IMPORTANCE OF RESOURCES IN THE ORGANIZATION OF PEDAGOGICAL EDUCATION

Ph.D. Gulshan Mehdizadeh Kamal gizi

Baku, Azerbaijan State Pedagogical University

Department of Education

Researcher at the Scientific Research Center

ORCID ID: <https://orcid.org/0009-0001-9363-0057>

mehdizade.gulshen@mail.ru

ABSTRACT

The organization of pedagogical education increasingly depends on the availability, quality, and accessibility of educational resources. As educational systems navigate the demands of globalization, digital transformation, and inclusive learning, resources—traditional, digital, and open—play a decisive role in shaping teaching practices, learning outcomes, and professional development. This article examines the conceptual foundations of educational resources, their typology, and their pedagogical significance. It further integrates established educational theories, including constructivism, behaviorism, socio-cultural learning, and open pedagogy, to contextualize the role of resources in modern pedagogical education.

Introduction

Educational systems today face growing expectations: fostering competitive human capital, promoting cultural and social development, and ensuring equal educational opportunities. As noted by Mehdizade Gulshan Kamal gizi (2025), the socio-economic demands of contemporary society place substantial responsibility on educators and institutions. Education, as both a process and an outcome, involves the structured acquisition of knowledge, skills, and values. The Law on Education of the Republic of Azerbaijan defines education as “the process and outcome of the systematic acquisition of knowledge, skills, and habits.”

Historically, thinkers such as Max von Laue and Confucius emphasized that education extends beyond memorization to reflection, understanding, and creation. These perspectives align with modern theories of learning, which highlight the role of resources in enabling meaningful learning experiences.

Theoretical Foundations

Constructivism

Constructivist theory (Piaget, 1952; Vygotsky, 1978) posits that learners build knowledge through active engagement. Educational resources—particularly interactive and digital tools—create environments where students explore, question, and construct meaning.

Behaviorism

Behaviorist principles (Skinner, 1953) emphasize reinforcement and structured stimuli. Traditional textbooks, guided practice sheets, and assessment tools align with this theory, offering predictable frameworks that support mastery learning.

Cognitivism

Cognitivist theorists (Bruner, 1960; Ausubel, 1968) argue that learning involves internal mental processes. Digital resources such as simulations, concept maps, and multimedia content enhance cognitive processing and support deeper understanding.

Socio-Cultural Theory

Vygotsky’s (1978) socio-cultural theory highlights the importance of interaction, collaboration, and cultural tools. Educational resources—particularly those enabling group work and collaborative learning—provide scaffolding within the learner’s Zone of Proximal Development (ZPD).

Open Pedagogy and OER

Open pedagogy (Wiley & Hilton, 2018; DeRosa & Jhangiani, 2017) emphasizes learner agency, collaboration, and the use of open educational resources (OER). OER support inclusivity by removing economic barriers and allowing teachers to adapt materials to learner needs.

Types of Educational Resources

1. Traditional Educational Resources

These include printed textbooks, laboratory materials, teacher-prepared notes, and physical models. Despite technological advancements, they remain essential, especially in contexts with limited internet access. Traditional resources support structured learning and assessment through quizzes, essays, and examinations.

2. Digital Educational Resources

Digital resources include e-textbooks, learning management systems, video lectures, podcasts, interactive simulations, and educational software. They promote flexibility, enabling learners to study at their own pace and access materials anytime. Multimedia content enhances engagement and accommodates different learning styles.

3. Open Educational Resources (OER)

OER are freely accessible materials that can be adapted and redistributed. They support equitable access to quality education, reduce financial burden, and promote academic collaboration. Teachers can tailor OER to class needs, enhancing curriculum relevance.

Benefits of Educational Resources for Learners

Accessibility and Flexibility

Digital resources offer 24/7 access and support self-paced learning—beneficial for working students or those with additional responsibilities.

Personalized Learning

Adaptive technologies modify content difficulty based on learner performance. Students can choose formats (text, video, audio) according to their preferences.

Cost and Time Efficiency

Free or low-cost digital materials reduce financial barriers. Online study eliminates travel time and allows greater flexibility.

Variety of Formats and Modalities

Resources such as videos, simulations, readings, and interactive tasks accommodate multiple learning styles and reinforce understanding through multimodal input.

Pedagogical Approaches Supported by Educational Resources

Active Learning

Resources such as simulations, collaborative documents, and interactive exercises promote active engagement, critical thinking, and problem-solving.

Collaborative Learning

Tools for group discussion, peer review, and joint projects support cooperative learning, enhancing communication and teamwork skills.

Authentic and Alternative Assessment

Digital portfolios, project-based assessments, reflective journals, and case studies offer more authentic evaluations than traditional tests and measure real-world application.

Artificial Intelligence in Education

AI-driven tools personalize learning paths, automate assessment, and provide adaptive feedback—expanding possibilities for individualized learning.

Educational Resources in Azerbaijan's Pedagogical Education

The Ministry of Science and Education of Azerbaijan provides resources such as electronic textbooks, video lessons, e-tests, and mind-training platforms. Furthermore, the Azerbaijan Institute of Education focuses on developing competency-based curricula, inclusive learning methodologies, and innovative teaching resources to improve instructional quality.

At ADPU, pedagogical success is strengthened by resource availability, including digital platforms, laboratories, methodical materials, and professional development tools.

Conclusion

Resources constitute the backbone of pedagogical education. As learning becomes increasingly digital and learner-centered, the availability of diverse, high-quality resources becomes essential. Integrating traditional, digital, and open resources—supported by contemporary pedagogical theories—enhances teaching effectiveness, supports inclusive education, and prepares future educators to thrive in complex educational environments.

APPLICATION

In general education institutions in Azerbaijan, classroom monitoring is conducted in accordance with the standards defined by the national curriculum. However, within the existing monitoring mechanisms, the systematic and structured evaluation of instructional resource use as an independent indicator has not yet become a widespread practice. This suggests that current evaluation approaches are primarily oriented toward the overall course of the instructional process, while methodical frameworks required for the analytical assessment of how resource utilization affects instructional quality are still in the process of formation.

Official information regarding the scientific activities of the Department of Primary Education Pedagogy at the Azerbaijan State Pedagogical University underscores the substantial contributions of prominent Azerbaijani scholars—academician Mehdi Mehdizadeh, Professor Serdar Guliyev, and Professor Farrux Rustamov—to the development of didactic innovations, the improvement of instructional resource use, and the establishment of a methodological scientific foundation in the field of primary education. This evidence demonstrates that a strong theoretical basis for the scientific–methodological development of primary education already exists in the country. (learningmole.com) [learningmole.com]

Nevertheless, the adaptation of internationally applied structured observation frameworks—such as *Teach Primary*—to the national context may create new opportunities for objectively assessing resource use during lessons and conducting comparative analyses. The localization of such frameworks would allow for more precise identification of quality indicators related to resource application and support evidence-based decision-making aimed at strengthening teacher performance. [ibtidai.adpu.edu.az]

The provision of educational resources at ASPU is successfully continuing, paving the way for the establishment of a professional educational environment.

Speaking about the construction of national education in independent Azerbaijan, the great leader Heydar Aliyev said, "One of the blessings that state independence has bestowed upon our people is that we are building our education system in accordance with the history, morality, and traditions of our people and nation. Frankly, this process is a very complex one. It will not be completed quickly. Today, addressing all citizens, teachers, and administrators of educational institutions working in the field of education, I ask that an initiative based on the principles of independent Azerbaijan be established in the education system as soon as possible..." (Ahmadov, K. (2021, June 25)

The following statements are included in the “International State Program of the Higher Education System of the Republic of Azerbaijan for 2019-2023”, approved by the Decree of the President of the Republic of Azerbaijan, Mr. Ilham Aliyev, dated November 16, 2018: “In order to train competitive specialists in accordance with the new economic challenges of globalization and to ensure the sustainable and sustainable development of human capital, the improvement of higher education in our country in the light of international experience is of particular importance” (International State Program of the Higher Education System of the Republic of Azerbaijan for 2019-2023).

This importance also applies to the training of highly qualified teaching staff. Teacher training remains a fundamental challenge in our republic's education system. As in all areas of education, it is necessary to improve the level of teacher training at the higher education level and adapt it to the demands and needs of an innovative society. In the modern era, the primary goal of higher pedagogical education in our republic is to train highly qualified pedagogical personnel who possess pedagogical professionalism and competence, knowledge, and skills that meet the criteria of the times. The implementation of innovations in this process is a demand of the times. The preparation and implementation of resources on a particular subject, through the teacher's facilitation and management, increases the importance of visibility. (Ahmadov Khomeir. 2021, June 25)

When it comes to implementing innovations in education, the primary goal is to improve teacher training. In this context, various seminars and projects on the implementation of new learning technologies are being conducted within the scope of educational reforms. Indeed, the pilot project of the Scientific Research Center of the Azerbaijan State University of Education, titled "Conducting methodological research on new content education based on the application of modern learning technologies and international experience, presenting

recommendations based on the results and implementing them," was approved on April 2, 2021, with the approval of the Rector of the Azerbaijan State University of Education, Professor Jafarov J.M. and the Vice Rector for Science and Innovations, Professor Zamanov A.D. to organize a mentoring service to provide methodological guidance and recommendations to teachers to enhance the initial professional knowledge and skills acquired during their education in higher education institutions.

The project is being implemented in a series of faculties of Azerbaijan State Pedagogical University. With the approval of the Ministry of Education of the Republic of Azerbaijan, it was implemented in the Faculty of History and Geography in 2021, and in the Faculty of Philology in 2022. It was implemented in the Faculties of Primary Education and Chemistry and Biology of Azerbaijan State Pedagogical University in 2023, and in the Faculties of Preschool Education and Art and Physical Education of Azerbaijan State Pedagogical University in 2024. Within the scope of the project currently being carried out at the Guba Branch of Azerbaijan State Pedagogical University in 2025, surveys based on descriptive experimental method were applied to teachers and students of the faculty, and training was organized for teachers in line with the "Implementation of Research-Based Content as a Result of Mentoring Activities" within the scope of the project "Application of Modern Educational Technologies and International Experience in New Content Education at Azerbaijan State Pedagogical University".

During the training, the aims and objectives of modern education were analyzed using a verification and educational experiment method, and teachers ultimately prepared sample lesson summaries. The aim was to determine how university teachers use teaching methods and learning resources to transcend traditional classroom teaching boundaries and create an innovative learning environment.

To determine the current state of education, the following survey was conducted with teachers using a descriptive experiment method:

The survey consisted of 12 questions. Teachers responded to the survey questions as follows: On March 2, 2025, a survey was conducted with teachers working in the Department of Science and Technology at the Guba Branch of the Azerbaijan State University of Applied Sciences. Thirteen teachers participated in the survey. One of these teachers was an associate professor, four were senior teachers, and eight were teachers. Furthermore, the formation of the pedagogical process depends on the proper establishment of the teacher-student relationship.

To ensure this process, a diagnostic survey was conducted in parallel with second-year students at the Guba Branch of the Azerbaijan State University of Political Science and Technology as part of the same project. Based on the survey analysis, the following recommendations and conclusions were drawn:

Approximately 1,000 students are enrolled at the educational institution. Of these, 268 are second-year students, and 181 (68%) participated in the survey.

What skills do you acquire during your coursework? Their responses paint a clear picture: Communication; we learn new information; we learn past knowledge at a higher level; our communication skills are further developed; how a real teacher should teach; divergent thinking; critical and creative thinking; the ability to work with books in literature; and I'm acquiring pedagogical skills. I'm learning how and what to pass the course; I'm acquiring various knowledge and skills; there are countless others; reading; ICT skills; I'm learning things I didn't know; my analysis, synthesis, and presentation skills are developing; they emphasized that they've acquired the ability to conduct research and express their ideas more clearly and freely.

CONCLUSION

According to the survey results, it can be said that the teacher competencies of students at the Guba branch of the Azerbaijan State University of Applied Sciences are developed during the pedagogical personnel training process.

Note:

Responses to some questions about improving teaching quality clearly indicate that teacher-student relationships are not being properly established during the evaluation. In their suggestions and recommendations, students emphasized their desire to make the teaching process more active, practical, and engaging (using modern teaching methods). Many teachers still teach using traditional methods, which diminishes student interest in the course. Students stated that they struggle in Political Science, Pedagogy, Psychology, Media Language, and History courses. It would be appropriate to create opportunities for additional counseling sessions to assist students who struggle to understand the material.

Recommendations

1. If student suggestions based on survey responses are taken into account, this will have a positive impact on the quality of education.

2. Establishing clubs within the university to highlight the talents of gifted students will allow students to effectively utilize their free time.
3. Using active learning technologies in courses will pave the way for improved professional staff development efforts.

From the survey analysis, it can be concluded that tolerance is one of the key factors in the pedagogical process. Establishing a sound pedagogical-psychological relationship between teacher and student is a key factor in achieving the intended goal.

The globalization process requires adapting people's thinking to new realities and training a new generation of personnel capable of analyzing large-scale information and making operational decisions. In this context, the higher education system plays a special role. Therefore, education policy should be structured to cultivate creatively thinking specialists capable of navigating the rapidly increasing innovation processes in information technology, technology, and culture. (Ahmedov, H. 2021)

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