



PEDAGOGICAL CONDITIONS FOR DEVELOPING THE PROFESSIONAL AND PRACTICAL TRAINING OF TECHNICAL SCHOOL STUDENTS IN THE CONTEXT OF DUAL EDUCATION

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Abstract: *This article examines the development of professional and practical training among technical school students in the context of dual education in vocational education institutions. It substantiates the cooperation between two learning environments, namely the educational institution and the enterprise, as well as practical assignments, workplace mentoring, monitoring, and assessment continuity as key pedagogical conditions. The author concludes that the effectiveness of dual education depends on the purposeful involvement of students in real professional activities and on the assessment of learning outcomes according to clear criteria.*

Keywords: *dual education, vocational education, technical school, professional and practical training, employer, workplace mentoring, practical assignment, monitoring, assessment.*

INTRODUCTION

One of the most important tasks facing the modern vocational education system is to train specialists who meet labour market needs, can work independently in real production conditions, demonstrate professional responsibility, and possess practical skills. Today, the renewal of production processes, the rapid transformation of occupational content, and the growing demand for mid-level personnel require stronger links between theory and practice in vocational education. In this regard, dual education appears as an important pedagogical direction that enables students to be trained not only in the classroom, but also in direct connection with a real working environment.

The Law of the Republic of Uzbekistan “On Education” defines dual education as one of the forms of education. It states that the theoretical part of education is carried out in an educational organization, while the practical part is implemented at the student’s workplace [1]. Regulatory documents governing the vocational education system also set the tasks of strengthening cooperation among the educational institution, the enterprise, and the student through dual education, as well as linking professional and practical training with the real work process [2; 3]. This creates the need to study dual education in vocational education not merely as an organizational form, but as a pedagogical process that ensures students’ professional development.

The effectiveness of dual education is not automatically ensured by sending a student to an enterprise, signing a contract, or completing an internship. On the contrary, the enterprise environment must become an educational environment for the student; the responsibilities of the workplace mentor must be clarified; practical assignments must be linked with learning outcomes; and professional and practical results must be systematically monitored. Therefore, the purpose of this article is to provide a scientific and pedagogical justification for the pedagogical conditions that contribute to the development of professional and practical training among technical school students in the context of dual education.

ANALYSIS OF PEDAGOGICAL CONDITIONS

The pedagogical content of dual education is not limited to a simple alternation between two environments. Its main essence lies in the integration of theoretical knowledge and professional concepts acquired in an educational institution with real activity in production. When a student gains professional knowledge, understanding, and general preparation at a technical school, this knowledge is tested at the enterprise through practical actions, labour discipline, professional responsibility, and the performance of real tasks. For this reason, dual education is viewed in vocational education as a pedagogical factor that reduces the gap between theory

and practice, strengthens students' professional socialization, and brings employer requirements closer to educational content.

S. Billett links vocational learning with active participation in the workplace, gaining experience, understanding the professional environment, and socialization in the labour process [5]. This approach shows that, in dual education, the enterprise should not be merely a place for internship, but an environment that influences the professional development of the student's personality. However, the workplace does not become an effective educational space by itself. For this purpose, the student's activity must be directed toward a predetermined goal, assignments must be linked with professional standards and learning outcomes, and the mentor's activity must acquire pedagogical meaning.

There are also certain pedagogical contradictions in the implementation of dual education in vocational education. Although regulatory foundations have been created, cooperation in practice sometimes remains formal. If the curriculum and real tasks at the enterprise are not sufficiently connected, the student may perform random work. If the pedagogical responsibilities of the workplace mentor are not defined, the student's activity may be limited to observation or auxiliary labour. If assessment criteria are not unified, it becomes difficult to determine the level of professional and practical training objectively.

From the point of view of vocational pedagogy, a student's professional formation takes place through the unity of knowledge, skills, competences, labour culture, and professional responsibility. N.A. Muslimov, Z. Rakhimov, and A. Khojayev identify the connection between educational content and practical activity as an important factor in vocational pedagogy [8]. A. Khodjaboev and I. Husanov also emphasize the continuity among production training, practical activity, and pedagogical management in the methodology of vocational education [9]. These views confirm the need for clearly defined pedagogical conditions in dual education.

Based on the content of the study, the following pedagogical conditions can be considered of primary importance in developing professional and practical training among technical school students in the context of dual education: organizational and institutional coherence; content and didactic integration; meaningful cooperation between the educational institution and the employer; pedagogical and methodological support for workplace mentoring; a real practical training environment; and continuity of monitoring and assessment. These conditions distinguish dual education from a formal internship and turn it into a managed pedagogical process that serves students' professional and practical development.

Table

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Pedagogical conditions for developing professional and practical training in dual education

Pedagogical condition	Content	Practical manifestation	Expected result
Organizational and institutional coherence	Clear definition of the duties of the technical school, enterprise, student, and mentor.	Agreement on a cooperation contract, work schedule, responsible persons, and safety requirements.	The process becomes orderly, responsible, and controllable.
Content and didactic integration	Connection of educational content with professional standards, employer requirements, and real labour tasks.	Enriching module topics with practical assignments, production situations, and professional problems.	Theoretical knowledge turns into practical skills.
Meaningful cooperation with the employer	Active participation of the enterprise as a partner in the educational process.	Employer feedback, practical tasks, enterprise requirements, and participation in final assessment.	Graduate preparation becomes closer to labour market requirements.
Workplace mentoring	Participation of the mentor not only as a person who involves the student in work, but also as a subject who guides professional development.	Instruction, observation, consultation, correction of mistakes, and formation of labour culture.	Responsibility, discipline, and independent work skills develop in the student.

Pedagogical condition	Content	Practical manifestation	Expected result
Continuity of monitoring and assessment	Observation of the student's activity during the process and assessment of results according to clear criteria.	Internship diary, portfolio, employer assessment, demonstration assignment, and reference letter.	The level of professional and practical training is determined objectively.

As can be seen from the table, the development of professional and practical training in dual education relies not on a single separate factor, but on a set of interrelated conditions. If cooperation is organizationally established, but educational content is not connected with production tasks, the effectiveness of dual education is limited. Conversely, if practical assignments exist, but the pedagogical responsibilities of the workplace mentor are not defined, the developmental aspect of the student's activity weakens. Thus, each condition in dual education complements the others and serves the overall result.

Content and didactic integration is of particular importance in dual education. When theoretical topics taught at the technical school are linked with real tasks at the enterprise, the student perceives knowledge not as ready-made information, but as a tool to be applied in practical activity. A professional norm, a safety rule, or a work sequence learned in the classroom is reinforced through a task performed at the enterprise. This process ensures the transformation of knowledge into practical skills.

Workplace mentoring is one of the most sensitive aspects of dual education, because a specialist at an enterprise may not always have pedagogical training. Therefore, the mentor's responsibility should not be limited to demonstrating work. It should also include pedagogical actions such as explaining the content of the task to the student, directing the student toward independent performance, forming safety and labour culture, and providing feedback on completed work. Such an approach strengthens the student's professional responsibility, ability to analyse his or her own activity, and adaptation to the production environment.

In assessing professional and practical training, it is not sufficient to consider only the final result. The process of completing an assignment, entries in the internship diary, portfolio materials, employer feedback, labour discipline, independent decision-making, and the quality of performance in a demonstration assignment should be analysed together. The European Training Foundation emphasizes the need to analyse both process and outcome indicators in monitoring and evaluating work-based learning [7]. This view shows that assessment should be based on multiple sources when determining the quality of dual education in vocational education institutions.

R.K. Choriyeve substantiated the importance of practical activity, methodological support, and an approach focused on the performance of professional tasks in preparing specialists for professional activity on the basis of the dual system [10]. Based on these views, it can be stated that the pedagogical value of dual education becomes evident when the student actively participates in a real professional situation, feels responsibility for his or her actions, and can analyse the obtained result. Therefore, the mutual exchange of views among the technical school teacher, enterprise mentors, and the employer is important in developing professional and practical training.

Thus, when evaluating dual education, it is necessary not to be limited only to the number of students or the list of enterprises, but to pay attention to the content of cooperation, the quality of mentoring, practical assignments, and the clarity of assessment criteria.

CONCLUSION AND RECOMMENDATIONS

The development of professional and practical training among technical school students in the context of dual education is one of the important directions for improving the quality of vocational education. The analysis carried out in the article shows that the effectiveness of dual education depends on the meaningful integration of cooperation between two environments, the educational institution and the

enterprise. If this cooperation is enriched with a clear pedagogical goal, professional and practical assignments, mentoring, monitoring, and assessment, the student's real professional preparation develops.

First, dual education should not be limited to sending a student to an enterprise; rather, it should be organized as a planned pedagogical process that ensures the student's professional development. Second, educational content should be linked with employer requirements and real practical tasks. Third, workplace mentors should actively participate as partners who observe the student's activity, provide consultation, and form professional culture. Fourth, in assessing professional and practical training, it is advisable to use practical assignments, the portfolio, the internship diary, employer assessment, and demonstration assignments in an integrated manner.

The following recommendations can be proposed: to develop a list of practical assignments corresponding to educational content together with partner enterprises in vocational education institutions; to prepare brief methodological guidelines for workplace mentors; to regularly analyse students' internship diaries and portfolios; to use employer assessment as an important component of final assessment; and to establish a system of regular communication and feedback between technical school teachers and enterprise mentors. These recommendations will serve to organize professional and practical training among technical school students more effectively in the context of dual education.

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