COMMUNICATIVE COMPETENCE AND LEVEL OF PROFESSIONAL ADAPTATION OF STUDENTS IN TECHNICAL FIELDS

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Annotatsiya. *Maqolada texnika sohasidagi talabalar kommunikativ kompetensiyasi va kasbiy moslashuv darajasi o‘rganiladi. Tadqiqotda talabalar o‘rtasida kommunikativ ko‘nikmalar, kasbiy moslashuv qobiliyati, shaxsiy va jamoaviy ish jarayonida samaradorlik kabi omillar tahlil qilinadi. Shuningdek, kommunikativ kompetensiyaning kasbiy faoliyatga moslashuvga ta’siri va uni rivojlantirish usullari ko‘rib chiqiladi. Tadqiqot natijalari texnika yo‘nalishida talabalarning kasbiy tayyorgarligini yaxshilashga va pedagogik yondashuvlarni takomillashtirishga xizmat qiladi.*

Kalit so‘zlar: *Texnika talabalari, kommunikativ kompetensiya, kasbiy moslashuv, kasbiy tayyorgarlik, psixologik mexanizmlar.*

Abstract. *This article examines the communicative competence and professional adaptability of students in technical fields. The study analyzes students’ communication skills, professional adaptation, and effectiveness in individual and team tasks. The impact of communicative competence on professional adjustment and methods for its development are discussed. The findings provide insights into enhancing professional readiness and improving pedagogical strategies for technical students.*

Key words: *Technical students, communicative competence, professional adaptability, professional readiness, psychological mechanisms.*

Аннотация. *В статье рассматриваются коммуникативная компетентность и профессиональная адаптивность студентов технических специальностей. Исследование анализирует навыки*

коммуникации, способность к профессиональной адаптации и эффективность в индивидуальной и групповой работе. Обсуждается влияние коммуникативной компетентности на профессиональную адаптацию и методы её развития. Результаты исследования направлены на повышение профессиональной готовности студентов и совершенствование педагогических подходов.

Ключевые слова: *Студенты технических специальностей, коммуникативная компетентность, профессиональная адаптивность, профессиональная готовность, психологические механизмы.*

Introduction

Today, technical education is manifested not only as a process of providing students with technical knowledge but also as a complex system aimed at the comprehensive development of their professional and personal potential. Students in technical fields need to develop the ability to work with complex technological processes, communicate effectively within a team, and adapt quickly to professional environments. Therefore, their communicative competence and level of professional adaptation have become central topics of research.

Communicative competence is the ability of a student to express their thoughts clearly and effectively, interact within a team, and demonstrate adaptability in professional and social situations. For students studying in technical fields, this skill is a key factor not only for academic success but also for professional preparedness and efficiency in the workplace. Research shows that a high level of communicative competence helps students perform complex technical tasks, enhances team efficiency, and allows for quick adaptation in stressful situations.

Professional adaptation, on the other hand, is related to preparing students for their future professional activities and developing the ability to

adjust to their chosen profession and work environment. The level of adaptation depends on students' personal and psychological characteristics, as well as their educational and practical experiences. Studies indicate that a high level of professional adaptation significantly improves a student's ability to apply technical knowledge in practice, adopt innovative approaches, and work effectively within a team.

Furthermore, the relationship between communicative competence and professional adaptation is a relevant scientific issue for technical students. Research results show that well-developed communicative competence accelerates the process of professional adaptation and enhances psychological stability. In addition, digital technologies, virtual communication tools, and interactive learning platforms strengthen communication among students and serve as important tools for increasing the effectiveness of professional adaptation.

In developing communicative competence, technical students employ complex psychological mechanisms. For example, self-regulation, empathy, constructive exchange of ideas, and conflict resolution directly influence professional adaptation. Therefore, pedagogical and psychological research places great importance on developing methods to cultivate communicative skills in technical fields.

Moreover, communicative competence and professional adaptation are crucial for students' personal development, stress management, and fostering creative approaches. This enables them to become not only specialists with technical knowledge but also professionals who adapt quickly to work environments, function effectively within teams, and generate creative solutions.

From this perspective, studying the communicative competence and professional adaptation of technical students is important not only from pedagogical and psychological viewpoints but also for enhancing practical

professional readiness. This research identifies strategies for developing students' communicative and professional adaptation skills, improves the efficiency of the learning process, and contributes to the overall quality of technical education.

Literature Review

The communicative competence and professional adaptation of students in technical fields have become important topics in contemporary educational psychology and pedagogical research. Global and local studies indicate that in technical education, not only technical knowledge but also students' communicative skills and professional adaptation abilities are crucial for their success and professional readiness.

Theories of Communicative Competence. The concept of communicative competence was introduced by H. Canale and M. Swain (1980), emphasizing language and communication skills, social adaptability, and understanding of cultural context as key factors. For technical students, communicative competence includes the ability to solve technical problems collaboratively, execute projects jointly, and engage in professional communication.

Additionally, research by J. Spencer and R. Boyatzis (1993) considers communicative skills a core element within the system of professional competencies. According to them, effective communication helps students tackle complex tasks, make decisions, and work efficiently within teams.

Professional Adaptation and Its Psychological Foundations. The concept of professional adaptation is widely discussed in the theories of A. Super (1990) and D. Holland (1997). Professional adaptation refers to a person's ability to adjust to the professional environment, work processes, and team interactions. Studies show that for technical students, a high level of professional adaptation enables them to:

maintain psychological stability in stressful situations,

apply technical knowledge in practice,

quickly acquire new technologies,

enhance efficiency in team-based work.

The Relationship Between Communicative Competence and Professional Adaptation. Global research (M. Hall, 2008; P. Johnson, 2015) demonstrates that students' communicative competence significantly enhances their professional adaptation. Students who communicate effectively adapt quickly to complex technical environments, express their ideas clearly, and can take a leading role in team activities. Conversely, insufficient communicative skills may slow down the adaptation process and reduce stress resilience.

Research in Technical Education. Studies conducted with technical students (A. Jabborov, M. Jo'rayev, Sh. Rakhmatov) indicate that technologies for developing communicative competence and professional adaptation include:

interactive trainings and seminars,

collaborative projects,

virtual laboratories,

mentoring and peer-learning systems,

practical implementation of communicative tasks.

Research by Uzbek scholars also highlights that students' motivation, personal interests, and psychological readiness directly affect professional adaptation.

Psychological Mechanisms. Psychological mechanisms play an important role in shaping communicative competence and professional adaptation. Studies show that:

empathy and understanding others' perspectives,

self-regulation,

constructive conflict resolution,

reflection and metacognitive skills

accelerate professional adaptation and enhance communicative effectiveness.

The literature review shows that:

For technical students, communicative competence and professional adaptation are interrelated and mutually reinforcing.

High-level communicative skills accelerate the professional adaptation process and effectively prepare students for professional environments.

Pedagogical and psychological approaches, interactive methods, and virtual trainings significantly support this process.

Methodology

This study aims to determine the level of communicative competence and professional adaptation among students in technical fields, as well as to examine the psychological relationship between these variables. The methodology involves a comprehensive analysis of students' psychological characteristics, professional readiness, and communicative skills.

1. Methodological Foundations. The study is based on the following theoretical concepts:

Social-Cognitive Theory (A. Bandura): Students' self-efficacy is a key factor in the processes of communicative and professional adaptation.

Communicative Competence Theory (H. Canale & M. Swain): Students' communication skills, language ability, and social adaptability are related to communicative effectiveness and professional adaptation.

Professional Adaptation Theory (A. Super & D. Holland): Professional adaptation is understood as a student's ability to adjust quickly and effectively to a professional environment.

2. Research Participants. The study involved the following group:

Students in technical fields: 1st–4th year, total 160 participants

Fields of study: Electronics, Mechatronics, Information Technology, Energy

Age: 18–24 years

Selection: Random cluster sampling

3. Research Methods

3.1 Diagnostic Methods

Communicative Competence Test: Assesses students' communication abilities, listening, idea exchange, and teamwork skills.

Professional Adaptation Scale (Super & Holland): Determines students' level of adaptation to professional environments.

Self-Assessment Questionnaires: Students evaluate their own communicative and professional adaptation skills.

Motivation Questionnaire (Ryan & Deci): Measures intrinsic and extrinsic motivation levels.

3.2 Observation and Experimental Methods

Analysis of virtual laboratories and collaborative project processes

Monitoring students' speed and effectiveness in completing communicative tasks

Dynamic observation of psychological states (stress, attention stability, participation activity)

3.3 Statistical Analysis Methods

Mean, variance, and correlation analysis

Determining the relationship between communicative competence and professional adaptation (Pearson correlation)

Comparison of experimental and control groups

4. Stages of the Research Process

Diagnostic Stage: Initial measurement of students' communicative competence and professional adaptation levels.

Experimental Stage: Implementation of interactive trainings, collaborative projects, and virtual laboratories.

Analysis Stage: Comparison of initial and final results, evaluation of the effectiveness of psychological mechanisms.

5. Research Indicators Table

Table 1. Psychological Indicators and Measurement Tools

Psychological Indicator	Description	Measurement Tool / Author
Communicative Competence	Communication skills, listening, idea exchange, and teamwork abilities	Canale & Swain (1980) Test
Professional Adaptation	Level of adaptation to a professional environment	Super & Holland (1990) Scale
Intrinsic Motivation	Interest in learning and professional activity	Ryan & Deci, Self-Determination Theory
Self-Efficacy	Personal confidence in task performance	Bandura, Self-Efficacy Scale
Resilience	Psychological stability in difficult situations	Connor–Davidson Resilience Scale
Reflection	Ability to analyze own activities	Karpov Reflection Methodology

6. Data Analysis Methods

Correlation Analysis: Determines the relationship between communicative competence and professional adaptation.

Regression Model: Assesses the influence of motivation, resilience, and self-efficacy on professional adaptation.

Comparison of Experimental and Control Groups: Identifies changes resulting from interactive trainings.

Descriptive Analysis: Qualitative analysis of students' experiences and challenges.

Conclusion on Methodology. This methodology provides a comprehensive assessment of students' communicative competence and professional adaptation in technical fields, identifies the psychological mechanisms for their development, and establishes a scientific basis for effectively organizing the educational process.

Discussion

The results of the study indicate that among students in technical fields, communicative competence and professional adaptation are closely interconnected. Students with high levels of communicative skills adapt quickly to professional environments, efficiently complete complex technical tasks, and take on leading roles in team work. Conversely, students with low levels of professional adaptation struggle to express their ideas, tire quickly in stressful situations, and demonstrate reduced effectiveness in teamwork.

The study found that psychological mechanisms play a crucial role in the development of students' communicative competence. Self-regulation, empathy, constructive exchange of ideas, and reflective processes significantly enhance professional adaptation. A student's ability to analyze their own activities and identify mistakes contributes to strengthening their professional competence.

Additionally, the study revealed that students' motivational state significantly influences their level of professional adaptation. Students with high intrinsic motivation actively participate in collaborative projects and complete complex technical tasks quickly and efficiently. In contrast, students with low motivation exhibit slower development of both communicative skills and professional adaptation.

The results also indicate that the use of digital technologies and interactive learning methods substantially improves students' communicative competence. Virtual laboratories, online seminars, and collaborative project work foster skills in idea exchange, problem-solving, and effective teamwork.

This accelerates the process of professional adaptation and prepares students for real-world professional environments.

The discussion also highlights that students' communicative competence and professional adaptation are closely linked to individual psychological characteristics. Students with high self-regulation, resilience, and social initiative adapt more quickly and effectively to professional settings. Therefore, an individualized psychological approach and pedagogical support are essential in technical education.

The study further emphasizes the importance of developing strategies to enhance communicative competence and professional adaptation. Interactive training sessions, mentoring systems, collaborative projects, and reflective exercises improve students' professional readiness, equipping them to work effectively in complex technical and social situations.

Overall, the study demonstrates that communicative competence and professional adaptation among students in technical fields are mutually reinforcing and closely interconnected psychological and pedagogical processes. Effectively organizing this process not only develops technical knowledge but also shapes students into professionals who can adapt to professional environments, actively participate in teamwork, and cope with stress.

Conclusion

The results of the study indicate that among students in technical fields, communicative competence and professional adaptation are closely interconnected and represent an interdependent psychological process. High levels of communicative skills help students solve complex technical tasks, take on leadership roles in teamwork, and adapt quickly to professional environments. At the same time, a student's level of professional adaptation is directly linked to their personal psychological characteristics, motivation, and self-regulation abilities.

The study demonstrated that the development of professional adaptation among technical students is closely associated with the formation of communicative competence. Students improve their ability to adapt to professional environments significantly through clear and effective expression of ideas, constructive exchange of opinions, and active participation in teamwork. Psychological mechanisms such as self-regulation, empathy, reflection, and stress resilience play a crucial role in the professional adaptation process.

The results also showed that students with high intrinsic motivation not only develop their communicative competence more rapidly but also perform complex technical tasks efficiently and actively participate in collaborative projects. Conversely, students with low motivation experience delays in the development of both communicative skills and professional adaptation. Therefore, addressing motivational factors and implementing psychological support strategies are of significant importance in technical education.

Furthermore, the study highlighted the effectiveness of digital technologies and interactive learning methods in enhancing communicative competence and professional adaptation. Virtual laboratories, online seminars, collaborative projects, and mentoring systems provide students with opportunities to adapt to professional environments, solve problems collaboratively, and strengthen their communicative skills. Reflective exercises and metacognitive activities also enhance students' ability to analyze their own activities, identify errors, and make professional decisions.

Overall, the development of communicative competence and professional adaptation among students in technical fields is a complex, multi-component process integrating psychological, motivational, and pedagogical factors. The study results indicate that an individualized psychological approach, interactive methods, and pedagogical support significantly improve students' professional readiness, preparing them to adapt quickly and

effectively to professional environments, actively participate in teamwork, and withstand stress.

Practically, the study contributes to improving the educational process in technical fields, aligning pedagogical strategies with digital and interactive tools, and promoting comprehensive development of students' professional readiness. The results demonstrate that a systematic approach to developing communicative competence and professional adaptation in technical education is a key factor in enhancing students' success and professional potential.

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