TRANSFORMATIONAL PEDAGOGY AND PREPARATION OF PEDAGOGICAL SPECIALISTS FOR THE DEVELOPMENT OF ENTREPRENEURIAL COMPETENCE IN THE CONTEXT OF EDUCATION 5.0

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Abstract: *The purpose of this publication is to explore the concept of transformational pedagogy and its application in contemporary education, with a particular focus on the preparation of pedagogical specialists for developing entrepreneurial competence in students. The author examines how transformational pedagogy can be integrated into the educational process through the use of innovative methods and technologies that stimulate the development of critical thinking, creativity, and social engagement in students. In this context, pedagogical specialists play a crucial role in creating conditions for students to develop as active and engaged individuals, ready to take responsibility for their learning and future.*
The publication considers transformational pedagogy as both a process and a result. As a process, it involves a dynamic and continuous change in students' thinking, behavior, and social roles, encouraging active participation and awareness of their own perceptions, beliefs, and social roles. The result of this process is the formation of critical thinking, entrepreneurial skills, and engagement with social issues, as students become more active, socially responsible, and ready for new challenges. Transformational pedagogy is also viewed as an approach, providing specific methods and strategies to achieve these goals, such as project-based learning, the use of digital platforms, and interactive technologies.
The publication emphasizes how Education 5.0 and new technologies offer new opportunities for innovation and personalized learning, which can enrich traditional educational practices. The author highlights the importance of integrating transformational pedagogy into contemporary educational practices as a means of creating innovations and preparing students for active participation in social and economic life.

Keywords: *Transformational pedagogy, entrepreneurial competence, Education 5.0, innovations in education, digitalization, pedagogical approaches, critical thinking, social engagement, project-based learning, technologies in education*

Introduction to the Concept of Transformational Pedagogy

Transformational pedagogy represents an educational approach that requires a profound change in students' thinking, behavior, and skills, as well as in teaching methodologies. According to Aleksieva (2024), transformational pedagogy involves the integration of new technologies and interactive learning methods that stimulate creativity and critical thinking among students. In this context, education is not just about acquiring knowledge, but also about actively changing the way students think and interact with the world around them.

The significance of transformational pedagogy in the contemporary educational context is not only to respond to new technological challenges but also to prepare students for a globalized and rapidly changing world. As Aleksieva (2024) points out, the introduction of

new technologies such as virtual and augmented reality, artificial intelligence, and mobile platforms changes the dynamics of learning, providing new opportunities for interactive and personalized learning experiences.

Pedagogical specialists are key figures in this transformation process. They not only need to master new methods and tools but also act as catalysts for change in the educational process. As Goleman (1995) emphasizes, social and emotional intelligence plays a crucial role in the development of entrepreneurial skills. The ability to work in teams, resolve conflicts, and manage emotions is essential for successful professional realization in the contemporary world.

As Aleksieva (2024) notes, through collaborative learning methods, such as group projects and role-playing games, pedagogical specialists can encourage students to develop leadership skills and an entrepreneurial mindset. These methods create conditions for students to practice social skills, such as communication, teamwork, and conflict resolution, which are critically important for their future professional and social development.

Education 5.0 is a new paradigm that integrates technology and humanistic values into the learning process. Aleksieva (2024) argues that Education 5.0 positions learning and teaching within the context of social responsibility and sustainable development. Technologies such as artificial intelligence, virtual labs, and online platforms offer new opportunities for personalized learning that meets the individual needs and learning styles of each student.

While Education 5.0 offers new opportunities for innovation and adaptability in the learning process, challenges remain related to the integration of these new technologies. As Schleicher (2019) points out, universities and educational institutions must adapt to new realities to ensure students are prepared for future professional and social challenges. This requires a strategic transformation of curricula that combines technology and humanistic values.

Transformational pedagogy in the context of Education 5.0 provides new opportunities for preparing future entrepreneurs and societal leaders. The inclusion of new technologies in teaching, combined with humanistic values and social responsibility, equips students not only with knowledge but also with skills critical for their successful professional and personal fulfillment. Pedagogical specialists play a vital role in this process by creating conditions for the development of entrepreneurial competence and critical thinking among their students.

I. Transformational Pedagogy in Contemporary Education – Essence, Content Characteristics, Principles, and Methods of Application

Transformational pedagogy is one of the most innovative concepts in contemporary education, emphasizing profound changes in students' thinking, behavior, and skills. This pedagogy is not limited to cognitive changes but also encompasses social and emotional aspects, leading to a deeper awareness of personal perceptions, beliefs, and social roles. As Mezirow (1997) points out, transformational pedagogy includes a process of critical awareness, allowing students to rethink and change their understanding of themselves and the world while preparing them for new social and professional roles. This concept goes beyond the usual boundaries of traditional teaching and aims to shape students who are active participants in the educational process and take responsibility for their own learning and development.

Transformational learning enriches the classroom by adopting interactive, creative, and critical approaches to teaching and learning. The essence of transformational pedagogy is to encourage students not only to accumulate knowledge but also to apply it in new contexts,

form their own opinions, and engage in solving real-world problems in society and the global business context.

1.1. Principles of Transformational Pedagogy

Infographic 1. Principles of Transformational Pedagogy

The principles of transformational pedagogy form the foundation for modern educational practices aimed at developing critical thinking, creativity, and entrepreneurial skills in students. These principles foster intellectual and social progress in students and are crucial for their preparation for successful integration into a rapidly changing world. Transformational pedagogy, as a methodology, changes existing educational practices and creates opportunities for building educational models based on student activity and engagement in the learning process.

1. **Principle of Activity**: Activity is a key principle of transformational pedagogy. It implies that students should actively engage in the learning process. In this context, education is seen as a dynamic interaction with the learning content, teachers, and peers. According to Thomas Schmidt, an education and innovation researcher (Schmidt 2018), students should be encouraged to show independence and initiative by actively seeking information and generating ideas. This approach stimulates their thinking and develops their abilities for self-management and organizing their own learning. Activity also plays a role in developing entrepreneurial skills, as students learn to take risks, understand incomplete information, and make decisions based on it.

2. Principle of Engagement

The principle of engagement involves creating educational contexts that are connected to real-life and social realities of students. Education should be meaningful and useful, motivating students to take responsibility for their learning. This implies the use of practical learning related to real-world problems and case studies with social and professional significance. The opportunity to work on practical projects and link theoretical knowledge with its practical applicability is foundational to contemporary educational philosophy and provides a basis for developing socially responsible entrepreneurship. According to Jack Mezirow, an American educator and researcher, creator of the theory of transformational learning with an emphasis on personal transformation of students through critical awareness and reassessment of their perceptions, beliefs, and social roles (Mezirow, 1997), learning in the context of engagement is more closely related to personal development and social responsibility. It enables students to play an active role in their communities and the global economy. Mezirow's work is important for contemporary educational and personal

development theories because it offers a way to incorporate critical thinking and reflection into the learning process.

3. Principle of Critical Thinking

The development of critical thinking is also a core principle of transformational pedagogy. Students should learn not only to receive information but also to analyze it, consider different perspectives, and form reasoned opinions. Critical thinking is linked to psychological maturity, when students begin to question and reassess their beliefs and perceptions. This is essential for successful problem-solving and for the development of entrepreneurial skills. The ability to reflect on social and economic issues helps students develop habits of taking responsibility for their learning and making decisions under conditions of uncertainty and ambiguity.

4. Principle of Independence

Independence is a principle that emphasizes the development of students as independent learners who can manage their own education. Teachers should create conditions for students to take personal responsibility for their learning, build their own problem-solving strategies, and avoid dependency on the teacher. This develops self-discipline, organizational skills, and time management, which are essential for the development of entrepreneurial competence and a successful professional career. Such an approach is particularly important in the context of Education 5.0, where students must be trained to take the initiative for their own development and deal with complex and changing conditions.

5. Principle of Creative Problem Solving

Education provides opportunities for students to experiment with new ideas, learn from their mistakes, and apply innovative solutions in their learning and professional development. This is a key principle for the development of entrepreneurial skills, as it involves creating new ideas and strategies to solve complex problems. Creative thinking allows students to approach tasks with an open mind and apply new approaches that can lead to innovations in various areas of society and business. Pedagogical specialists must encourage students to create new, sustainable business ideas that will benefit not only themselves but also society as a whole.

Integrating these principles into the learning process is a central task of contemporary educational strategies. Educators need to employ innovative teaching methods that stimulate creativity, activity, and independence in students. Innovation and entrepreneurship programs in primary and preschool education play an important role in creating conditions for the development of entrepreneurial competence. The opportunity for play and experiential learning is also important, as it allows students to practice project management skills, innovation, and entrepreneurial approaches. Schmidt (2018) emphasizes that students need to realize that mistakes are not failures but part of the learning process, which is essential for their creativity and innovative potential.

1.2. Methods and Approaches for Applying Transformational Pedagogy

Project-based learning (PBL) is an active learning method where students engage in real or simulated projects related to solving practical problems. This method is foundational to transformational pedagogy, offering opportunities for profound personal and professional change. Project-based learning differs from traditional teaching methods, which focus mainly on passive knowledge acquisition. Instead, PBL places the student in an active role, requiring them to find solutions to specific problems that have real significance for society, business, or the economy. This approach is particularly important in the context of

preparing students to develop entrepreneurial competence within the modern educational paradigm, as described in **Education 5.0**.

Project-based learning holds a key place in the development of entrepreneurial skills, as it offers students opportunities to acquire theoretical knowledge and apply it in the real world. For example, in training future teachers, students are assigned to work on projects. In this learning environment, they face tasks that require innovation, problem-solving, and resource management. In the context of **Education 5.0**, characterized by the integration of new technologies and personalized learning, PBL provides a unique opportunity to develop skills essential for the entrepreneurs of the future.

The projects in which students participate develop creativity and encourage them to take risks and manage uncertainty, which is an integral part of entrepreneurial competence. Through active participation in solving real business problems, they acquire skills in market analysis, survival in competitive conditions, as well as creating business plans and sustainable business ideas. These skills are not only theoretical but also practical, providing concrete tools for starting new businesses or innovating in existing ones.

An example of the successful application of PBL in the context of entrepreneurship education is the **Innovation and Entrepreneurship Program** at Burgas Free University. Within this program, students engage in creating innovative projects that require both theoretical knowledge of business models and strategies, as well as the practical application of that knowledge through business plans and the implementation of pilot projects. This education allows students to acquire specific project management skills and prepares them for market realities where they can test ideas, evaluate risks, and create new business opportunities.

One of the main aspects of successfully implementing PBL is that students are confronted with practical problems that require solution-seeking. They need to learn how to manage resources, make financial forecasts, create marketing strategies, and work in teams. In this way, project-based learning provides students with both theoretical knowledge and the ability to apply it in the real world, which is crucial for successfully starting businesses and creating innovations.

Education 5.0 introduces new technological and pedagogical possibilities for expanding the boundaries of traditional learning. In this context, PBL offers opportunities for integrating digital technologies, mobile platforms, and interactive tools, which create personalized learning and encourage individualized approaches to problem-solving. New technologies can assist students in the process of searching for and applying solutions, while providing them with the opportunity to work with big data, analytics, and real-time communication.

However, the application of PBL within the context of **Education 5.0** also brings certain challenges. For instance, Thomas Schmidt (Schmidt, 2020), known for his research on the integration of new technologies in education, the digitalization of the learning process, and pedagogical innovations, often explores how these technologies can be used to improve learning outcomes and student development. Schmidt points out that the integration of new technologies into the learning process may require significant investments in infrastructure and teacher training, as well as taking risks on the part of educational institutions to implement innovative teaching approaches.

Project-based learning is not only a method but also a philosophy that underpins **transformational pedagogy**. In the context of **Education 5.0**, PBL provides opportunities for developing entrepreneurial competence and creativity, offering practical applications of theoretical knowledge through solving real-world problems. This approach is fundamental for successfully preparing future teachers for the challenges of the future, enabling them to adapt to the rapidly changing world of innovation and entrepreneurship.

Interactive Technologies and Digital Platforms. The integration of new technologies into the learning process creates new opportunities for learning and innovation. The use of

digital platforms and interactive technologies not only enriches the educational process but also allows teachers to design learning materials tailored to the individual needs of students. According to Deloitte (2020), a global consulting firm known for its research and analysis in multiple areas, including technology, innovation, and education, new technologies enable personalized learning and support various learning styles, which is the foundation for the successful application of transformational pedagogy. In one of its 2020 reports, Deloitte emphasizes that new technologies provide opportunities for personalized learning, which is essential for the successful implementation of transformational pedagogy. Deloitte highlights that technologies allow for better understanding and support of different learning styles by offering individualized learning solutions. This includes the use of interactive and visual media that cater to the needs of visual, kinesthetic, and auditory learners. It is argued that new technologies in education not only facilitate access to knowledge but also provoke innovations in teaching and learning, such as mobile learning apps, virtual classrooms, and collaboration platforms between students and teachers.

Transformational pedagogy provides new opportunities for developing entrepreneurial skills in students by integrating principles such as activity, engagement, critical thinking, independence, and creative problem-solving. These principles are implemented in the learning process through innovative teaching methods such as project-based learning and the use of new technologies. In this way, conditions are created for the development of entrepreneurial competence, which is essential for preparing students for the challenges of the contemporary economy and the globalized world.

My interpretation is that transformational pedagogy represents an integration of theoretical and practical aspects that change the very essence of the learning process. It can be defined as a philosophy (paradigm) that sets the basic principles and goals of education, as well as an approach that provides the practical means and strategies for achieving these goals in the classroom. Transformational pedagogy aims to develop active and engaged students who not only acquire knowledge but also rethink their perceptions and social roles, preparing them for active participation in contemporary society and the economy.

This pedagogy is viewed as a process, as it involves a dynamic and continuous change in students' thinking, behavior, and social roles. It is a process of critical awareness, where students not only evaluate and change their perceptions and beliefs but also begin to adopt new social and professional roles that enable them to adapt to the changing conditions of the modern world. This process is lasting and sustainable, leading to the professional and personal development of students, who become more critical, engaged, and socially responsible.

Transformational pedagogy as a result is associated with the ultimate outcomes of this process – not only the accumulation of new knowledge but also the formation of critical thinking, entrepreneurial skills, and social engagement. When the process is successful, students become not only knowledge recipients but also initiators of change, ready to take responsibility for their learning and future. The result of this process is that students become active agents of change in their communities and professional spheres.

Transformational Pedagogy as an Approach

The approach discussed in this context is not only a set of methods and techniques but also a means of realizing the pedagogical philosophy. As an approach, transformational pedagogy offers strategies that educators can use to implement the philosophy of active and engaged learning in the classroom. Examples of such methods include project-based learning, digitization, interactive technologies, and experiential learning methods, which actively involve students in the process of creating knowledge and innovations.

These methods not only support the principles of activity, engagement, and critical thinking but also stimulate creativity and entrepreneurial activity. Students not only learn

how to reflect on theoretical concepts but also learn how to solve practical problems that arise in the modern economy and society. This, in turn, equips them with skills for project management, innovation, and risk-taking, which form the foundation of entrepreneurial competence.

1.3. Interaction of Pedagogy and Approach

Transformational pedagogy, as a philosophy (paradigm), provides a broad conceptual framework for change in education. It encompasses fundamental philosophical principles that can be embraced as a partnership between educational institutions and families, as well as the creation of a learning community where students actively participate in their social, cultural, and professional evolution. According to Mezirow (1997), this philosophy emphasizes critical thinking, reflection, and personal responsibility, which are essential for the successful social and professional integration of students.

At the same time, the approach is a concretization of this philosophy. It offers methods and techniques that teachers can apply in their teaching to realize the philosophical principles of transformational pedagogy. The approach is a toolkit that provides practical steps for achieving the goals of the pedagogical philosophy in the classroom. In this context, project-based learning, digitalization, and innovations in education play an important role in creating a dynamic, interactive, and engaged learning environment.

The unified definition of transformational pedagogy as both a paradigm and an approach is fully justified and aligns with contemporary demands for educational reform. As a paradigm, it provides a broad conceptual foundation for building new educational practices that integrate active learning, social engagement, and critical thinking. As an approach, it provides the specific methods and techniques through which these philosophical principles are realized in practice in the classroom. Transformational pedagogy is not only a theoretical framework but also a practical tool that is applied at all levels of the educational process, aiming to achieve sustainable and meaningful results in the development of students.

II. Role of Pedagogical Specialists in Integrating Entrepreneurial Competence

Pedagogical specialists play a crucial role in developing students' entrepreneurial competence by using approaches that stimulate creativity, independence, and problem-solving. To accomplish this, they must be well-prepared and have the necessary knowledge and skills to apply transformational pedagogy, which involves changes in students' thinking, behavior, and ability to adapt to the dynamic world of innovations and technologies.

Transformational pedagogy, which emphasizes active student participation in learning and encourages their engagement and independence, is key to the integration of entrepreneurial skills. To be effective in applying this approach, teachers must:

1. Create an environment that fosters creativity and innovation by implementing innovative teaching methods, including project-based learning, games, and simulations, aligned with the principles of transformational pedagogy.
2. Teach students critical thinking and problem-solving by allowing them to participate in real tasks and situations that require an entrepreneurial approach.
3. Integrate new technologies into teaching by using digital platforms and tools to foster innovation and encourage entrepreneurial skills. This includes the use of online resources, mobile apps, and virtual classrooms.

According to Aleksieva (2024), the preparation of pedagogical specialists within the master's program „Innovation and Entrepreneurship in Primary and Preschool Education“ includes skills for creating supportive and stimulating learning environments that foster entrepreneurial and creative abilities. These skills are essential for education in contemporary

schools and must be directly connected with practical pedagogical work, such as in teaching and classroom practice.

Among the strategies used to implement transformational pedagogy in practice are counseling and mentoring. Teachers can encourage students to engage in project activities and initiatives that require solving real problems. These projects can be carried out in the classroom or outside it, such as creating micro-enterprises or addressing community-based cases. According to Gibb (2002), such approaches encourage entrepreneurial thinking and provide active student participation in the learning and innovation process.

2.1. Example Strategies for Implementing These Principles and Approaches in Daily Pedagogical Practice

1. **Project-Based Learning (PBL)**: Teachers can encourage students to work on group projects that involve generating new ideas, solving real social and economic problems, and preparing business plans or prototypes. The projects can be related to innovations in various fields such as ecology, technology, social entrepreneurship ideas, and more. This stimulates students to take initiative, develop critical thinking, and acquire teamwork skills.
2. **Interactive Games and Role-Playing**: Interactive games can be used to develop entrepreneurial skills in students, such as the games „My Little Store“ and „Invent a Product“. These games allow students to take on roles and learn how to manage resources, make decisions, and communicate ideas in environments that simulate the real business world.
3. **Using Technologies for Teacher Training**: Teachers must undergo specialized courses and training that provide them with the necessary knowledge and tools to integrate new technologies and innovations into the classroom. Programs such as the Master's program in „Innovation and Entrepreneurship in Primary and Preschool Education“ offer specialized training to develop entrepreneurial competence and prepare teachers for applying modern pedagogical practices.
4. **Creating Educational Spaces for Innovation**: Schools can create innovation labs or business incubators that provide students with opportunities to test their ideas, create products and services that meet contemporary needs, and receive mentoring from teachers and external experts.
5. **Encouraging Social Entrepreneurship and Teamwork**: The opportunity to participate in social projects or charity initiatives, such as creating products for raising funds for a good cause, can help students develop not only entrepreneurial skills but also social responsibility and teamwork.

Through these strategies, pedagogical specialists can create conditions for the development of entrepreneurial competence in students and adapt to the new demands of education in the era of innovation and digitalization.

2.2. Teacher Preparation for Teaching Entrepreneurial Skills

To be effective in teaching entrepreneurial skills, pedagogical specialists need to undergo in-depth training that encompasses not only academic knowledge but also practical skills in innovation management and creating sustainable business strategies. Professional development opportunities should include courses and programs that teach educators how to integrate entrepreneurial principles into the curriculum and how to use contemporary methods and technologies for instruction. This also includes practical training for working with the new digital tools and platforms necessary for modern entrepreneurs.

Teachers must familiarize themselves with contemporary business models and strategies for starting businesses and innovations. For example, the course „Methodology of

Teaching Entrepreneurship“ at Burgas Free University offers students the knowledge and skills for creating business plans, assessing risks, and managing newly established enterprises, which will be directly applicable to their work as entrepreneurship teachers in schools. This training should also include skills for socially responsible entrepreneurship, which will help students develop ideas with a positive impact on society.

The Role of Emotional Intelligence in Entrepreneurial Education

Daniel Goleman (1995), in his classic work „Emotional Intelligence“, highlights the importance of emotional intelligence for success in personal and professional life. He argues that traditional models of intelligence, which focus on cognitive abilities, cannot fully explain individual success, as emotional intelligence plays a crucial role in managing relationships, handling stress, and decision-making. Goleman emphasizes that in contemporary educational practice, emotional intelligence and team management skills must be core elements of teacher training. Emotional intelligence is also essential for students, as it is important for managing conflicts, making decisions, and collaborating in team-based entrepreneurial projects. Teachers who possess these skills can encourage students to become more responsible, confident, and resilient in business and in life.

Furthermore, teachers need to be trained on how to create curricula that integrate innovation and technology with the goal of developing entrepreneurial skills in students. Training programs should include courses on innovations in education, the digitalization of learning, and project management, which will help teachers create adaptive and interactive curricula that meet the needs of contemporary students and business opportunities. Including these knowledge and skills will support teachers in implementing transformational pedagogy in their teaching, which is essential for developing entrepreneurial competence in students.

Educational Programs for the Preparation of Pedagogical Specialists

The necessary curricula and courses for preparing teachers who integrate entrepreneurial skills into their teaching should include both theoretical and practical elements. The programs should offer courses that develop skills for innovation planning, business project development, and the use of digital technologies in education. For example, the Innovation and **Entrepreneurship in Primary and Preschool Education** program at **Burgas Free University** includes courses like **Methodology of Entrepreneurship Teaching** and **Development of Entrepreneurial Competence**, which aim to prepare teachers capable of introducing entrepreneurial approaches into the educational process.

Examples of Innovations in Pedagogical Programs that Include Entrepreneurial Training

Pedagogical preparation programs must include innovations such as project-based learning, interactive technologies, and experiential learning. An example of innovations in pedagogical programs is the inclusion of **STEM (Science, Technology, Engineering, and Mathematics)** education, which is not only theoretical but also applicable to real economic and social situations. This allows students to develop entrepreneurial competence through experimentation, collaboration, and problem-solving in the context of the modern economy.

Using New Technologies for Teacher Training

New technologies play an important role in the development of entrepreneurial skills in both teachers and students. Through digital platforms and online courses, pedagogical specialists can acquire new teaching skills that include innovations and technological solutions for student education. Examples of successful platforms such as **Coursera**, **edX**, and **Udemy**, which offer courses on entrepreneurship and innovation, show how new technologies can be used to develop teaching competencies and prepare pedagogical specialists. At the same time, **ICT (Information and Communication Technologies)**

provide opportunities to teach complex topics such as entrepreneurship in a way that is accessible, interactive, and personalized.

Review of Successful Educational Initiatives and Platforms that Develop Entrepreneurial Competencies

Successful examples of educational initiatives that foster entrepreneurial skills include various innovation labs, start-up incubators at universities, and online networks for experience sharing. Social entrepreneurship programs, such as those at **Harvard University** and **MIT**, create dynamic environments where students can experiment with ideas and receive real-time feedback from industry leaders. Through these platforms, students not only gain theoretical knowledge but also test their ideas in real-world conditions.

Transformation of Teacher Training in the Context of Education 5.0

Pedagogical specialists need to adapt to the new requirements of **Education 5.0** by using innovations and new technologies to develop entrepreneurial competence in students. To achieve this, teacher training should include practical courses that combine theoretical knowledge and practical skills related to entrepreneurship. Teachers should be trained on how to use interactive technologies to create innovative lessons and develop project management and innovation skills in students.

Examples of Successful Educational Models and Practices Implemented in Education 5.0

An example of successful integration of **Education 5.0** into pedagogical practices is **MIT** and its **CreateLab** program, which combines **STEM** education with entrepreneurial skills. Students go through a process of creating and presenting their own business ideas, using new technologies for simulations and virtual models. Similar initiatives in universities and schools, such as **iTeach** in **Singapore** or **Project-Based Learning** in **Finland**, successfully integrate innovations and technologies into the learning process, fostering entrepreneurial skills in students and pupils.

Conclusion

Transformational pedagogy and Education 5.0 represent innovative approaches in contemporary education that offer opportunities for preparing pedagogical specialists to develop entrepreneurial competencies in students. Transformational pedagogy, with its focus on personal and professional change, enriches the educational process by placing the student at the center of learning activities and fostering skills in critical thinking, creativity, and entrepreneurship. On the other hand, Education 5.0 involves the integration of new technologies and innovations into the educational process, creating a dynamic and adaptive learning environment. As a result, pedagogical specialists gain new tools and methods for teaching, enabling them to develop entrepreneurial skills in students, which are essential for successful professional and personal realization in the modern world.

There are several challenges faced by pedagogical specialists in integrating entrepreneurial competence into the educational process. Some of the main difficulties include the lack of sufficient teacher preparation, limited resources for implementing innovations in schools, and resistance to change in traditional teaching practices. Despite these challenges, there are also significant opportunities. Digitalization provides new tools and platforms for learning that can help teachers apply innovations and adapt the learning process to students' needs. The integration of project-based learning and experiential learning offers opportunities for more flexible and adaptive learning, which helps develop entrepreneurial skills. Overcoming these challenges requires the continuous updating of curricula, as well as support for teachers' professional development, which will prepare them to implement innovations and entrepreneurial approaches in the classroom.

In the future, education will continue to transform as a result of rapid technological development and globalization. Education 5.0 will play a central role in the preparation of pedagogical specialists, requiring flexible and innovative approaches to teaching. The opportunity for personalized and technology-based learning will expand, offering new possibilities for teachers to develop entrepreneurial skills in students. In this context, pedagogical specialists will need to master new digital competencies and be able to adapt their teaching methods to the diversity of students and changing social and economic conditions. Opportunities for international partnerships and collaborations will be an important factor for exchanging best practices and innovations in education.

Recommendations for Future Research

1. **Exploring the Effectiveness of Innovations in Pedagogical Programs**: Future research should focus on evaluating the effectiveness of existing innovations in entrepreneurship education and their impact on the development of entrepreneurial competencies in students.
2. **Development of New Pedagogical Approaches**: Research is needed to focus on new pedagogical approaches for developing entrepreneurial skills that integrate new technologies and approaches such as virtual reality, gamification, and interactive platforms.
3. **Professional Development of Pedagogical Specialists**: It is important to conduct research that examines opportunities for the professional development of teachers in the context of Education 5.0, with a special focus on training in innovations and entrepreneurial approaches.
4. **Research on Social Entrepreneurship in Education**: There is a need to explore how social entrepreneurship can be integrated into curricula and how this will affect students' social responsibility and entrepreneurial skills.
5. **Impact of Digitalization on Entrepreneurial Education**: Research should examine how digitalization is changing the educational methods for teaching entrepreneurship and how new technologies can be used to train pedagogical specialists and students in the future.

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