

THE FUTURE OF SERBIAN HIGHER PROFESSIONAL EDUCATION IN LINE WITH THE EVOLUTION OF THE LABOR MARKET

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Abstract: The rapid pace of technological advancement and social changes has profound implications for the future of higher professional education and the global labor market. This paper explores transformative trends shaping professional higher education, the obsolescence of certain jobs, and the emergence of new professions. Special emphasis is placed on adaptive learning systems, interdisciplinary approaches, and the integration of technology in education to prepare for the rapidly evolving employment landscape. Particular attention is given to professional studies and their role in bridging the gap between academic theory and industry needs. The paper also reflects on the formation of professional study academies in Serbia, highlighting the advantages and disadvantages of this educational institution model.

Key words: higher professional education, professional study academies, labor market

1. INTRODUCTION (HEADING 2STYLE)

The intersection of technological innovations, globalization, and demographic changes is transforming the way individuals are educated and employed. As automation, artificial intelligence, and other advanced technologies gain significance, certain jobs are being eliminated, while new ones are emerging. Higher professional education institutions must adapt to equip students with the skills needed for new industrial careers. Additionally, globalization increases competition and collaboration, demanding a workforce that is flexible and well-educated. Demographic changes, such as an aging population and urbanization, further emphasize the need to rethink education to address diverse societal needs. Applied studies, which combine theoretical knowledge with practical training, are particularly valuable in preparing students for real-world challenges.

In Serbia, higher professional education must align with global trends. As of early 2019, Serbia had 48 public and 18 private higher professional schools. That year, the reform of the public higher professional school network began, resulting in the establishment of 11 professional study academies in Central Serbia. In Vojvodina, the creation of professional study academies started in November 2024. This paper will outline the advantages and disadvantages of forming professional study academies and whether a more efficient network could have been established to enhance the quality of professional studies across the Republic of Serbia.

2. TRENDS IN HIGHER PROFESSIONAL EDUCATIONSUBSECTION

2.1. Personalization and Adaptive Learning

One of the most significant changes in higher professional education is the shift toward personalized learning. Adaptive learning platforms use data analytics to tailor educational content, allowing students to learn at their own pace and in accordance with their unique strengths and weaknesses. Studies show that students using adaptive learning tools often perform better on tests than those in traditional classrooms. For example, Arizona State University implemented adaptive learning in its math courses, resulting in higher pass rates and greater student engagement.

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2.2. Blended Learning Models

Hybrid models combining online and in-person instruction are becoming the norm. These models increase accessibility and provide flexibility, making education more inclusive and efficient. Institutions like MIT and Stanford have pioneered these approaches, offering massive open online courses (MOOCs) alongside traditional lectures to reach a global audience. Furthermore, blended learning has proven effective in professional training. The German dual education system, which integrates classroom learning with practical work experience, serves as a model for combining theoretical and practical knowledge. Applied study programs, often structured around such models, illustrate the value of merging academic rigor with industry relevance.

2.3. Emphasis on Lifelong Learning

As the lifespan of knowledge shortens, the concept of education as a one-time event is fading. Lifelong learning is now essential, with micro-credentials and short-term programs gaining popularity. Platforms like edX and LinkedIn Learning offer professionals opportunities to upskill and reskill, ensuring their competitiveness in the labor market. Governments and corporations increasingly support lifelong learning initiatives. For example, the European Union's "Upskilling Pathways" program aims to enable adults with low qualifications to continue their education, emphasizing the importance of adaptability. Universities offering applied study degrees often structure these programs to facilitate smooth transitions between formal education and professional development.

2.4. Interdisciplinary Studies

The complexity of modern challenges requires interdisciplinary approaches. Programs that integrate technology, the humanities, and sciences are becoming more common, preparing students for multiple roles. For example, bioinformatics combines biology and computer science, leading to breakthroughs in healthcare and pharmaceuticals.

3. JOBS THAT ARE DISAPPEARING

3.1. Job Loss Due to Automation

Technological advancements automate routine and repetitive tasks, leading to the reduction of certain jobs. The following jobs could disappear:

- **Manufacturing workers.** Automated production lines and robotics replace human labor in factories. Advanced robotic systems, such as those used in Tesla and Amazon factories, can perform tasks with high precision and speed.
- **Cashiers.** Self-checkout systems and online shopping reduce the need for cashiers, with retailers like Walmart and Amazon Go adopting cashierless store models.
- **Data entry workers.** AI-based software, such as Optical Character Recognition (OCR), can more efficiently process and manage data than humans, reducing errors and increasing productivity.

The McKinsey Global Institute report predicts that nearly 50% of current work activities could be automated by 2030, indicating the need for a flexible workforce. Applied study programs focused on automation technologies can help workers reskill for jobs that complement these advancements.

3.2. The Impact of Artificial Intelligence

The ability of artificial intelligence to analyze, predict, and act makes roles dependent on predictable patterns redundant. Furthermore, software performs accounting tasks with accuracy and real-time updates, reducing the need for human professionals.

3.3. The Disappearance of Middle-Skill Jobs

Jobs requiring routine cognitive skills, such as administrative assistants and bank clerks, are also at risk of disappearing. Online banking and automated tools have significantly reduced the need for traditional banking clerks, shaping the financial sector. For example, mobile banking apps have reduced the number of visits to bank branches. Applied study programs focused on finance and technology can equip workers with the skills needed to succeed in the digital environment.

4. NEW JOBS

4.1. Technology-Based Professions

The Fourth Industrial Revolution has created a range of technology-based careers, including:

- Artificial intelligence and machine learning specialists. The demand for professionals who design and implement AI systems is rapidly growing, with applications ranging from autonomous vehicles to personalized medicine.
- Cybersecurity specialists. With the rise of digitalization, protecting data and systems has become crucial. Roles in ethical hacking and cybersecurity analysis are highly sought after.
- Data scientists. The ability to extract insights from data is a sought-after skill in industries like healthcare, finance, and marketing. Companies like Google and IBM are heavily investing in data-driven decision-making.

4.2. Jobs in the Green Economy

The global focus on sustainability is creating roles in the green economy, such as:

- Renewable energy technicians. Professionals managing solar, wind, and other renewable energy installations are key to reducing carbon emissions.
- Sustainability consultants. Advising organizations on adopting environmentally friendly practices is essential for achieving global climate goals.
- Urban planners for smart cities. Designing environmentally friendly, technology-integrated urban spaces is a new field driven by the need for sustainable urbanization.

4.3. Creative and Human Roles

As automation takes over routine tasks, unique human skills such as creativity, empathy, and critical thinking are becoming more important:

- Designers. Designing user-friendly interfaces for digital products is essential for improving user experience.
- Mental health counselors. Providing mental health services is becoming increasingly in demand in a fast-paced and stressful world.

- Diversity and inclusion officers. Promoting inclusive practices within organizations to foster innovation and collaboration.

The World Economic Forum predicts a 35% increase in demand for creative roles by 2030, prioritizing innovation and user experience. Applied study programs in psychology, design, and organizational behavior can prepare students for these opportunities.

5. SERBIA'S RESPONSE TO GLOBAL TRENDS IN HIGHER PROFESSIONAL EDUCATION

Several key decisions need to be made in Serbia regarding professional education to address global trends in the labor market. First, it is essential to understand the concept of professional education. In Europe, this education is referred to as applied studies. This term should be recognized in Serbia's Law on Higher Education. These studies in Europe are primarily designed to meet regional labor market needs. Therefore, the network of institutions educating professionals should be built based on regional requirements, whether related to industry, population, economy, or other regional needs.

The concept of professional study schools was good, and the regional network was clear, with distinct divisions by fields such as technical, educational, economic, and medical disciplines. Until around 2000, professional schools had quality staff in the fields they taught. However, after the introduction of the accreditation cycle, professional schools were required to employ at least 20 teachers to be accredited. This led to serious problems, especially for smaller professional schools, which now had to increase staff numbers unnecessarily, according to the Law on Higher Education. As a result, unnecessary costs were incurred for these schools and the state.

The formation of professional study academies began in 2019, but this process was conducted without in-depth analysis and unclear criteria for merging multiple professional schools into a single academy. Serious operational issues arose, some of which remain unresolved today. The legal framework, apart from a single provision in the Law on Higher Education, does not recognize professional study academies, and there are no accreditation standards for these academies. Furthermore, there was no consideration for merging technical schools into a single academy, which would have elevated quality and teacher competencies. Such a merger could have created the foundation for accrediting doctoral applied studies.

6. CONCLUSION

The future of higher professional education and the labor market is shaped by rapid technological, economic, and social changes. Preparing for this future requires a proactive approach from educators, lawmakers, and industries. By embracing innovation, fostering adaptability, and emphasizing lifelong learning, we can navigate these changes and create a more skilled and dynamic global workforce. Applied study programs will play a key role in this transformation by ensuring that education remains relevant, practical, and accessible.

For higher professional education in Serbia to be successful and respond to challenges, changes to the Law on Higher Education are necessary. It should be renamed as applied (professional) education, as it is known in Europe, and it should align with regional labor market needs. This includes establishing professional schools in smaller cities, reducing the number of required faculty for accreditation, and forming academies based on disciplines, thus creating conditions for the accreditation of doctoral applied studies.

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