CONTEMPORARY VOCATIONAL EDUCATION:
THE KEY TO EQUAL ACCESS AND A SUSTAINABLE FUTURE

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Abstract

The report examines the importance of modern vocational education as a key factor for the socio-economic development of society, providing equal access to opportunities and creating sustainable future realization in a working environment. The study presents the concept of equal access to vocational education, emphasizing the key role of innovations and their influence on the creation of modern pedagogical approaches to overcome social and economic barriers for learners. The relationship between vocational education and sustainable development is examined. Methods for integrating soft skills and sustainable practices in training programs are discussed, as well as ways to prepare learners in specific professions for the transition to responsible economies. The study presents a concept for adapting training materials for professional qualification in the profession of "Librarian", using modern methods and tools. This report was developed within the framework of a scientific research project "A model for evaluating the effectiveness and quality of inclusive education, training and lifelong learning" with contract № КП-06-Н80/1, funded by National science fund of Bulgaria.

Keywords: Inclusive education, vocational training, equality, accessibility, adaptation.

1. Introduction

Today, in a dynamically changing world influenced by technological progress, vocational education is a key factor in building a competitive environment and an adaptable workforce. In this way, not only are the knowledge and skills necessary for society to meet the modern demands of the labor market provided, but also opportunities for social mobility and economic development are created. In this context, equal access to high-quality vocational education and training is essential for building an inclusive society and a sustainable future. This report examines the contemporary challenges and prospects facing contemporary vocational education and training, emphasizing its importance in reducing socio-economic inequalities and promoting innovation.

As an element of the introduction of a new paradigm for humans, reconsideration at all levels is required. One of them is education, the quality of education and the opportunities it provides for all. (Eftimova, 2018) The problem that concerns with large groups of the population is the lack of qualification. We have a shortage of qualified workforce and at the same time – high percentage of unemployment. This paradox requires some innovative solutions. One of them is the hybrid professional training that can integrate the practice of formal and informal learning, as well as the distance education and dual training. (Yankova, 2017).

According to Article 1 of the Convention on the rights of persons with disabilities (2012), "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with their environment, may hinder their full and effective participation in society on an equal basis with others."

In the 21st century, technology provides unlimited opportunities for personalizing learning content to support individuals with special needs. Thanks to a variety of tools – both free and paid – educational institutions no longer have an excuse not to offer more flexible and accessible education. In this process, soft skills play an extremely important role, which are of key importance for both educators and learners, ensuring more successful adaptation and integration into the learning and work environment.

Within vocational education and training (VET), the implementation of inclusive practices is essential to ensure equal access and learning opportunities for all learners, including persons with disabilities, marginalized groups and representatives of vulnerable communities (Nusheva, 2024).

Today, the system of vocational education and training is distinguished by its flexibility, which makes it increasingly attractive and in demand. Due to its short-term and practice-oriented nature, it is becoming extremely preferred. Trends indicate that in the future it will be even more attractive to the public, thanks to innovative teaching methods tailored to the requirements of the modern labor market. Through the integration of modern and so-called technologies such as virtual reality (VR), augmented reality (AR) and artificial intelligence (AI), training programs are increasingly starting to offer interactive and practice-oriented solutions that make the learning process more engaging and effective.

2. Soft skills and adaptability

Vocational education and training is not limited to acquiring technical knowledge and skills. In order to be effective and accessible to all, it must include the acquisition and development of the so-called "soft skills", which play a key role in our professional and personal development.

Soft skills include social, communication and emotional competencies that support successful professional realization. Among them are skills for effective communication, teamwork, critical thinking, adaptability, time management and conflict resolution. They complement technical knowledge and increase the ability of individuals to integrate and develop in the work environment.

The application of soft skills in vocational education and training is important for several main reasons:

- Improving communication – good communication between learners and trainers facilitates understanding and learning;
- Developing critical thinking and problem solving – learners learn to analyze situations and find effective solutions.
- Adaptability to change – soft skills prepare professionals for the dynamics of the labor market and technological innovations.
- Stimulating collaboration and teamwork – successful professionals often work in teams, where interaction is key to success.
- Improving leadership qualities – soft skills support the development of leadership potential, which is important for career advancement.
- Applying soft skills for effective and accessible training.
  Integrating soft skills into professional training can be achieved through:
- Interactive learning methods, such as role-playing, simulations and case studies, which stimulate the practical application of skills.
- Group projects and discussions that develop cooperation and communication skills.
- Feedback and coaching that support the personal development of learners.
- Digital platforms that make learning more accessible and interactive.

Developing soft skills within vocational education and training is key to creating competent, adaptable and successful professionals. These skills, which include communication, teamwork, emotional intelligence, critical thinking and problem-solving, play an important role in improving workplace performance and career growth. By integrating these skills, learning becomes more effective, engaging and accessible to everyone, regardless of their professional or social background.

Soft skills enable individuals to navigate complex work environments, collaborate effectively with diverse teams and manage challenges with resilience and confidence. Employers are increasingly prioritizing these skills as they contribute to better leadership, improved decision-making and higher overall productivity. Furthermore, promoting soft skills within vocational training not only improves an individual's ability to adapt to technological advances and industry changes, but also fosters a culture of continuous learning and innovation.

Additionally, integrating soft skills into professional development programs fosters a more inclusive and supportive work environment. It empowers employees to build stronger professional relationships, improve customer interactions, and create a positive organizational culture. By implementing these competencies into training and education, employers can rest assured that their workforce remains competitive and prepared for the changing demands of today's labor market.

3. Concept for adapting training materials for professional qualification in the profession of "Librarian"

Adapting the curriculum for the profession of Librarian for individuals with special needs requires different methods and tools depending on the type of needs - sensory, cognitive, motor or other. The contemporary ICT and Artificial Intelligence (AI) are revolutionizing education, especially for individuals

with special needs. AI-based technologies provide personalized solutions that facilitate access to learning content, improve communication, and support the development of individual abilities (Dimitrova, 2024).

The ICT and AI can be used in several key aspects of the educational process for individuals with special needs:

Basic Adaptation Approaches

- **Differentiated teaching**, using different formats such as text, audio, video to present content to meet different learning styles. This approach also includes the element of gamification, as well as the use of infographics and interactive exercises to aid understanding and retention of information.
- **Accessible materials** – creating alternative formats for people with different disabilities, such as audio versions of texts, subtitles for videos, Braille books and text-to-speech software. This ensures equal access to educational content for people with disabilities or special needs.
- **Supportive technology** – using adaptive technologies and software such as screen readers, speech synthesizers, voice recognition applications and online learning platforms with the ability to customize. The integration of artificial intelligence and algorithms for individual progress tracking facilitates adaptation to the needs of each learner.
- **Practical learning** – implementing more demonstrations and working in a real environment, tailored to the needs of learners. This can include simulations, internships, project work and role-playing games that encourage the acquisition of knowledge through practical experience.
- **Personalized learning plans** – flexible learning according to the learning capabilities of each learner. It includes individualized strategies, mentoring and adapting the pace of teaching according to the level and needs of learners. This allows for a more effective and motivating learning experience for learners with special needs.

The adaptation of the educational content for the profession of Librarian must be flexible, digitally accessible and tailored to the individual needs of the learners. The use of specialized software, visual and tactile materials, as well as alternative teaching methods will ensure efficiency and accessibility.

Examples of adaptation that can be applied in the adaptation of the educational content of the qualification courses for the profession of "Librarian"

- Video lessons with sign language or subtitles;
- Visual instructions and infographics to explain library processes;
- Providing written communication training for interaction with readers;
- Using simple language and structured text (short paragraphs, clear definitions);
- Interactive lessons with graphic symbols and colored markers for better understanding;
- Digital resources with audio guidance and the ability to customize settings;
- Interactive games for learning in library activities.

Examples of adapted learning activities

Book cataloging and sorting training
- For visual impairments – tactile sorting markers.
- For hearing impairments – video lessons with sign language.
- For cognitive impairments – visual instructions with steps.
Working with library software
- For motor impairments – using an on-screen keyboard.
- For dyslexia – fonts such as OpenDyslexic for better readability.
Reader service
- For hearing impairments – written communication training.
- For cognitive impairments – role-playing games to learn communication skills.

Tools for effective adaptation of learning content

Text-to-Speech & Speech-to-Text Software
- **NaturalReader** – Converts text into speech for students with dyslexia or visual impairments.
- **Google Read&Write** – Provides reading, writing, and literacy support for learners with learning disabilities.
- **Dragon NaturallySpeaking** – Speech recognition software that helps students with mobility impairments or dysgraphia.

Screen Readers & *Magnifiers*
- **JAWS (Job Access With Speech)** – A popular screen reader for visually impaired students.
- **ZoomText** – Magnification and screen-reading software for learners with low vision.

Augmentative and Alternative Communication (AAC) Tools
- **Proloquo2Go** – A speech-generating app for non-verbal students.
- **CoughDrop** – A cloud-based AAC app that helps learners with communication challenges.

Learning Management Systems (LMS) with Accessibility Features
- **Google Classroom** – Offers voice typing, screen reader compatibility, and captions for videos.
- **Microsoft Teams & OneNote** – Supports Immersive Reader for dyslexic students and note-taking accommodations.
- **Moodle & Blackboard** – Customizable accessibility features, including captions, transcripts, and alternative content formats.

Universal Design for Learning (UDL) Strategies
- **Multiple Means of Representation** – Use videos, infographics, interactive simulations, and audiobooks.
- **Multiple Means of Action & Expression** – Allow students to demonstrate knowledge via oral presentations, art, or hands-on projects.
- **Multiple Means of Engagement** – Gamification, project-based learning, and real-world applications.

Specialized Educational Apps
- Bookshare – Provides accessible ebooks for students with visual impairments or dyslexia.
- ModMath – An app that helps students with dysgraphia do math without handwriting.
- Seeing AI – An AI-powered app that describes surroundings, objects, and texts for visually impaired learners.

Captioning & Sign Language Support
- **Otter.ai** – Real-time transcription for hearing-impaired students.
- **Google Live Caption** – Automatically generates captions for spoken content.
- **Sign Language Apps (The ASL App, Signily)** – Helps communicate with learners who use sign language.

Language learning apps:
- Duolingo: AI analyzes learners' progress and adapts lessons according to their needs.
- Busuu: Combines AI with native speaker feedback.
- Rosetta Stone: Uses AI for interactive pronunciation exercises through speech recognition.

Practice chatbots: AI bots like ChatGPT allow learners to practice language through realistic dialogues.

Voice recognition and feedback: Technologies like Speech-to-Text and pronunciation assessment systems help improve speaking skills.

Creating educational videos - AI makes it easier to produce educational video content:
- Animation and visualization generation: Apps like Vyond and
- Animaker use AI to create interactive educational animations.
- Video lesson synthesis: Platforms like Synthesia allow to automatically generate video lessons with virtual avatars.
- Subtitles and Translation: AI tools like Descript and Rev automatically add subtitles and translate video content (Dimitrova, 2024).

4. Conclusions

Today, vocational education and training plays a fundamental role in building a more competitive and adaptable workforce. The application of soft skills in the educational process not only supports successful professional realization, but also creates a more accessible, inclusive and sustainable learning

environment. Critical thinking, effective communication, adaptability and teamwork are among the key competences that facilitate the integration of individuals into the labor market.

Special attention should be paid to the adaptation of training materials for professional qualifications, such as the profession of "Librarian", for people with special needs. The use of differentiated teaching, accessible materials, assistive technologies and personalized curricula ensures equal access to knowledge and opportunities for all learners.

The integration of modern digital resources and accessibility tools, such as text-to-speech software, screen readers and interactive educational platforms, further facilitates learning and enhances its effectiveness.

In conclusion, the successful adaptation of vocational education and training to the needs of modern society requires a combination of technological innovation, inclusive practices and the acquisition and upgrading of various soft skills. In this way, a sustainable and equitable education system is built, which adequately responds to the demands of the modern labor market and promotes the inclusion of all people in economic and social life.

References

Convention on the rights of persons with disabilities (2012). URL: https://lex.bg/bg/laws/ldoc/2135791921

Dimitrova, D. (2024). *A look at the future of vocational education and training*. https://libraryvt.com/bg/nauchna-konferentsia-biblioteka-veliko-tarnovo/2024-naucna-konferencia

Eftimova, S. (2018) The Place of the Library in the Inclusive Education in Bulgaria. In *ICERI2018 Proceedings: 11th annual International Conference of Education, Research and Innovation Meeting the Challenges of 21 st Century Learning*. IATED Academy, 2018. doi:10.21125/iceri.2018.1493

Nusheva, K., & Yankova-Hadzhieva, B. (2024). Inclusive education and training during a pandemic and beyond - The new normal (identifying good practices). In M. Carmo (Ed.), Education and New Developments 2024 (Volume 1, pp. 409-413). Lisboa: inScience Press. https://end-educationconference.org/proceedings/

Vasileva, R., Yankova, I., & Stancheva, S. (2019). Modern Skills and Convergent Environment SWOT Analysis, Trends and Challenges in Vocational Education and Training. A Bulgarian Experience. In L. Gómez Chova, A. López Martínez, & I. Candel Torres (Eds.), *EDULEARN19 Proceedings: 11th International Conference on Education and New Learning Technologies* (pp. 3130-3139). Palma, Spain: IATED Academy. https://doi.org/10.21125/edulearn.2019.0847

Yankova, I., Vasileva, R., Dimitrova, T., Denchev, S., & Stancheva S. (2017). New vision for flexible dual vocational education and training. *ICERI2017 Proceedings* (pp. 8263-8272).