

## INFORMATION AND COMMUNICATION TECHNOLOGIES AS A TOOL TO MAKE UNIVERSITY TEACHING MORE INCLUSIVE

**Abstract:** the state of development of inclusive education in Ukraine as a whole and the need for its improvement at the university level are analyzed. Ways to use information and communication technologies to create a barrier-free educational environment and improve the quality of education are proposed.

**Key words:** *inclusive education, ICT, accessibility, special educational needs.*

**Introduction.** Present-day independent Ukraine is making decisive steps towards a more inclusive society: we can see work being done in the spheres of public facilities, transportation, and education. The law of Ukraine “On education” states the development of inclusive educational environment as one of the key principles of the government policy in the sphere of education of all levels [1], but in real life the focus is made mostly on secondary and pre-school education, with special resource centres being opened, professional development courses, webinars and workshops being organized [2]. Tertiary education specialists are probably supposed to research the issue independently, so here an attempt is made to analyse how a university can make educational process more accessible for people with special educational needs.

**Formulation of the problem.** To begin with, it is important to define special educational needs (SEN): while secondary schools mostly deal with teaching learners who have “physical disabilities, medical conditions, intellectual difficulties, or emotional or behavioural problems” [3], the list of problems university students encounter is even wider. Ukrainian scholars V. Tkachuk and Yu. Yechkalo made a comprehensive classification of university students with SEN which comprises 8 groups of needs other than medical ones. Among them are social, geographic, psychological problems as well as old age, military service, pregnancy, giftedness and belonging to minority groups [4]. While some of the categories can be disputed, it is hard to disagree that the profile of a university student nowadays is affected by many more factors than before, including the pandemic restrictions, social and political instability to name just a few.

**The main content of the work.** The move to distance learning caused by the COVID-19 lockdown was detrimental for the whole educational system but it also triggered the move to distant and blended learning practices that will definitely become an integral part of university education. One of numerous beneficial aspects of using information and communication technologies for teaching is the individualization and accessibility of education.

Even the superficial analysis of the ICT use in education highlights such benefits as timetable flexibility, convenient pace of learning, easier access to

educational resources etc. But this list can be definitely expanded for the special groups of learners as information technologies also give the opportunity to study and work for the economically disadvantaged, create no need to move for students with mobility difficulties, support self-pace studying for students who lag behind and make it technically possible to adjust volume for the auditory impaired or font size and color for people with visual disabilities.

So using the current experience of blended and distance learning practices, universities have the unique opportunity to provide a much larger number of special groups of students with easier access to high quality education. On the other hand, this also leads the universities to the need to create effective and convenient courses which could eliminate existing barriers but not create the new ones.

Dnipro University of Technology already uses software and LMS which only includes university community members, so a safe learning environment is created to prevent cyberbullying. The university also takes much effort to structure the educational resources and make them easily accessed and navigated.

However, a special focus should be given to the adjustment of the existing tools to the real needs of disabled people. For example, the university website can be improved with the help of web accessibility evaluation tools such as Web Accessibility Initiative or WAVE [5] which can automatically identify many accessibility errors. As the result, alternative pages can be created for visually impaired people as it can be seen in the example below:

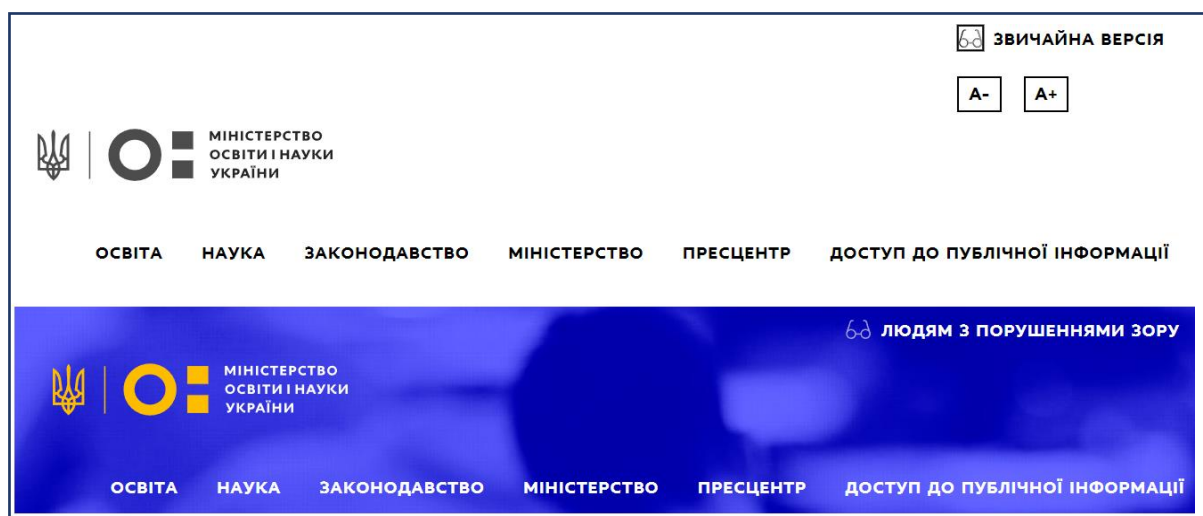


Fig.1. The page of the Ministry of Education and Science of Ukraine in two versions: for people with visual impairment and the standard one.

According to the students' opinion survey conducted by the university, about two thirds of students prefer distance and blended learning formats to the traditional one. They also would like to make learning more interactive. This states the need to organize professional development events to equip university professors with tools and techniques of effective communication with different categories of students. For example, distance learning materials on the Moodle and Teams platforms should be developed with web accessibility requirements in mind, such as tools for changing

the size of the font, colour, speed or the level of sound, the possibility to read the transcript of the video/audio recordings, possibility to work on a mobile device or using only the keyboard. Conducting synchronous classes in MS Teams teachers should be able to deliver instructions both orally and in a written form. Whenever possible, sign language interpretation should be provided as well. All students ought to have access to the lecture recordings or digital copies of the material demonstrated. The diversity of teaching methods and techniques must be also adjusted to the needs of various groups of students.

**Conclusions.** It is obvious that teaching students with special educational needs is not an easy task, but a challenge which requires much time and effort both from the university authorities and professors. So, to meet the challenges of a present-day situation a modern university development strategy must be based on the idea of the education accessible for everyone.

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