СУЧАСНІ АСПЕКТИ МОДЕРНІЗАЦІЇ НАУКИ: СТАН, ПРОБЛЕМИ, ТЕНДЕНЦІЇ РОЗВИТКУ

у рамках Видавничої групи «Наукові перспективи»

Матеріали XVIII-ої Міжнародної науково-практичної конференції (07 лютого 2022 р., м.Тарту, (Естонія), дистанційно)

2022 р.

International Economic Institute s.r.o. (Jesenice, Czech Republic)
Central European Education Institute (Bratislava, Slovakia)
National Institute for Economic Research (Batumi, Georgia)
Al-Farabi Kazakh National University
Batumi Navigation Teaching University (Batumi, Georgia)
Regional Academy of Management (Kazakhstan)
Public Scientific Organization "Ukrainian Assembly of Doctors of Sciences in Public Administration" (Kyiv, Ukraine)
Public Organization Organization "Association of Scientists of Ukraine" (Kyiv, Ukraine)
University of New Technologies (Kyiv, Ukraine)
within the Publishing Group "Scientific Perspectives"

MODERN ASPECTS OF MODERNIZATION OF SCIENCE: STATUS, PROBLEMS, DEVELOPMENT TRENDS

Materials of the 18th International Scientific and Practical Conference

(February 7, 2022, Tartu (Estonia), remotely)

2022

УДК 001.3-048.35:0/9](06)
С91

Схвалено до друку Президією Громадської наукової організації «Всеукраїнська Асамблея докторів наук з державного управління» (Рішення № 1/2-22 від 02.02.2022)

Матеріали конференцій індексуються у міжнародній пошуковій системі Google Scholar

Сучасні аспекти модернізації науки: стан, проблеми, тенденції розвитку: матеріали XVIII Міжнародної науково-практичної конференції, м. Київ; Тарту, 07 лютого 2022 р. / за ред. Є.О. Романенка, І.В. Жукової. Київ; Тарту: ГО «ВАДНД», 2022. 493.

У матеріалах XVIII-ої Міжнародної науково-практичної конференції висвітлені: проблемні аспекти комунікативної взаємодії громадянського суспільства та публічної влади; питання визначення основних аспектів з якісного поліпшення процесу надання адміністративних послуг у нашій країні; дослідження ефективності проведення семінарського заняття, що залежить від методичної тактики дій викладача; перспективні напрями формування та розвитку міжнародного гуманітарного права; особливості дослідження рівня та структури професійної захворюваності у працівників сучасного гірничо-металургійного комплексу тощо.

Матеріали будуть цікаві науковцям, громадсько-політичним діячам, студентам, а, також, усім, хто цікавиться розвитком української держави і світовим досвідом реалізації інноваційних процесів.

Матеріали подані в авторській редакції. Відповідальність за зміст та орфографію матеріалів несуть автори.

СЕКЦІЯ 9.

ПСИХОЛОГІЯ, ПЕДАГОГІКА, ОСВІТА, ФІЛОСОФІЯ ТА ФІЛОЛОГІЯ

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INCLUSIVE TEACHING CHALLENGES IN ADAPTING THE ESP AND STEM LEARNING MATERIALS

In the post-soviet Ukraine the problem of the inclusive education has had a long way to being 'seriously' discussed and, which is more important, implemented into the educational environment following the positive practices worldwide [1, 2, 3]. While inclusion approach in higher education has moved beyond education into employment [4], the Covid-19 pandemic has reflected the challenges Ukrainian university teachers face while teaching the growing amount of students not only of different home language

background but also the students with special educational needs including those having visual impairment, dyslexia etc. Under the Laws of Ukraine "On Education", "On Higher Education", "The Procedure for organizing inclusive education in higher education institutions" the educational institution should ensure all equal opportunities for such students in order to realize the right of students with special educational needs to receive quality higher education, taking into account the needs and capabilities of such students.

In this paper we discuss the university teacher's strategies to bring into practice such an inclusion based on the experience of teaching STEM (science, technology, engineering, and mathematics) and ESP (English for specific purposes) university courses in the inclusive groups where a student or two students with special educational needs study, namely in our case students with visual impairment and dyslexia. The three universities (National Transport University, Kyiv National University of Technology and Design, and State University of Telecommunications), the authors work in, have the people with special educational needs among their students. Taking into consideration the importance of the inclusive facilities environment here, like a wheelchair ramp or the tables on the class doors written in braille, we mainly focus on adapting learning materials for such students aiming at providing a quality education for all the students, though our struggles were not always successfully embedded into the educational environment f2f and then online while teaching remotely in case of the pandemic restrictions.

While analyzing the practical approaches to such adaptation one should acknowledge that IT English mainly devoted to the terminology and functioning of the language in both dialogue and monologue speech include the development of four types of speech activities: reading, writing, speaking, and listening; and fostering the three aspects of language: grammar, vocabulary, phonetics. In order to build strong communicative skills based on the above, the visuals, like pictures or photos, should be widely used [5]. The same

problems arise with the STEM subjects, especially when there is a case of the students with visual impairment [6], where there are tables, graphs, equations, schemes etc. Thus, the visuals used during lectures and practical lessons must be adapted to the needs of the students with visual impairment in case of such a kind of inclusive group of students being involved.

The problem becomes more crucial while we experience the pandemic influence on rapid change from class to distance forms of study. And this demands extra efforts from the teacher to adapt the learning materials to the inclusive group with the students who have special educational needs in order to teach distantly. There have already been a discussion among scholars on the issue leading to the practical tips of dealing with the visuals [7] For instance, Dr. McGinty from Indiana University by emphasizing that "inclusion matters across all aspects of teaching and training, and accessibility is essential to our diverse adult education practices", suggests creating documents with specially preset styles, using color contrast for visual materials, selecting accessible fonts, adding alternative text to describe images, and providing closed captions for videos [7]. In our practice, such adaptation began in September 2019 when the author[1] came into the class to meet a new group of students and saw a boy in black glasses with his mother staying in the corner. And the first natural step in this journey was the dialogue between the teacher and the student, through which the teacher learnt more from the student, namely about the Braille language and special software apps TalkBack and CoolReader, which help the students with visual disabilities 'read' the textual information and transform it to the voice format playing about 400 words a minute unlike schools where they used to study by using specially adapted books written in braille. The second experience was with the MA student with dyslexia. Then the pair activity on making a dialogue and a team discussion did not work as they should in the inclusive group.

Though the reflections on the wide variety of situations teachers face are the promising instruments for maintaining a quality educational environment we should also think of the 'regular' students in the inclusive groups. And here comes a question of their role in improving the situation with the learning materials, especially while dealing with the students of IT sphere. The reflective teaching approaches [8, 9] seem to be one the most helpful for developing the teaching strategies as we can share and adopt successful practices hence efficiently remove any barriers for students with special education needs.

In our practice we as the teachers of ESP and STEM joined our efforts with the students from inclusive groups in early 2020 that resulted in some students' research [10] on the one hand and practical steps on improving the ways of adapting the learning materials for the inclusive groups on the other. As the worldwide practice shows [11] the project on adapting the learning materials is both rewarding for the teacher and the students. Such practices result in the substantial amount of developed by the teacher-students e-materials for learning the subjects by identifying some online adaptations for the students with disabilities, better interactions within the group, the detailed awareness of the students of their learning needs and the learning goals they are aiming at, and higher academic scores for the whole inclusive group. Thus, the adaptation of the learning materials involves the fellow teachers for reviewing lesson plans and developing applicable ideas as well as the students from the inclusive groups, and not only, who can, after making their research, find the technical solutions to implementation of the advanced changes of the learning materials for the in situ and online educational environment and then better careers in future.

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