The role of communication skills in the development of digital literacy competences using the "DigInGreen" model

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Abstract / Povzetek

The paper deals with the field of developing communication and digital literacy with the help of the lifelong learning model "DigInGreen" for all layers of modern society, including people with special needs. The aim of the authors is a targeted search for new solutions in the field of using digital learning and communication tools for the development of digital competences in the light of "Society 5.0". We focus on a unique way of connecting paradigms, such as: inclusive society, competences, digital, special needs, literacy and lifelong learning. We want to connect the thinking about the communicative ability, an indispensable part of which is an individual's digital literacy and point out, that the circumstances of living in a modern, but still partially exclusive society, limit the development of an individual's communicative and digital literacy, due to a demonstrated special need or disability. We believe, that the activities we carry out, are a unique example of good practice, because they connect many scientific disciplines and fields into a modern concept of competence development without excluding or conditioning the end user. We combine the paradigms of logistics, informatics, statistics, social studies, linguistics and didactics. All the above and more represent the concept of "Society 5.0", which cannot exist as a scientific construct, if it does not consider the key aspect of one's own identification - social equality and the provision of equal opportunities.

Keywords / Ključne besede

communication ability, digital literacy, competences, inclusion, special needs, lifelong learning

1 Digital literacy is an exclusive component of developed communication skills

In the last few years, we have witnessed the rapid and general progress of the digitization process everywhere, including in education, which brings many opportunities, but also challenges, especially when it comes to the inclusion of people with special needs in the educational process. In the past, the field was more related to physical and intellectual challenges, but today it is increasingly focused on emotional, behavioral, psychosocial and sensory needs and the dilemmas, associated with them. One of them being the so-called digital literacy, meaning the ability of individuals to effectively use digital technologies and the internet to find, create, evaluate and communicate information. This includes understanding and using digital tools, such as computers, smartphones, applications and social networks as well as awareness of privacy, security and ethical issues in the digital environment. Digital literacy and digital tools therefore play a key role in achieving the goal of equal opportunities for all, as they can be completed by users in different periods of time, which are different for each individual and they help themselves in solving challenges with specialized learning or work tools (letter enlargement, volume, translation into another language, font transcription). In relation to the mentioned challenges, the overall aim of this paper is to connect very different research fields with the focus to find new solutions in the field of using digital learning and communication tools for the development of digital competences in the light of "Society 5.0".

1.1 Language and communication ability

We cannot talk about the concept of digital literacy without first talking about language and the communicative ability, because the latter represents the dividing line between human and other communicative codes. Language represents our means of communication, it is a code, that humans have developed, perfected, thereby enabling communication. Language is an agreed system of signs, which means, that it is a standardized communication code and leads to the realization, that language is not just an individual property, it is a social property. With this finding, ensuring the possibility of literacy development for the individual in all its forms and variations becomes a social responsibility. The latter is implemented not only in the home environment, but also in the process of education at the primary, secondary or tertiary level and in all forms of social interaction, including models of lifelong learning. When communicating, two processes always take place; encoding, creating a message and decoding or understanding and responding, to what is communicated. At the same time, we must assume, that both the communicator and the addressee have developed communication skills. These are the knowledge and abilities of both the addressee and the communicator to create any number of texts in a wide variety of speaking positions. The ability to communicate is an important part of a person's general ability, as it enables him/her to creatively adapt to new circumstances and needs. The ability to communicate therefore defines us through expression, communication with others and our social involvement. Above all, it determines our oral and written communication, both classic and digital. We can all be creators/communicators as well as addressees, but we can only cooperate with each other with

developed communication skills. So, we learn the means, through which we enter the communication process.

2 Accessibility for developed communication and digital skills

Universal digitization enables adaptation of learning content and teaching methods, which can significantly improve accessibility to educational opportunities for people with special needs. We can highlight the example of online platforms and digital materials; these allow learners to access learning content in an adapted format, such as texts in larger fonts, audio recordings or video content with subtitles. In addition, interactive tools and applications can enable individual adaptation of the learning process, which increases the effectiveness of learning and the engagement of learners. The legal regulation in the field of education of people with special needs in Slovenia is based on the Act on Equalizing the Opportunities of the Disabled and the Act on the Guidance of Children with Special Needs. This legislation determines the rights and obligations of educational institutions regarding the provision of adaptations for people with special needs. In practice this means that institutions must ensure accessibility to all educational resources and services, including digital platforms and technologies, but sometimes legal commitments are a burden to institutions, as there is no guaranteed systemic funding for their implementation. With the successful implementation of education, we condition the development of competences and the latter can be applied to all final stakeholders, both people with special needs and people, who do not have demonstrated special needs. As far as we discuss the developed competences for digital literacy, of course we cannot bypass the models, that take care of the development of these competences. We have developed such a model.

3 A unique model of lifelong learning, that develops both green and digital competences

We start from the concept of a special example of good practice of lifelong education and learning of green and digital skills for all social groups. They were designed and developed at the Faculty of Logistics of the University of Maribor as part of the NOO project "DigInGreen". The acronym NOO defines the financial mechanism, namely the Recovery and Resilience Mechanism, from which operations, addressing the transition to a green, digital and resilient society are financed. As part of this project, the Faculty of Logistics of the University of Maribor has determined a research and development niche, that is aimed at the development of green and digital competences through lifelong learning and focus on various areas, which include both short-term and long-term goals for the development of social studies, information sciences and social skills. The short-term goals include training individuals to use digital literacy tools and practices, that improve the efficiency of many processes, while the long-term goals aim for the sustainable development and strengthening of digital literacy at all levels of the population, especially with an emphasis on understanding complex challenges and possible approaches for people with special needs. To ensure inclusive education, it is necessary to adapt teaching materials and methods, that enable equal access to knowledge and skills. For example, courses and workshops can include adapted digital interfaces, that are also accessible to people with visual or hearing impairments and tools, that enable

easier management of digital content. We also know about the implementation of individual distance educations, that enable less mobile individuals to participate and do it more easily. Good practices include collaboration with various stakeholders, including non-governmental organizations, that liaise with people with special needs and developers of digital technologies to ensure comprehensive support and adaptations of learning content. In addition, it is important to promote lifelong learning and ensure constant updating of competences, which contributes to greater employability and inclusion of everyone, including people with special needs in the labor market. Digitization and the development of green and digital competences through lifelong learning are important steps towards ensuring equal opportunities for all, including people with special needs. With legal frameworks and good practices we can create an inclusive environment, that promotes sustainable development and digital literacy for everyone. But for this it would be necessary to actively increase financial resources and educate personnel about new approaches, advantages and tools for increasing an inclusive educational environment.

4 Acquired competences are the basis for developed communication skills with an emphasis on digital literacy

Digitization represents a major challenge, as the appropriate knowledge of users, including people with special needs, represents an essential pool of skills for the efficient operation of many processes. At the Faculty of Logistics of the University of Maribor, we prepare, develop and implement short workshops, that cover a wide variety of topics, such as: research into the management of sustainability and resilience in supply chains, digitization, interdisciplinary and applied knowledge. The use of skills in the field of digitization enables efficient data collection and analysis, as well as high-quality tracking and optimization of various processes. With the appropriate knowledge for all users, we want to get closer to up-to-date and reliable information. In lifelong education and learning within the "DigInGreen" model, we focus on offering all interested participants educational workshops in the field of digitization, such as: planning and implementation of digitization, use of simulation tools as decision support, information and computer security, use of artificial intelligence tools, information and digital literacy, methods of communication, creation of video content. We enable participants to study selected topics in depth and participate in concrete tasks and practical examples. This type of method of implementing the lifelong learning model has proven to be very successful in imparting and acquiring new knowledge and skills. As an educational institution, we see the development of lifelong learning according to the "DigInGreen" model in using digital tools with the end user in mind, including users with special needs.

4.1 Model implementation

Our most effective and also the most innovative form of work or activity is the framework of the workshops, that we offer as part of the project. All of them are innovative in terms of content, as they all address topics, that are strongly related to "Society 5.0". The main ideas are: digital, sustainable and resilient. All workshops are interconnected and together provide a comprehensive insight into the topic of sustainable and digitalized future for all walks of society. Their innovation lies in the method of imparting knowledge, as it is not a lecture.

These are experiential workshops, that encourage participants to come to certain insights on their own. Former concepts of learning and teaching have been abandoned and learners need experiential learning to quickly assimilate the elements, that then make up the so-called "micro education".

4.2 Following the principles of an egalitarian society – "Society 5.0"

The "DigInGreen" lifelong learning model is defined by the principles of the "Society 5.0", therefore an egalitarian society in its entirety. We follow: equal opportunities; all stakeholders of our project - participants in the planning of activities, implementation of workshops, participation in workshops - have the same opportunities to participate. Our basic criteria are the demonstrated area competence of the individual and potential gaps in knowledge. We offer all interested parties' equal opportunities to participate in the project. Non-discrimination; we treat individuals equally. Individuals are not compared to someone else because of gender, nationality, race or ethnic origin, religion or belief, disability, age, sexual orientation or other personal circumstance. Accessibility for the disabled and people with special needs; for all participants in the activities of the "DigInGreen" lifelong learning model we provide suitable materials, that contribute to the development of their digital and communication skills, using appropriate teaching methods and ensuring the correct guidance.
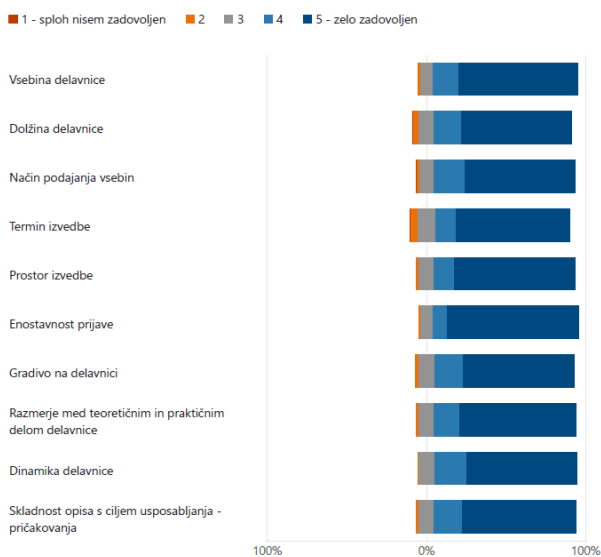
4.3 Model performance analysis

Figure 1: Model performance analysis

In order to determine the effectiveness of the proposed model of lifelong learning and education to improve sustainable and digital literacy within different social groups, we conducted an analysis of satisfaction at the level of the participant. In the sample, we analyzed the following parameters: content of the workshop, length of the workshop, method of delivering content, place of performance and its accessibility, ease of registration, accessibility of material, relationship between theoretical and practical elements, dynamics and compliance with individual expectations. 66 % of the participants expressed their intention to deepen and upgrade the knowledge they acquired at the workshop. 95 % of them will also recommend participation in the workshop to their colleagues, acquaintances and business partners. Most of the participants pointed out that at the attended workshop they upgraded their existing or acquired new knowledge to improve their digital and sustainable skills.

Acknowledgments / Zahvala

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