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## **COMPETENCES IN DISTANCE EDUCATION OF THE 21ST CENTURY. DIRECTIONS, CONCEPTS, NEW CHALLENGES**

○ KOMPETENCJACH W ZDALNEJ EDUKACJI XXI WIEKU.  
KIERUNKI, KONCEPCJE, NOWE WYZWANIA

### **Abstrakt**

Głównym celem niniejszego opracowania jest określenie rodzaju i specyfiki kompetencji w edukacji zdalnej w czasie pandemii koronawirusa, jakie mogą zdobyć lub pogłębiać uczniowie i studenci. Aby ten cel zrealizować, zadano m.in. pytania: Czym jest kompetencja? Na przekaz jakich kompetencji ukierunkowana jest edukacja online? Jakie jest doświadczenie światowe w zakresie edukacji zdalnej w dobie pandemii koronawirusa? Czy rzeczywiście czas zdalnego uczenia jest czasem pogłębiania kompe-

### **Abstract**

The main objective of this paper is to define the type and specificity of competences in distance education during the coronavirus pandemic that may be gained and broadened by pupils and students. The following questions were asked to achieve this objective: What is competence? Which competences are mainly transferred by on-line education? What is the global experience in distance education during coronavirus pandemic? Is the time of distance education a real opportunity to

tencji? Odpowiedzi na te pytania, przedstawione na podstawie analizy treści najnowszej literatury przedmiotu, w tym szczególnie badań na temat zdalnej edukacji, pozwolą zobrazować nowe paradygmaty oraz wyzwania w tym temacie.

#### SŁOWA KLUCZOWE

edukacja zdalna, kompetencja, technologia, pandemia koronawirusa, zarządzanie kompetencją

further develop competence? Answers to these questions provided based on the analysis of the most recent literature on the subject, in particular studies on distance education, will make it possible to present new paradigms and challenges in this area.

#### KEY WORDS:

distance education, competence, technology, coronavirus pandemic, competence management

## 1. Introduction

Referring to work and life during COVID-19 pandemic, Barry Chudakov, principal of Sertain Research, said: “We are in the midst of a remarkable social and civic experiment: democracy by device” (Pew Research Center 2020). These words may be paraphrased and applied also to education: “We are in the midst of a remarkable social, media and educational experiment: education takes place by means of a device. A smartphone. A computer. At home, in town, on a train”. The curiosity of this epoch-making experiment is the fact that its participants (various social groups and their actors), did not themselves make a decision to participate in it, on the contrary, they were forced to take part in it by an external factor i.e. COVID-19. The following questions may be asked in the context of this global common experience:

- What are the consequences of this extraordinary experiment for education?
- Does it mean that as scholars, teachers and students we are witnessing the end of a certain age, the age of direct (face to face) traditional teaching?
- Is this new situation a change for the better or worse in education?
- What is distance education during the coronavirus pandemic?
- What competences do students gain from this type of education?
- What is the nature of those new competences?

The objective of this paper is an attempt to provide an answer to those questions. Thus, the basic methodological assumption of this paper is the definition of the type and specificity of competences in distance education during the coronavirus pandemic which can be gained by pupils and students, as well as lecturers and teachers. The paper has the methodological nature of a review. It refers to global teaching experience and relevant studies and literature. Work on the problem in question was a step-by-step process. The first stage involved the review of literature on competence and distance education (due to the coronavirus pandemic, only the most recent research from 2020

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was taken into account)<sup>1</sup>. The objective and research problem were defined at the following stage. Next, research on teaching practices on various continents and parts of the world (e.g., China, Germany, USA) were reviewed, and thus it was possible to define the methodological assumptions of this paper. New competences resulting from distance education forced, so to speak, by the global coronavirus pandemic will be identified, defined and presented in the context of the educational competences of “the past”. Before 2021, scientific works often referred to “competences of the future” or “digital competences”. Thus, in the further part of this paper the author will attempt to find an answer to the question: What exactly are these competences – “competences of the future”, transmitted through distance education? The pandemic quickly transported us to the so-called “future” as we found ourselves participating exclusively in a remote education process (or possibly hybrid, mixed system), thanks to which (both in teaching practice and in research) we can define the type and specificity of the said “competences of the future”. The last stage of the research involved synthesis of the collected data and showed conclusions adequate for the main research objective.

## 2. Theoretical bases of competence

Competence is a subject of research in many sciences and therefore its understanding may be presented from various perspectives – pedagogical, philosophical, philological, psychological, sociological and media (as a part of social communication and media sciences). The term “competency” (Latin *competentia*) means „suitability, conformity, power to act” (Doroszewski 2020) or “a scope of authorizations and rights, scope of activity of an authority or an organizational unit; scope of someone else’s power, skill and responsibility” (Sobel 2005, 348). The verb *competere* means “to strive for something together, to meet (about roads), to be fit for, be suitable (Bańkowski 2000, 770), while *petere* means “to strive, try, achieve” (Bańkowski 2000, 770). This word expresses a potential of the one who has certain abilities to undertake certain actions. Whereas “competent” means “having the right qualifications, knowledge, skills” or “authorized to take action, issue decisions; authoritative, reliable” (Dubisz 2003: 186). According to the Polish Language Dictionary, “competence” is a “scope of authorization and rights, scope of activity of an authority or an organizational unit; scope of someone’s power, skill and responsibility” (Sobel 2005, 348).

Michael Argyle states “By social competence I mean ability, having the necessary skills to exert desired impact on other people in social situations. The desired impact may lie in persuading others to make a purchase, to learn, to regain mental health, to

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<sup>1</sup> The author is convinced that there is a difference between distance education introduced voluntarily and at a time set by an educational institution and that forced by external circumstances i.e. coronavirus pandemic. In the first case one can be much better prepared than in the latter. Furthermore, participants, recipients of education have a choice – they either want to participate in distance education or not. These are only a few of the differences mentioned herein. Research on this subject would make it possible to identify more.

like or admire an actor and so on” (Argyle 1999, 133). In this sense, one may notice that skills are what most fully expresses the possessed competences. Other researchers emphasize that skills in a competence are not everything. To be competent (or have specific competences), one also needs knowledge and the ability to take action (McClelland 1973).

Competences are classified in different ways. Daniel Goleman believes that in a general, universal sense, competences should first of all be divided into emotional and social. Within them, he distinguishes personal competences related to self-management (self-awareness, self-management, motivation related to constructive use of emotions), and social competences related to the ability to maintain contact with the external world (social skills) (Cabaj, Rewerski 2005, 9).

Since, a competence is subject to development and thus also training, it is an important element of education. Regardless of the level, education is always directed at the transmission of competence and its further development in its addressees (participants). Thus, taking into account, the understanding of competences, effective education is seen as one that is the source of knowledge, skills, motivation and an ability to act to develop it (Czerepaniak-Walczk 2020).

### 3. “Competences of the future” in education

In the context of the revolutionary development of technology, which is of significant importance for the social communication, research and scientific literature often take up the subject of the so-called “new competences” or “competences of the future”. In this context, new catalogues of competences, which will be sought after in the labor market in various professions, are constantly being created.

The issue of the “competences of the future” was analyzed in detail, among others, by Stefan Kwiatkowski who lists the following competences of the future:

- “general competences acquired during the period of formal education (possibly the highest level of language, mathematical, IT, social and civic competences),
- general professional competences (specific for formal education), common for groups of professions (design, development of project implementation procedures, wide use of IT tools, teamwork, creation of teams and managing their work),
- professional competences arising from the need to perform professional tasks (...), specific for individual sectors,
- specific professional competences related to the possibility of transforming professional skills (along with technological changes), integration of knowledge and professional skills from various areas (sectors) - mechanics and electronics, information technology and medicine, information technology and environmental protection, chemistry and medicine, biology and technical sciences etc.,
- general social competences acquired through interaction with other participants of social and professional life (communication – formulation, transmission/re-

ception of verbal and non-verbal messages, self-presentation, conflict resolution, social impact, negotiation, co-operation within a group, including multicultural groups, organization of one's work, playing various social roles),

- specific social competences (personal) such as empathy, problem solving, creativity, flexibility of thinking, emotional intelligence, moral maturity, ethicality, boldness, openness to change, time management, learning skills, leadership” (Kwiatkowski 2018, 26-27).

In view of the so understood competences of the future, emphasis is put on the particularly significant role played by formal education in the acquisition and further development thereof. Researchers believe that this is a task mostly for the academic education whose basic assumption is to prepare a student to perform professional work in today's labor market (Jonek-Kowalska, Wodarski 2018, 33-42)<sup>2</sup>.

Having in mind the competences of the future, it is also worth paying attention to the OECD Future of Education and Skills 2030 project. Research under this project has already started in 2015, i.e. before the coronavirus pandemic. Nevertheless, it is worth referring to them anyway because they relate to the skills of the 21st century, and above all to competences that would allow pupils - students to really change, create the future. In the OECD Learning Compass 2030 project, this type of competency is defined as: “transformative competencies”. Therefore, students need to acquire three transformative competencies to “help shape the future we want: creating new value, reconciling tensions and dilemmas, and taking responsibility” (Transformative Competencies For 2030, 2). “Creating new value means innovating to shape better lives, such as creating new jobs, businesses and services, and developing new knowledge, insights, ideas, techniques, strategies and solutions, and applying them to problems both old and new. When learners create new value, they question the status quo, collaborate with others, and try to think «outside the box». Reconciling tensions and dilemmas means considering the many interconnections and inter-relations between seemingly contradictory or incompatible ideas, logics, and positions, and considering the results of actions from both short- and long-term perspectives. Through this process, students acquire a deeper understanding of opposing positions, develop arguments to support their own position, and find practical solutions to dilemmas and conflicts. Taking responsibility is connected to the ability to reflect upon and evaluate one's own actions in light of one's experience and education, and by considering personal, ethical and societal goals” (Transformative Competencies For 2030, 2).

Media, digital and information competences are deemed the crucial competences of the future (Matusiak 2020, 64-80). Information competences are understood as information literacy, information proficiency. Researchers are of the opinion that such an explanation (in Polish) does not fully convey the essence of information literacy. They believe that it is better to use the English term “information literacy” which

<sup>2</sup> A number of studies have already been conducted on the quality of higher education and its actual contribution to the development of competence. Cf. Marcyński 2017 (research on journalistic education and development of the communication competence in students, future journalists).

expresses the “ability to recognize an information need and satisfy it to develop skills and thus develop further” (Jones-Kowalska, Wodarski 2018, 33). Whereas digital competences are “a harmonious set of knowledge, skills and attitudes that allow for the effective use of digital technologies in various areas of life” (Łukasiewicz 2019, 85-96). They may be analyzed at an individual and organizational level. Media competences express knowledge, skills and an attitude towards the use of information, relations in media environment, media language, creative use of media, ethics and values in communication and media, safety in communication and media, law in communication and media, as well as economic aspects of media functioning (Drzewiecki, Dąbrowska, Górecka et al. 2014).

During the coronavirus pandemic, teachers and pupils, lecturers and students have to face the above-mentioned competences of the future, in particular information, media and digital more than before. The following questions appeared in the context of these competences and education: To what extent do teachers and pupils have such competences? To what extent does education in the time of coronavirus pandemic contribute to the development and deepening of these competences? Was the period of global distance education in 2020 actually a time of education and further development of competences? These were some of the questions that researchers in various parts of the world attempted to answer.

#### **4. Education during the coronavirus pandemic**

According to Litao Sun, Yongming Tang and Wei Zuo from the Southeast University of Nanjing, China, the coronavirus pandemic definitely contributed to the promotion of distance learning based on digital competences of teachers and students. 24 000 on-line courses were opened (including 1 292 Chinese courses proposed by the Ministry of Education), 401 courses in virtual experimental simulations, provided on 22 various digital platforms (Sun, Tang, Zuo 2020). The above-mentioned researchers conducted research on the effectiveness of distance education which covered 39 854 students at the Southeast University in China. The research results showed that “around 50% of students believed that the planned teaching objectives were fully attained and 46% for objectives basically attained. Interestingly, most students agreed that in addition to maintaining continuity of education, teachers brought positive energy during classes to help them combat mental stress resulting from quarantine (...). However, students were less enthusiastic when asked about ‘focus and restraint’ and gave it a relatively low score, clearly implying a greater need to improve self-discipline and concentration amid distractions such as unstable network speed, noisy environment and a lack of professional equipment. Students recommended combining recorded videos and live courses with more online interaction to mitigate the impact of unstable networks and increase students’ participation. Providing a unified teaching platform with playback functions and appropriate amounts of homework, were also

among the most frequently mentioned suggestions” (Sun, Tang, Zuo 2020). The research showed that theoretical studies and social sciences research were less affected (mainly thanks to the fact that these fields are not experimental, and a large number of online libraries, archives and databases is available, whereas experimental areas were affected most. Researchers believe that the current situation not only creates problems but also provides a lot of opportunities. It helps to identify those areas of distance education that require improvement in the future. The current situation creates new (sometimes bigger) possibilities of international co-operation by building a global on-line education network. What is particularly valuable is the exchange of experience in educating students in different parts of the world (Sun, Tang, Zuo 2020).

In the context of distance education during the coronavirus pandemic, questions began to be asked about the future of education and acquired competences. According to Pew Research Center, a number of crucial changes will take place in education by 2030. Experts predict that people will learn digital competences from the earliest days of their lives, whereas schools, also those teaching humanities and social sciences, will focus more on the transmission and development of competences related to IT, technology, sciences. Researchers also claim that access to knowledge will be easier (more open), whereas curricula for pupils and students will be individualized, aimed to serve each person’s needs and skills. More people will be educated online rather than in traditional school settings and therefore the number of people interested in developing their competences online will increase. According to Pew Research Center, this will make education more available and easier to access for excluded or marginalized groups. It is also expected that ethics, compassion in communication and broadly understood diversity will play a larger role in curricula (Pew Research Center And Elon University’s Imagining The Internet Center 2020).

We are now witnessing deepened, accelerated digitalization of education aimed at the development of competences related to Information and Communications Technology (ICT) i.e. digital competences. In accordance therewith, students and pupils should have the possibility to use advanced technological tools and digital resources for more creative and innovative problem solving (Kozma 2011, 115). Digital competence should be acquired and further developed in an advanced digital environment, analogously to the development of competence in computer-mediated communication<sup>3</sup>. Similarly, where mediated communication competence is needed, it should be acquired and deepened also in the digital environment. German researchers: Johannes König, Daniela J. Jäger-Biela and Nina Glutsch also referred to this thesis (König, Jäger-Biela, Glutsch 2020, 608 -622). The mere availability of computers at school will not in their opinion ensure progress in the development of digital competence. Adequate technological infrastructure is only a humble starting point<sup>4</sup>. “Against this background, objectives related to student learning with digital media should be clarified, and teachers

<sup>3</sup> The author provides more detail on mediated communication competence in: Marcyński 2017, 119-121.

<sup>4</sup> The researchers conducted research on the competences of teachers and pupils during the pandemic. The results indicate a number of benefits for education (e.g. teachers introduced new topics and issues

should account for relevant teacher competences needed for effective use of ICT during the further partial school closure. The present article has demonstrated the specific factors in the area of teacher competence and teacher education that impact teachers' successful mastery of new challenges" (König, Jäger-Biela, Glutsch 2020, 608).

## 5. Competences in education during the COVID-19 era

Questions related to the organization of education during coronavirus pandemic and its level and quality eventually lead to questions regarding competences acquired during that time. Is the period of fully remote or hybrid learning actually a time of acquiring or developing "competences of the future"? What competences can be acquired during the COVID-19 era?<sup>5</sup>

One of the competences acquired and developed as a result of education during the COVID-19 pandemic is the ability to use technology and internet in various social activities, including educational activities, to the fullest possible extent. In other words, (it is assumed that) teachers and pupils participating in distance classes make all effort to make them similar to real classes. The use of the potential offered by the internet to make communication as complete as possible is a competence hard to acquire and practice. It is a particularly valuable skill for teachers. Those who have it, have the ease of communication in a digital environment and are able to motivate participants to actively participate in a meeting<sup>6</sup>.

A similar competence is the skill to transfer soft competences (social) to the conditions of a digital environment. According to scholars: Aras Bozkurt and Ramesh C. Sharma, not only the objectives related to education in teaching are important. "It is maybe time to leave behind our obsession with teaching, transmitting knowledge and giving lectures using tool, shiny EdTech tools. In a time of crisis, when people are under trauma, stress and psychological pressure, should we focus on teaching educational content or should we focus on teaching how to share, collaborate and support? We should remember, when things go back to normal, people will not remember the educational content delivered, but they will remember how they felt, how we cared for them, and how we supported them. We have to further remember that care is a basic characteristic of human life, and that all people want to be cared for (Noddings, 2002). Leaving the notion that what's happening is a great online learning experiment (Zimmerman, 2020)

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to curricula). However, the process of teaching and evaluation looks worse. (König, Jäger-Biela, Glutsch 2020, 608).

<sup>5</sup> It is also worth exploring the work of researchers from Universidade de Sao Paulo who studied what students lost and gained from education due to COVID-19. Benefits include first of all time saved due to the lack of need to travel to the university etc. According to respondents, the time of distance education allows them to pursue their hobbies: reading, cooking, sport, playing instruments etc. Chinelatto, Costa, Medeiros, Boog, Hojaij, Tempski 2020.

<sup>6</sup> The competence to integrate digital technology and essential social practices is discussed among others by: (Netta, Sumita, Leena 2020).



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and an opportunity to test online pedagogy centric approaches, we should try to amplify emotional presence in order to create a climate of empathy and care and following that we should focus on different types of presence, such as teaching presence, cognitive presence and social presence” (Bozkurt, Sharma 2020, i-IV).

Another competence that may be acquired and developed through education during COVID-19 pandemic is the media competence. Distance education contributed to the fact that teachers who run their classes by means of a computer found themselves in the medium and became media personalities (actors and directors of on-line classes). To meet this challenge to a bigger or lesser extent, they learned to work with their voice, work on posture, facial expressions, pace at which they speak and conduct classes in order to perform best in video or audio classes, and to make the teaching process as effective as possible. The situation also applies to pupils and students. They found themselves in a situation which requires them to appear in front of a camera every day and participate in classes by means of a medium.

Another competence that can be explored during the period of distance education is the digital competence. Sudden transition to the reality of distance education made it necessary for teachers and pupils, as well as persons working in school and higher education administration, to easily perform internet tasks. Over a short period of time teachers and pupils were forced to learn various programs and tools facilitating teaching and evaluation.

In the report entitled “Skills development in the time of COVID-19” prepared by The International Labor Office (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank, the authors highlighted the need to have the ability to adapt to various changes and thus to new living and working conditions. This competence is not only beyond the boundaries of Covid-19, but also in the near future of other elements, such as climate change, globalization and demographic changes (Skills development in the time of COVID-19, 58).

## **6. Summary and proposals for further discussion**

Global health crisis caused by COVID-19 is one of the turning points in history that verify the existing social, economic, political and educational standards. For all areas of life - including education - it is an exam in management and quality. An epoch-making experiment, in which we all participate due to COVID-19, verifies our communication competences, both interpersonal and those mediated by communication technologies. Until now, we have relished technological progress but during distance education we are experiencing its potential almost fully. With the transition of education to the internet, many changes can be observed. They are not related only to what is visible i.e. teaching students from home (private space that was so far associated with personal free time), learning from home, dormitory (depending on a student’s financial and social situation), use of available equipment (if any). Changes imposed by the COVID-19 pandemic

bring much deeper changes involving among others the change of the role of a lecturer and student. One may ask to what extent a teacher is a teacher (or rather presenter of information, facilitator of an online meeting), To what extent a student is a student? (having logged in, he/she may mute the lecture, go out and in fact be absent). The author believes that the roles of a lecturer and student change considerably in the conditions of distance education. A student is no longer only a recipient of the content presented at a lecture but also the speaker and creates a lecture together with a lecturer. With access to the internet during a lecture, a student has access to global knowledge resources and may systematically verify or supplement the lecturer's knowledge. Thus, in this meaning, a distance classroom (distance lecture room) functions similarly to a social network. Other entities, also digital (social media friends, sometimes family, students of other higher education institutions etc.) participate in classes. Thus, the interaction between a lecturer and participants assumes new forms and a new character. Those changes have a crucial significance for competences acquired and deepened through education during COVID-19 pandemic. As far as competences are concerned, one may also ask if we can already speak about and predict a new set of the competences of the future since we have found ourselves in a situation in which the competences of the future became the here and now which is in turn linked to another question related to preparing pupils and students for the challenges of the future. The COVID-19 pandemic, besides all the pitfalls, has given us an opportunity to test the whole education system which main goal is to teach how to solve problems and how to navigate an unpredictable situation which consequently means acquiring new competencies. The COVID-19 pandemic was and still is the opportunity for education communities to learn how to be creative, how to adapt to new and unexpected situation (since education per se is helping students to learn for life). Distance learning will be a permanent component of future education but always with the important role of interaction and relationship between students and teachers. Therefore, technological competencies and relational competencies will be always in demand in the 21<sup>st</sup> century education.

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