

Digital Competences and Digital Skills in the Legal Regulation of the Digital Transformation of the European Union

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Abstract: In the digital transformation process, the phases focusing on technical and economic aspects were followed by a phase exposing human capital issues. In approximately 3,000 acts of the European Union relating to the digital transformation process published in Eur-lex, as well as in an increasing number of national acts of the Member States, the terms “digital competences” and “digital skills” appear. They occur, *inter alia*, in the context of the financing of development tasks and their achievement indicators. In the application of existing law, it must be taken into account that the scopes and interrelationships of these new terms are framed differently. This ambiguity may have a negative impact on the effectiveness of digital transformation. It is postulated that the terminological consistency of the multi-level regulation should be improved and, in doing so, it should be noted that the prominence of digital skills in prospective acts and the way in which knowledge is captured can affect the use of the potential of universities.

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1. Introduction

With the transcription of data into digital form and their automatic processing, a process of “digital transformation” has been initiated, in which the reduction of temporal and spatial barriers to communication and the development of network structures affect values, social relations, political-organizational systems and business models.¹ In the process of digital transformation technical aspects were exposed first, then economic and, in the current decade, personal aspects (“human capital”) came to the fore, including the ability of people to steer change in the face of the expansion of artificial intelligence tools.²

In European Union law, the terms “digital skills” and “digital competences”³ (or “digital competence”) have been used alongside the traditional term “professional qualifications” for some years now; and have already been used in approximately 3,000 acts.⁴ Since 2014, the European Commission has been monitoring the digital progress of the Member States through the Digital Economy and Digital Society Index (DESI) reports.⁵

¹ Brunon Holyst and Roman Hauser, *Wielka Encyklopedia Prawa*, vol. 22, *Prawo informatyczne*, eds. Grażyna Szpor and Lucjan Grochowski (Warsaw: Fundacja „Ubi societas, ibi ius”, 2021), 444–5. Cf. Gregory Vial, “Understanding Digital Transformation: A Review and a Research Agenda,” *The Journal of Strategic Information Systems* 28, no. 2 (2019): 118–44; Fadwa Zaoui and Nissrine Souissi, “Roadmap for Digital Transformation: A Literature Review,” *Procedia Computer Science* 175 (2020): 621–8; Agnieszka Gryszczyńska, Małgorzata Ganczar, and Grażyna Szpor, “Transformacja cyfrowa,” in *System Prawa Samorządu Terytorialnego*, vol. 3, *Samodzielność samorządu terytorialnego – granice i perspektywy*, ed. Irena Lipowicz (Warsaw: Wolters Kluwer Polska, 2023).

² Grażyna Szpor, “The Notion of Digital Transformation,” in *Instruments of Public Law: Digital Transformation during the Pandemic*, eds. Irena Lipowicz, Grażyna Szpor, and Aleksandra Syryt (London: Routledge, 2022), e-book; Branden Thornhill-Miller et al., “Creativity, Critical Thinking, Communication, and Collaboration: Assessment, Certification, and Promotion of 21st Century Skills for the Future of Work and Education,” *Journal of Intelligence* 11, no. 3 (2023): 54; Jérémy Lamri, *Kompetencje XXI wieku* (Warsaw: Wolters Kluwer Polska, 2021).

³ Cf. Adam Balicki, *Wsparcie rozwoju kompetencji cyfrowych uczniów i nauczycieli. Komentarz*, LEX/el, 2024.

⁴ In acts published in EUR-LEX as of 22 January 2024: more than 2,800 preparatory documents and approximately 200 legal acts.

⁵ In accordance with DESI methodological note 2022: Dimension 1 Human capital; Sub-dimension: 1a Internet user skills; Indicator 1a1 At least basic digital skills; 1a2 Above basic digital skills; 1a3 At least basic digital content creation skills; Sub-dimension: 1b Advanced skills and development; Indicator: 1b1 ICT specialists 1b2 Female ICT specialists 1b3 Enterprises

In accordance with the DESI methodological note 2022, “Several improvements have been made in the DESI indicators for the DESI 2022 reports. Under Human capital, the digital skills indicators have been modernized to better reflect the required digital competences of people.” Digital competences are understood differently as: 1) the sum of multiple skills (whereby skills alone are not exhaustive)⁶; 2) a component of digital skills; 3) a term with a scope that is disjoint from digital skills (“digital competences and digital skills”).

The terms “digital competences” and “digital skills” also appear in the national laws of EU Member States – in Poland in more than 180 acts of various levels.⁷ This raises numerous doubts.⁸ The Polish “Programme for the development of digital competences”, adopted in 2023, defines digital competences as “a harmonious composition of knowledge, skills and attitudes enabling people to live, learn and work in a digital society, i.e. a society using digital technologies in everyday life and work.”⁹ The Programme delineates, among other things, the tasks of higher education institutions and the authority responsible for science and higher education. In doing so, however, the inconsistency of the conceptual grid becomes apparent. The explicit identification of knowledge as a component of competences makes it possible to unambiguously include pupils, students, teachers, and

providing ICT training. From 2023 onwards, in line with the 2030 Digital Policy Agenda, the DESI is now included in the State of the Digital Decade report (<https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts>) and used to monitor progress towards digital goals (<https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>; <https://digital-strategy.ec.europa.eu/en/policies/desi-poland>).

⁶ Cf. Fanny Pettersson, “On the Issues of Digital Competence in Educational Contexts – A Review of Literature,” *Education and Information Technologies* 23, no. 3 (2018): 1005–21.

⁷ Published in LEX Legal Information System as of 22 January 2024.

⁸ Grażyna Szpor, “Sukcesy i porażki 20-lecia informatyzacji administracji,” in *Prawo Nowych Technologii. Księga z okazji jubileuszu 20-lecia działalności Centrum Badań Problemów Prawnych i Ekonomicznych Komunikacji Elektronicznej i Studenckiego Koła Naukowego – Blok Prawa Komputerowego*, ed. Jacek Gołaczyński (Warsaw: C.H. Beck, 2022), 72–87. Also: Grażyna Szpor, “Model podnoszenia kompetencji cyfrowych,” in *Internet. Hacking*, eds. Agnieszka Gryszczynska, Grażyna Szpor, and Wojciech Wiewiórowski, 325–6 (Warsaw: C.H. Beck, 2023).

⁹ Resolution No. 24 of the Council of Ministers of 21 February 2023 on the establishment of a government program called “Digital Competence Development Programme” (Official Gazette of the Republic of Poland of 2023, item 318), 6.

researchers among the beneficiaries of the Programme. However, it does not solve the problem of implementers who in Polish higher education law should be tasked with raising qualifications.

In the key Polish laws on higher education, the terms digital competences and digital skills do not appear, and the word “qualifications” is used about 1,000 times.¹⁰ In contrast, evaluations of higher education in audit processes¹¹ and statistical indicators adopted in reports, e.g. DESI, refer to digital competences or digital skills and perform poorly. The results of research conducted in Poland¹² demonstrate, *inter alia*, the problems of violation of the principles of legislative technique,¹³ the structure of fund holders for enhancing digital competences,¹⁴ criteria for monitoring the enhancement of digital competences,¹⁵ research into the competitiveness of countries and their positioning in European rankings¹⁶ and the use of the potential of universities.¹⁷ The importance of this issue is also evidenced by the fact that meaning of the term “digital competence” has been the subject of an interest in the English-language literature in recent years, although the conceptual grid used therein is also far from precise,

¹⁰ Cf. <http://kompetencjcyfrowe.uksw.edu.pl/>.

¹¹ Information on the results of the audit of the activities of public administration bodies for increasing digital competence of the society; accessed March 18, 2024, <https://www.nik.gov.pl/plik/id,25577,vp,28343.pdf>.

¹² Szpor, “Sukcesy i porażki 20-lecia informatyzacji administracji,” 72–87.

¹³ Regulation of the Prime Minister of 20 June 2002 on “Principles of Legislative Techniques” (Journal of Laws 2016, item 283). Cf. James J. Morrison, “Legislative Technique and the Problem of Suppletive and Constructive Laws,” *Tulane Law Review* 9, no. 4 (1934–1935): 544–65.

¹⁴ Resolution No. 24 of the Council of Ministers of 21 February 2023 on the establishment of a government program called “Digital Competence Development Programme” (Official Gazette of the Republic of Poland of 2023, item 318).

¹⁵ Cf. Information on the results of the audit of the activities of Polish public administration bodies for increasing digital competence of the society; accessed March 18, 2024, <https://www.nik.gov.pl/plik/id,25577,vp,28343.pdf>.

¹⁶ Since 2014, the European Commission monitors the digital progress of the Member States through the Digital Economy and Digital Society Index (DESI) reports. From 2023 onwards, in line with the Digital Policy Agenda 2030 and used to monitor progress towards digital goals; accessed March 18, 2024, <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>.

¹⁷ In the statutory regulation of higher education in Poland, the key terms are professional qualifications, knowledge and skills, whereas the terms digital competence and digital skills do not appear.

reproducing the unclear relationship of competences to skills characteristic for the EU legislator,¹⁸ and even amplifies it, e.g. in the phrase “soft skills competencies”, referring to skills such as creativity, critical thinking, collaboration, and communication.¹⁹

The term “competence” (*kompetencje*) itself in numerous European legal systems, including Poland,²⁰ is mainly understood as a set of powers and duties of an administrative authority with which it is equipped to perform its tasks²¹ and, above all, in this meaning, is of interest to the legal doctrine.²² However, dictionaries give two meanings of the term “competence” and an extension of the second meaning: “the ability to do something well” is the term “digital competence” (*kompetencje cyfrowe*).²³ In addition, in the context of translation of legal acts into Polish, the use of the word “competence” in the plural in English is controversial (Britannica),²⁴ whereas, in the Polish language, it is generally accepted to use the word in the plural form (*kompetencje*).²⁵

¹⁸ Cf. for example Liisa Ilomäki, Anna Kantosalo, and Minna Lakkala, “What is Digital Competence?,” European Schoolnet (EUN), 1–12, accessed March 18, 2024, <https://helda.helsinki.fi/server/api/core/bitstreams/088eb0f0-ec4a-4a73-8013-4f31538c31a2/content>; Yu Zhao, Ana María Pinto Llorente, and María Cruz Sánchez Gómez, “Digital Competence in Higher Education Research: A Systematic Literature Review,” *Computers & Education* 168 (2021): 104212; Eliana E. Gallardo-Echenique et al., “Digital Competence in the Knowledge Society,” *MERLOT Journal of Online Learning and Teaching* 11, no. 1 (2015).

¹⁹ Thornhill-Miller et al., “Creativity, Critical Thinking, Communication, and Collaboration,” 54.

²⁰ Cf. for example Dorota Mazurkiewicz, “Pojęcie kompetencji w prawie administracyjnym,” *Państwo i Prawo* 43, no. 3 (1988): 72–82.

²¹ Dumitru Vieriu, “Legal Requests of the Authority Administrative Act,” *Journal of Law and Administrative Sciences* (2015): 813.

²² Mariusz Szyrski, “Teoretyczne zasady podziału zadań i kompetencji organów właściwych w sprawach jawności i jej ograniczeń,” in *Jawność i jej ograniczenia. Zadania i kompetencje*, vol. 9, eds. Grażyna Szpor and Bogumił Szmulik (Warsaw: C.H. Beck, 2015), *Legalis*, § 1, II. Znaczenie podstawowych teoretycznych pojęć – zadanie i cel, kompetencja, właściwość i zakres działania. Zastosowanie pojęć teoretycznych w ustawach o dostępie do informacji publicznej oraz o ochronie informacji niejawnych, 3. Kompetencja.

²³ Cambridge Dictionary, “Competence,” accessed February 25, 2024, <https://dictionary.cambridge.org/dictionary/english/competence>.

²⁴ Britannica, “What is the Plural Form of Competence,” accessed March 18, 2024, <https://www.britannica.com/dictionary/eb/qa/what-is-the-plural-form-of-competence>.

²⁵ Słownik Języka Polskiego PWN, “Kompetencje,” accessed March 18, 2024, <https://sjp.pwn.pl/szukaj/kompetencje.html>.

An attempt was therefore made to assess the rationality of the inclusion of terms “digital competence” and “digital skills” in the conceptual grid and their usefulness as keywords for orientation in the fragmented regulation by actors undertaking activities in this field. A structural and contextual analysis was applied in analyzing such possibilities and their limitations, considering the proportions of occurrence, scopes, and interrelationships between terms “digital competences” and “digital skills”.

2. Structural and Contextual Analysis

1) The term “professional qualifications” appears in 7,353 EU acts published in Eur-Lex and “digital skills” can be found in 2,445 such acts. The term “digital competences” is used much less frequently (540 acts with the term “digital competence” and 389 acts with the term “digital competences”).²⁶ In national, the proportions are different in Polish law: the term “professional qualifications” occurs in 5,076 acts and the term “digital competences” in 90 acts, more often than “digital skills” (in 15 acts).²⁷ This tends to be an adaptation of the conceptual grid to the transposed EU act, although there are also deviations, including the introduction of the term competences instead of skills and their definition.²⁸

The selection of legal acts for the analysis was made in principle according to the first results displayed in Eur-Lex for the terms “digital skills” and “digital competences” sorted by relevance. This paper analyses EU legal acts of various types (Article 288 TFEU) – both binding regulations and decisions, non-binding recommendations, and declarations.²⁹

²⁶ Published in EUR-LEX as of 22 January 2024.

²⁷ Published in LEX Legal Information System as of 22 January 2024, excluding Official Journal of EU.

²⁸ Cf. <http://kompetencjcyfrowe.uksw.edu.pl>.

²⁹ Cf. Deirdre Curtin and Tatevik Manucharyan, “Legal Acts and Hierarchy of Norms in EU Law,” in *The Oxford Handbook of European Union Law*, eds. Anthony Arnall and Damian Chalmers (Oxford: Oxford University Press, 2015), 107–8; Monika Szwarc, “Akty ustawodawcze i nieustawodawcze w prawie Unii Europejskiej,” in *Podstawy i źródła prawa Unii Europejskiej. System Prawa Unii Europejskiej*, vol. 1, ed. Stanisław Biernat (Warsaw: C.H. Beck, 2020).

2) Council Recommendation of 22 May 2018 on key competences for lifelong learning,³⁰ defines at the outset the relationship between qualifications and key competences, justifying the importance of the latter category. Among the 8 key competences there is digital competence,³¹ which:

involves the confident, critical, and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy [in Polish back-translated language version: “information and data skills”], communication and collaboration, media literacy [in Polish back-translated language version: “media skills”], digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem-solving and critical thinking.

Thus, digital competence is understood in the Council Recommendation (EU) of 22 May 2018 as the sum of multiple skills whereby skills alone do not exhaust the scope of the concept.

3) Regulation (EU) 2021/694 of the European Parliament and of the Council of 29 April 2021 establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240³² established the Digital Europe Programme and identified “general objectives” as well as “specific objectives” covering actions for the development of large-scale computing and artificial intelligence, cyber security and trust, as well as advanced digital skills, deployment and optimal use of digital capacities and interoperability. The preamble emphasizes that these are interdependent as, for example, artificial intelligence (AI) requires cyber-security if it is to inspire trust, large-scale computing (HPC) capabilities play a key role in supporting

³⁰ Council Recommendation of 22 May 2018 on key competences for lifelong learning (Text with EEA relevance.) ST/9009/2018/INIT (O.J.E.C. C189, 4 June 2018), 1–13.

³¹ Key competences: 1) Literacy competence; 2) Multilingual competence; 3) Mathematical competence and competence in science, technology and engineering; 4) Digital competence; 5) Personal, social and learning to learn competence; 6) Citizenship competence; 7) Entrepreneurship competence; 8) Cultural awareness and expression competence.

³² Regulation (EU) 2021/694 of the European Parliament and of the Council of 29 April 2021 establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240 (Text with EEA relevance) PE/13/2021/INIT (O.J.E.C. L166, 11 May 2021), 1–34. The regulation entered into force on May 11, 2021, retroactive to January 1, 2021, and expires on December 31, 2027.

learning in the context of AI, and all three capabilities require advanced digital skills.³³

4) Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 established the Digital Decade Policy Programme 2030, requiring each Member State to submit to the Commission by 9 October 2023 a National Strategic Action Plan for the Digital Decade, consistent with the “General objectives” and the “Digital targets”.³⁴ The European Parliament, the Council, the Commission and the Member States in the digital decade seek, as stated in Article 3, to promote and achieve eleven “general objectives”, the first of which is “promoting a human-centred, fundamental-rights-based, inclusive, transparent and open digital environment where secure and interoperable digital technologies and services observe and enhance Union principles, rights and values and are accessible to all, everywhere in the Union.” Strengthening the collective resilience of the Member States and bridging the digital divide, achieving gender and geographic balance, aims to promote permanently accessible opportunities for all to develop “basic and advanced digital skills and competencies”, including through vocational education and training and lifelong learning, and by supporting the development of highly productive digital capacities within horizontal education and training systems (Article 7(5)). Separately, promoting the adoption and use of digital capabilities, to bridge the digital divide geographically and provide access to digital technologies and data, and ensuring that online participation by all in democratic life is possible and that public services and health and care services

³³ The general objectives of the 2021–2027 program are “support and accelerate the digital transformation of the European economy, industry and society, to bring its benefits to citizens, public administrations and businesses across the Union, and to improve the competitiveness of Europe in the global digital economy while contributing to bridging the digital divide across the Union and reinforcing the Union’s strategic autonomy, through holistic, cross-sectoral and cross-border support and a stronger Union contribution.” More extensively: Grażyna Szpor, “Gra o cyfrową Europę,” in *Internet. Globalne gry. Global Games*, eds. Agnieszka Gryszczyńska, Grażyna Szpor, and Wojciech Wiewiórowski (Warsaw: C.H. Beck, 2022).

³⁴ The fulfilment of this obligation in Poland is the “Programme for the Development of Digital Competence” adopted by resolution of the Council of Ministers. In addition, Member States may establish regional action plans and integrate them with national action plans to ensure that the overall goals and digital objectives are achieved throughout their territory.

are also available in a trusted and secure online environment for everyone, particularly disadvantaged groups – including people with disabilities and those in rural and remote areas. The final overall objective is to improve resilience to cyberattacks, contributing to risk awareness and knowledge of cybersecurity processes, and increasing the efforts of public and private organizations to achieve at least basic levels of cybersecurity. In Article 3, the phrases “basic and advanced digital skills and competences” appear alongside the term “digital capabilities”. In Article 2, such skills are defined.

“Basic digital skill” means the ability to perform, by digital means, at least one activity related to the following areas: information, communication and collaboration, content creation, safety and personal data, and problem-solving (Article 2(10)). Meanwhile, “advanced digital skills” means skills and professional competences requiring the knowledge and experience necessary to understand, design, develop, manage, test, deploy, use and maintain digital technologies, products and services (Article 2(9)).

In the definition in Article 2(9), the relationship between skills and competences is shaped differently (the components of digital skills are knowledge, experience and professional competence) than in Article 3 (the hyphen indicates the separation of the scopes of the component terms of the phrase “skills and digital competences”).³⁵ Thus, to measure the achievement of the objectives, it is important to clarify this element of the conceptual grid of digital transformation within a multi-level regulation framework.³⁶

5) European Declaration on Digital Rights and Principles for the Digital Decade of 23 January 2023, proclaimed by the European Parliament,

³⁵ Additional doubts are raised by previous official definitions, according to which digital competence consists of digital knowledge and skills and the attitudes that integrate them. Szpor, “Sukcesy i porażki 20-lecia informatyzacji administracji,” 72–87.

³⁶ Por. Article 2 p. 11 Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (Text with EEA relevance) PE/50/2022/REV/1 (O.J.E.C. L323, 19 December 2022), 4–26: “Digital Economy and Society Index” or “DESI” means an annual set of analyses and measurement indicators on the basis of which the Commission monitors the Union’s and the Member States’ overall digital performance across several policy dimensions, including their progress towards the digital targets set out in Article 4; 5 DESI 2022 Methodological Note, accessed March 18, 2024, <https://digital-strategy.ec.europa.eu/pl/policies/desi>.

the Council and the Commission³⁷ is admittedly a non-normative act (Recital 10 of the Preamble), but “the promotion and implementation of the Declaration is a shared political commitment and responsibility of the EU and its Member States within their respective competences and in full compliance with EU law.” The declaration complements the “quantitative targets” in Decision 2022/2481 with “qualitative targets”,³⁸ and obliges the Commission to regularly report on progress towards them to Parliament and the Council. In addition, Decision 2022/2481 states that in cooperating to achieve the eleven general objectives set out therein the Member States and the Commission “shall take account” of the digital principles and rights set out in the Declaration, according to which “we aim to promote a European way for the digital transformation, putting people at the centre, built on European values and EU fundamental rights, reaffirming universal human rights, and benefiting all individuals, businesses, and society as a whole.” The preamble of the declaration explains that it sets out common intentions and political commitments and recalls the most important rights in the context of digital transformation, and that the declaration should “guide policy makers when reflecting on their vision of the digital transformation” and promote solidarity and social inclusion through, among other things, digital education, training and skills. The individual chapters of the declaration should provide an overall frame of reference (Recital 7 of the Preamble). The conclusions and recommendations contained in 6 chapters³⁹ include a definition of how things should be, and the content of the commitments made. In Chapter II, entitled “Solidarity and inclusion”,⁴⁰ one of the 7 sections is “Digital education, training and skills,” which states: “Everyone has the right to education, training and lifelong learning and

³⁷ The European Declaration on Digital Rights and Principles for the Digital Decade (O.J.E.C. C23, 23 January 2023), 1–7. The text in Polish often diverges from the meaning derived from the texts in the languages of other Member States, and it is therefore reasonable to compare them for correct analysis and interpretation.

³⁸ Opinion – European Economic and Social Committee – The Digital Decade EESC-2022-00552-AC, June 15, 2022, accessed March 18, 2024, <https://webapi2016.eesc.europa.eu/v1/documents/EESC-2022-00552-00-01-AC-TRA-EN.docx/content>.

³⁹ 1. Putting people at the centre of the digital transformation. 2. Solidarity and inclusion. 3. Freedom of choice. 4. Participation in the digital public space. 5. Safety, security and empowerment. 6. Sustainability.

⁴⁰ In the Commission’s 2022 proposal: “Solidarity and inclusion”.

should be able to acquire all basic and advanced digital skills” (Article 4), which entails a commitment to: 1) promoting high-quality digital education and training, including with a view to bridging the digital gender divide; 2) supporting efforts that allow all learners and teachers to acquire and share the necessary digital skills and competences, including media literacy, and critical thinking, to take an active part in the economy, society, and in democratic processes; 3) promoting and supporting efforts to equip all education and training institutions with digital connectivity, infrastructure and tools; 4) giving everyone the possibility to adjust to changes brought by the digitalization of work through up-skilling and re-skilling. Chapter V “Safety, security and empowerment”,⁴¹ divided into 3 parts, distinguishes “Protection and empowerment of children and young people in the digital environment”,⁴² which includes, among other things, a commitment to: “providing opportunities to all children and young people to acquire the necessary skills and competences, including media literacy and critical thinking to be able to navigate and engage in the digital environment actively, safely and to make informed choices.”⁴³ Therefore, in the Europe-

⁴¹ In the Commission’s 2022 proposal: “Safety, security and empowerment”. In its opinion of June 2022, the EESC stressed that “The war between Russia and Ukraine has highlighted the importance of the proper functioning of digital connections and cybersecurity at all levels and in all sectors of society, as well as in international connections. It has also reinforced the need to develop people’s skills and the means to recognise and combat disinformation.” [4.11.].

⁴² It proclaims that “Children and young people should be empowered to make safe and informed choices and express their creativity in the digital environment.” (Article 20); “Age-appropriate materials and services should improve experiences, well-being and participation of children and young people in the digital environment.” (Article 21). Moreover, “Specific attention should be paid to the right of children and young people to be protected from all crimes, committed via or facilitated through digital technologies.” (Article 22).

⁴³ The Declaration does not explain the meaning of the term young people, which allows it to include academic youth. However, it is worth noting that in the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Digital Decade for Children and Young People: a new European strategy for a better internet for children (BIK+), the upper age limit of the addressees of the postulated actions appears to be the age of majority, although, for example, the category of young people referred to in the context of computer games includes 15–24 year olds. Online games are currently one of the main forms of online activity for children: 73% of children in the EU aged 6–10, 84% of 11–14 year olds and 74% of young people aged 15–24 play video games. Age-appropriate online games can support

an Declaration of Digital Rights and Principles in the Digital Decade of 23 January 2023, as in Decision 2022/2481, there is the phrase “digital skills and competences” and, in addition, the phrase “digital education, training and skills” and the term qualifications.

6) Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021⁴⁴ establishes the Recovery and Resilience Facility setting out its objectives, its financing, the forms of Union funding under it and the rules for providing such funding (Article 1). The term “digital skills” is used seven times in it, including 16 in recital, in relation to “reforms and investments in the next generation, children and the youth are essential to promote education and skills, including digital skills, up-skilling, reskilling and requalification of the active labor force, integration programs for the unemployed”, and in footnote 5 of Annex VII “Methodology for digital tagging under the Facility” regarding the clarification of the term “digital skills” in the table:

This refers to digital skills at all levels and includes highly specialized education programs to train digital specialists (that is technology-focused programs); training of teachers, development of digital content for education purposes and relevant organizational capabilities. This also includes measures and programs aimed at improving basic digital skills.

Thus, in Regulation 2021/241, on the one hand, there are education, skills and re-skilling linked in equal measure and, on the other hand, the digital skills elements are specialized education and training programs.

7) The term “digital skills” was used twice in the Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013⁴⁵ with regard to ensuring synergies with the “Digital Europe” program (point 7 of Annex IV “Synergies with other Union Programmes”), *inter alia*, by

meaningful online educational and participatory activities, develop digital skills and competences, and have other social benefits (e.g. therapeutic and cultural).

⁴⁴ O.J.E.C. L57, 18 February 2021, 17–75.

⁴⁵ O.J.E.C. L170, 12 May 2021, 1–68.

undertaking “the Programme’s initiatives for the development of skills and competencies curricula, including those delivered at the relevant EIT KICs, are complemented by DEP supported capacity-building in advanced digital skills”. As can be inferred from this quote, this regulation also uses the term “competence” in connotation with the term “skills” but does not use the term “digital competence”. Thus, Regulation 2021/695 uses the term “digital skills” and, in addition, the phrase “skills and competences” without complementing it with the term “digital”.

8) In Regulation (EU) 2021/887 of the European Parliament and of the Council of 20 May 2021 establishing the European Cybersecurity Industrial, Technology and Research Competence Centre and the Network of National Coordination Centres⁴⁶ reference is made (Article 5(3)(c)) to the “supporting, where appropriate, the achievement of Specific Objective 4 – ‘Advanced Digital Skills’ as set out in Article 7 of Regulation (EU) 2021/694, in cooperation with European Digital Innovation Hubs”. The term “competence” is used as many as 274 times in this act (this significant number is caused by the title of the act incorporating the term “competence”, which is subsequently referred to in the text), but the phrase “digital competence” is not used. Although the term “skills” appears in the title of Decision 2023/936, the term “competences” is used 7 times therein, and recital 15 distinguishes knowledge from skills and from competences in the phrase “knowledge, skills and competences”.

9) Decision (EU) 2023/936 of the European Parliament and of the Council of 10 May 2023 on a European Year of Skills⁴⁷ proclaimed a European Year of Skills with the overall objective of “further promotion of a mindset of reskilling and upskilling in accordance with national competences, law and practice.” Among the skills, digital skills were singled out in recital 20, bearing in mind that “the use of digital tools and technologies (...) can create a digital divide” and “[d]igital skills are essential for participation in the labour market, but also for quality of life and active ageing. In the Union, more than 90% of professional roles require a basic level of digital knowledge, while around 42% of citizens in the Union, including 37% of workers, lack basic digital skills.” Although even the title

⁴⁶ O.J.E.C. L202, 8 June 2021, 1–31.

⁴⁷ O.J.E.C. L125, 11 May 2023, 1–11.

refers explicitly to the term “skills”, the term “competence” is used 7 times in the decision, e.g. recital 15, where knowledge is distinguished from skills and from competence: “capable of providing all the necessary knowledge, skills and competences.”

10) Regulation (EU) 2023/1781 of the European Parliament and of the Council of 13 September 2023 establishing a framework of measures for strengthening Europe’s semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act)⁴⁸ establishes a framework for strengthening the semiconductor ecosystem at Union level, including through the establishment of the Chips for Europe Initiative; setting the criteria to recognize and to support integrated production facilities (Article 1(1)). The term “digital skills” is used four times in this legal act, including in relation to achieving synergies of the Horizon Europe programs “for the development of skills and competencies curricula” with the “Chips for Europe” initiative by complementing the activities supported under this initiative to build capacity “in advanced applied digital skills and competences in semiconductor and quantum technologies” (Article 2(f) of Annex III “Synergy with Union Programmes”). In this legal act, also with regard to the synergy of the “Chips for Europe” initiative with other programs, these terms (in combination) are used twice: “to build training capacity and enhance applied advanced digital competences and skills to support development and deployment of semiconductors by technology development and end-user industries” (Article 2(c) of Annex III “Synergy with Union Programmes”). In Regulation 2023/1781, there is a variable ordering of the terms analyzed in a phrase indicating the distinctness of their scopes – “digital competences and skills” – “digital skills and competences”.

11) In the Regulation (EU) 2023/2844 of the European Parliament and of the Council of 13 December 2023 on the digitalization of judicial cooperation and access to justice in cross-border civil, commercial and criminal matters, and amending certain acts in the field of judicial cooperation⁴⁹ regulates “a uniform legal framework for the use of electronic communication between competent authorities in judicial cooperation procedures in civil, commercial and criminal matters and for the use of electronic

⁴⁸ O.J.E.C. L229, 18 September 2023, 1–53.

⁴⁹ OJ L, 2023/2844, 27 December 2023, ELI: <http://data.europa.eu/eli/reg/2023/2844/oj>.

communication between natural or legal persons and competent authorities in judicial procedures in civil and commercial matters” (Article 1(1)). In the context of the impact of electronic communication tools on access to justice, it was pointed out in recital 12 that “Member States should allocate sufficient resources to the improvement of citizens’ digital skills and literacy”.

3. Summary

In European Union law, the terms “digital skills” and “digital competences” have existed in parallel for several years and their scopes and relationship are ambiguous. This needs to be taken into account in the application of EU legislation and its transposition into national law as it determines: the structure of administrators of funds for improving digital competences or skills, the criteria for control, and the basis for examining the competitiveness of countries and their position in European rankings.

In the European Union law, the relation between the terms “digital competences” and “digital skills” to traditionally used terms such as “qualifications” and “knowledge” is also inconsistent. For example, in the definition of “advanced digital skills”, knowledge is indicated as an element of them, but the definition of “basic digital skills” does not include them. In the Decision 2023/936 establishing the “European Year of Skills”, the phrase “knowledge, skills and competences” appears, indicating the distinctiveness of the scopes and consequently the independence of “knowledge” as a separate element from “skills” themselves. Meanwhile, the European Year of Skills aims to support “reskilling” and “upskilling”, and the explanatory memorandum refers to information provided by the European Commission that more than 90% of professional roles in the EU require a basic level of “digital knowledge”, while around 42% of EU citizens lack “basic digital skills”.

The analysis leads to the conclusion that the conceptual grid of digital transformation as it relates to human capital development is confusing. Ambiguous terms are found in EU legislation on, among other things, resource allocation, monitoring, and control, which may have a negative impact on the effectiveness of the transformation. This justifies the postulate of a comprehensive structuring of the terms and concepts of multi-level regulation, taking into account the implications of the prominence of skills

and the place assigned to knowledge for realizing the potential of science and higher education in achieving the goals of the “digital decade”.

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