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Contemporary Competencies from the Perspective of Students in the Humanities and Social Studies at Three Central European Universities. Research Findings from the Project "Enhancing Quality Teaching of Humanities and Social Sciences in Higher Education for 21+"[*]

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Abstract

The text addresses the assessment of key competencies by students in the humanities and social sciences. It is based on research carried out in three universities: Poland, the Czech Republic and Slovakia (a total of 603 students were surveyed) in 2022 as part of (hidden

for review). Exploratory and verification procedures were used in the analysis, including a description of the distribution of variables (determination of averages for each rank), correlation analysis (Pearson's R coefficient; Chi-square), and significance tests of differences (Kruskal-Wallis tests). The 4Cs competencies, together with problem-solving skills, turn out to be the most important for Poles, Czechs, and Slovaks studying. With regard to the self-assessment of their own competencies, students ranked their own problem-solving, critical thinking, communication, creativity, and cooperation skills highest. Similarly, they rated these competencies as the most useful in the labour market. The low importance attributed to digital competences at work is surprising, given their consistent highlighting in the literature as an essential element of successful professionalization. On the other hand, when it comes to competencies related to self-management, the picture is more varied, including between universities, but generally reflects less consistency between the level of a given competence's mastery and its future usefulness.

Keywords: contemporary competencies, job-relevant competencies, labour market, humanities, social sciences, students.

Introduction

The graduate job market is changing rapidly. Graduates need to be flexible, adaptable, familiar with new technologies, and able to transfer their skills in different contexts (Jackson & Tomlinson, 2020). If we accept that science and technology are the driving forces behind development in all aspects of society, the ability to respond effectively to emerging difficulties is unquestionably a fundamental and prospective competence.

The educational policy documents (OECD, 2019; Vincent-Lancrin et al., 2019; OECD, 2022) emphasise the idea that education must be rethought from the perspective of 21st-century specific competencies: design thinking, innovation, self-agency, and collaboration in a complex context. Social changes are transforming the nature and role of competencies in people's everyday lives. Cognitive competencies are more complex and involve not only the capacity to solve problems but also that of critical thinking. In contemporary society, cognitive competencies translate into design thinking, innovation, and metacognition. Social competencies are redefined according to social trends – the new social ethic and the new culture of human relationships (Trilling & Fadel, 2009; Salas-Pilco, 2013; Chalkiadaki, 2018; van Laar et al.,

2020). Employees must be prepared to switch jobs and be flexible in acquiring skills. Thus, the functioning of the education system, the development of its participants' competencies, and the future of teaching and learning, particularly in the context of the concept of life-long learning, are the most pressing issues in today's debates about the changing labour market (Jenkis et al., 2010; Kwiatkowski, 2018; Moczydowska, 2021). As Fadel (2014) suggests, the consensus should be that active citizens of the future need to be versatile as we cannot predict how and what technologies will dominate our future learning and work environments.

The following text focuses on research on students' experiences at the three universities: Poland, Czech Republic, and Slovakia. Firstly, we are interested in the student's perception of the relevance of competencies to labour market expectations; secondly, we are interested in their subjective perception of contemporary competencies; and thirdly, we are interested in the teaching methods employed at the indicated universities.

Because a student's future will be determined by the 4Cs – Critical Thinking, Communication, Collaboration, and Creativity – which are particularly inherent in the social sciences and humanities curriculum, we focus on cognitive and emotional competencies. In order to supplement the aforementioned competencies, our research also examines four additional competencies: problem-solving skills, emotional management competence, time management competencies, and technical and digital competencies.

Theoretical background

Among the lists of key competencies (Guerra et.al., 2014; Cunningham & Villasenor, 2016; Cedefop, 2018), the most common are: knowledge and its application; understanding; critical thinking; problem solving; creativity; teamwork; controlling emotions; commitment; reliability; honesty; punctuality; independence; and creativity. Many of them are included among the so-called competencies of the 21st century; however, the emphasis placed on them differs depending on the theoretical approach and methodology used (Marszałek, 2010; Meda, 2016; OECD, 2019). According to the authors

of the World Economic Forum research, the most desirable competencies are complex problem solving, social skills such as collaboration with others, and process skills such as critical thinking and active listening. In addition to these, the cited documents consider creativity, initiative, or the ability to communicate effectively interpersonally to be the most important (World Economic Forum, 2016).

The contemporary competencies models presented are relatively different, which is often due to different approaches to defining them, but every one of them presents a concept that points to a set of competencies required for value creation and development in a highly digitalised world (Wagner, 2010; Kay & Greenhill, 2011; Binkley et al., 2012).

Four skills consistently appear in 21st-century competencies models: creativity, critical thinking, communication, and cooperation, forming the 4Cs model that is gaining acceptance in scientific, educational, and professional circles. These cognitive skills allow for greater adaptation to specific situations in real time, which appears to be critical to their acceptance. In line with the recommendations of the education and research communities, the World Economic Forum considers 4Cs to be a set of essential skills for development in the modern economy, as of 2017. The OECD has also taken this stance. According to the literature, students' future success will be determined by the 4Cs (Critical thinking, Communication, Collaboration, and Creativity) (OECD, 2022), which are particularly important in social science and humanities education.

Critical thinking skills are the abilities to distinguish opinions from facts, to ask questions, and to identify the strengths and weaknesses of alternative solutions (Gut, 2011). The ability to filter the amount of incoming data to formulate one's own point of view is a key 21st-century skill (Dede, 2010). To think critically, employees need knowledge that is central to the particular domain and enables the formulation of an independent, well-grounded perspective or opinion.

Communication skills relate to the ability to discuss, negotiate, and resolve conflicts in a group. They also concern the ability to convey information that effectively expresses meanings by taking into account the audience and medium

(Ananiadou & Claro, 2009). To successfully navigate the contemporary social landscape, one must be able to efficiently regulate one's needs and ambitions with those of the greater society (Voogt & Roblin, 2012). Communication as a competence is multifaceted and encompasses both general communication abilities and specialised communication skills (Riemer, 2007).

Collaboration skills refer to the ability to actively participate in group work and effectively adapt one's actions to those of others. Employees are frequently reliant on others when performing their tasks (Bronstein, 2003). In order to perform interdependently, they must have a clear understanding of both their own roles and those of their collaborating partners.

Creativity skills are the ability to solve issues in innovative ways and generate novel thoughts. Creativity is associated with the development of novel and possibly helpful ideas for products, services, or processes (Oldham & Cummings, 1996).

In addition to the 4Cs, we included in our research other competencies whose importance is emphasised in the literature's models of contemporary competencies. These include problem-solving abilities, the ability to manage one's emotions, and time management skills, followed by technical and digital competencies (Wagner, 2010; Kay & Greenhill, 2011; Voogt & Roblin, 2012). The ability to address non-obvious problems in complex, real-world circumstances is referred to as problem-solving skills (Funke et al., 2018). Since the workforce increasingly confronts hard and nonrecurrent scenarios, it necessitates domain-specific problem-solving abilities in employees. Although domain-specific expertise is crucial, it is not the only factor. An employee must identify the tasks that are required, potential gaps in, and steps to collect the necessary information. Problem-solving is a key component of critical thinking and creativity competencies, thus, we take it into account in order to improve students' comprehension of these competencies and to capture them in as broad but tangible a way as feasible.

Competence related to the management of one's emotions, which refers to individual differences in the identification, understanding, expression, regulation, and use of one's own emotions and those of others, has been found to be an important predictor of individuals' adaptation to their environment

(Serrat, 2017). Including competence related to the ability to manage emotions in the following analysis is important for at least two reasons. Firstly, because emotional intelligence is an important aspect of the practical realisation of competencies such as problem solving or group collaboration, it is essential for effective functioning in a context of constant change and uncertainty, it underpins decision-making skills in situations of conflict, it builds resilience, and improves adaptability and ability to reduce stress. Looking at competencies related to emotion regulation, on the other hand, becomes crucial in light of the worldwide recognised increase in mental health problems, particularly among Generation Z (Pew Research Centre, 2019; McKinsey Health Institute, 2022). To put it another way, alongside the somewhat technocratic and optimistic vision of developing future competencies, we are confronted with developing them in the context of various crises (ranging from economic to climate-related), which necessitate a more careful reflection on the possibilities of teaching students not only cognitive skills but also emotion management competencies. Thus, the ability to effectively manage one's emotions can be viewed as a foundation for the development and efficient application of the 4Cs competencies.

The knowledge society determines a work scenario in which it is essential to manage time (Sainz et al., 2019). Time management means setting and prioritising goals, planning tasks, and monitoring progress (Peeters & Rutte, 2005). Time management should be an integral part of higher education, but according to research, it is often postulated but not developed in practice (Sainz et al., 2019). Technical and digital competences are extremely important. The ability to use digital technologies in daily work, to assess, search and filter digital content, and to interact using digital technologies is crucial, as the abundance of available information and data, often from multiple sources, means that employees in almost all economic sectors need to be able to search, assess, and organize it (Silva, 2009). The instant access to a wide range of information sources means that people need to recognise when and how it needs to be applied, and to evaluate the reliability and relative value of that information (Starkey, 2011). This overview includes technological competence due to the prevalence of referring to young generations as digital natives

(Prensky, 2001) and our desire to see whether this is actually the case, to see how students evaluate their mastery of these skills, and whether the university can offer them any tools or methods to further improve them. Firstly, the focus on the above-mentioned competencies pertains to the possibility of tracing their applicability in different settings and analysing them among students at the three universities mentioned earlier. Secondly, while much has been written about these competencies, declaring their importance and relevance in the context of the contemporary and future and individuals' strategies for coping with future challenges, relatively little research has been done into their understanding, e.g. how they are interpreted in practice and what individuals' self-assessments of their mastery look like. Thirdly, stereotypes associated with studying social sciences and humanities portray these fields of knowledge as unpractical and unsuitable for future professional work, which is a result of a stereotypical "skills gap" perspective that promotes hard, easily measurable technical, digital, or linguistic competencies. Meanwhile, so-called soft skills appear to be growing in significance, not only in the context of the necessity to effectively navigate the complex social reality but also in relation to employers' expectations. Thus, the attractiveness of social sciences and humanities students as potential employees is increasing, particularly in professions requiring a high degree of adaptability and readiness for lifelong learning (Lapointe, 2022). Fourthly, the emphasis on understanding the competencies under study can serve as a practical tool for both the social sciences and the humanities to address and promote their unique perspectives as critical resources for future employees: confronting the imminent ambivalence of social reality, always contextualising knowledge about it, and taking into account all the different points of view and multiplicity of perspectives in the field while simultaneously focusing on understanding human behaviour and society's functioning.

However, teachers and students often fail to clearly identify and further cultivate these skills. Insufficient practice during tertiary education is identified as the biggest challenge for the future, which goes hand in hand with the urgent need for acknowledging digital competencies, dramatically revealed by the pandemic.

Thus, our study focuses on nine fundamental skills supported by the use of ICT: the 4Cs: Communication, Collaboration, Critical Thinking, Creativity and Problem-Solving Skills, Emotional Management Competence, Time Management, and Technical and Digital Competencies. This article discusses a study of students' perceptions of future competencies and ways of teaching these competencies at three universities in Poland, the Czech Republic, and Slovakia. The following research problems were formulated for this project:

a) **perception of competencies' relevance to labour market expectations** from the student's perspective (How does the student perceive their competencies in terms of labour market expectations?) b) the **student's perception of their own resources** (self-perception) (How does the student perceive their knowledge and skills in terms of the competencies studied?) c) **perception of the university's offer concerning the development of key competencies** (How do the teaching techniques used by academics translate into available competence development opportunities at the university?)

Methods

Research design and ethics

The research project responds to a key objective set by the European Union and national ministries to improve and modernize higher education in the area of key competencies for 21st-century life and practice. It was carried out within the framework of the project Enhancing Quality Teaching of Humanities and Social Science in Higher Education for 21+ (2021-1-CZ01-KA220-HED-000031122), which has been funded with support from the European Commission. An empirical study was conducted at universities in three countries using an online survey to collect data from Adam Mickiewicz University in Poznań (UAM), Poland; Hradec Králové University (HKU), Czech Republic; and the University of Konstantin the Philosopher in Nitra (UKF), Slovakia. The study involved measurement using quantitative methods (implemented as CAWI), targeting students and academics in parallel.

The project has important practical implications for all universities involved in the study. In Slovakia, a reform of the education system is about to take place. International data can help update curriculum to meet the highest standards of educational quality. Universities in the Czech Republic and Poland are constantly improving their offer to students and potential candidates (both domestic and foreign). Both existing and new study programmes, as well as individual courses, can benefit from the project's results.

Ethical approval for research was obtained from the Research Ethics Committees of the three participating academic units.

Participants

The sample consists of 603 students: 128 (Czech Republic), 404 (Poland), and 71 (Slovakia). 73.63% of the participants were female, 23.71% male, and 2.65% with a different gender identity. The average age of participants was 22.2 years (min. 18, max. 53). Male and female participants studied the following degrees: bachelor's degree 59%, master's degree 15.7%, unified master's degree 25.3%. Participants in the survey were students in the social sciences and humanities, invited to participate by the facilitators. Participation was thus based on self-selection.

Measures

Dependent variables: perceived usefulness in future work, self-assessment of competencies, assessment of opportunities to develop each of the competencies studied during their studies.

The study employed a list of the nine competencies outlined above, as well as their synthetic descriptions aimed at providing research participants with an understanding of the meaning of each competence.

In accordance with the nine competencies, we assigned the subjects three tasks:
1. Ranking of competencies based on their perceived usefulness in future work: from most important (1) to least important (9);

2. Competence ranking based on self-assessment of mastery: from perceived strongest (1) to perceived least developed (9) in one-self;

3. Assessment of opportunities to develop each of the competencies studied during their studies - respondents used a four-point response scale to answer the question "Did you have the opportunity to develop the competencies highlighted in your field of study classes": "yes", "rather yes", "rather no", and "no".

In addition, a question on the teaching techniques used by the instructors was used to compare perceptions of the opportunities to develop selected 4Cs competencies depending on the level of specificity of their description. The question inquired whether the respondents had engaged in any of the following class activities during their studies:

1. discussion-based, i.e., involving all students in the discussion (inclusive);

2. requiring team work/projects;

3. requiring creative thinking.

Responses ranged from "never" to "rarely" and "sometimes" to "frequently", and "often" on a frequency scale.

Differentiating variable: university (UAM, HKU, UFK).

Statistical analysis

Exploratory and verification procedures were used in the analysis, including: description of the distribution of variables (determination of averages for each rank), correlation analysis (Pearson's r coefficient – correlations between ranks; Chi-square tests – possibilities of the development of particular competencies), and significance tests of differences (Kruskal-Wallis tests, as differences between students of particular universities). A significance level of 0.01 was used as a cut-off. The collected results were analysed using IBM SPSS Statistics 28 software.

Results

Perceived usefulness in the labour market and perceived level of competency mastery

Table 1 displays the full rankings for the three universities, along with the average score, indicating the importance of each competence based on the students' assessment (the lower the value, the more important the competence according to the students). The rankings arranged by the students in both questions (on the usefulness of the competences in the labour market and their self-assessment) differ slightly between the universities, but the 4Cs competences remain among the five most important, along with problem-solving skills.

Table 1. Perceived usefulness in the labour market and perceived level of mastery of competencies

The ranking structure of competencies is based on their perceived usefulness in future work (Average rank)			The ranking structure of competencies is based on the self-assessment of their mastery (Average rank)		
HKU (CZ)	AMU (PL)	UKF (SL)	HKU (CZ)	AMU (PL)	UKF (SL)
Problem solving (2.84)	Problem solving (3.12)	Critical thinking (2.55)	Problem solving (3.06)	Critical thinking (2.68)	Critical thinking (2.80)
Critical thinking (3.05)	Critical thinking (3.31)	Problem solving (3.08)	Critical thinking (3.38)	Problem solving (3.30)	Problem solving (3.11)
Communication (general) (4.27)	Communication (general) (3.51)	Communication (general) (4.08)	Communication (general) (4.73)	Communication (general) (4.12)	Communication (general) (4.51)
Creativity (5.03)	Cooperation (4.54)	Creativity (4.51)	Creativity (4.88)	Cooperation (4.71)	Creativity (4.87)
Cooperation (5.23)	Creativity (5.17)	Cooperation (5.61)	Cooperation (5.23)	Creativity (4.97)	Cooperation (5.27)
Managing oneself in time (5.33)	Specialised communication (5.19)	Specialised communication (5.62)	Managing oneself in time (5.66)	Specialised communication (5.35)	Digital competence (5.54)
Specialised communication (5.97)	Management of emotions (6.16)	Managing oneself in time (6.06)	Digital competence (5.77)	Digital competence (6.11)	Specialised communication (5.70)

Table 1 (continued)

The ranking structure of competencies is based on their perceived usefulness in future work (Average rank)			The ranking structure of competencies is based on the self-assessment of their mastery (Average rank)		
Management of emotions (6.48)	Managing oneself in time (6.83)	Management of emotions (6.56)	Specialised communication (5.98)	Management of emotions (6.79)	Managing oneself in time (6.41)
Digital competencies (6.80)	Digital competencies (7.17)	Digital competencies (6.93)	Management of emotions (6.31)	Managing oneself in time (6.98)	Management of emotions (6.79)

Source: Authors' research.

4Cs competencies: opportunities for development during studies

Students were also asked to assess the possibility of developing the 4Cs during their studies. Table 2 shows the percentages of positive indications (declarations regarding the possible development of competencies during studies), as well as the results of differentiation between universities. When it comes to critical thinking and creativity, the opinions of students at different universities converge, indicating that they perceive opportunities to develop critical thinking more than creativity. In contrast, there are significant differences in the case of communication and collaboration. In the case of communication competence, HKU students are least likely to indicate the possibility of its development, while in the case of cooperation this is true for UKF students. In both cases, UAM students most often declare the possibility to develop these competencies during their studies.

Table 2. 4Cs competencies – opportunities to develop during studies- variation between universities

4Cs competencies – opportunity to develop during studies	Percentage of positive indications			Correlation (Kramer's V coefficient)	
	HKU (CZ)	AMU (PL)	UKF (SL)	Relevance	Coefficient value
Critical thinking	82	85.3	78.9	0.336	nd
Communication (general)	54.7	76.9	66.2	< 0.001	0.201
Cooperation	78.9	83.7	67.6	0.006	0.133
Creativity	68	71.6	71.8	0.72	nd

Source: Authors' research.

Answers to the question about concrete practices, i.e. the presence of selected activities related to teamwork. Again, the percentages of positive indications in the more specific question are slightly lower than in the more general question (except for the students of UAM; here the difference is very slight). With regard to creativity, students' indications were similar between universities, but the question on the presence of specific activities requiring the use of creative thinking already showed differences between universities, with the highest rates at UAM.

Table 3. Competence development in university classes

Activities undertaken in classes – indication of frequency (Q27)	Percentage of positive indications (responses 'often' and 'sometimes' combined)			Correlation (Kramer's V coefficient)	
	HKU (CZ)	AMU (PL)	UKF (SL)	relevance	coefficient value
Discussions	57.0	62.6	50.7	0.124	nd
Team/project tasks	64.1	83.3	42.3	< 0.001	0.298
Tasks requiring creative thinking	60.9	77.2	62.0	< 0.001	0.161

Source: Authors' research.

Discussion and conclusion

First and foremost, it is worth noting that the 4Cs competencies, together with problem-solving skills turn out to be the most important for Poles, Czechs, and Slovaks studying humanities and social sciences – both in students' perceptions and in scientific and curricular approaches. Problem solving, while not on the 4Cs list, results from it because it requires both critical thinking and creativity, as well as communication and cooperation skills in real-world work situations, and thus, it is rarely perceived as an individual activity. These are by no means new competencies – in fact, they have been the core skills of every social sciences and humanities graduate since their inception. Therefore, addressing modern-day challenges requires relying on

a set of "age-old" competencies, which are indispensable for a reflexive and cooperative response to any challenges, including work-related ones. That would imply a need for a simple shift away from the emphasis on technical and specialised competencies embedded in education, which is divided into hundreds of courses and specialisations based on specialised tools and techniques, rather than reinventing the wheel. Importantly, students are also aware of that change.

With regard to the self-assessment of their own competencies, students ranked their own problem-solving, critical thinking, communication, creativity, and cooperation skills the highest. Similarly, they rated the same competences as the most useful on the labour market. Differences can also be noted between the rankings in the areas of questions concerning both the future relevance of competencies and the self-assessment of one's own competencies. However, these concern competencies placed in the second part of the ranking and refer in particular to digital competencies, which are placed higher in the self-assessment area than their expected usefulness in the workplace, while competencies related to self-management, whether in a temporal or emotional context, are placed lower. This awareness is also a kind of motivation for students to further education and development. This result allows us to conclude that while students have a fairly consistent picture of the relative importance of competencies they possess and expect to be required in the workplace in relation to the 4Cs competencies supplemented with problem solving, the picture is not so consistent for the remaining competencies: for digital competencies, we observe a conviction that they are quite high (6th–7th place in the ranking, depending on the university), with a belief that they are in relatively low demand in the future job (consistently 9th place among students at each university). Given that the literature consistently identifies digital competencies as essential to effective professionalization (Herrmann et al., 2021), students' low ranking of these competencies appears surprising. On the other hand, when it comes to competencies related to self-management, the picture is more varied, also between universities, but generally reflects less consistency between the level of a given competence's mastery and its future usefulness.

In each of the surveyed universities, a significant percentage of respondents indicated opportunities for competency development during their studies, demonstrating students' awareness of the development and training of key competencies during university classes, despite some differences in their assessment of these opportunities. While opinions of students at different universities converge in the case of critical thinking and creativity (and in all of them, opportunities to develop critical thinking are more commonly perceived than possibilities for developing creativity, which may be due to the specificity of social-humanities faculties, more oriented towards analysis and discussion of, e.g. source texts and theories, than towards creativity), significant differences occurred in the case of communication and communication, i.e. competencies of a strictly social interactive nature.

It is worth noting that the presence of specific activities requiring the application of creative thinking varied across universities, with UAM receiving the highest ratings. These results can be interpreted twofold. Firstly, they demonstrate the differences in the applied teaching strategies that characterise the three universities under study, or more precisely, the tasks and teaching methods chosen by their academic staff. According to this interpretation, UAM is a university where students in the humanities and social sciences are more likely to develop selected competencies from the 4Cs group, except for critical thinking, which is equally common across all universities. Secondly, they indicate the differences in how students perceive, reflect, and name competencies. According to this interpretation, the identified differences are the result of students' differently "sharpened" attention, which is due to the specificity of social sciences and humanities faculties, characterised by an emphasis on working with texts, exchanging opinions, and developing positions. Perhaps some of the competence development stays "visible" to them, and what forms their training they do not recognise as a distinct set of exercises or assignments, instead taking them for granted as a component of academic classes.

Regarding communication competencies, HKU students are the least likely to identify the possibility of their development, whereas in the case of cooperation, this concerns UKF students. In all cases, UAM students

frequently mention the possibility of improving these skills during their studies. A possible explanation for these differences relates to awareness and recognition of competency development in the coursework. These findings are somewhat perplexing in light of the faculties' specificity; it is difficult to imagine studying in any social sciences or humanities faculty without having opportunities for communication and cooperation, whether in the form of group work, discussions, and projects, or even communicating individual findings (e.g. presentations of papers). According to the research, a considerable proportion of students believe that discussions are vital for the development of their competencies. As a result, academic lecturers in the social sciences and humanities can incorporate interactive aspects into their lessons that are based on conversation. Another option is to work in a group or on a project. Students can then build competencies in the 4Cs while learning to be accountable for a common goal and determining common results. Students often emphasise the importance of creativity in their learning processes (Egan et al., 2017). Academics have the opportunity to create tasks that require out-of-the-box thinking, exploration of alternative solutions, and exploration of different perspectives. Stimulating creativity can also include encouraging the use of innovative tools in the teaching-learning process.

The disparities in students' perceptions of the relative importance of particular competencies demonstrated in the above findings provide an intriguing foundation for future research, including qualitative research, to identify possible reasons for these differences. Cultural differences also influence educational needs and adaptive teaching strategies in different countries. The teaching methods (such as active learning, problem-based learning, or project-based assessment) used at the surveyed universities significantly impact the development of 4C competencies. They may be caused by macro-social factors such as different educational systems and their assumptions or national cultures (which are much more similar between the Czech Republic and Slovakia than between any of these countries and Poland), but they may also be explained at the level of universities themselves – their slightly different profiles, differences in academic traditions, or ways of communicating to students the purposefulness of using specific teaching techniques. The importance of

social and emotional competencies in the context of future professional (and life) challenges should be emphasized, which is why there is a need for greater focus on developing these competencies in higher education curricula, bearing in mind their importance for professional and personal adaptation.

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