Laurisz *et al.*
European Journal of Futures Research (2024) 12:13
https://doi.org/10.1186/s40309-024-00235-3

European Journal
of Futures Research

RESEARCH ARTICLE

Open Access

The other side of the coin: expectations of Polish and Hungarian students on soft skills in the labour market – a futures perspective

Norbert Laurisz[1], Tamás Gáspár[2*], Wioleta Gałat[1] and Tímea Juhász[2]

Abstract

There is common agreement that we are facing a great transition, which poses a challenge for the labour market, too. The expending literature on soft skills reflects the restructuring of the competition factors, and several papers discuss the future of the labour market: what new professions may emerge and what new skills these jobs demand. However, the attention on the expectations of the future generation of the labour market is more neglected, mainly in terms of what they perceive of companies' expectations. The present research seeks information what soft skills university students think to possess and their views on companies' expectations for the future. In addition, we aimed at detecting the possible cultural differences between two similar countries. The study makes a comparative quantitative analysis of 931 Polish and Hungarian students by analysis of variance, logistic regression and cluster analysis with the PS Imago Pro and PAST programmes. The results reflect that students have a relevant perception of company needs; however, Polish and Hungarian future employees clearly differ in terms of both possession and expectations on soft skills. Additionally, these differences create patterns as well. Polish students are more team-related and prefer collaborative skills, while being more present-oriented. In terms of the future, the preferred skills rather help avoid uncertainties, and serve problem-solving, and hence, planning. Hungarian students highlight professional and individualistic skills to improve competitive abilities. They are more open to the future and recognise the importance of skills that help to unfold optional futures.

Keywords Soft skills, Future skills, Labour market, Futures literacy, Expectations

Introduction

Soft skills orientation aims to develop and enhance non-technical competencies of students, including communication, teamwork and emotional intelligence. The significance of soft skills has amplified owing to factors like global competition and digitalisation, which require employees to have strong social and communication skills [75]. Many soft skills are acquired by students because they perceive their significance for their future professional prospects. Soft skills are essential for job performance, career advancement [71] and efficient communication with customers and colleagues [81].

However, students—future employees— have noted that higher education does not pay adequate attention to the development of soft skills, which results in a mismatch between the skills they acquire and those required by the labour market [14]. This has led to a growing demand for universities to modify their curricula and incorporate soft skills development with technical knowledge in order to enhance graduates' employment prospects [17]. To a large extent, these adjustments ought to centre on education policies implemented by the state, as soft skills can be built and developed throughout

*Correspondence:
Tamás Gáspár
gaspar.tamas@uni-bge.hu
[1] Cracow University of Economics Ul, Rakowicka 16, Kraków 31-510, Poland
[2] Budapest Business University, 22-24, Diósy Lajos u., Budapest 1165, Hungary

education, while higher education should be the culmination of this pathway.

Currently, the stringent rigor of primary and secondary education significantly contributes to students' deficiencies in competencies, particularly in soft skills, which cannot be adequately addressed during their studies [58]. These inadequacies, particularly in the realm of soft skills, cannot be rectified throughout studies. All in all, it seems that the expectations of students for future soft skills as well as the capacities they perceive to possess show significant discrepancies.

This study specifically focuses on understanding what university students believe are the essential skills for their future careers and what they anticipate companies will expect from them. By incorporating the anticipatory and values perspectives of students, this research provides a unique view on the evolving demands of the future workforce.

Examining the issue of soft skills in the labour market into a futures perspective is not particularly daunting. A wide range of literature discuss the role of soft skills in the transformation of the present world in terms of its both understanding and navigating the changes. The anticipatory futures perspective provides a crucial framework for understanding how future workforce participants perceive and prepare for evolving job market demands. This approach not only highlights the anticipated skills but also explores the values and expectations that shape students' educational and career paths. By linking these insights with the anticipatory futures literature, our study contributes to a deeper understanding of the mutual impacts between student perceptions and future labour market needs.

However, other streams of research can be relevant for soft skills and the future. Among them one of the most important is that which raises the question of what the aims of soft skills are: do they enhance the efficiency of the present model of production focusing on competition, winning and profits, or do they rather contribute to question the dominant business model?

A perspective that often explores this issue is the 'triple bottom line', which simultaneously considers changes from the standpoint of profits, people and the planet, while enhancing sustainability and the future [3, 15]. These studies are tightly related to the United Nation's Sustainability Goals, too, which express social and environmental concerns with the ongoing models of life production [61]. However, even if this stream of research is of high relevance and interest, it is beyond the scope of the present paper. We must remain with the relationship of soft skills and transition as follows.

Sadovnichy et al. [66] explore in their book, 'The future society and the transition to It', how the global shift is reshaping production factors. Advances in information science and technology, alongside the human element, undergo profound shifts, necessitating new management skills [52]. This transition extends beyond technological restructuring,the shift in power of the global economy towards the Asian-Pacific regions triggers a cultural reorientation. Consequently, employers and employees undergo changes in their thinking, as well as their set of competencies.

The postmodern age has garnered increased attention towards diversity, encompassing the skills driving behavioural patterns [53]. Sustainability, the main buzzword of the transition, fosters a new mindset in organising our lives and consumption structures. This shift inherently entails a restructuring of our skill sets for managing activities [39]. Additionally, the emerging world is characteristically different from former ages: technologically based networks make it more complex than ever, and so uncertainty and volatility become fundamental features, as well as the diversity of mindsets putting many issues and events in ambiguity. Soft skills of intrapersonal decision-making and those of interpersonal relations are facing a new age accordingly [72].

In terms of changing soft skills in the labour market, the majority of the literature highlights employers' attitudes (see below). Due to global transitions and technological changes, a significant number of papers – such as those by LinkedIn [41], Deilotte (2023) or Tulgan [79, 80] – discuss how the future of work may unfold: which professions might fade out, receive higher preference, or emerge anew.

The central question in these research papers is what soft skills companies anticipate for future competitiveness. However, Almonte [4] emphasises that these views represent just one side of future labour market expectations and labels them the 'skill deficit' approach. So, there is a strong need for the 'other side of the coin': investigating what perceptions students—the future generation of employees in the labour market—have in terms of the images that companies have of the skills necessary for the future. Expectations on expectations is what this paper addresses.

Expectations play a crucial role in futures studies. They are a determining element of future orientation [55] and future consciousness in recent futures literature [2]. While being interested in and thinking about the future is the passive aspect, activities and expectations represent the active side of future orientation. Expectations act as driving forces for adaptation or shaping the future.

Expectations are one way how the future is articulated in our mindset and communication, also in regards to, and with barriers in organisations [51]. In order to place our study in the stream of the discussion on expectations

and skills, we need to note the findings of Miller, Poli & Russel [50], who argue that expectations wield significant influence over social dynamics and extend beyond merely forecasting the future,they also dictate our perception of the present. Therefore, the future-oriented aspect of our study primarily focuses not on predicting potential outcomes, but rather on examining how expectations impact and shape labour market conditions for the forthcoming generation of employees, namely university students.

In other words, it is not purely the expectations of the companies that shape the future of the labour market, but, to a great extent, how future employees perceive these expectations, what they expect from the companies, and how they plan to meet them. Additionally, adaptation is not necessarily a one-way route; emerging generations may possess soft skills that companies have yet to recognise, which could be potential factors for future competitiveness.

To address this gap, our study investigated university students of economics in Poland and Hungary with the following research questions.

1. What soft skills do students, as future employees, perceive will be expected by companies in their field?
2. How well do students feel they are being prepared to develop those soft skills expected by companies in their field?
3. How do students feel they could best develop the soft skills they will need in their future careers?
4. What soft skills do students think they will need that may be different from the soft skills expected by their companies?

The study is limited to the investigation of the demand – employee – side. Research on the actual expectations of companies – supply side – is out of task this time; however, some result from the literature is used as an orientation point. In addition, the paper does not cover the ways to develop skills, including how futures studies contribute to the improvement of soft skills.

The mutual impact of anticipatory futures, as discussed, highlights how students' perceptions of future skill requirements and their expectations of company demands shape not only their current educational pursuits but also their preparedness for the evolving job market. This bidirectional influence underscores the dynamic relationship between future workforce participants and industry expectations, adding a valuable dimension to our understanding of labour market trends.

While this study focuses on understanding the anticipatory perspectives of students regarding future soft skills, we also assume that these expectations are not homogenous among students of similar region, age and study. The investigation, hence, contains a comparative analysis of students from Poland and Hungary. This comparison is not merely a convenience sample but is grounded in the historical, cultural, and economic similarities and differences between the two countries, which may influence students' perceptions and preparedness for the future labour market.

Historical context

Poland and Hungary share a common history of transitioning from centrally planned economies to market-oriented systems in the late twentieth century [6, 32]. These transitions, while similar in their broad strokes, have unfolded differently due to national policies and sociopolitical contexts, affecting how each country's education system approaches skill development.

Cultural context

Cultural differences, as highlighted by Hofstede's dimensions, show that Poland and Hungary vary in terms of individualism, uncertainty avoidance, and long-term orientation [22, 47]. Hungary's higher individualism may reflect an emphasis on personal achievements and self-reliance in education, whereas Poland's higher uncertainty avoidance could lead to a preference for structured learning environments that mitigate risks.

Economic context

Economically, both countries are integrated into the European Union but have distinct industrial structures. Poland's larger and more diversified economy contrasts with Hungary's strong focus on the automotive and manufacturing sectors [7]. These economic contexts shape the demand for different soft skills, influencing how students perceive and prepare for future employment.

Educational systems

Educational policies in Poland and Hungary have evolved uniquely. Poland has seen several reforms aimed at improving education quality and integrating soft skills into the curriculum [26]. In contrast, Hungary has faced challenges such as funding constraints and policy shifts, potentially impacting the emphasis on soft skills development in its educational system [56].

Examining the anticipatory perspectives of students from these two countries, this study also detects if there are similarities and differences in the patterns of students' expectations and how they relate to the Hofstede characteristics. However, the paper does not go beyond that to explore the underlying economic, cultural, political etc. factors.

The discussion is structured as follows. The first section investigates the existing literature with special focus first

on the skills in the job market in general, next on the theoretical and empirical contribution of the Hungarian and Polish authors in particular. The methodological section lays the theoretical foundations in order to articulate the assumptions and hypotheses derived. The description of the sample is followed by the discussion of the data collection as well as data analysis methods such as cluster analysis, logistic regression and comparative statistical test. The results are presented in detail, and then embedded in a discussion chapter for the better understanding of the figures in the Hofstede framework and among the Central-European circumstances. The conclusions return to the research questions and hypotheses to answer and to summarise the main contributions of the research.

Literature review

Skills and their importance in the job market

In the context of global transition, 'change' has emerged as a pivotal term. On one hand, innovation, networking and global value chains are generating new environments, driving forces and avenues for development. On the other hand, this evolving landscape necessitates novel adaptation strategies from the players in the global economic arena. Tulgan [79, 80] emphasises that while our current skill set may suffice for problem-solving within existing paradigms, acquiring new skills is imperative for effectively navigating transitional shifts and ensuring business resilience for the future.

The set of skills contains both hard and soft skills, but it's not simply a shift from hard to soft that indicates the new era. Tripathy [78] finds that competitiveness is much more correlated with the proper combination of soft and hard skills, hence the long-term success of employees depends more on a balanced skill set. Scheerens et al. [68] seem to highlight that soft skills are much more demanded by employers than hard skills; however, from their study as well as from others [60], it becomes clear that the shift relates more to the fact that the relative importance of soft skills is rising, as well as to a restructuring within soft skills. Deloitte [11] states that soft skill-intensive occupations will account for two-thirds of all jobs by 2030.

The Microsoft Partners in Learning [46] conducted one of the early studies on employers' expectations. Their report on innovative teaching and learning research identified the main skills demanded by future employers, including cooperation, professional skills, ICT skills, problem-solving, innovation, self-awareness and self-regulation. A prominent research series conducted by LinkedIn [41] further investigated fifty thousand skills, ultimately narrowing them down to thirty, with five soft skills that companies currently expect. These include creativity, persuasion, teamwork, adaptability and time management. This set of skills is valuable from a strategic foresight perspective: creativity, adaptability and teamwork are forward-looking, time management bridges strategic and operative landscapes, while persuasion supports execution.

A great number of other studies can be found between the two dates, such as 'Soft skills for business success' [11], 'Bridging the soft skills gap: How to teach the missing basics to today's young talent' [79, 80] or 'The value of soft skills to the UK economy' [12]. Though plenty of other investigations are available listing different lists of top soft skills, Almonte [4] argues that mainly all of them can be grouped either as behaving effectively with others (such as communication or teamwork) or behaving effectively on one's own (such as flexibility, creativity, etc.). Additionally, he finds that the great diversity of these lists contributes to the lack of standardised definition of soft skills.

Soft skills, such as communication, leadership, or time management, are generally accepted as paramount for the career success of students [34, 57]. However, proficiency in these skills can vary among students due to factors such as demographic characteristics and perceived importance [30]. Kyrousi et al. [35] examined the soft skills of Gen Z, the young or emerging future generation of the labour market. Their study highlights employability skills and job readiness, encompassing both hard and soft skills.

A set of soft skills is crucial upon entering the labour market. Miller et al. [48] emphasise that schooling from an early age both demands and cultivates soft skills. Rajabzadeh et al. [63] examined undergraduate students and identified how teamwork, experiential learning, work-integrated learning and collaborative exercises contribute to soft skill development. Fekete and Divéki [16] discuss in their paper the soft skills developed through a new curriculum in a research methodology course and the potential for universities to integrate skill improvement into their programmes. Christensen and Paasivaara [10] investigated education from an industry perspective, concluding that even in the IT sector, which heavily relies on hard skills, strong soft skills are essential for collaboration in international software development programmes. Seetha [70] also found that possessing soft skills enhances employability among young people, underscoring the importance of integrating skill development into training programmes through curriculum and teaching method reconsideration.

In addition, skills that shape thinking in different ways of the future are fundamental to extend the capacities of futures studies [49]. Futures literacy represents a contemporary and emerging facet, emphasising the skills essential for future awareness, including

managing expectations [42]. Instead of solely envisioning possible futures and crafting desired outcomes, futures literacy – or literacies – delves into the mental frameworks we employ regarding future scenarios and anticipatory systems [24, 62]. It can be seen from the above literature that it is difficult to identify a single factor that covers all labour market requirements, as a number of different skills factors appear to be predominant in different dimensions.

It is argued that soft skills have an emerging dominance over degrees and professional knowledge of education in the future in terms of the labour market. Digitalisation and automation enhance the demand for flexible and soft skill in order to meet diverse work challenges and tasks [69]. Barreto et al. [5] add that process innovation has an increasing and significant role in countries where long-term thinking and future orientation is stronger.

Juhász et al. [29] made a comparison of six studies on the future of soft skills including global surveys, too, such as Project Aristotel, Google Oxygen or LinkedIn. They find that the concluding lists of future soft skills are quite diverse both in content and in order but express certain groups of soft skills. As for diversity, while Kárpátiné highlights mainly reactive skills such as problem solving, reliability or working capacity, LinkedIn stresses rather proactive skills including creativity or persuasion. In terms of the soft skill types, all investigated lists contain converging capabilities such as critical thinking, time management or problem solving, and diverging skills, for instance creativity, openness or complex viewpoint. In addition, all mention outward-oriented skills such as communication, emotional intelligence or team-work that help network the personal skills, as well as skills to execute visions like expertise application or load capacity.

This experience is in line with the research on future related skills. de Boer et al. [8] mention critical thinking, open mindedness, resilience to uncertainly, self-efficacy and empathy that contribute to future competence. Lalot et al. [37] extended the original Lalot et al. [36] research on soft skills behind future consciousness. They highlight time perspective, openness to alternatives, system perception, concern for other and agency belief to act for the future. Similar are the skills related to future competence that Bol and Wolf [9] emphasise – complex thinking, systemic perception, imagination, creativity, empathy and anticipation –, but the first two are mentioned as sense making, the next two as strange making abilities, while the last two belong to both.

Skills and entering the job market – the Hungarian perspective

In Hungary, both hard and soft skills are crucial for meeting the labour market expectations of young people. Several studies have examined young graduates. According to a Hungarian study on non-degree vocational training in economics, companies expect business graduates to possess traits such as reliability, precision, practical application of skills, independence, problem-solving ability, resilience and industriousness, indicating a preference for creative and problem-solving employees. The research further revealed that students and employers alike considered competencies like problem-solving, practical application of skills, communication, foreign language proficiency, organisational aptitude, stress management, analytical thinking and flexibility to be essential [31].

In a 2009 study, Híves [20] analysed job advertisements for graduates based on the competencies present in the text of the advertisements. She identified 19 competencies, which she categorised into three groups: professional competencies related to work activity, general competencies related to work activity and relation to working conditions. The research revealed that the primary competencies sought were strong performance, effective communication skills, problem-solving abilities, independence and teamwork capabilities.

Szerepi [76] conducted interviews with Hungarian HR managers of multinational companies, revealing that recent graduates are ill-prepared for the realities of the labour market. Their theoretical knowledge outweighs their practical skills and, consequently, renders them unable to apply their knowledge effectively. The research highlights a disconnect: higher education institutions prioritise theoretical knowledge over competencies essential for successful employment.

In the second decade of the 2000s, an increasing number of studies in Hungary have focused on the soft skills of employees. These studies indicate that soft skills are becoming more prominent in the labour market, with important hard skills not being relegated to the background. They also highlight an increased demand for non-cognitive skills in the Hungarian labour market in recent years [23]. Juhász-Horváth-Csikós [27] noted that employees perceive certain soft skills (e.g., flexibility, communication, teamwork) as more sought after by employers than hard skills (e.g., professional skills). Their research also demonstrated that employers' expectations of soft and hard skills are less correlated, and employees perceive employers as valuing these skills as non-systemic, closely related skills. Consequently, studies on Hungarian graduates have found that young people perceive leadership functioning skills, communication

support skills and organisational knowledge support skills as significantly more critical criteria than hard skills.

The development of soft skills for young people entering the workforce is highly valued by employers. Kocsis [33] outlines tasks for institutions to enhance soft skills in Hungarian higher education. His primary suggestion is to reform the pedagogy and lay emphasis on practice-oriented courses and the organisation of creative projects. These initiatives could significantly improve communication and presentation skills. Additionally, institutions should provide opportunities for students to comprehend the importance of both individual and group efforts to enhance teamwork abilities. Kocsis [33] proposes exposing students to workplace scenarios through optional or compulsory courses that are distinct from the main curriculum, thus establishing a framework for competence development programmes. Integrating teaching strategies with research activities and maximising student involvement could facilitate this process.

Skills and entering the job market – the Polish perspective

In Poland, as well as worldwide, soft skills are increasingly desired by employers. Research conducted by work portals indicates that 89% of managerial staff struggle with recruiting candidates who possess key soft skills. These skills include communication, interpersonal skills, leadership abilities, problem-solving, adaptability, time management, collaboration, assertiveness, negotiation, and empathy [25, 40]. Similarly, a MenPower report revealed a pre-pandemic deficit in soft skills such as teamwork, interpersonal communication, independent work organization, as well as both team and project management [43]. The latest MenPower research indicates a deepening deficit in soft skills, with reliability, discipline, and a high sense of responsibility for assigned tasks, logical thinking and problem-solving skills, initiative, organizational skills, leadership, critical thinking, analytical skills, stress resistance, and flexibility being the most desired in the job market [44].

Conducted studies in Poland unequivocally emphasize that in the coming years, critical skills for employees will include critical thinking, emotional intelligence, the ability to learn both independently and from others, as well as problem-solving skills [65]. The growing importance of soft skills in the Polish job market is also attributed to the country's level of economic development. Ongoing automation makes soft skills crucial in adapting to evolving changes [74].

Additionally, the Polish job market shows a lack of ability to translate theoretical knowledge into practical work, a deficit in communication skills, and a need to strengthen teamwork skills, lifelong learning abilities, and independence [73]. Furthermore, there is a recognized need to enhance creativity, critical thinking, and creative problem-solving skills in the Polish job market [13].

An analysis of job advertisements by the Adzuna.pl portal during the COVID-19 pandemic highlighted key skills such as reliability, punctuality, stress resistance, ability to work under pressure, ambitious approach to work, motivation, creativity, and interpersonal skills [1].

Hays [20] research points out the most needed soft skills expected from employees in Poland, including a willingness to learn, organizational skills, customer focus, adaptability, and communication and interpersonal skills [19]. Looking into the future, Hays experts emphasize the importance of relationship building and communication, adaptability, readiness to learn, independence, and cooperation.

Workforce challenges also lead to reflections on student education. Researchers stress the need to teach students flexibility, creativity, innovation, and readiness for change [77]. The significance of educating students in shaping imagination, creativity, and innovation is also emphasized [54]. The National Center for O*NET Development lists essential skills in a dynamic reality, including critical thinking, complex problem solving, flexibility of closure, judgment and decision making, fluency of ideas, manual dexterity, problem sensitivity, negotiation, selective attention, social perceptiveness, visualization, and written expression [82]. The 4 K model emphasizes competencies such as communication, critical thinking, cooperation, creativity, and [38]. In the 21st-century skills framework, skills like collaboration, critical thinking, problem-solving, and communication are highlighted [83] ,Halpern, Dunn [18]. Key soft skills also include collaboration, problem-solving, intercultural competence, ethics, and social skills [59]. These researchers emphasize that among a wide range of soft skills, social skills play a crucial role, including emotional intelligence, empathy, flexibility, problem-solving, openness to change, courage, learning ability, and leadership skills—though in most cases neglecting the discussion of the aims of soft skill competencies, weather they enhance the efficiency or the transformation of the ongoing business models [45].

Methodology

The perception of business demand for professional skills influences students' behaviour and their choice of educational and career paths. Upon analysing the attitudes and decisions of economics students in Poland and Hungary, disparities in their perceptions of the labour market needs were evident, especially concerning required professional skills and competencies. Consequently, divergent decisions regarding skill development paths

and professional qualifications were observed among students in Poland and Hungary.

Recognising these differences, we asked ourselves whether the professional skills expected by employers differ significantly between countries and whether students' skills meet employers' expectations. As a result, a multi-stage study was conducted to identify the differences of the perspectives on employers' needs and labour market requirements. The target group of the research was students reporting aspirations for employment.

The theoretical foundation of the study is based on educational policy, labour market policy, and Hofstede's cultural dimensions, which provide a framework for understanding how cultural differences influence students' perceptions and preparedness regarding soft skills for future employment. The six dimensions of Hofstede's model include Power Distance, Individualism vs. Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-term vs. Short-term Orientation, and Indulgence vs. Restraint [47]. These dimensions help interpret the cultural contexts of Poland and Hungary, shedding light on how these factors shape students' anticipatory perspectives and readiness for the labour market.

These theories inform the constructs that were measured, such as professional skills, communication skills, and critical thinking. These constructs were operationalised into specific variables, including students' perceptions of employers' expectations and students' self-assessed skills. We used a revised version of the Juhász et al. [27] questionnaire. The questions were designed to utilise a five-point Likert scale. Data was collected through surveys and analysed using methods such as cluster analysis, logistic regression, and comparative statistical tests.

The first stage involved preparing the theoretical background for the research and analysis conducted. An analysis of education policy, labour market policy, institutional analysis and Hofstede's concept of cultural dimensions was used to segment and define differences between countries. This formed the basis for defining the potential background of vocational qualification pathways differentiation (Juhász T: Business students' perceptions of labour market soft skills: expectations and characteristics in light of Hofstede's cultural dimensions (based on a survey of five countries) forthcoming).

The second step involved formulating assumptions and research questions, which guided the design of the research questionnaire. Subsequently, two representative samples of students, totalling 931 individuals, were surveyed. The survey was conducted at universities with an economic profile in Poland and Hungary between late 2022 and early 2023.

The study was conducted among students from two business universities in Poland and Hungary as part of an international academic cooperation project. The selection of these universities provided access to a representative sample of business students, considering diverse socio-economic and geographical backgrounds. These universities specialise in business education, which is crucial for a study focusing on the soft skills expected in the future labour market. The international cooperation enriched the study with cross-cultural perspectives, allowing the identification of both universal and country-specific expectations. Consistent data collection methods and research procedures ensured the reliability and validity of the results.

Describe the socio-demographic characteristics of the participants is of great importance to understand the context and background of the study. It is therefore necessary to report that the sample consisted of 931 university students, including 500 students from Poland and 431 students from Hungary. Their age distribution was predominantly between 20 and 24 years old. In particular, 65% of Polish and 60% of Hungarian students were in the 20–22 age group, while 25% of Polish and 28% of Hungarian students were in the 23–24 age group. Smaller percentages of students were aged 18–19 and over 25 years old in both groups. The gender distribution was nearly balanced, with 53% of Polish and 51% of Hungarian students being female. The majority of participants were in their third or fourth year of study, with 45% of Polish students and 44% of Hungarian students in their third year, and 30% in their fourth year in both groups.

The survey tool was based on the catalogue of soft skills identified by the EU Skill Match project [67], implemented by the European Centre for the Development of Vocational Training (Cedefop). As part of its research, Cedefop proposed operationalising each of the identified skills. In our study, we utilised the identified skills in conjunction with the survey questions employed in the Cedefop study, without further definitions, as applied by [28].

The methods employed in this study were selected to effectively address the research questions and handle the specific characteristics of the data collected. The key objectives of the study were as follows: (1) To explore students' perceptions of the soft skills expected by companies in their field; (2) To assess how well students feel they are being prepared to develop those soft skills; (3) To understand how students feel they could best develop the necessary soft skills for their future careers; (4) To identify any differences between the soft skills students think they will need and those expected by companies; (5) To compare the responses of Polish and Hungarian students

to explore how historical, cultural, and economic contexts may influence their perceptions and preparedness.

In order to achieve these objectives, the following methodologies were employed. Cluster analysis was employed to identify natural groupings within the data, which helps to understand patterns and relationships among the students' perceptions of soft skills. Hierarchical cluster analysis with Ward's method and squared Euclidean distance was used, as it effectively minimises within-cluster variance and is suitable for exploratory data analysis.

Logistic regression was employed to model the probability of group membership based on the students' characteristics and perceptions. Logistic regression is appropriate for binary or categorical outcome variables, making it suitable for distinguishing between Polish and Hungarian students based on their soft skills perceptions.

Comparative statistical tests

T-tests and analysis of variance (ANOVA) were utilised to compare mean differences between groups and to test the significance of these differences. These tests are useful in identifying statistically significant variations in soft skills perceptions and self-assessments between the two student groups.

These methodologies were selected for their capacity to provide comprehensive insights into the differences and similarities in soft skills perceptions between Polish and Hungarian students. The hierarchical cluster analysis facilitated the identification of distinct patterns within the data, logistic regression permitted the modelling of group membership probabilities, and the comparative statistical tests provided a comparison of mean differences.

The following hypotheses were tested to address our research questions: H1. Students perceive that companies will expect a distinct set of soft skills for future employment. H2. Students feel that their current education prepares them to varying degrees in developing the soft skills expected by companies. H3. Students have different preferences for how they can best develop the soft skills needed for their future careers. H4. There are differences in the soft skills students think they will need compared to those they believe companies will expect. H5. There are significant differences between Polish and Hungarian students in their perceptions.

Results

The first step was to compare the clustering of skills in each group of students—Polish and Hungarian. A cluster analysis was conducted on the two samples for this purpose. The cluster analysis was employed to identify natural groupings based on students' perceptions of soft skills. We employed hierarchical cluster analysis with Ward's method and squared Euclidean distance to minimise within-cluster variance and provide well-defined clusters. The cluster analysis identified three significant clusters for the Polish students and four significant clusters for the Hungarian students. Among the Polish students, Cluster 1 was characterised by a high importance placed on critical thinking, planning and organisational skills, and emotional intelligence. Cluster 2 focused on entrepreneurial skills and leadership qualities, while Cluster 3 emphasised communication skills and teamwork abilities. For the Hungarian students, Cluster 1 was marked by a high emphasis on professional skills, appearance, and IT skills. Cluster 2 placed a high value on flexibility and problem-solving skills. Cluster 3 prioritised stress and conflict management, as well as emotional intelligence. Finally, Cluster 4 focused on creativity and strategic thinking.

To evaluate the quality and relevance of the clusters, we used the Silhouette measure and cluster cohesion. The Silhouette measure was used to assess the consistency and separation of the clusters. The average Silhouette score for the clusters was 0.62 for Polish students and 0.65 for Hungarian students. These scores indicate a moderate level of cohesion and separation within the clusters, suggesting that the clusters are reasonably well-defined. The degree of cohesion within each cluster was evaluated by calculating the within-cluster sum of squares (WCSS). The WCSS for the Polish student clusters was 150.4, while that for the Hungarian student clusters was 140.7. These values reflect the degree of similarity among the data points within each cluster, with lower values indicating more cohesive clusters.

The results indicated differences in students' perceptions of professional skills. Hungarian students showed distant clusters of skills such as appearance, professional skills and IT skills (Fig. 1). Polish students, on the other hand, displayed close clusters of skills, with entrepreneurial skills and leadership skills being outliers (Fig. 2). Furthermore, a comparison of the analyses revealed a distinct approach to professional skills between the two groups. Polish students grouped professional skills together with soft skills, while Hungarian students clearly distinguished soft skills from professional skills.

The identification of differences in the clusters of the most essential skills influenced the direction of further research and deeper analysis in this area. Therefore, the next step was to conduct a comparison of the means in both groups. This analysis was carried out using a t-test. The results presented below have been limited to only statistically significant values for the test alone, as well as significant values for the test of homogeneity of variance (Leven test).

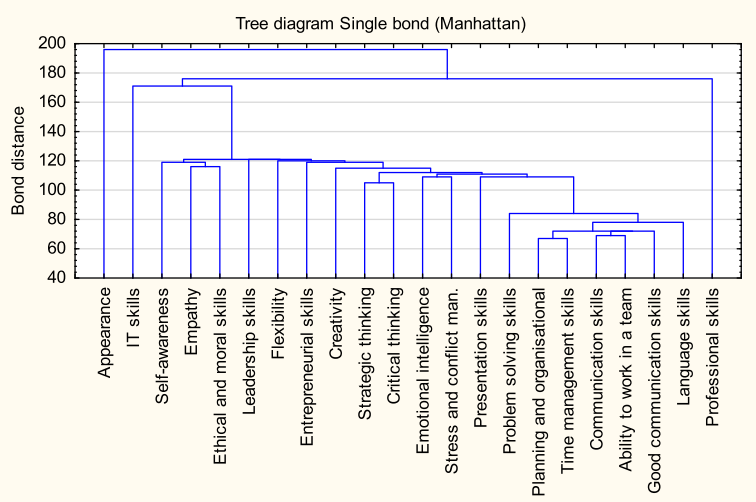

Fig. 1 Clustering of perceptions of skills among Hungarian students. Source: Compilation by the authors

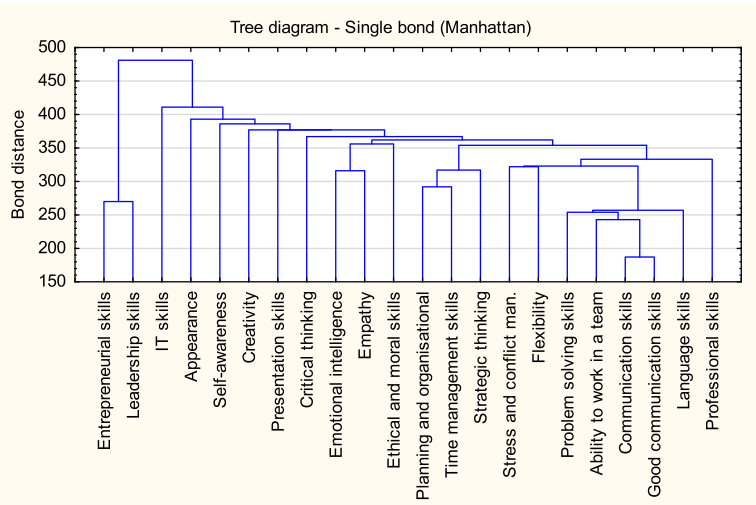

Fig. 2 Clustering of perceptions of skills among Polish students. Source: Compilation by the authors

As shown in Table 1, there are significant differences in the perception of employers' needs between Polish and Hungarian students. Hungarian students prioritise professional skills as the most important competence, followed by appearance, flexibility and IT skills. Conversely, Polish students emphasise entrepreneurial skills, critical thinking, planning and organisational skills and emotional intelligence.

In the t-test conducted to analyse students' skill matching, a notable disparity is evident concerning specific skills. Hungarian students, akin to previously mentioned aspects, prioritise different skills compared to Polish students. Hungarian students emphasise key skills such as appearance, flexibility and stress and conflict management. Notably, there exists a considerable variance regarding Professional skills, albeit statistically insignificant. Conversely, Polish students highlight leadership, entrepreneurial, presentation and strategic thinking skills as most aligned with employers' expectations (Table 2).

The tests conducted illustrate the discernible differences between the two study groups more clearly. Hungarian students exhibit a distinct orientation towards hard professional skills and integration within company operations. Notably, appearance emerges as a significant skill according to Hungarian students, thereby reflecting its importance in meeting employers' expectations and

Table 1 Differences in perception of the skills necessary for employment among Polish and Hungarian students (values ordered by highest value of difference)

	What qualifications do employers expect from a student graduating from university?			
	Difference	**Significance**	**Poland**	**Hungary**
Professional skills	-0,40	0,000	4,00	4,40
Appearance	-0,39	0,000	3,72	4,11
Flexibility	-0,28	0,000	4,10	4,38
IT skills	-0,21	0,000	3,94	4,15
Problem solving skills	-0,15	0,001	4,40	4,56
Language skills	-0,11	0,003	4,64	4,76
Presentation skills	0,12	0,022	4,23	4,11
Leadership skills	0,13	0,029	3,70	3,58
Creativity	0,15	0,006	4,28	4,13
Self-awareness	0,15	0,012	4,04	3,89
Time management skills	0,19	0,000	4,44	4,25
Emotional intelligence	0,20	0,002	4,11	3,91
Planning and organisational	0,25	0,000	4,40	4,15
Critical thinking	0,28	0,000	4,19	3,91
Entrepreneurial skills	0,40	0,000	3,95	3,55

Source: Compilation by the authors

market demands. Conversely, Polish students demonstrate a heightened emphasis on soft skills, team dynamics, entrepreneurship and leadership. This underscores their anticipation of future work dynamics and potential roles within companies. For Polish students, key skills revolve around effective teamwork, whether as team members or managers.

The next step in the analysis was to establish a causal relationship between the skills possessed and expected and the students' group affiliation. Logistic regression was employed for this purpose. The analysis reaffirms previous observations. Subsequently, it illustrates how the perception of skills demanded in the labour market (model 1) or possessed skills (model 2) can determine the likelihood of belonging to a specific group of students (Polish and Hungarian students).

In the case of model 1, the reliability analysis confirms its ability to describe the studied relationship. The values of the reliability measures are as follows: -2 logarithm of reliability: 871.433; Cox-Snell R-square: 0.235; Nagelkerke R-square: 0.336.

Logistic regression enables grouping the strength of impact of individual skills exhibited by students relevant to the labour market. The strength of this impact is determined by the odds ratio, presented in Table 3 as Exp(b). The analysis reveals that the demand expectation for skills like professional skills, flexibility, and appearance strongly influences group membership for Hungarian students. For these three skills, the odds ratio suggests that possessing them increases the likelihood of belonging to the Hungarian student group from 84 to 97%. Additionally, problem-solving and communication skills characterise Hungarian students, although these skills are no longer distinctly matched with hard, professional skills. Conversely, concerning skills from the lower rows of Table 3, the model clearly indicates that possessing soft or managerial skills

Table 2 Differences in perception of own qualifications in the context of meeting employers' expectations (values ordered by highest value of difference)

	Do your skills meet employers' expectations?			
	Difference	**Significance**	**Poland**	**Hungary**
Appearance	-0,48	0,000	3,80	4,28
Flexibility	-0,36	0,000	3,74	4,1
Stress and conflict management	-0,22	0,001	3,65	3,87
Language skills	-0,16	0,002	3,95	4,12
Emotional intelligence	-0,15	0,002	4,01	4,16
Problem solving skills	-0,12	0,016	3,96	4,08
Critical thinking	0,19	0,001	3,85	3,66
Time management skills	0,19	0,003	3,92	3,73
Planning and organisational	0,19	0,001	4,01	3,82
Strategic thinking	0,21	0,000	3,89	3,68
Presentation skills	0,24	0,000	3,74	3,5
Entrepreneurial skills	0,25	0,000	3,49	3,25
Leadership skills	0,26	0,000	3,49	3,23

Source: Compilation by the authors

Table 3 Influence of skills expected by employers on belonging to the national group of students (Polish or Hungarian)

	B	Standard Error	Wald	df	Significance	Exp(B)
Professional skills	0,681	0,113	36,184	1	<,001	1,976
Flexibility	0,655	0,129	25,744	1	<,001	1,925
Appearance	0,61	0,1	37,539	1	<,001	1,841
Problem solving skills	0,545	0,167	10,701	1	0,001	1,725
Communication skills	0,356	0,173	4,226	1	0,04	1,427
Creativity	-0,307	0,141	4,743	1	0,029	,736
Emotional intelligence	-0,398	0,12	10,943	1	<,001	,671
Time management skills	-0,455	0,159	8,217	1	0,004	,634
Critical thinking	-0,55	0,137	16,199	1	<,001	,577
Planning and organisational skills	-0,602	0,173	12,049	1	<,001	,548
Entrepreneurial skills	-0,619	0,118	27,568	1	<,001	,538
Const	-1,73	0,745	5,394	1	0,02	,177

Source: Compilation by the authors

increases the likelihood of belonging to the group of Polish students.

In the case of model No. 2. the reliability analysis of the model allows for reliable inference on its basis. The values of the reliability measures reached the following values: -2 logarithm of reliability: 924.676; Cox-Snell R-square: 0, 190; Nagelkerke R-square: 0, 272.

A logistic regression analysis was conducted to model the probability of group membership (Polish or Hungarian students) based on their perceived and self-assessed soft skills. The significance of the models was evaluated using the omnibus chi-squared test, and the classification accuracy was assessed using the area under the receiver operating characteristic curve (AUC). The omnibus chi-squared test results indicated that both models were statistically significant, with chi-squared values of 34.5 ($p < 0.001$) for perceived soft skills and 28.7 ($p < 0.001$) for self-assessed soft skills. These results suggest that the models provide a good fit to the data.

The area under the curve (AUC) values further demonstrated the models' discriminative ability, with AUCs of 0.78 for perceived soft skills and 0.74 for self-assessed soft skills. These values indicate good classification accuracy, with the models effectively distinguishing between Polish and Hungarian students based on their soft skills perceptions and self-assessments.

The results of the second logistic regression model, Table 4, equally clearly indicate the presence of some regularities. The results indicate that the professional skills held by students entering the labour market are clearly distinguishable. Noticeably Hungarians select appearance to a spectacularly high degree as a skill possessed by them and at the same time expected in the labour market. Indicating this skill raises the chances of belonging to the group of Hungarian students by as much as 221%. Other variables increasing the chances of belonging to this group are: flexibility, problem-solving skills, stress and conflict management. In these, the chance increases from 32 to 72%. For Polish students, the differentiating variables are mainly: time management skills, presentation skills and critical thinking. Self-awareness or ethical and moral skills are slightly less likely to belong to the Polish group.

In conclusion, it can be observed that Polish students placed greater emphasis on critical thinking, planning and organisational skills, and emotional intelligence, while Hungarian students placed greater emphasis on professional skills, appearance, and IT skills. In terms of self-assessed skills, Polish students rated themselves higher in entrepreneurial skills, leadership qualities, and communication skills, whereas Hungarian students rated themselves higher in flexibility, problem-solving skills, and stress and conflict management.

The last element that strongly differentiates the two groups is the declared source of the search for improvement or development of the required skills (Table 5). In the case of Hungarian students, the search for sources of development in formal education or an individualistic approach to improving skills is distinctly dominant. Polish students, on the other hand, declare searching for development opportunities directly in the work or study environment.

Discussion

The statistical analysis reveals numerous overlapping as well as distinct features of soft skills among Polish and Hungarian university students. Regarding clustering, the Hungarian results exhibit more distinctive groups of soft skills with greater internal cohesion. One cluster stands out as particularly clear, where communication

Table 4 Influence of skills possessed according to the national group of students (Polish or Hungarian)

	B	Standard Error	Wald	df	Significance	Exp(B)
Appearance	1,166	0,127	84,092	1	<,001	3,210
Flexibility	0,545	0,106	26,314	1	<,001	1,724
Problem solving skills	0,328	0,143	5,285	1	0,022	1,388
Stress and conflict management	0,278	0,112	6,158	1	0,013	1,320
Self-awareness	-0,264	0,124	4,534	1	0,033	,768
Ethical and moral skills	-0,328	0,122	7,232	1	0,007	,720
Time management skills	-0,42	0,108	15,287	1	<,001	,657
Presentation skills	-0,511	0,107	22,904	1	<,001	,600
Critical thinking	-0,514	0,119	18,755	1	<,001	,598
Const	-0,531	0,56	0,898	1	0,343	,588

Source: Compilation by the authors

Table 5 Supporters of the development or improvement of professional skills

	Who can help you improve your soft skills?			
	Difference	Significance	Poland	Hungary
People working in education	-0,51	0,001	1,66	2,17
Myself	-0,42	0,013	3,93	4,36
Colleagues	0,57	0,016	2,43	1,86

Source: Compilation by the authors

(including language skills) serves as the foundation for teamwork and problem-solving, as opposed to performance, self-management, or appearance. In this context, problem-solving is not solely an individual intellectual skill but rather a communal task. However, while in the Polish case, the broad sense of problem-solving forms the core, while in the Hungarian case, it is merely a component of planning and time management. Moreover, flexibility and conflict management are more closely associated with problem-solving among Polish students, whereas among Hungarian students, flexibility is more aligned with entrepreneurial and leadership behaviour, and conflict management is considered a component of emotional intelligence. Lastly, in Poland, highly sophisticated problem-solving aligns closely with professional skills, whereas in Hungary, professional skills, along with IT hard skills, are not primarily based on or developed as soft skills.

It is also notable that strategic thinking and future relations, in a broad sense, differ from problem-solving and form another cluster. However, in Poland, strategic thinking is seen more as a planning tool, whereas in Hungary, it is closer to envisioning plausible futures linked to critical thinking. This distinction appears significant as they are closely intertwined with emotional intelligence, particularly conflict management, which are core aspects of critical futures studies [64]. Additionally, it's worth mentioning that moral skills and empathy, constituting the value vector of behaviour, are part of the strategic planning framework among Polish students. In contrast, in Hungary, they constitute a distinct third cluster that is more closely related to individual self-awareness and entrepreneurial leadership skills, representing the operational phase of foresight. Overall, the grouping of soft skills in Poland leans towards a present-oriented, problem-solving strategic approach, lacking strong connections to critical thinking, creativity and self-awareness. Entrepreneurship and leadership skills stand out distinctly, while the operational phase of business is only loosely integrated into strategic foresight. In Hungary, the focus on problem-solving and planning is more future-oriented, with a clearly defined operational strategy phase. Presentation skills bridge the gap between planning/problem-solving and strategic/critical thinking clusters, and creativity links strategy with the operational phase. However, these skills are somewhat detached from professional knowledge in Hungary, with creativity often associated more with executing strategies rather than exploring alternative futures.

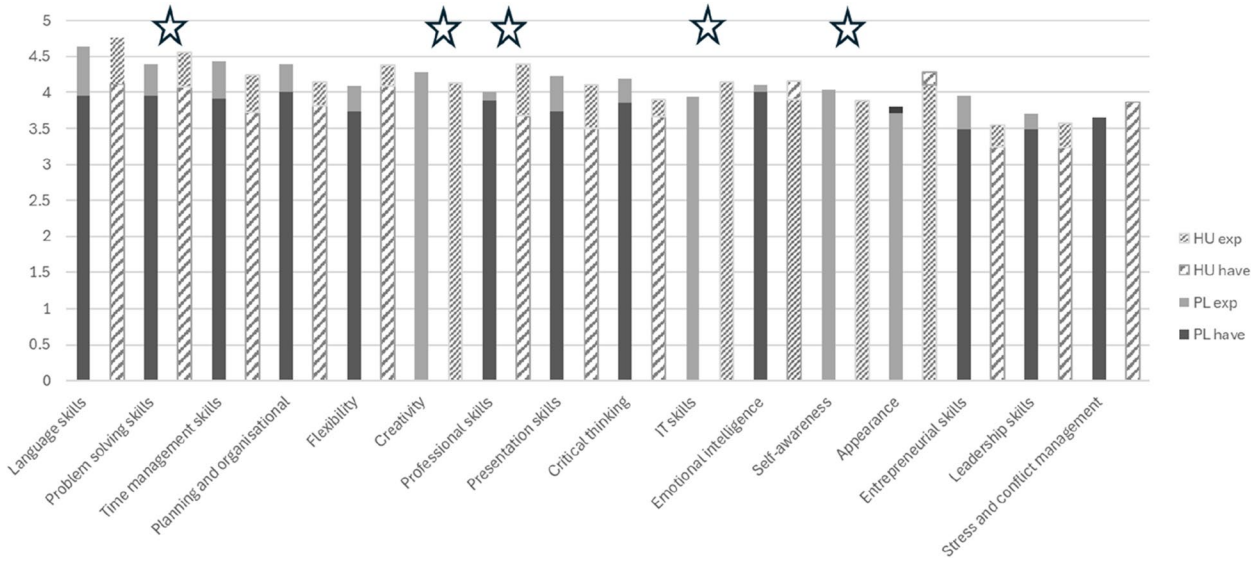

Fig. 3 Expected and possessed skills of Polish and Hungarian students in the sequence of the average expectations. Note: Stars select the main skills that companies expect as the literature finds. Both colours in one column count from 0, so the top of each indicates the absolute value. Source: Compilation by the authors

Figure 3 presents a comprehensive comparison of Polish and Hungarian students regarding the average importance of soft skills as perceived by them in relation to companies' expectations, juxtaposed with their self-perceived possession of these skills. The comparative findings are augmented by insights from Microsoft Partners in Learning research, shedding light on actual entrepreneurial expectations. While insignificance in some cases limits direct comparison of expected and possessed skills, the overall comparative analysis unveils discernible patterns of soft skills.

Firstly, it's noteworthy that problem-solving skills intersect at the juncture of perceptions, self-evaluation and reality. Students in both countries perceive problem-solving abilities as crucial for meeting industry demands, a notion corroborated by literature. Additionally, they tend to overestimate the importance of language skills, possibly due to its minimum requirement status in the eyes of companies. Interestingly, while all students in the research feel relatively well-prepared in language proficiency, it's also the area where they perceive the highest level of deficiency.

In terms of expectations, preferences further differ between the two groups. Polish students believe that companies expect planning, organisation and time management skills for the future, whereas the Hungarian group prefers professional knowledge and adaptability. It appears that hard skills are more valued among Hungarian students, while Polish responses reflect a softer attitude. This observation is reinforced by the fact that the Hungarian sample predominantly selected professional and IT skills, coupled with flexibility and problem-solving; this aligns with existing literature findings. In contrast, Polish students mainly mentioned critical thinking, planning and entrepreneurial skills in terms of expectations (see Tables 3 and 4).

In addition, there is a significant disparity between the expected and possessed professional skills among students. Polish students generally feel adequately prepared in terms of professional knowledge, which aligns well with the anticipated needs of future employers. Conversely, Hungarian students assess their university-acquired knowledge – whether due to curriculum limitations or personal efforts – as unsuitable for an entrepreneurial future. Intriguingly, neither group regards leadership or entrepreneurial skills as crucial for their future endeavours. This perspective is particularly pronounced among Hungarian respondents, who, despite feeling more prepared than their Polish counterparts, place less emphasis on entrepreneurial skills, though they perceive themselves as lagging behind in this regard. professional problem-solving and creativity skills are addressed by both the literature and students in research, IT skills and self-awareness receive considerably less attention from students than what companies demand, as indicated by the literature. The relatively limited emphasis on IT skills may be attributed to the increasing significance of soft skills overall. However, the lack of recognition among students

regarding the importance of self-awareness as a foundation for clear strategic thinking and optimal performance in the labour market, including managing balanced life demands, warrants further investigation.

We can also observe from Fig. 3 that in most cases, students underestimate their performance and competencies relative to the perceived expectations of companies. It is evident that appearance, and among Hungarian students, emotional intelligence, are deemed appropriate concerning future needs. While appearance is comprehensible, further investigation into emotional intelligence, one of the most emphasised soft skills in the global transition, is warranted. It appears relatively less perceived and more presumed to be already developed by future employees in research.

In addition to the general underestimation of possessing skills, there appears to be a controversial pattern in students' behaviour. While those indicating possession of skills closely related to foresight, such as strategic thinking, planning, time management, critical thinking, as well as entrepreneurship and leadership, mainly belong to the Polish group – fitting the soft skill expectations; these students predominantly clustered skills from a present problem-oriented and planning perspective. In contrast, those indicating proficiency in problem-solving, flexibility, or conflict management more likely belong to the Hungarian group, which clustered soft skills from a strategic foresight perspective.

Even though the pattern may appear controversial, it reflects various, diverse yet comprehensive images. Previous research, to which the authors of this paper also contribute, explored the relationship between soft skills and Hofstede's cultural patterns. Their findings indicate that social behaviour in Poland exhibits a very low score in future orientation but is characterised by a high level of uncertainty avoidance. In contrast, Hungarian society demonstrates a much stronger individualistic tendency.

The results of the present study reveal distinct behaviour patterns among the two groups of students. In Poland, the surveyed prospective employees exhibit a stronger perception of possessing skills associated with foresight activities, alongside a preference for soft skills aligned with company expectations, particularly in areas such as planning and organisation. However, these capabilities appear to be oriented more towards addressing current challenges rather than future-oriented tasks, as they primarily serve to resolve present issues and mitigate future uncertainties. Planning, with visions rich in value, is also part of the avoidance attitude. Hungarian students reflected a more consciously structured approach to soft skills, adopting a strategic perspective that encompasses optional futures, preferred visions and operational activities. However, the general individualistic attitude of Hungarian society tends to suppress future-oriented skills. Students expect more hard skills—non-teamwork and present-oriented activities – while articulating possession of soft skills related to cooperative behaviour, which supports their hard skill-related ambitions and improves self-assertion. Development preferences also align with these patterns: Polish students perceive the workplace and the broader study environment as avenues for improving soft skills, whereas the Hungarian group favours formal education and individual development. From this perspective, it is evident that although soft skills may appear as outliers in the clustering of both groups, Hungarian students expect them to be crucial future skills and emphasise their possession of these skills.

Conclusions

The study aimed to explore the anticipatory perspectives of students regarding future soft skills through the following research questions:

1. What soft skills do students, as future employees, perceive will be expected by companies in their field?

The findings revealed that students from both Poland and Hungary perceive communication, teamwork, and problem-solving as the most critical soft skills expected by future employers. Polish students additionally emphasized organizational skills, likely influenced by their higher uncertainty avoidance, while Hungarian students highlighted innovation and creativity, reflecting their higher individualism.

2. How well do students feel they are being prepared to develop those soft skills expected by companies in their field?

Polish students generally felt more confident in their preparedness, attributing it to structured learning environments and comprehensive educational programs. Hungarian students, however, expressed mixed feelings, noting that while their education encourages creativity, it often lacks systematic approaches to skill development.

3. How do students feel they could best develop the soft skills they will need in their future careers?

Both groups of students preferred experiential learning methods, such as internships and practical projects, to traditional classroom instruction. Polish students particularly valued mentorship programs, whereas

Hungarian students favored collaborative projects that allow for innovative thinking.

4. What soft skills do students think they will need that may be different from the soft skills expected by their companies?

Students from both countries recognized the importance of adaptability and digital literacy, which they felt might not be fully recognized by current employers but are crucial for future work environments. This discrepancy suggests a need for educational programs to address these emerging skills more explicitly.

The comparative analysis between Polish and Hungarian students underscores the influence of cultural and educational contexts on their perceptions and preparedness. While both groups acknowledge the importance of core soft skills, their educational experiences and cultural backgrounds shape their confidence and preferences in skill development. These insights highlight the need for tailored educational strategies that consider cultural and contextual differences to better prepare students for the global labor market.

A distinct difference between the students from the two countries is evident. Poland and Hungary belong to the same group of countries, characterised by similar locations, histories and cultures. Additionally, both countries share a similar economic structure. However, there is a noticeable difference in orientation towards skills and a significant variance in perception of labour market requirements. Economics students in Poland are oriented towards working in multi-person teams comprising individuals with diverse skills, which reflects the emphasis on abilities that facilitate cooperation and communication. Important competencies among Polish students also include entrepreneurial and leadership skills, which are closely associated with team and project work. These skills correspond to evolving leadership dynamics within project teams.

In the case of Hungarian students, a strong orientation towards professional competences is apparent, indicating that students from economics faculties in Hungary are inclined towards working in more individualised structures. Here, the hard skills of the employee hold significance, as they compete for jobs. The second emphasised skill is appearance, which again is an individualised trait enhancing competitiveness. The third frequently mentioned skill, flexibility, can be similarly interpreted. It represents an ability allowing individuals to adapt to conditions and modes of work. These three skills are highly individualised, characterising the majority of personal abilities of an employee. Conversely, Polish students exhibit collectivist competences, geared towards group work and, in the long term, competition within teams of employees, i.e., team performance. Hungarian students predominantly anticipate individual competition for job positions, seeking competitive advantages through individualised skills and work.

These observations are confirmed by the students' tendency to enhance their skills through diverse means. Hungarian students emphasise self-education and self-development supported by formal education, while Polish students highlight skill development within the workplace. This suggests a more closed and individualistic approach to competence development among Hungarian students, who prioritise professional skill acquisition prior to employment. Conversely, Polish students prioritise transferable and collaborative skills as they anticipate skill acquisition through work experience.

However, from a futures perspective, the above patterns are controversial. In Poland, the focus on more collective and collaborative working behaviour and the related skills remains largely rooted in the present. The attitude towards the future primarily involves avoiding uncertainties through continual problem scanning and solving, and shaping adaptation to changes through clear, value-based visionary planning. In Hungary, labour market perceptions lean towards individualism but also exhibit greater openness to the future. Students distinctly recognise skills involving various future-oriented activities (scanning, exploring optional futures, planning, strategic operation, etc.), yet these skills do not translate into engagement in social foresight activities.

The research reveals that future employees in both countries possess significant potential in terms of required future skills, and students' profiles largely align with company expectations. Despite both patterns originating from Central Europe, they exhibit distinct characteristics, promising prospects, divergent developmental trajectories, and inherent limitations. Understanding these differences in soft skill patterns within the labour market is crucial for conducting distinguished research, evaluations and fostering further societal development. Furthermore, the conclusions drawn from the research argue that even in the case of similar societies, it is essential to conduct separate studies that can capture initially invisible differences. Such an approach will help avoid generalizations and mistakes in future research. The results of the research also have practical implications for education. They allow for better adjustment of content and, most importantly, teaching methods that will help students achieve professional success. The research also justifies the need for universities to adopt a policy of cooperation with employers, which will help maintain education that is relevant to the needs of the job market. Changing employer expectations and

generational changes suggest that there is a need for cyclical repetition of this type of research.

The study was conducted at universities with a similar profile in two countries that are similar in terms of socio-economic development. Limiting the research to two universities presents certain constraints. Therefore, in the future, it would be valuable to expand the research to universities in other European countries. This might allow for the identification of certain trends and the exploration of the reasons for emerging differences. For future studies, it would also be valuable to examine whether a similar trend would occur at universities with a profile different from that of economics.

Acknowledgements
The paper has been prepared in the collaboration programme of the Cracow University of Economics and the Budapest Business University, and was supported by the Demján Sándor – Budapest Business University Entrepreneur Development Research Programme.

Authors' contributions
Tamás Gáspár has prepared the conceptual framework, the future perspective, the relevant futures literature review, the discussion and the conclusions. Wioleta Galat and Norbert Laurisz were responsible for the methodology, calculations and results, as well as contributed with the specific Polish literature reivew. Tímea Juhász contributed with the soft skill overview and literature review. All authors read and approved the final manuscript.

Funding
Open access funding provided by Budapest Business University. The preparation of the paper has been supported by the Demján Sándor Fund.

Availability of data and materials
The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests

Received: 18 March 2024 Accepted: 29 June 2024
Published online: 13 July 2024

References

1. Adzuna (2020) Raport Rynek pracy – skutki pandemii Covid-19. Adzuna.pl, https://www.adzuna.pl/blog/rynek-pracy-skutki-pandemii-covid/
2. Ahvenharju S, Lalot F, Minkkinen M, Quiamzade A (2021) Individual futures consciousness: Psychology behind the five-dimensional Futures Consciousness scale. Futures 128:102708
3. Alhaddi H (2015) Triple bottom line and sustainability: A literature review. Bus Manag Stud 1(2):6–10
4. Almonte R (2022) A practical guide to soft skills. Communication, psychology and ethics for your professional life. New York & London: Routledge.
5. Barreto TS, Lanivich SE, Cox KC (2022) Temporal orientation as a robust predictor of innovation. J Bus Res 138:287–300
6. Berend IT (2012) From the Soviet Bloc to the European Union: The Economic and Social Transformation of Central and Eastern Europe Since 1973. Cambridge University Press
7. Berend, I. T. (2016). The History of European Integration: A New Perspective. London and New York: Routledge.
8. de Boer, A., Wiekens, C., & Damhof, L. (2018). How futures literate are you? Exploratory research on how to operationalize and measure futures literacy. Paper presented at 6th International Conference on Future-Oriented Technology Analysis (FTA), Brussels, Belgium. https://ec.europa.eu/jrc/sites/jrcsh/files/fta2018-paper-a4-de-boer_.pdf
9. Bol and Wolf (2023) Developing futures literacy in the classroom. Futures 146:103082
10. Christensen E L, Paasivaara M (2022) Learning Soft Skills through Distributed Software Development, ACM International Conference Proceeding SeriesPages 93 – 103, https://doi.org/10.1145/3529320.3529331
11. Deloitte (2023) Soft skills for business success. Building Australia's future workforce. https://www.deloitte.com/au/en/services/economics/perspectives/soft-skills-business-success.html
12. Development Economics (2017) The value of soft skills to the UK economy. McDonald's UK. https://www.allthingsic.com/wp-content/uploads/2015/01/The-Value-of-Soft-Skills-to-the-UK-Economy.pdf
13. Dębkowska K, Kłosiewicz-Górecka U, Szymańska A, Ważniewski P, Zybertowicz K (2022) Kompetencje pracowników dziś i jutro. Polski Instytut Ekonomiczny, Warszawa. https://pie.net.pl/wp-content/uploads/2022/05/Kompetencje-pracow-17.05.2022-B.pdf
14. Ellah H R, Azmi N (2023) High School Students' Perception and Development of Soft skills. International Journal of Language and Literary Studies, 5(2), Article 2. https://doi.org/10.36892/ijlls.v5i2.1283
15. Fauzi H, Svensson G, Rahman AA (2010) "Triple bottom line" as "Sustainable corporate performance": A proposition for the future. Sustainability 2(5):1345–1360
16. Fekete I, Divéki R (2023) Redesigning higher education study skills courses: reflections of Gen Z students on a dynamic and interactive syllabus. In Gáspár, T. (ed.) (2023) Foresight in research - Case studies on future issues and methods: Session proceedings of the BBU Research Day 2023. Budapest Business University. 165–180. https://doi.org/10.29180/9786156342560_9
17. Fetahu E, Lekli L (2023) The 'Soft' Gap: Educational Policy Making vs. Labour Market Requirements. Journal of Educational and Social Research, 13(4). https://doi.org/10.36941/jesr-2023-0099
18. Halpern DF, Dunn DS (2023) Thought and Knowledge. Taylor & Francis, An Introduction to Critical Thinking
19. Hays (2022a) Rynek pracy 2022. Półroczny przegląd trendów. https://www.hays.pl/baza-wiedzy/raport
20. Hays (2022b) Rozwój zawodowy. Oczekiwania specjalistów i możliwości firm, https://www.hays.pl/baza-wiedzy/raport
21. Híves T (2009) Munkaadói elvárások megjelenése az álláshirdetésekben. In: Berde É et al. Diplomával a munkarőpiacon. Felsőoktatási Kutatóintézet, Budapest. www.hier.iif.hu/hu/letoltes.php?fid=kutatasok/185
22. Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations. SAGE Publications. https://doi.org/10.1016/S0005-7967(02)00184-5
23. Holik I, Makó F (2022) A munkaadói képzési igény és a foglalkoztatási készségigény felmérése. In Steklács J, Molnár-Kovács Zs (eds.) 21. századi képességek, írásbeliség, esélyegyenlőség. Absztrakt kötet: XXII. Országos Neveléstudományi Konferencia. MTA Pedagógiai Tudományos Bizottság – PTE BTK Neveléstudományi Intézet. 256, Pécs. https://konferencia.pte.hu/sites/konferencia.pte.hu/files/ONK_absztraktkotet_2022.pdf
24. Horst R, Gladwin D (2024) Multiple futures literacies: An interdisciplinary review. J Curr Pedagogy 21(1):42–64
25. Interview me (2023) Kompetencje miękkie i twarde: lista 30+ umiejętności [przykłady]. https://interviewme.pl/blog/umiejetnosci-miekkie-i-twarde
26. Jakubowski, M., Patrinos, H. A., Porta, E. E., & Wiśniewski, J. (2010). The Impact of the 1999 Education Reform in Poland. World Bank Policy Research Working Paper No. 5263. http://documents.worldbank.org/curated/en/153761468095960833/The-impact-of-the-1999-education-reform-in-Poland

27. Juhász T, Horváth-Csikós G (2021) A puha (soft) és a kemény (hard) készségek munkaerőpiaci szükségessége. Educatio 30(3):532–542
28. Juhász, T., Horváth Csikós G. & Hajeer, A. (2022). Investigating the soft skills of the international mentees at Budapest Business School In: Langhamrová, Jitka; Vrabcová, Jana, RELIK 2022 Conference Proceedings : Reproduction of Human Capital - mutual links and connections. November 10–11, 2022. Prague, Czech Republic: Prague University of Economics and Business, pp. 310–321.
29. Juhász T, Horváth-Csikós G, Gáspár T (2023) Gap analysis of future employee and employer on soft skills. Hum Syst Manag 42:220161
30. Kalauz M S, Hudec G, Kirinic V (2015) Soft skills perception among students: Importance and performance. Central European Conference on Information and Intelligent Systems. 89–95. Faculty of Organization and Informatics Varazdin, Varazdin.
31. Kárpátiné D J (2014) A kompetencia hatalom? Mit ér a gazdasági felsőfokú képzés, ha nem ad diplomát? http://realphd.mtak.hu/624/1/Karpatine_Daroczi_Judit_dissertation.pdf [Accessed: 10.10.2020]
32. Kornai J (2006) The Great Transformation of Central Eastern Europe: Success and Disappointment. Econ Trans, Eur Bank Reconstruct Dev 14(2):207–244
33. Kocsis Zs (2023) Az egyetem munkaerőpiacra felkészítő szerepének a vizsgálata hallgatói interjúk alapján. Iskolakultúra, 72–85. https://www.iskolakultura.hu/index.php/iskolakultura/article/view/44428
34. Kumar A, Singh P N, Ansari S N, Pandey S (2022) Importance of Soft Skills and Its Improving Factors. World Journal of English Language, 12(3), doi.org/https://doi.org/10.5430/wjel.v12n3p220
35. Kyrousi AG, Tzoumaka E, Leivadi S (2022) Business employability for late millennials: exploring the perceptions of generation Z students and generation X faculty. Manag Res Rev 45(5):664–683. https://doi.org/10.1108/MRR-04-2021-0328
36. Lalot F, Ahvenharju S, Minkkinen M, Wensing E (2019) Aware of the future? Developmentand validation of the Futures Consciousness Scale. Eur J Psychol Assess 36(5):874–888
37. Lalot F, Ahvenharju S, Minkkinen M (2021) Aware of the Future? Adaptation and Refinement of the Futures Consciousness Scale. Psychological Test Adaptation and Development 2:102–110
38. Lamri J (2021) Kompetencje XXI wieku. Kreatywność, komunikacja, krytyczne myślenie, kooperacja [21st Century Skills: Creativity, Communication, Critical Thinking, Collaboration]. Warszawa: Wolters Kluwer.
39. Lepeley M T, Beutell N J, Abarca N, Majluf N (Eds.) (2021) Soft skills for human centered management and global sustainability. New York: Routledge.
40. LinkedIn (2018) The Skills Companies Need Most in 2018 – And The Courses to Get Them. https://www.linkedin.com/business/learning/blog/top-skills-and-courses/the-skills-companies-need-most-in-2018-and-the-courses-to-get
41. LinkedIn (2023) Global Talent Trends. Data-driven insights into the changing world of work. https://business.linkedin.com/talent-solutions/global-talent-trends/archival/global-talent-trends-may-2023
42. Mangnus A, Oomen J, Vervoort J, Hajer M (2021) Futures literacy and the diversity of the future. Futures 132:102793
43. Manpower, 2022, Niedobór Talentów 2022, Raport Manpower Group, http://raportyhr.manpowergroup.pl/niedobor-talentow-2022
44. Manpower, 2023, Niedobór Talentów 2023, 2023, Raport Manpower Group, http://raportyhr.manpowergroup.pl/niedobor-talentow-2023
45. Mayer J D, Salovey P (1999) Czym jest inteligencja emocjonalna? [What is emotional intelligence?] In P. Salovey, D. J. Sluyter (Ed.), Rozwój emocjonalny a inteligencja emocjonalna. Problemy edukacyjne [Emotional development and emotional intelligence. Educational issues]: 23–69. Dom Wydawniczy Rebis. (Original work published 1997)
46. Microsoft Partners in Learning (2011) Innovative teaching and learning research. Findings and implications. https://www.european-agency.org/sites/default/files/itlresearh2011findings.pdf
47. Minkov M, Hofstede G (2011) The Evolution of Hofstede's Doctrine. Cross Cultur Manag: An Int J 18(1):10–20
48. Miller J J – Zakary P L (2022) A qualitative analysis of undergraduate sport management student skill and awareness development at an international sports event. Journal of Hospitality, Leisure, Sport and Tourism Education, 30. https://doi.org/10.1016/j.jhlste.2021.100345
49. Miller R, Poli R (2010) Anticipatory systems and the philosophical foundations of futures studies. Foresight 12(3):7–17
50. Miller R, Poli R, Rossel P (2018) The discipline of anticipation. Foundations for futures literacy. In Miller R (ed.) Transforming the future. Anticipation in the 21st century. London and New Yorik: Routledge, 51–65.
51. Mortensen J, Larsen N, Kruse M (2021) Barriers to developing futures literacy in organisations. Futures 132:102799
52. Mouzakitis GS (2010) The role of vocational education and training curricula in economic development. Procedia Soc Behav Sci 2(2):3914–3920. https://doi.org/10.1016/j.sbspro.2010.03.616
53. Nerubasska A, Palshkov K, Maksymchuk B (2020) A Systemic Philosophical Analysis of the Contemporary Society and the Human: New Potential. Postmodern Open 11(4):275–292. https://doi.org/10.18662/po/11.4/235
54. Neubert JC, Mainert J, Kretzschmar A, Grei S (2015) The Assessment of 21st Century Skills in Industrial and Organizational Psychology: Complex and Collaborative Problem Solving. Ind Organ Psychol 8:238–268. https://doi.org/10.1017/iop.2015.14
55. Nováky E, Hideg É, Kappéter I (1994) Future orientation in Hungarian society. Futures 26(7):759–770
56. OECD, UNICEF, (2021) Education in Eastern Europe and Central Asia: Findings from PISA. PISA, OECD Publishing, Paris,. https://doi.org/10.1787/ebeeb179-en
57. Padhi P K, Singh B, Nayak A, Prasanta Kumar Padhi B S (2022) Integrating Soft Skill Training in Professional Courses for Sustainable Employment: An Overview. https://doi.org/10.54646/bijsshr.004
58. Paige DD, Smith GS, Sizemore JM (2015) Conceptualizing rigor and its implications for education in the era of the Common Core. Cogent Educ 2(1):1048084. https://doi.org/10.1080/2331186X.2015.1048084
59. Panth B, Maclean R (2020) Introductory Overview: Anticipating and Preparing for Emerging Skills and Jobs—Issues, Concerns, and Prospects. In: Panth B, Maclean R (eds) Anticipating and Preparing for Emerging Skills and Jobs Key Issues, Concerns, and Prospects. Springer, pp 1–10
60. Patacsil F, Tablatin C (2017) Exploring the importance of soft and hard skills as perceived by IT internship students and industry: a gap analysis. J Technol Sci Educ 7(3):347–368. https://doi.org/10.3926/jotse.27
61. Pedersen CS (2018) The UN sustainable development goals (SDGs) are a great gift to business! Procedia Cirp 69:21–24
62. Poli R (2010) An Introduction to the Ontology of Anticipation. Futures 42(7):769–776
63. Rajabzadeh A, Long J, Zeadin M (2022) Engineering Student Experiences of Group Work. Educ Sci 12(5):288. https://doi.org/10.3390/educsci12050288
64. Rong W, Yusuf A (2020) SLR of Emotional Intelligence Models and Future Research Agenda. Int J Bus Manag Technol 4(3):299–315
65. PARP (2022) Rynek pracy, edukacja, kompetencje. Aktualne trendy i wyniki badań (2022), Polska Agencja rozwoju przedsiębiorczości, Instytut Analiz Rynku Pracy Sp. z o.o. https://www.parp.gov.pl/component/publications/publication/rynek-pracy-edukacja-kompetencje-aktualne-trendy-i-wyniki-badan-czerwiec-2022
66. Sadovnichy V et al. (2023) The Future Society and the Transition to It. In: Sadovnichy V et al. (eds) Reconsidering the Limits to Growth. World-Systems Evolution and Global Futures. Springer, Cham. https://doi.org/10.1007/978-3-031-34999-7_3
67. SkillsMatch. (2020, February 18). Soft skills definitions. Retrieved August 25, 2022, from https://skillsmatch.eu/soft-skills-definitions/ [Accessed: 10.05.2024]
68. Scheerens J, van der Werf G, Boer H (Eds.) (2020). Measurement of Soft Skills in Education. Soft Skills in Education:141- 189. https://doi.org/10.1007/978- 3–030–54787–5_6
69. Schislyaeva ER, Saychenko OA (2022) Labor market soft skills in the context of digitalization of the economy. Soc Sci 11(3):91
70. Seetha S (2013) Necessity of Soft Skills Training for Students and Professionals. Int Assoc Sci Innov Res 4(2):171–174
71. Shillie PN, Nchang NN (2023) Influence of Employee Soft Skills on Job Performance: Evidence from SMEs in Cameroon. Bus Perspect Rev 5(1):1–11. https://doi.org/10.38157/bpr.v5i1.530
72. Shliakhovchuk E (2021) After cultural literacy: new models of intercultural competency for life and work in a VUCA world. Educ Rev 73(2):229–250. https://doi.org/10.1080/00131911.2019.1566211
73. Socha Z, Szymczak S (ed) (2023) Nie tylko doświadczenie i kompetencje miękkie. Analiza regionalnego zapotrzebowania na kompetencje i kwalifikacje w wybranych branżach. Warszawa: Instytut Badań Edukacyjnych.

https://samorzad.gov.pl/attachment/aecc3e30-eb2a-4c9e-aeea-f51c8495b6ba
74. Sylwestrzak B (2022) External environment of an organization and professional competencies of employees in Poland. Sci J Military Univ Land Forces 1(203):126–140
75. Syahrin, S., Almashiki, K. & Alzaanin, E. (2023). The Impact of COVID-19 on Digital Competence. A Case Study of Preservice Teacher Education Students in the Sultanate of Oman. Int J Adv Comput Sci Appl 14(1), p. 511-519.
76. Szerepi A (2009) Munkaadók és fejvadászok a munkaerőpiacról és az oktatási rendszerről. In: Berde É et al. Diplomával a munkaőpiacon. Felsőoktatási Kutatóintézet, Budapest. https://ofi.oh.gov.hu/sites/default/files/attachments/felsooktatasi_gyz.pdf
77. Sztompka P (2016) Uniwersytet w przestrzeni społecznej [The University in Social Space]. Zarządzanie Publiczne 36(2):54–58
78. Tripathy M (2021) Relevance of Soft Skills in Career Success. MIER J Educ Stud Trends & Practices 10(1):91–102. Retrieved from (https://www.mierjs.in/index.php/mjestp/article/view/1354)
79. Tulgan B (2015) Bridging the Soft Skills Gap: How to teach the missing basics to todays young talent. Waley. https://www.wiley.com/en-us/Bridging+the+Soft+Skills+Gap%3A+How+to+Teach+the+Missing+Basics+to+Today's+Young+Talent-p-9781119171409
80. Tulgan B (2015) Bridging the soft skills gap: How to teach the soft skills basics to Today's Young Talent. Wiley. https://doi.org/10.1002/9781119171409
81. Tyschenko O (2023) SOFT SKILLS IN ESL TEACHING. Collection of Scientific Papers «ΛΌΓΟΣ», April 28, 2023; Seoul, South Korea, Article April 28, 2023; Seoul, South Korea. https://doi.org/10.36074/logos-28.04.2023.48
82. Vista A (2020) Data-Driven Identification of Skills for the Future: 21st-Century Skills for the 21st-Century Workforce. SAGE Open 10(2):1–16. https://doi.org/10.1177/2158244020915904
83. Voogt J, Erstad O, Dede C, Mishra P (2013) Learning and schooling in a digital world. J Comput Assist Learn 29:403–413. https://doi.org/10.1111/jcal.12029

Publisher's Note