



ARTICLE

## Digital Age Pedagogy: How European and Asian Business School Students Perceive Competence-Oriented Education

*Desislava Serafimova*

University of Economics, Varna, Bulgaria

*Pensri Jaroenwanit*

Khon Kaen University, Thailand

*Pongsutti Phuensane*

Khon Kaen University, Thailand

### ABSTRACT

This study examines the perceptions of competence-oriented educational practices in the digital age among business school students from European and Asian cultures. The statement emphasizes the need for essential competencies and maintaining a balance between study and personal life. The study sampled 800 undergraduate students, equally in Thailand and Bulgaria, to assess the impact of key competencies, digital literacy, and the integration of digital technologies on students' educational choices. The findings revealed significant differences in how students from these two regions perceive the importance of these factors. Thai students tend to emphasize a balanced set of competencies but are less inclined to value digital skills as highly as their Bulgarian counterparts. In contrast, Bulgarian students place a greater emphasis on digital competencies, reflecting the European education system's broader integration of digital literacy into its curricula. The evidence suggests that a global trend towards the recognition of digital technologies is crucial for achieving a study–life balance with minimal differences between the regions in this regard. This convergence suggests an emerging global consensus on the role of digital education in promoting lifelong learning. The authors

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Pongsutti Phuensane

[serafimova\\_d@ue-varna.bg](mailto:serafimova_d@ue-varna.bg), [penjar@kku.ac.th](mailto:penjar@kku.ac.th),  
[pongphu@kku.ac.th](mailto:pongphu@kku.ac.th)

recommend incorporating region-specific teaching philosophies to improve student engagement and promote a healthy study–life balance.

#### **KEYWORDS**

digital competency, higher education, business schools, literacy skills, cultural differences, digital age, study–life balance, regional educational philosophies

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## **Introduction**

Business schools face increasing digitization, internationalization, and competition on a global scale. The widespread use of digital technology in university education and the rise of alternative educational systems, such as Massive Open Online Courses (MOOCs), have intensified the supply of educational services worldwide. Various educational platforms such as Coursera<sup>1</sup>, edX<sup>2</sup>, Udemy<sup>3</sup>, LinkedIn Learning<sup>4</sup>, Futurelearn<sup>5</sup>, and Skillshare<sup>6</sup> offer such services. These are shorter courses focused on acquiring specific knowledge and skills, giving trainees a higher degree of career readiness through the possibility of faster assimilation and application in practice. Thus, business schools must meet the expectations of their current and future students, as well as the requirements of the labor market—employers and personnel users—competing not only with traditional academic institutions but also with alternative education systems and online platforms (Nurutdinova et al., 2023). Therefore, to be competitive and thrive, business schools must be in tune with the world’s leading innovation trends in higher education. Therefore, the question is how much and in what ways business schools, as academic institutions, should focus on teaching models that help students learn more specific skills in line with the needs of the job market and help them acquire those skills faster in the real world (Christensen & Eyring, 2011; Schlegelmilch, 2020). However, this question could also provoke a more comprehensive discussion, interpreted in the context of the fundamental choice that business schools have to make, that is between training built on basic scientific principles or a more market-oriented education (Gill & Lashine, 2003; Thirakulwanich et al., 2020).

<sup>1</sup> <https://www.coursera.org>

<sup>2</sup> <https://www.edx.org>

<sup>3</sup> <https://www.udemy.com>

<sup>4</sup> <https://www.linkedin.com>

<sup>5</sup> <https://www.futurelearn.com>

<sup>6</sup> <https://www.skillshare.com>

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Study–life balance is the condition where students maintain a harmonious distribution of their academic obligations and personal pursuits (Borowiec & Drygas, 2022; Darling-Hammond et al., 2023). Studies have recently evaluated it using self-reported assessments of individuals' well-being, their degree of satisfaction with their academic achievement, and their perception of stress levels (Padmanabhanunni et al., 2023). This research adopts a similar approach, utilizing validated survey instruments to measure students' perceptions of their balance. The study also examined cultural differences in how study–life balance is perceived and achieved, recognizing that students from different cultural backgrounds may have varying expectations and definitions of a “good” balance. The study offers an all-around awareness of the influence of study–life balance on students' academic achievements and welfare in various settings by examining these variables.

Representatives of Gen Z are extremely analytical and pragmatic in their approach to responsibilities (Francis & Hoefel, 2018); besides, they are more flexible and are inclined to change employers frequently (Benítez-Márquez et al., 2022). Experts anticipate that they will maintain their current job roles and professions, opting to operate as independent freelancers on multiple projects concurrently rather than within a particular company (Stanimirov, 2021). Friends' opinions and information from social media platforms such as Facebook<sup>7</sup>, Instagram<sup>8</sup> followers, and influencers strongly influence their decision about business school (Singer et al., 2023). Their pragmatism in choosing a university is expressed in the search for the so-called career readiness—the extent to which the higher educational institution provides an opportunity for quick, professional realization (Stanimirov, 2021), which is also influenced by factors such as the attractiveness of the region, the vision and public image of the university, and the type and number of specialties offered, including whether they sound “modern” enough.

The study aims to analyze the possibilities of business schools applying a competence-oriented educational approach in digital transformation and striving to achieve sustainability in study–life balance. Applying such an approach in the European area of higher education is strongly required by the European Commission's (EC) policies, and several European business schools are gradually integrating it into their curricula and programs. The research interest focused on establishing how students in Europe and other continents perceive this competency-based educational approach. The present study aims to verify whether significant cultural differences exist in the perceptions of students from Europe (business schools in Bulgaria, an EU member state) and Asia (business schools from Thailand) regarding applying a competence-oriented educational approach in digital transformation.

The study provides a novel contribution by examining how a balanced set of competencies, including digital, entrepreneurial, and sustainability skills, influences

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<sup>7</sup> Facebook™ is a trademark of Facebook Inc., registered in the U.S. and other countries. По решению Роскомнадзора, социальная сеть Facebook в России признана экстремистской организацией и заблокирована.

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students' study–life balance and career readiness. The study also integrates the evolving expectations of Gen Z students, addressing the impact of modern educational practices on their academic and personal lives. This approach offers new insights into the role of business schools in preparing students for a rapidly changing global labor market. The study particularly aims to establish whether there are cultural differences in the two countries—representatives of European and Asian culture—regarding the role of individual types of competencies for future careers of students, the contribution of business schools to obtain these competencies, and their impact on students' decisions to continue their studies in the future. The research thus sets out to achieve the following objectives:

1. To assess how a balanced set of key competencies, including digital, entrepreneurial, personal, and social skills, impacts students' achievement of a satisfactory study and life balance.
2. To examine the specific influence of digital competencies on students' ability to maintain a good balance between their studies and personal life activities.
3. To investigate the effects of modern educational practices on students' study and life balance, such as the use of contemporary digital technologies, the promotion of equal opportunities and diversity, and students' engagement in their professors' research activities.
4. To explore the relationship between students' study and life balance, this includes academic sustainability and sustainability culture, and their intention to pursue further education, such as participating in short open online courses.

## Literature Review

Digital technologies, transformation, and globalization have significantly altered the business environment, the labor market, and the required qualifications for higher education students. The COVID-19 pandemic acted as a catalyst, accelerating these changes (Gkrimpizi et al., 2023; Hetmańczyk, 2023). This has heightened the demand for continuous development of digital competencies in both the public and private sectors (Gopika & Rekha, 2023). The DigComp framework<sup>9</sup>, an initiative of the European Commission, provides a structured approach to digital competencies. It breaks down digital competencies into five areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. Carretero et al. (2017) further divides each area into specific competencies. The framework identifies five main areas, which include “browsing, searching, and filtering data, information, and digital content,” “interacting through digital technologies,” “creating and editing digital content,” “protecting devices,” and “identifying digital solutions,” and within them, it specifies 21 competencies (Carretero et al., 2017).

Calvani et al. (2012) explored digital competence among teenagers in Italy. They define digital literacy as the safe and appropriate use of digital technologies to access, manage, integrate, communicate, evaluate, and create information. The study highlights the diverse components of digital literacy, emphasizing the

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<sup>9</sup> <https://digcomp.digital-competence.eu>

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importance of understanding how to use tools and engage critically and ethically in digital environments. This perspective aligns with the European Commission's initiatives to enhance digital education across member states. The main ones are the Digital Education Action Plan 2021–2027, the Digital Competence Framework for European citizens (Carretero et al., 2017), and the Council of Europe's recommendation on key lifelong learning competencies (Council of the European Union, 2018). In the latest document, the EC defines key competencies as a dynamic combination of knowledge, skills, and attitudes that the learner needs to develop throughout their life. The EC believes that applying competency-oriented approaches in all educational, training, and learning environments can ensure their acquisition through high-quality and inclusive education, training, and lifelong learning (Council of the European Union, 2018).

Business schools in the European Union had to update their curriculum in line with the European Framework for Key Competences (Council of the European Union, 2018). This is one of the reasons that dictated the need for the present study. This study is related to the implementation of a competence-oriented educational approach in European business schools, which aligns with the recommendations of the European Commission on education, training, and learning models. Applying such approaches necessitates a study of students' perceptions, and it would be of interest to investigate potential cultural differences between European and Asian students in this context. Competency-based education/learning (Gervais, 2016; Sultan et al., 2020) and competency-based curricula (Kenya Institute of Curriculum Development, 2018; Soare, 2015) could provide the theoretical foundations of competency-based educational models.

Competency-based education, especially in higher education, requires institutions to be flexible and responsive. It calls for a shift from traditional teaching methods and emphasizes the importance of preparing students to meet the challenges they will face in their careers. With the rapid advancements in technology and the ever-changing job market, higher education institutions should ensure that students are equipped with the knowledge, skills, and abilities they need to succeed. In addition to digital competencies, the EC describes eight more competencies as extremely important: literacy, multilingual, mathematical, social, entrepreneurial, citizenship, and cultural awareness and expression competencies (Council of the European Union, 2018).

The COVID-19 pandemic transformed the relationship between employers, managers, and employees in organizations. The pandemic has changed the work of both managers and employees, confirming normal "remote work," increasing the use of more and more technology in the management process, and changing the expectations of employees (Błaszczuk et al., 2023; Gavin et al., 2022). The need for employers and managers to support and understand their employees during a pandemic, such as by arranging their work from home, teaching their children from home, and ensuring their health, has led to a more emotional and supportive relationship between managers and employees (Kropp et al., 2021; Peter & Ndinojuo, 2024). Deardorff (2011) and Pérez García et al. (2021) researched the concept of intercultural competence, closely related to cultural awareness and expression competencies. Intercultural competence is vital in today's

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globalized world, where interactions across diverse cultures are commonplace. The researchers emphasized the importance of understanding one's culture and effectively communicating and interacting with individuals from different cultural backgrounds. They also discussed various assessment methods and models to gauge intercultural competence, underscoring its significance in educational settings and the workplace.

Asian educational frameworks, especially in Thailand, exhibit a cultural inclination towards memory-based learning, with conventional educational methods historically emphasizing rote memorization. This approach significantly contrasts with Western educational systems, such as in Bulgaria, where the development of critical thinking and analytical skills has traditionally held greater importance, even before the widespread use of digital tools (Al-khresheh, 2024; Başaran et al., 2024). Although digital teaching approaches have been implemented in Thailand, the traditional focus on memorizing remains prevalent (Al-khresheh, 2024; Wilang, 2024). In contrast, Bulgarian educational methods have constantly emphasized the importance of critical thinking, which is reinforced by a strong emphasis on study and inquiry (Başaran et al., 2024; Guo et al., 2020).

In recent years, an increasing number of scientists investigating the role of different types of competencies in students' learning processes and their future professional and personal realization have concluded that a balance should be found between these competencies (Infante-Moro et al., 2019; Kim et al., 2019; Škrinjarić, 2022). Business school curricula provide a balanced set of key competencies that are associated with greater career readiness and faster professional realization, while also promoting a better balance between the learning process and the students' personal lives (Rychen & Salganik, 2003).

While the balance between key competencies in education is a global concern, individual countries have taken distinct pathways in reforming their higher education systems to address contemporary challenges. One notable example is Thailand, which has embarked on an ambitious journey of transforming its higher education landscape. Thailand prioritized higher education research studies by developing a 15-year long-term plan (Dipendra, 2023; Scott & Guan, 2022). Thailand began reforming higher education in the 1990s, and this is still ongoing. However, even before the 1990s, there was a gradual shift in Thailand toward private higher education. The Private College Act of 1969 authorized six private higher education institutions to use the term "college," gradually allowing these schools to transition from associate to bachelor's degrees. Indeed, higher education in Thailand has grown dramatically since the COVID-19 pandemic (Leurcharusmee et al., 2023). Given the government's five-year national development plan, which expects higher education to drive economic growth, this educational sector has seen rapid growth (Napathorn, 2022).

With the changes in the research-based learning process, Khon Kaen University is one of nine national research-based learning universities. To conduct quality research studies, the university required a solid foundation, with a focus on research culture and the intellectual product of its students. The student's development had to be carried out in order for them to be able to associate the relationship of intellectual ability, real practice, and research process through instructional management in various courses

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of the program until it became a desirable characteristic of the students. Therefore, knowledge management, as a research-based mechanism, significantly contributed to the integration of instructional management and research-led teaching (Prayuth et al., 2014; Tungkasamit & Junpeng, 2012). Thailand's higher education landscape has undergone significant transformation over the past few decades, aiming to elevate the quality of research and teaching in universities nationwide. Khon Kaen University, which is part of the national research universities initiative, is a testament to this shift towards research-based learning. In the late 20<sup>th</sup> century, Thai universities traditionally focused on a teaching-centric approach. However, with the onset of globalization and the increasing need for innovation, there was a paradigm shift towards integrating research into the curriculum, emphasizing knowledge creation (Hallinger & Chatpinyakoo, 2019).

The Thai government, recognizing the importance of research for economic growth and global competitiveness, introduced policies to foster a research culture in higher education institutions. This led to increased funding for research projects, collaborations with international institutions, and the establishment of centers of excellence in various domains (Salmi & Bassett, 2014; Thawesaengskulthai et al., 2024). Transitioning to a research-based model was challenging. Universities had to revamp their curricula, train faculty in research methodologies, and build infrastructure to support intensive research activities. However, this shift also allowed Thai universities to collaborate internationally, attract global talent, and produce groundbreaking research with real-world applications (Buasuwan, 2018; Rhein, 2017). The push towards research-based learning has borne fruit. Thai universities, including Khon Kaen, have seen a surge in research publications, patents, and collaborations. Moreover, students graduating from these institutions are better equipped with critical thinking and problem-solving skills, making them highly sought after in the job market (Pimpa, 2003; Ruchiwit et al., 2019). As Thailand continues to emphasize the role of research in higher education, the country is poised to become a hub for innovation in the ASEAN region. With continued government support and collaboration with the private sector, the future of research-based learning in Thailand looks promising (Jongbloed & Vossensteyn, 2016).

### ***Hypothesis and Conceptual Framework Development***

Our conceptual research model employs a competency-based educational approach to support our first hypothesis. As a learning framework based on a predefined set of competencies, we use the groups of competencies described in the Council of Europe Recommendation on Key Competencies for Lifelong Learning (Council of the European Union, 2018). The use of modern technologies in business schools' educational processes would enable a higher degree of individualized and personalized student training, as well as diverse and timely feedback. The researchers proposed the first hypothesis in the following way:

**Hypothesis 1 (H1):** The development of a balanced set of key competencies (including digital, entrepreneurial, personal, and social skills) is positively associated with students' ability to effectively manage and maintain a healthy balance between their academic and personal life.

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Digital competencies, encompassing skills like digital communication, information literacy, and problem-solving in online environments, have enhanced efficiency in the learning process. According to Henderson et al. (2017), students with adept digital competencies are often better equipped to manage their study time, utilize online resources, and streamline learning. As a result, these students often spend less time on academic tasks, leading to better work–life balance. Furthermore, effectively navigating and using online collaborative tools can reduce the time spent on group projects and assignments. Students proficient in digital collaboration tools often find group work less time-consuming, which can positively impact their study–life balance. Moreover, in online and blended learning, digital competencies are crucial. Tamim et al. (2011) conducted a meta-analysis on the impact of technology on learning. They found that students with strong digital competencies often experience more flexible learning schedules, allowing them to balance academic and personal lives more effectively. Conversely, empirical studies have also demonstrated that enhancement in technological competencies has the potential to adversely impact education in four ways: eroding students' proficiency in reading and writing, degrading educational settings, blurring social interactions between educators and learners, and fostering individual isolation during technology usage (Alhumaid, 2019; Timotheou et al., 2023). This review led to the proposal of the next hypothesis:

**Hypothesis 2 (H2):** The enhancement of digital competencies is positively associated with students' ability to effectively balance their academic responsibilities and personal life activities.

A global trend is an orientation toward implementing ideas for sustainable development and responsible learning in business schools (van Weenen, 2000) and creating a culture of socially responsible and sustainable leadership (Aguinis & Glavas, 2019). It aligns with Gen Z students' growing sensitivity to social engagement issues. Some business schools are offering more and more courses on these issues, developing full academic programs. For example, the Presidio Graduate School in San Francisco offers an MBA in Sustainable Solutions, and the University of Otago in New Zealand offers an MBA in Sustainable Business. The University of Wales Sustainability Leadership Online Master's Program is also available (Jack, 2020). The international community increasingly considers the provision of equal opportunities and access to higher education for different social groups to be a pressing issue, as well as the reduction of inequalities, including the prevention of discriminatory practices in higher education. These challenges are also enshrined in the UN Sustainable Development Goals. Several EC funding programs support its use in higher education and scientific research (European Commission, n.d.).

**Hypothesis 3 (H3):** An education using contemporary digital technologies, ensuring equal opportunities and diversity, as well as involving students in research activities of their professors positively influences good study and life balance.



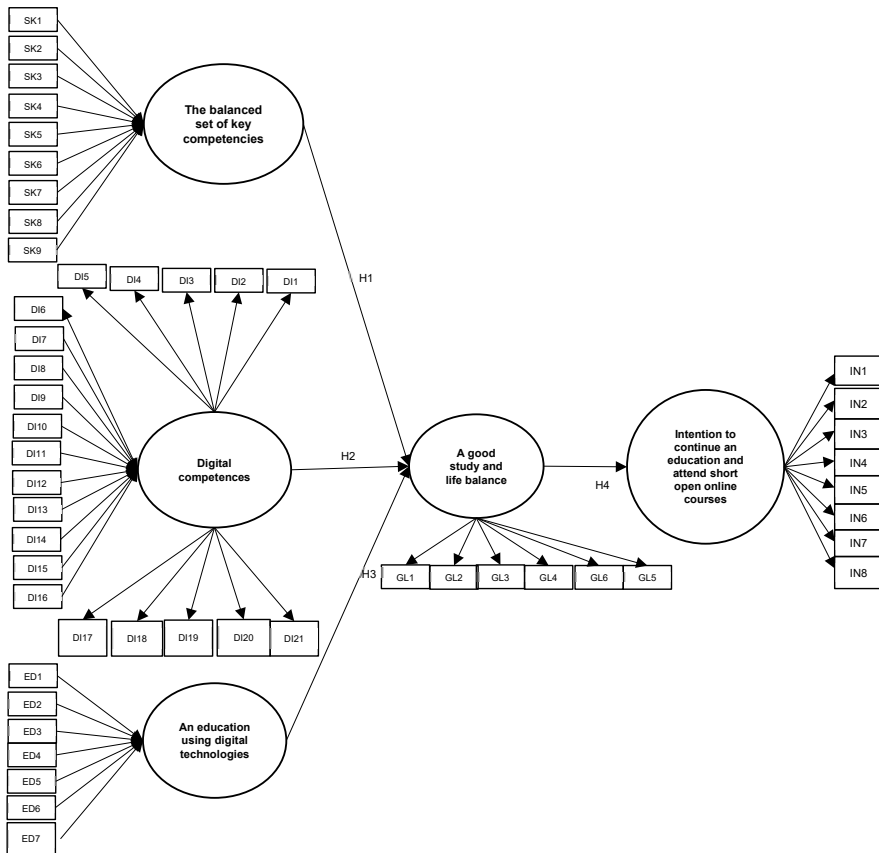
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In studies of the attitudes of students and employers toward the educational process in business schools, there is undoubtedly a very strong focus on developing digital competencies and using modern technologies in the research and teaching processes (Henderson et al., 2017). However, these practices have both positive effects and raise ethical dilemmas, as noted by Tamim et al. (2011). Meanwhile, Serafimova and Andreeva (2021) recommend educational models for business schools that aim to balance the competencies and innovations generated by digital technologies with proven good traditional educational practices, including sustainability principles and practices. A possible approach is implementing an ambidextrous educational model (O'Reilly & Tushman, 2013), in which institutions simultaneously pursue efficiency in current educational practices while experimenting with innovative teaching and learning methods. Thus, academic institutions contribute to achieving sustainable development goals by creating a culture for sustainable and responsible business while developing a balanced set of diverse competencies necessary for students to successfully realize themselves in the conditions of a technological revolution. An approach that integrates competency-based educational models with research-based strategies is essential for promoting academic sustainability and fostering a culture of responsible, sustainable leadership in business schools. According to Healey and Jenkins (2009), developing undergraduate research and inquiry is crucial, as outlined in their work *Developing Undergraduate Research and Inquiry* published by the Higher Education Academy. The fourth hypothesis was proposed as:

**Hypothesis 4 (H4):** A good study and life balance (including academic sustainability/sustainability culture) positively influence intention to continue education and attend short open online courses.

This conceptual framework visually represents the relationships among key variables related to digital competencies in education (Figure 1). The first construct is the Balanced Set of Key Competencies (SK1–SK9). They are the foundational skills required for education, grouped under the first construct. This is hypothesized to influence digital competencies (H1). The second construct—Digital Competencies (DK1–DK8)—focuses on the specific digital skills required for modern education. This construct is influenced by the balanced set of key competencies (H2) and is also linked to educational outcomes and the use of digital technologies. The construct Education Using Digital Technologies (ED1–ED7) represents the use of digital technologies in education, suggesting that digital competencies are essential for the effective use of these technologies (H3). The construct of Good Study–Life Balance (GL1–GL5) is concerned with the outcomes of good education, hypothesized to be influenced by digital competencies (H2) and the balanced set of key competencies (H3). Intention to Continue Education (I4–I8) is the final construct, which represents students' intention to continue their education and is linked to both educational outcomes and digital competencies (H4). The arrows represent hypothesized relationships (H1–H4) between these constructs, showing how they influence each other to lead to educational outcomes.

**Figure 1**  
*Hypothesized Model of a Good Study and Life Balance in Intention to Continue an Education and Attend Short Open Online Courses*



Note. Source: developed by the authors.

## Methodology

This study applied a mixed-method qualitative and quantitative survey research design that identifies the most important factors influencing students' intention to continue education and attend short open online courses. The study follows a research plan of three phases. The first phase is the qualitative aspect, which involves building the theory by conducting a literature review to create a foundation and initial estimation model, as well as determining a suitable method to analyze the data. The next two phases cover the quantitative aspect; the second phase involves data collection, which includes preparing and conducting the survey, and the third phase analyzes the data and synthesizes it with the literature to conclude.

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Undergraduate students from higher education institutions in Thailand and Bulgaria made up the research population, with a focus on specific demographics that the competencies in question could affect, such as those studying business, management, and related fields. We determined the sample size using the Krejcie and Morgan (1970) table. As a result, a minimum sample size of 378 participants was required to accurately estimate the percentage with a maximum error of 5% at a 95% confidence level. We standardized the value at 400 to ensure consistency. We multiplied this value by two, taking into account the independent data collection in Bulgaria and Thailand, resulting in a total population of 800.

At the second phase, we collected data using a developed online questionnaire with a five-point Likert scale to determine respondents' perceptions of the relevant factors. We pretested the questionnaire on 30 students to optimize its efficiency, and the results met all the research's intended variables. At the final phase, that is analysis, the results obtained from Thai and Bulgarian respondents are compared. The participating institutions distributed the questionnaires via group social media platforms. We obtained informed consent from all respondents prior to their involvement in the study. Participants were fully informed of their rights, including the option to withdraw from the study at any point during the data collection process, without any penalty or consequence. We used descriptive statistics to describe general information and a structural equation model (SEM) to test hypotheses based on the collected data.

The fundamentals of multi-group analysis stipulate that this method requires the participation of two or more groups. According to Cheah et al. (2023), the z-test is adequate for performing multi-group analysis with a large sample size. In practice, the t-test is limited for small sample sizes and therefore insufficient for large ones. Researchers use the z-test for two population proportions to determine if there is a significant difference in some exogenous to endogenous construct influences between two populations or groups, such as Thailand and Bulgaria. Consequently, it is important to emphasize two requirements: a sample drawn randomly from each population group to be compared; a sample size of more than 30 should be used. The information should be categorical.

## Results

### *The Respondents' Descriptive Information*

The analysis of 310 (77.50%) responses from Thailand and 303 (75.75%) from Bulgaria yielded a combined questionnaire completion rate of 76.63%. Ali et al. (2021) and Gleiser et al. (2022) inform that acceptance rates above 60% are appropriate. Therefore, the survey completion rates in this study are above the limits. The majority of the respondents, 509 (83.03%), were born after 1997, while 104 (16.97%) were born before or in 1997. Of the Thai respondents, 294 (47.96%) were born after 1997, and 16 (2.61%) were born before or in 1997. Of the Bulgarian respondents, 215 (35.07%) were born after 1997, and 88 (14.35%) were born before or in 1997. Most of the respondents were in their 1<sup>st</sup> year at the university, representing 212 (34.58%), followed by the 3<sup>rd</sup>

year, representing 127 (20.72%), and the 2<sup>nd</sup> year, representing 109 (17.78%). In years 4 and 5, the number of respondents was 91 (14.85%) and 63 (10.28%), respectively, while the lowest number of respondents, 5 (0.82%), were in the 6<sup>th</sup> year of the university. Most of the respondents majored in Finance, representing 217 (35.40%), followed by Management, representing 158 (25.77%); Marketing, representing 141 (23.00%); and the least in Hospitality and Event, representing 97 (15.82%). The majority of Thai respondents are in Finance major, representing 174 (28.38%), and Bulgarian respondents are in Management major, representing 127 (20.71%). A minority of Thai respondents, representing 44 (7.17%), and Bulgarian respondents, representing 53 (8.62%), studied hospitality and events.

**Verifying the Completeness of the Data Brunning the Statistical Analysis**

Skewness and kurtosis are the most popular methods for data cleaning and reforming, which give meaningful information for the normal distribution. In addition, skewness and kurtosis can be used to calculate this distortion. The analysis of the skewness and kurtosis of the data revealed that  $-0.468$  is the minimum skewness of Thailand data,  $-0.469$  is for Bulgaria, whereas the maximum was  $-0.158$  for Thailand data and  $0.042$  for Bulgaria data. While the minimum kurtosis of Thailand data amounted  $-0.278$  and  $-0.842$  for Bulgaria data, the maximum kurtosis comprised  $0.661$  for Thailand data and  $0.583$  for Bulgaria data (Table 1). It can be seen that the skewness and prevalence of the data were between  $-2$  and  $2$ , which indicated that the data was normally distributed.

**Table 1**  
*The Skewness and Kurtosis Test*

	Thailand		Bulgaria		Thailand		Bulgaria	
	Skewness	Std. Error	Skewness	Std. Error	Kurtosis	Std. Error	Kurtosis	Std. Error
SK	-.346	.138	-.469	.140	-.239	.276	-.588	.279
DI	-.409	.138	-.173	.140	-.041	.276	-.837	.279
ED	-.176	.138	.042	.140	-.278	.276	-.842	.279
GL	-.468	.138	-.363	.140	.149	.276	-.345	.279
IN	-.158	.138	-.637	.140	.661	.276	.583	.279

Note. SK = The balanced set of key competencies, DI = Digital competencies, ED = An education using digital technologies, GL = A good study and life balance, IN = Intention to continue an education and attend short open online courses.

Table 2 revealed the highest correlation coefficient of  $.811$  between the balanced set of key competencies and digital competencies, followed by the correlation coefficient of  $.708$  between digital competencies and education using digital technologies. Meanwhile, the correlation coefficient for digital competencies to continue education and attend short open online courses was the lowest, at  $.157$ . The tolerance and VIF analyses are shown in Table 3.

**Table 2**  
*The Correlation of the Coefficient Matrix*

	SK	DI	ED	GL	IN
SK	1.000				
DI	.811*	1.000			
ED	.608*	.708*	1.000		
GL	.609*	.654*	.677*	1.000	
IN	.158*	.157*	.147*	.192*	1.000

*Note.* \* $p < .05$  was statistically significant at the .05 level. SK = The balanced set of key competencies, DI = Digital competences, ED = An education using digital technologies, GL = A good study and life balance, IN = Intention to continue an education and attend short open online courses.

A test for multicollinearity is the association between five variables that can be tested (Tabachnick & Fidell, 2007). They increase the magnitude of the error term and the standard error of the regression coefficient. As a result, the statistical significance of the coefficients is reduced. Hair et al. (2010) advocate using tolerance and the Variance Inflation Factor (VIF) in multicollinearity problems with cut-off values greater than 0.1 but less than 10.0. Table 3 shows that the tolerance values range from 2.700 to 4.221, which is much higher than 0.1. This implies that the highly correlated variables contain extraneous data that should be removed because not all of them are required for the analysis. Furthermore, the VIF ranges from 2.122 to 4.147, indicating that multicollinearity is not an issue with the exogenous variables.

**Table 3**  
*Tolerance and VIF Analysis*

Models	Thailand		Bulgaria	
	Tolerance	VIF	Tolerance	VIF
SK	.331	3.019	.318	3.142
DI	.237	4.221	.260	3.847
ED	.330	3.030	.440	2.271
GL	.370	2.700	.471	2.122
IN	.334	3.580	.280	4.147

*Note.* SK = The balanced set of key competencies, DI = Digital competences, ED = An education using digital technologies, GL = A good study and life balance, IN = Intention to continue an education and attend short open online courses.

When the correlation coefficient between the five observed variables was considered, the correlation matrix was examined. The reliability coefficients and average variance extracted (AVE) for all constructs were greater than 0.5, ranging from 0.502 to 0.648. Farrell and Rudd (2009), as well as Fornell and Larcker (1981), state that an AVE must be greater than 0.5. Each concept's AVE was higher than the recommended value, indicating discriminant validity. Each construct's AVE exceeded

0.50 of the total variances, indicating convergent validity (Table 4). The CR for all constructs was greater than 0.60, ranging from 0.839 to 0.949. All square roots of AVEs were greater than correlations between pairs of constructs when Farrell and Rudd (2009) used the most rigorous method to examine discriminant validity. This revealed adequate discriminant validity (Table 4).

**Table 4**  
*The Reliability and Convergent Validity Test*

Items	Factor loading	$\alpha$	AVE	CR
<i>The balanced set of key competencies</i>				
SK1	0.76	.732	0.559	0.919
SK2	0.70	.774		
SK3	0.63	.710		
SK4	0.71	.781		
SK5	0.80	.771		
SK6	0.80	.747		
SK7	0.75	.710		
SK8	0.78	.738		
SK9	0.78	.739		
<i>Digital competences</i>				
DI1	0.79	.793	0.648	0.949
DI2	0.83	.765		
DI3	0.80	.773		
DI4	0.80	.777		
DI5	0.77	.777		
DI6	0.79	.815		
DI7	0.82	.827		
DI8	0.83	.802		
DI9	0.81	.824		
DI10	0.81	.793		
<i>An education using digital technologies</i>				
ED1	0.44	.743	0.502	0.871
ED2	0.78	.729		
ED3	0.76	.711		

**Table 4 Continued**

Items	Factor loading	$\alpha$	AVE	CR
ED4	0.81	.727		
ED5	0.51	.707		
ED6	0.78	.793		
ED7	0.78	.701		
<i>A good study and life balance</i>				
GL1	0.64	.759	0.526	0.847
GL2	0.75	.760		
GL3	0.77	.700		
GL4	0.74	.794		
GL5	0.72	.755		
<i>Intention to continue an education and attend short open online courses</i>				
IN1	0.92	.766	0.638	0.839
IN2	0.76	.772		
IN3	0.70	.735		

The correlation coefficients were all positive, indicating that the correlation was directional. This meant that all of the variables fit within the conceptual and theoretical framework of the researchers' structural equation model (Tabachnick & Fidell, 2007).

### **Summary of Hypotheses Evaluation**

The data presented in Table 5 provides compelling evidence of a correlation between a well-rounded set of key competencies, digital literacy, and the use of digital technologies in an educational framework. Such a connection influences achieving a harmonious study–life equilibrium and fostering the inclination to pursue further education through digital modalities, specifically through short, open online courses. The exploration of these variables suggests the possibility of a causal chain in which integrating a balanced suite of key competencies and digital acumen within the context of digital education contributes significantly to a balanced academic and personal life experience. Moreover, this integration is associated with a predisposition for ongoing engagement with digital learning platforms. Adding credence to the theoretical postulations established before the study, the empirical evidence garnered from the research substantiates the preconceived hypotheses. As delineated in Figure 1, the analysis reveals that the balance of key competencies stands out as the most critical determinant among the examined factors. The role of digital competencies sequentially follows this and, finally, the impact of an educational paradigm incorporating digital technologies.

**Table 5**

*The Characteristics of Influence Showing a Causal Relationship Between the Variables and Hypothesis Testing*

Hypothesis	B	p value	Supported hypothesis
H1: The balanced set of key competencies positively influence to a good study and life balance	.70	.004	Yes
H2: Digital competencies positively influence a good study and life balance	.30	.027	Yes
H3: An education using digital technologies positively influences good study and life balance	.17	.115	Yes
H4: A good study and life balance positively influence to intention to continue education and attend short open online courses	.78	.100	Yes

**Structural Equation Modeling**

The harmony between models and the empirical data determined from the statistical value  $\chi^2/df$  should be less than 3.00. The probability of testing the variance matrix of variables in the approximate model with the empirical data must exceed the statistical significance level of 0.120 ( $p > .05$ ) so that it can be accepted that the model is consistent with the data (Jaroenwanit et al., 2022). The harmonization index must be greater than 0.90, i.e., the goodness of fit index (GFI), the comparative fit index (CFI), and the non-conformance index or residual index must be less than 0.08. RMSEA is the root mean square error of approximation (RMSEA), and the root means a square error of standard error is the standardized root mean squared residual (SRMR). The results indicated that the intervariable relationship model was consistent with the empirical data. The statistical values passed all specified criteria, as shown in Table 6 and Figure 2.

**Table 6**

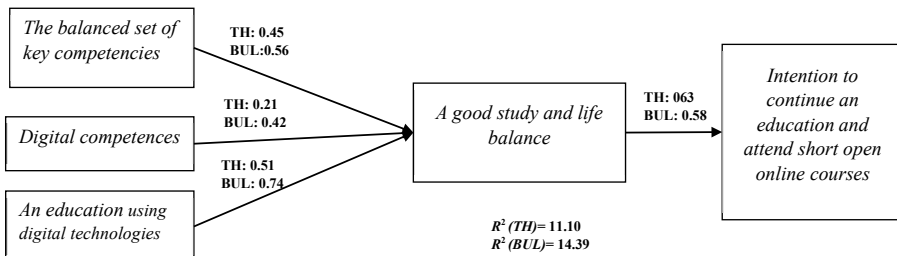
*The Results of the Consideration of the Coherence Values of the Direct Influence Path Analysis Model*

Statistical Values	Criteria for consideration	Statistics	Results
c	–	20.285	–
df	–	14.000	–
c	should be less than 3.00	1.448	Pass
p	more valuable 0.05	0.120	Pass
CFI	more valuable 0.90	0.905	Pass
GFI	more valuable 0.90	0.907	Pass
RMSEA	less than 0.08	0.037	Pass
SRMR	less than 0.08	0.047	Pass



**Figure 2**

*The Analysis of Factors Influencing the Causal Relationships Between the Variables and Hypothesis Testing of Thailand and Bulgaria*



Note. Source: developed by the authors.

### **The Difference Between European and Asian Students' Perception**

The z-test for comparing the multi-group analysis in SEM shows the outcome of the z-test approach, which included Asian (Thailand students) and European (Bulgaria students), z-score, and *p*-value for each construct provided (Table 7). All of these constructs meet the required level of .05, according to the *p*-value result. Thus, the conclusion can be made of a significant difference between exogenous and endogenous constructs in the Asian and European regions.

**Table 7**

*Multi-Group Analysis Using z-Test*

z-Test Approach	Asian	European	z-score	<i>p</i> -value
H1: The balanced set of key competencies positively influence to a good study and life balance	0.0812	0.0874	0.0123	.0115
H2: Digital competencies positively influence a good study and life balance	0.5463	0.6223	0.0078	.0489
H3: An education using digital technologies positively influences good study and life balance	0.0254	0.0244	0.0420	.0012
H4: A good study and life balance positively influence to intention to continue education and attend short open online courses	0.17881	0.1778	0.0005	.0454

## **Discussion**

The statistical analysis presented in Table 7, which was conducted using z-test, provides a stimulating examination of the differences in perspectives among representatives of Asian and European cultural domains as illustrated by Thai and Bulgarian students, respectively. The outcome of this analysis indicates marked discrepancies across all hypothesized areas of comparison, which underscores a deeper, multilayered dialogue that transcends mere geographical dichotomies. This

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divergence in perceptions may be rooted in a complex variety of cultural variables, reflecting distinct values, beliefs, and social norms that are innate to Asian and European societies. The cultural dimension may influence educational expectations, learning styles, and communication patterns, which are essential ingredients in perceiving and interfacing with the educational process, including the acceptance and use of digital technologies in learning environments. Also, pedagogical traditions distinct to each region likely contribute to these observed differences.

The mode of instruction, emphasis on rote learning versus critical thinking, the role of the instructor, and the structure of academic programs can dramatically influence student perceptions and reactions towards educational experiences. These pedagogical elements may well echo through the results reflected in the z-test scores. Another aspect to consider involves socioeconomic disparities. Variations in access to resources, educational infrastructure, and technological advancements could play an important role in shaping the perceptions and expectations of students from these diverse locales. Furthermore, socioeconomic status can influence students' ability to engage with digital tools for learning, potentially reinforcing the divide captured by the analysis. The differences uncovered by the statistical assessments invite educators, policymakers, and researchers to investigate the underpinnings of these disparities. It suggests the necessity for a culturally responsive and socio-economically sensitive approach to the design and implementation of educational strategies, particularly those involving digital technology.

The exploration of the first hypothesis (H1) reveals a consensus between students from both Asian and European regions on the significance of a comprehensive set of key competencies in promoting an effective study–life balance. Nonetheless, a slightly higher valuation of this aspect is discernible among European students (Bulgaria) in comparison to their Asian counterparts (Thailand). This variation may reflect deeper educational philosophies and historical practices that characterize each region. The European education system, particularly Bulgaria in this study, has a longstanding tradition that encourages a well-rounded educational experience. Kreber (2009) examined the historical inclination of European pedagogy to prioritize holistic development, nurturing not only cognitive capabilities but also critical thinking, creativity, and emotional intelligence. Such an approach could naturally embed an appreciation for a set of diversified competencies that balance technical knowledge with soft skills, thereby contributing to a more integrated study-life dynamic.

On the other hand, Asian education systems, typified in this instance by Thailand, have traditionally upheld a different set of pedagogical values. Kim (2005) highlights the tendency toward rote learning and memorization, which, while effective for knowledge retention, may not provide the same support for balancing academic rigors with the demands of personal life. This historical focus could potentially influence the perception of key competencies among Asian learners, shaping the prioritization of certain skills and the integration of study habits into their broader lifestyle. It is important to note, however, that global educational reforms are catalyzing changes in the Asian educational landscape. Influences such as technology integration, cross-cultural exchanges, and international educational

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standards are reshaping customary learning modalities, potentially bridging the gap between Asian and European perceptions of a balanced educational approach. This evolving educational ecosystem calls for further inquiry into the dynamics between these shifting paradigms and student perceptions. As the educational systems of Asian regions such as Thailand continue to reform and adapt, the examination of how these changes impact student experiences, competency development, and study-life integration will be particularly enlightening.

The second hypothesis (H2) unearths a more pronounced difference in perceptions between the Asian and European cohorts regarding the valuation of digital competencies. European students, herein from Bulgaria, attributed greater importance to digital skills, a preference that may be reflective of the European education sector's voracious embrace of digital transformation. Schools and universities in Europe often integrate technology not only as a subject of instruction but also intrinsically into the pedagogy itself, facilitating the development of digital literacy alongside traditional academic subjects (Ertmer & Ottenbreit-Leftwich, 2013). This widespread digital integration in European curricula could be a byproduct of both sociocultural attitudes towards technology and education policies that actively promote digital readiness as a core student competency. These regions' educational infrastructure and public policy typically support continuous investment in technological resources and training, ensuring the cultivation and alignment of digital competencies with evolving labor market demands. Although Thailand has demonstrated a committed effort to incorporate digital education throughout its learning processes, disparities in technological infrastructure, access, and resource allocation could present hurdles. The pace at which digital integration occurs may not be consistent across various educational institutions or geographic areas within the country. This uneven progress, combined with cultural and socioeconomic factors, may influence the varying degrees of emphasis placed on digital skills by Thai students. As Thailand and similar Asian regions press forward with educational reforms aimed at reinforcing digital literacy, further investigation into the precise factors influencing the adoption and valuation of digital competencies will be invaluable. Such research may inform targeted interventions that facilitate the advancement of digital learning, ensuring that all students, irrespective of their geographical location, have equitable opportunities to develop critical 21<sup>st</sup>-century skills.

Hypothesis 3 presents a scenario where the observed discrepancies between the Asian and European regions are minimal, hinting at an emergent global convergence in attitudes towards adopting and integrating digital technologies within educational spheres. This subtle difference underscores a collective recognition across diverse geographies of the instrumental role that digital technologies play in augmenting study-life balance. This understanding is becoming increasingly ubiquitous as societies worldwide navigate the complexities of the digital age. The trend towards a more unified perspective on digital education aligns with the forces of rapid globalization, which have been extensively reshaping educational paradigms. The influence of global connectivity means that regional boundaries no longer confine educational practices, resources, and philosophies. This has fostered a more

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standardized approach to incorporating digital tools and platforms into learning environments. Recent historical developments, most notably the COVID-19 pandemic, have precipitated an unprecedented acceleration of this trend. The pandemic acted as a catalyst, compelling educational institutions worldwide to rapidly adopt online learning modalities (Crick, 2020). This abrupt shift highlighted the viability of digital education and essentially democratized access to it, dismantling many pre-existing regional disparities in digital readiness and exposure.

The findings regarding Hypothesis 4 reveal a convergence in perspectives between the two examined regions, underscoring a universal acknowledgment of the importance of study–life balance as a key factor influencing the decision to pursue continuing education. This shared recognition transcends cultural and geographical boundaries, reflecting a global shift in educational values. The availability and accessibility of flexible online courses and sophisticated digital platforms have been instrumental in this shift. These innovations in the educational space provide learners with the autonomy to tailor their academic pursuits in concert with their personal lives. Such flexibility is particularly appealing to a diverse student population that includes working professionals, parents, and those with various other commitments outside of the academic sphere (Selwyn, 2016).

The research emphasizes the cultural distinctiveness of memory in Asian educational methods (exemplified by Thailand), where the traditional focus has been on rote learning. This contrasts with Western traditions (Bulgaria), where critical thinking and analytical abilities were more important, even before the broad use of digitalization. Although digital teaching methods have been included in education in Thailand, the traditional emphasis on memorizing remains deeply ingrained (Al-khresheh, 2024; Wilang, 2024). From the other spectrum, Bulgarian educational practices have always emphasized the need for critical thinking, which is further reinforced by a research-focused approach (Başaran et al., 2024; Guo et al., 2020). The study acknowledges the necessity of further investigating the impact of digital technologies on cultural practices, specifically in Thailand, where it is essential to strike a balance between the traditional emphasis on memorizing and the increasing need for critical thinking in education. The contrast with Bulgaria highlights the wider significance of these distinct educational ideologies in adjusting to contemporary educational requirements.

Students, irrespective of their location, now have the opportunity to engage with learning at a pace and schedule that aligns with their individual needs. This more fluid and customizable approach to education offers a pathway to achieving a balance that was traditionally elusive, particularly in rigid, time- and place-bound educational models. The trends indicate that such balance is not a mere convenience but a substantial attribute that can enhance educational engagement and success. Educational providers and policymakers must prioritize supporting digital platforms and online learning structures, as learners worldwide increasingly value the seamless integration of education into daily life. By enriching the possibilities for study–life balance, the global education landscape can evolve to not only meet the diverse needs of students, but also promote their holistic well-being and long-term academic gratification.

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## Conclusion

The investigation into student perceptions across Asian and European educational intentions reveals both common ground and divergences in the role of competencies affecting study-life balance. These variations may be deeply entrenched in the distinct historical contexts, cultural values, and pedagogical traditions that characterize each region. While Asian educational systems have traditionally emphasized rote learning, European pedagogy has leaned toward a more holistic approach, cultivating a range of competencies. However, as global education increasingly leans towards digital and online applications, we are witnessing a harmonization of perspectives regarding the integration of competencies and technology in education. This digital transformation has the potential to bridge long-standing divides, providing a universally accessible platform where diverse educational philosophies can converge and prosper. Nevertheless, it is crucial to acknowledge that regional characteristics will continue to be significant in shaping the specific aspects of educational experiences. These indigenous characteristics are not simply relics of the past, but active, living elements that define the identity of educational systems and influence how learners and educators perceive and engage with the concept of a balanced educational journey in a digital world.

This study's notable limitation is the disproportionate representation of Year 1 students among the survey respondents. As newly admitted students, they may possess a limited understanding of study-life balance, potentially influencing the validity of the findings. This concern is particularly relevant in Hypothesis 3, which required participants to evaluate their professors' research activities—a task that may be challenging for first-year students with limited exposure. We conducted data collection during the second semester to mitigate potential bias, ensuring that all participants had spent at least six months on campus before completing the questionnaire. However, future research should consider excluding first-year students from similar studies, as their limited experience may affect the data quality. Instead, graduate students who have accumulated substantial academic experience over 2–6 years should constitute the primary respondent group, as they are more likely to provide more informed responses. The use of closed-ended questionnaires presented a further limitation, though it did not significantly affect the overall outcomes, as the extensive examination and presentation of the variables in Tables 1–7 ensured the reliability of the findings. Further studies should take into account the use of open-ended questions as a means to supplement the quantitative data.

## References

- Aguinis, H., & Glavas, A. (2019). On corporate social responsibility, sensemaking, and the search for meaningfulness through work. *Journal of Management*, 45(3), 1057–1086. <https://doi.org/10.1177/0149206317691575>
- Alhumaid, K. (2019). Four ways technology has negatively changed education. *Journal of Educational and Social Research*, 9(4), 10–20.

---

Ali, F., Ciftci, O., Nanu, L., Cobanoglu, C., & Ryu, K. (2021). Response rates in hospitality research: An overview of current practice and suggestions for future research. *Cornell Hospitality Quarterly*, 62(1), 105–120. <https://doi.org/10.1177/1938965520943094>

Al-khresheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, 6, Article 100218. <https://doi.org/10.1016/j.caeai.2024.100218>

Başaran, M., Metin, Ş., & Vural, Ö. F. (2024). Meta-thematic synthesis of research on early childhood coding education: A comprehensive review. *Education and Information Technologies*, 29(16), 20795–20822. <https://doi.org/10.1007/s10639-024-12675-2>

Benítez-Márquez, M. D., Sánchez-Teba, E. M., Bermúdez-González, G., & Núñez-Rydman, E. S. (2022). Generation Z within the workforce and in the workplace: A bibliometric analysis. *Frontiers in Psychology*, 12, Article 736820. <https://doi.org/10.3389/fpsyg.2021.736820>

Błaszczuk, M., Popović, M., Zajdel, K., & Zajdel, R. (2023). Implications of the COVID-19 pandemic on the organization of remote work in IT companies: The managers' perspective. *Sustainability*, 15(15), Article 12049. <https://doi.org/10.3390/su151512049>

Borowiec, A. A., & Drygas, W. (2023). Work–life balance and mental and physical health among Warsaw specialists, managers and entrepreneurs. *International Journal of Environmental Research and Public Health*, 20(1), Article 492. <https://doi.org/10.3390/ijerph20010492>

Buasuan, P. (2018). Rethinking Thai higher education for Thailand 4.0. *Asian Education and Development Studies*, 7(2), 157–173. <https://doi.org/10.1108/AEDS-07-2017-0072>

Calvani, A., Fini, A., Ranieri, M., & Picci, P. (2012). Are young generations in secondary school digitally competent? A study on Italian teenagers. *Computers & Education*, 58(2), 797–807. <https://doi.org/10.1016/j.compedu.2011.10.004>

Carretero, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use*. Publications Office of the European Union. <https://doi.org/10.2760/38842>

Cheah, J.-H., Amaro, S., & Roldán, J. L. (2023). Multigroup analysis of more than two groups in PLS-SEM: A review, illustration, and recommendations. *Journal of Business Research*, 156, Article 113539. <https://doi.org/10.1016/j.jbusres.2022.113539>

Christensen, C. M., & Eyring, H. J. (2011). *The innovative university: Changing the DNA of higher education from the inside out*. Wiley.

---

Council of the European Union. (2018, May 22). *Council Recommendation on key competences for lifelong learning (Text with EEA relevance)*. Publications Office of the European Union. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2018.189.01.0001.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2018.189.01.0001.01.ENG)

Crick, T. (2020). Covid-19 and digital education: A catalyst for change? *ITNOW*, 63(1), 16–17. <https://doi.org/10.1093/itnow/bwab005>

Darling-Hammond, S., Ruiz, M., Eberhardt, J. L., Okonofua, J. A. (2023). The dynamic nature of student discipline and discipline disparities. *PNAS*, 120(17), Article e2120417120. <https://doi.org/10.1073/pnas.2120417120>

Deardorff, D. K. (2011). Assessing intercultural competence. *New Directions for Institutional Research*, 2011(149), 65–79. <https://doi.org/10.1002/ir.381>

Dipendra, K. C. (2023). *Technology in education: A case study on Thailand*. UNESCO. <https://doi.org/10.54676/QVLZ7846>

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2013). Removing obstacles to the pedagogical changes required by Jonassen's vision of authentic technology-enabled learning. *Computers & Education*, 64, 175–182. <https://doi.org/10.1016/j.compedu.2012.10.008>

European Commission. (n.d.). *Digital Education Action Plan (2021–2027)*. European Education Area. <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>

Farrell, A. M., & Rudd, J. M. (2009). Factor analysis and discriminant validity: A brief review of some practical issues. Australia and New Zealand Marketing Academy Conference 2009. In D. Tojib (Ed.), *Proceedings of Australia and New Zealand Marketing Academy Conference*. ANZMAC. [https://publications.aston.ac.uk/id/eprint/7644/1/factor\\_analysis\\_ANZMAC\\_2009.pdf](https://publications.aston.ac.uk/id/eprint/7644/1/factor_analysis_ANZMAC_2009.pdf)

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>

Francis, T., & Hoefel, F. (2018). *“True Gen”: Generation Z and its implications for companies*. McKinsey & Company. <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/true-gen-generation-z-and-its-implications-for-companies>

Gavin, M., Poorhosseinzadeh, M., & Arrowsmith, J. (2022). The transformation of work and employment relations: COVID-19 and beyond. *Labour and Industry*, 32(1), 1–9. <https://doi.org/10.1080/10301763.2022.2038353>

Gervais, J. (2016). The operational definition of competency-based education. *The Journal of Competency-Based Education*, 1(2), 98–106. <https://doi.org/10.1002/cbe2.1011>

---

Gill, A., & Lashine, S. (2003). Business education: A strategic market-oriented focus. *International Journal of Educational Management*, 17(5), 188–194. <https://doi.org/10.1108/09513540310484904>

Gkrimpizi, T., Peristeras, V., & Magnisalis, I. (2023). Classification of barriers to digital transformation in higher education institutions: Systematic literature review. *Education Sciences*, 13(7), Article 746. <https://doi.org/10.3390/educsci13070746>

Gleiser, P., Sakshaug, J. W., Volkert, M., Ellguth, P., Kohaut, S., & Möller, I. (2022). Introducing web in a mixed-mode establishment survey: Effects on nonresponse. *Journal of the Royal Statistical Society Series A: Statistics in Society*, 185(3), 891–915. <https://doi.org/10.1111/rssa.12809>

Gopika, J. S., & Rekha, R. V. (2023). Awareness and use of digital learning before and during COVID-19. *International Journal of Educational Reform*. Advance online publication. <https://doi.org/10.1177/10567879231173389>

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, 102, Article 101586. <https://doi.org/10.1016/j.ijer.2020.101586>

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7<sup>th</sup> ed.). Pearson.

Hallinger, P., & Chatpinyakoo, C. (2019). A bibliometric review of research on higher education for sustainable development, 1998–2018. *Sustainability*, 11(8), Article 2401. <https://doi.org/10.3390/su11082401>

Healey, M., & Jenkins, A. (2009). *Developing undergraduate research and inquiry*. Higher Education Academy.

Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of “useful” digital technology in university teaching and learning. *Studies in Higher Education*, 42(8), 1567–1579. <https://doi.org/10.1080/03075079.2015.1007946>

Hetmańczyk, P. (2024). Digitalization and its impact on labour market and education. Selected aspects. *Education and Information Technologies*, 29(9), 11119–11134. <https://doi.org/10.1007/s10639-023-12203-8>

Infante-Moro, A., Infante-Moro, J.-C., & Gallardo-Pérez, J. (2019). The importance of ICTs for students as a competence for their future professional performance: The case of the Faculty of Business Studies and Tourism of the University of Huelva. *Journal of New Approaches in Educational Research*, 8(2), 201–213. <https://doi.org/10.7821/naer.2019.7.434>

Jack, A. (2020, January 22). The rise of the “sustainable” MBA. *Financial Times*. <https://www.ft.com/content/2a73f3de-339d-11ea-a329-0bcf87a328f2>

Jaroenwanit, P., Abbasia, A., & Hongthong, P. (2022). Determinants of customers' intention to use online food delivery platforms in Thailand. *Uncertain Supply Chain Management*, 10(3), 747–758. <https://doi.org/10.5267/j.uscm.2022.4.007>



---

Jongbloed, B., & Vossensteyn, H. (2016). University funding and student funding: International comparisons. *Oxford Review of Economic Policy*, 32(4), 576–595. <https://doi.org/10.1093/oxrep/grw029>

Kenya Institute of Curriculum Development. (2018, February 3). *Presentation on competency based curriculum activities*. <https://kicd.ac.ke/news/presentation-on-competency-based-curriculum-activities/>

Kim, K. H. (2005). Learning from each other: Creativity in East Asian and American education. *Creativity Research Journal*, 17(4), 337–347. [https://doi.org/10.1207/s15326934crj1704\\_5](https://doi.org/10.1207/s15326934crj1704_5)

Kim, S., Raza, M., & Seidman, E. (2019). Improving 21<sup>st</sup>-century teaching skills: The key to effective 21<sup>st</sup>-century learners. *Research in Comparative and International Education*, 14(1), 99–117. <https://doi.org/10.1177/1745499919829214>

Kreber, C. (2009). Different perspectives on internationalization in higher education. *New Directions for Teaching and Learning*, 118, 1–14. <https://doi.org/10.1002/tl.348>

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>

Kropp, B., Cambon, A., & Clark, S. (2021, April 15). What does it mean to be a manager today? *Harvard Business Review*. <https://hbr.org/2021/04/what-does-it-mean-to-be-a-manager-today>

Leurcharusmee, S., Yamaka, W., Maneejuk, P., Thaiprasert, N., & Tuntichiranon, N. (2023). Economic survival duration of Thai workers during COVID-19. *Economic Research—Ekonomiska Istraživanja*, 36(2), Article 2106506. <https://doi.org/10.1080/1331677X.2022.2106506>

Napathorn, C. (2022). The development of green skills across firms in the institutional context of Thailand. *Asia-Pacific Journal of Business Administration*, 14(4), 539–572. <https://doi.org/10.1108/APJBA-10-2020-0370>

Nurutdinova, A. R., Shakirova, D. S., Sabaeva, E. K., & Samarkina, N. O. (2023). The content modification within the framework of the massive open online courses (case study: International and Russian practices). In S. Goundar (Ed.), *Massive open online courses—Current practice and future trends*. IntechOpen. <https://doi.org/10.5772/intechopen.1001342>

O'Reilly, C. A., III, & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, 27(4), 324–338. <https://doi.org/10.5465/amp.2013.0025>

Padmanabhanunni, A., Pretorius, T. B., & Isaacs, S. A. (2023). Satisfied with life? The protective function of life satisfaction in the relationship between perceived stress

---

and negative mental health outcomes. *International Journal of Environmental Research and Public Health*, 20(18), Article 6777. <https://doi.org/10.3390/ijerph20186777>

Pérez García, Á., Sacaluga Rodríguez, I., & Moreno-Melgarejo, A. (2021). The development of the competency of “cultural awareness and expressions using movie-induced tourism as a didactic resource. *Education Sciences*, 11(7), Article 315. <https://doi.org/10.3390/educsci11070315>

Peter, D. I., & Ndinojuo, B.-C. E. (2024). Privacy awareness and social media: Personal data protection among Facebook<sup>10</sup> and Instagram<sup>11</sup> users. *Galactica Media: Journal of Media Studies*, 6(3), 168–198. <https://doi.org/10.46539/gmd.v6i3.489>

Pimpa, N. (2003). The influence of peers and student recruitment agencies on Thai students' choices of international education. *Journal of Studies in International Education*, 7(2), 178–192. <https://doi.org/10.1177/1028315303007002005>

Prayuth, C., Kanokorn, S., & Pornpimon, C. (2014). Challenged strategies for driving to success in research of Khon Kaen University. *Procedia—Social and Behavioral Sciences*, 112, 662–669. <https://doi.org/10.1016/j.sbspro.2014.01.1215>

Rhein, D. (2017). International higher education in Thailand: Challenges within a changing context. *Journal of Alternative Perspectives in the Social Sciences*, 8(3), 281–298.

Ruchiwit, M., Patchotasingh, M., & Phanphairoj, K. (2019). Strategies for creating innovators in Thailand's higher education. *Journal of Medical Education and Curricular Development*, 6, 1–10. <https://doi.org/10.1177/2382120519863078>

Rychen, D. S., & Salganik, L. H. (Eds.). (2003). *Key competencies for a successful life and a well-functioning society*. Hogrefe.

Salmi, J., & Bassett, R. M. (2014). The equity imperative in tertiary education: Promoting fairness and efficiency. *International Review of Education*, 60(3), 361–377. <https://doi.org/10.1007/s11159-013-9391-z>

Schlegelmilch, B. B. (2020). Why business schools need radical innovations: Drivers and development trajectories. *Journal of Marketing Education*, 42(2), 93–107. <https://doi.org/10.1177/0273475320922285>

Scott, T., & Guan, W. (2022). Challenges facing Thai higher education institutions financial stability and perceived institutional education quality. *Power and Education*, 15(3), 326–340. <https://doi.org/10.1177/17577438221140014>

Selwyn, N. (2016). *Is technology good for education?* Wiley.

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<sup>10</sup> Facebook™ is a trademark of Facebook Inc., registered in the U.S. and other countries. По решению Роскомнадзора, социальная сеть Facebook в России признана экстремистской организацией и заблокирована.

<sup>11</sup> Instagram™ is a trademark of Instagram Inc., registered in the U.S. and other countries. По решению Роскомнадзора, социальная сеть Instagram полностью заблокирована в России как экстремистская организация.

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Serafimova, D., & Andreeva, A. (2021). Digitalna transformatsiia na s'debnata sistema i neobkhdimost ot razrabotvane na kompetentnostni modeli [Digital transformation of the judiciary and the need of developing competence models]. *Izvestiya: Journal of Varna University of Economics*, 65(4), 394–408.

Singer, M., Callendar, C., Ma, X., & Tham, S. (2023). Differences in perceived influencer authenticity: A comparison of Gen Z and Millennials' definitions of influencer authenticity during the de-influencer movement. *Online Media and Global Communication*, 2(3), 351–378. <https://doi.org/10.1515/omgc-2023-0038>

Škrinjarić, B. (2022). Competence-based approaches in organizational and individual context. *Humanities and Social Sciences Communications*, 9(1), Article 28. <https://doi.org/10.1057/s41599-022-01047-1>

Soare, E. (2015). Perspectives on designing the competence based curriculum. *Procedia—Social and Behavioral Sciences*, 180, 972–977. <https://doi.org/10.1016/j.sbspro.2015.02.259>

Stanimirov, E. (2021). Transformatsiata na obrazovatelna sistema—Faktor za uspeshna kariera [Educational system transformation—A factor for a successful career]. In “*Human Resource Management*”: *Proceedings of the International Scientific–Practical Conference organized by the University of Economics–Varna, 2021, September 24* (pp. 13–24). Nauka i ikonomika. <https://conference.ue-varna.bg/hrm/wp-content/uploads/Proceedings/HRMConfProceeding2021.pdf>

Sultan, S., Morgan, R. L., Murad, M. H., Falck-Ytter, Y., Dahm, P., Schünemann, H. J., & Mustafa, R. A. (2020). A theoretical framework and competency-based approach to training in guideline development. *Journal of General Internal Medicine*, 35(2), 561–567. <https://doi.org/10.1007/s11606-019-05502-9>

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5<sup>th</sup> ed.). Pearson.

Tamim, R. M., Bernard, R. M., Borokhovski, E., Abrami, P. C., & Schmid, R. F. (2011). What forty years of research says about the impact of technology on learning: A second-order meta-analysis and validation study. *Review of Educational Research*, 81(1), 4–28.

Thawesaengskulthai, N., Chatmarathong, A., & Koiwanit, J. (2024). Impact and policy supporting Thailand innovation driven enterprise: Orchestrating university innovation and entrepreneurship ecosystem with public and private stakeholders. *Journal of Innovation and Entrepreneurship*, 13(1), Article 16. <https://doi.org/10.1186/s13731-024-00371-x>

Thirakulwanich, A., Dragolea, L., & Fekete-Farkas, M. 2020. Gamification and learning: Enhancing and engaging e-learning experience. *Global Journal of Entrepreneurship and Management*, 1(1), 16–29. <https://doi.org/10.57585/GJEM.020.002>

---

Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., Monés, A. M., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28(6), 6695–6726. <https://doi.org/10.1007/s10639-022-11431-8>

Tungkasamit, A., & Junpeng, P. (2012). The development of authentic assessment training curriculum for research-based learning class in higher education of Thailand. *Procedia—Social and Behavioral Sciences*, 69, 1168–1173. <https://doi.org/10.1016/j.sbspro.2012.12.047>

van Weenen, H. (2000). Towards a vision of a sustainable university. *International Journal of Sustainability in Higher Education*, 1(1), 20–34.

Wilang, J. D. (2024). Exploring the mindsets of Thai undergraduate students: A comprehensive study of general and language-related beliefs. *SAGE Open*, 14(2). <https://doi.org/10.1177/21582440241262952>