Does Higher Education

Enhance Employability Skills Enough for Today's Graduates?

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Abstract

Employability skills are a critical component of modern higher education, imparting the tools that students need for modern work life. This paper focuses on what employability skills are critical for Thai graduate employees, what universities and other higher education institutions are doing to impart employability skills to their graduates, and how the Thai higher education curriculum can be enhanced for greater development of both traditional and 21st century employability skills. The study, which is based on a combination of secondary research and curriculum review and comparison across the United States, United Kingdom, and Thailand, proposes curriculum changes to embed employability skills in Thai undergraduate higher education. Recommendations, which include establishing career services departments or functions at universities and embedding employability skills in the undergraduate curriculum, can help the Thai higher education system to catch up in employability skills development.

Keywords: Higher education, Employability skills, Graduates, University curriculum

Introduction

The general belief today, is that graduates, upon leaving their institutions of higher education, should begin specialised careers and lead financially rewarding lives. It is also believed that institutions of higher education prepare their students for careers through extensive learning in their specialised fields. However, these conceptions are now wrong. The competitive and ever-changing economic environment, and the job markets worldwide are constantly changing, and graduates are finding it harder to transit from education directly into employment.

Recent research in undergraduate fields of study such as Chinese language and marketing has shown that employability skills, including up-to-date skills such as basic and advanced information technology skills and

analytical skills as well as traditional 'soft' skills like communication and teamwork, are crucial for modern graduates to access the best job opportunities (Di Gregorio et al., 2019; Jiracheewewong et al., 2017). Although it has been less studied, there is also evidence that employability skills developed in higher education contribute to future career advancement (Ng, 2022; Tripathy, 2020). In short, gaining the right employability skills at university plays a critical role in student career outcomes. Higher education must recognize this phenomenon and take drastic measures to prepare students, not only academically, but also with the practical skills they require to be more competitive in the job market.

The term "employability skills" is used here in various contexts with varied meanings. According to Yorke (2004), employability skills describes those skills or sets of achievements, personal attributes, and knowledge that are likely to help a graduate become employed, and advance successfully in a chosen profession. Yorke (2004), further states that employability skills are vital in the development of any economy, workforce, and also empowerment of the community. Employability skills is not simply about getting a job after graduation; it refers to the lifelong success in a career that students can gain in their various careers and jobs over time (Cassidy, 2006). Additionally, according to Pool and Sewell (2007), employability skills are not just a set of skills that can be taught in class to students; but the concept refers to a wide range of skills, attributes, and abilities that can be developed in a wide range of settings, and can be unique to each individual. The responsibility of delivering employability skills is not just the duty of career services and consultants; rather, that task should be part of the higher education framework (Mason et al., 2003). Today's job market and economic environment are demanding graduates with high employability skills, and that trend is likely to become more intense in the future. The era of some careers being more marketable than others, or some genders being preferred in certain careers is long gone. Today, it is individual skills and attributes that are the main determinant in a job market now awash with many people with very good academic degrees and qualifications (Gracia, 2009).

Employability Skills

In simple terms, employability skills refer to the qualities that make a graduate very suitable for employment. Apart from good technical and subject knowledge, employers now look for specific skills in their candidates that can make their organisation continue to grow and prosper (NZ & Aotearoa, 2020). These skills help graduates deal with other employees and clients, solve problems in the organisation, and enhance innovation by learning new trends. For example, in marketing it is now critical for new graduates to have technical and analytical skills that enable them to use social media marketing, e-commerce, search engine optimisation (SEO), advanced marketing analytics, and data-driven analysis and decision-making, along with traditional employability skills like communication and teamwork (Di Gregorio et al., 2019). There is also more demand for novel and adaptive skills, self-motivated learning, and other higher cognitive skills, which are particularly prized because

they allow workers to continue learning and adapting to new trends and developing new skills in a rapidly changing environment (Rakowska & de Juana-Espinosa, 2021). Graduates with poor employability skills are at risk of failing to secure employment positions, stagnating in their careers, or losing their job positions to newcomers with those high employability skills.

Usually, these employability skills are categorised into four broad categories of various skills. These categories can be generalised as 1) interaction and social development, 2) presentation and communication, 3) retrieval and analysis of information and 4) problem-solving, creativity, and planning (Di Gregorio et al., 2019; Jiracheewewong et al., 2017; Obi et al., 2020; Rakowska & de Juana-Espinosa, 2021; Tripathy, 2020). The skills are enhanced by academic training in the higher institution, experience in the environment, personal initiative, and creative attributes (Ng, 2022). The exact skills that are relevant for graduates depends on the field; for example, it is critical for marketing professionals to understand social media marketing and e-commerce (Di Gregorio et al., 2019), while built environment professionals need to have strong technical capabilities and analytical skills (Obi et al., 2020). At the same time, there are also skills that are relevant to all graduates. It is these shared skills which are of particular interest in this study.

There are several major employability skills that universities in each country need to develop to make their graduates most employable. These skills were embedded in the higher education systems of leading developing nations, such as the United States and the United Kingdom, long ago, and they have been credited for producing graduates that are very suitable for employment (NZ & Aotearoa, 2020). Some of these skills are discussed below. The skills discussed include communication, problem-solving, teamwork, planning and organising, adaptability, numeracy, and negotiation. These skills were investigated as core employability skills because according to recent research, they are important to graduates across a wide variety of disciplines and different countries (Di Gregorio et al., 2019; Fajaryati et al., 2020; Jiracheewewong et al., 2017; Ng, 2022; Obi et al., 2020; Osmani et al., 2019; Rakowska & de Juana-Espinosa, 2021; Tripathy, 2020). While there have been many other employability skills identified in specific fields, these seven skills are commonly shared among all disciplines, making them the most important for graduate employees.

1. Communication

Graduates' seeking employment need to be able to express themselves in a clear and concise way, in both oral and written methods (Fajaryati et al., 2020; Rakowska & de Juana-Espinosa, 2021). This is an essential skill for dealing with colleagues, and communicating with clients and other stakeholders in the workplace and beyond (Kleckner & Butz, 2022). Higher education institutions need to develop these concepts through assignment writing and reports, class discussions, and extra-curricular activities, such as debating clubs and public speaking presentations (Kleckner & Butz, 2022; Muluk et al., 2019).

2. Problem-solving

Graduates should be able to identify a problem, analyse the issues that underlie the problem, and assess the available options to come up with the best solutions (Fajaryati et al., 2020; Rakowska & de Juana-Espinosa, 2021). Problem-solving is a multifaceted skill, involving elements of research and analysis, creative thinking, communication, and teamwork, which makes it one of the more complex employability skills to acquire (Tripathy, 2020). All graduates upon leaving their higher education institutions need to have the ability to think sequentially, critique, and synthesise information (Fajaryati et al., 2020; Osmani et al., 2019). These are some of the skills identified as least commonly held by new graduates according to employers, meaning that being able to demonstrate problem solving places the graduate in a good position for employment (Fajaryati et al., 2020). Assessment exercises, research projects, and work environment placement are some of the areas where institutions can foster greater development of this skill (Klegeris et al., 2019; Ng et al., 2021).

3. Teamwork

Employers are always looking for individuals who can work well with teams in their organisation to achieve the common goals of that organisation (Fajaryati et al., 2020; Muluk et al., 2019; Tripathy, 2020). They seek candidates who can share information with other team members, support them, and empower them (Rakowska & de Juana-Espinosa, 2021). Effective employees respond to others' opinions constructively. The university is one place where this skill can be harnessed through group assignments, community organization projects, sports teams, student societies, and internships (Golinski & Baczkiewicz, 2021; Ramdeo et al., 2022).

4. Planning and Organising

The skill of timeline management and prioritising tasks is vital in the workplace (Osmani et al., 2019). Tasks need to be allocated and coordinated, and future needs and events need to plan systematically by every employee (Di Gregorio et al., 2019). Any lack of these skills makes a graduate a poor job candidate and a worse employee (Osmani et al., 2019). The higher education framework should develop its curriculum in a way that these skills are developed through project planning and event management, networking organisations, and organised activities such as sporting, fundraising, and other joint social and academic activities (Camarinha-Matos et al., 2020; Fearon et al., 2020).

5. Adaptability

Adaptability means an individual can learn and adopt new methods of working or correcting previous mistakes (Loughlin & Priyadarshini, 2021). They can easily conform to a new culture when it appears in the workplace (Loughlin & Priyadarshini, 2021). Adaptable employees can also learn new technologies and processes, making their skills more generally applicable rather than specific (McGunagle & Zizka, 2020). Adaptability enables adaptive and novel thinking, through which employees can create innovative processes and solve crucial problems (Rakowska & de Juana-Espinosa, 2021). Employers always seek such employees for their companies as

they are considered highly desirable (Fajaryati et al., 2020). Higher education should, therefore, include measures to ensure that needed adaptability is enhanced and understood by all students. Adaptability can be developed in students by curriculum design that encourages curiosity, control, and confidence (Green et al., 2020).

6. Numeracy

In the modern workplace, numeracy involves the use of mathematics and scientific data to support arguments (Hadley & Oyetunji, 2022). This definition of numeracy is an expansion of earlier definitions, which revolved around the ability to use mathematics effectively at a small scale (Garcia-Retamero et al., 2019). In companies, rumours and assumptions are not used to make decisions - concrete evidence is, particularly among modern high-tech and knowledge-driven industries (Grant & Phene, 2021). Furthermore, numeracy is part of the skill set required for effective risk analysis, which is critical for decision making (Garcia-Retamero et al., 2019). Therefore, employers want graduates who can collect reliable detailed information before making decisions, particularly in technical and knowledge-driven fields , (Obi et al., 2020; Osmani et al., 2019; Rahman et al., 2019). A wide range of data subjects and graphics presentations should be taught and practiced in universities to enhance this skill, as these areas of learning enhance both numeracy skills and self-efficacy (Lee-Post, 2019).

7. Negotiation

These are skills that can express one's own needs in a clear and unemotional manner, fully taking into account other people's needs and feelings to achieve a win-win situation (McGunagle & Zizka, 2020). The job market expects graduates to come already well armed with these skills to help the company when negotiating with clients, suppliers, employees, and other stakeholders (Camarinha-Matos et al., 2020; Muluk et al., 2019; Obi et al., 2020; Osmani et al., 2019). Through adapting the higher education curriculum, graduates can develop these skills and become more employable (Banasik & Jubb, 2021).

The Importance of Employability Skills in Higher Education

The rising number of unemployed graduates, and particularly graduates with unemployable qualities, is alarming in Thailand. Traditionally, graduates gained jobs as soon as they graduated from universities; however, today that is not the trend. In 2019, prior to the COVID-19 pandemic, there was already growing alarm as more than 370,000 graduates left university without a job offer, a figure which was expected to rise to 500,000 in 2020 (Wangkat, 2019). In 2021, it was estimated that there were at least 290,000 unemployed graduates, which was in practice higher than the 2020 rate by at least 10% (Onthaworn, 2021). While many of these graduates were unemployed due to the COVID-19 situation and its negative effect on many industries, there are still concerns about graduate employability and employability skills development.

Higher education institutions and universities play a crucial role in developing the employability skills of their students, including basic soft skills and 21st century skills in numeracy, problem solving, and subject-specific

skills. The university's curriculum is the starting point in student learning for employability skills (O'Shea et al., 2022). The curriculum has to contain both subject-specific knowledge that is relevant to the present, and development of skills like communication, negotiation, teamwork, numeracy and problem-solving, among other skills, in order to prepare students effectively (O'Shea et al., 2022).

These requirements are not always the same, and vary from major to major depending on the needs of future employers. For example, among built environment graduates in engineering and architecture, there is a need for students to know how to use specialist software which is used in their workplaces (Obi et al., 2020). On the other hand, Chinese undergraduates in Thailand are not considered to need numeracy skills, but must have extremely strong communication skills and intercultural competence (Jiracheewewong et al., 2017). The university curriculum designed for each program must be able to reflect the employability skills required for its graduates, both the generic skills discussed above and subject-specific skills.

Additionally, universities also play a role in student work experience through requirements or elective choice of internships, cooperatives, student jobs, and other work experience opportunities (Bist et al., 2020; Walvoord, 2019). Internships and other work experience roles are typically part-time paid or unpaid roles in which the student plays a junior role in real-world workplaces (Walvoord, 2019). These work opportunities allow students to experience and explore the working world and develop their career objectives (Shebaro et al., 2022). They also allow for development and assessment of the student's employability skills, although this opportunity is not always taken up by the universities (Bist et al., 2020; Walvoord, 2019). For example, students may develop teamwork, communication, and other skills, while gaining a sense of workplace etiquette. Students may also participate in other organisational roles, such as organising student and professional conferences (Camarinha-Matos et al., 2020). While these roles are typically less formal than internships and are not required by the university, they still offer the opportunity to develop the required skills. In summary, the university environment, including both formal curriculum and outside experiences like internships and student organising experiences, is where graduates gain their initial employability skills. Thus, the provision for employability skills within the university is crucial for their graduates.

Recommendation for a University Curriculum That Successfully Focuses on Employability Issues

The growing trends in the market in Thailand indicate a need for full graduates. Employability skills are changing rapidly in Thailand, moving toward 21st century employability skills faster than other countries (Rakowska & de Juana-Espinosa, 2021). The need is also fanned by the high rate of enrolment in both public and private universities in the country. While the rate of university enrolment continues to rise exponentially, the economic graph is responding at a much slower rate, thus creating the issue of graduate employment. It is a

potential time bomb. Therefore, universities should not be oblivious of this issue, but should teach all graduates the skills to enable them to compete and win their space in the economy.

Unfortunately, Thai universities have not taken the lead in developing employability skills in their graduates. One recent study showed that for Chinese major undergraduates, there is no specific provision for employability skills within the curriculum, such as internships or other work experience (Jiracheewewong et al., 2017). As a result, graduates were in some ways poorly prepared for their entry to the workplace. Another study, which surveyed Thai university provisions, found that in fact this was the case for most programs – only a few were found to have specific employability skills training (Khampirat et al., 2020). Students are aware of this lack of preparation and do seek opportunities to improve their own skills, but also feel that curriculum revision to improve employability skills is needed (Md Isa et al., 2020). While employability skills cannot be taught like a typical subject to undergraduate students, the whole curriculum should be structured in such a way that these skills are integrated into the curriculum. Each individual core subject should be able to teach and develop employability skills as well as test on them in class. With such a system, graduates can gain the skills necessary to enable them to achieve positions in the corporate world and also move up the career ladder quickly (Harvey et al., 2002). This change should not be limited to the Thailand job market, but also be implemented for those other countries where graduates may go for employment.

The integration of employability skills in the university education curriculum is not something new in other countries. The leading developed countries, such as the US and UK, have developed extensive frameworks in their own higher education curriculums to enable their undergraduates to have the important skills that make them employable both at home and in foreign countries (Steven & Fallows, 1998). In the UK, for instance, the issue of integrating employability skills in higher education gained popularity in the early 1990s. Before that, these skills were taken for granted, as most graduates were certain of getting jobs. However, when higher education began to spread widely in the 1980s and 1990s, employers had many more candidates (Dearing, 1997). Thus, candidates with poor skills failed to get jobs, and the issue of employability skills became much more important. Today, most universities in the UK, i.e., the University of Edinburgh and Monash University and hundreds of others, offer courses that are embedded with employability skills or even standalone courses to teach those skills even more precisely.

Offering stand-alone employability courses and embedding employability skills are the two main methods used for teaching employability skills in higher institutions worldwide. The stand-alone course lets students become very conscious of the skills they are developing; the embedded method let the students learn these skills, as they learn other core subjects related to their career choices. Stand-alone courses are not very effective due to employability being a very broad area and needs various evaluations (Zinser, 2003). The method is effective, but very susceptible to ongoing changes in the job market. However, integrating the employability skills into the core

subjects while developing that curriculum is now seen as one of the most effective methods of teaching these needed skills to undergraduates.

1. The International Undergraduate Curriculum Integrated with Employability

The curriculum development recommendations focus on 21st century skills as a target for employability skills development. Demand for employability skills in Thailand has shifted rapidly in the latter half of the 2010s, moving increasingly toward technical skills like big data and analytics, technology and problem solving, and design thinking (Rakowska & de Juana-Espinosa, 2021). The 21st century skills are employability skills that are adaptable, flexible, and 'future-proof' against changing technologies and workplace practices (O'Shea et al., 2022). These skills mean that students are not just ready to enter their workplace immediately after graduation, but will continue to grow and benefit from the skills later on. Here, there are several cases of how 21st century skills have been incorporated into international university curricula, the specific skills that are included and why they were chosen, and what the results have been on student outcomes. These cases include the United Kingdom, United States, and Thailand.

1.1 In the UK

In the United Kingdom, most degree programs are embedded with employability skills to enable students to become competitive in the job market. In the UK, most universities have their own curricula, which allow each university to develop its own embedded employability skills. This plan enables these universities to take responsibility for enhancing the employability skills that they want their students to have (Steven & Fallows, 1998). Institutions whose students are highly marketable in the job market are highly regarded, and they attract many more students. Therefore, most universities in these countries adopt robust methods to ensure their graduates leave the institution with excellent employability skills. The following example is a stand-alone employability teaching curriculum in the University of Lupton (Steven & Fallows, 1998).

The curriculum teaches undergraduates to deliver four areas of employability skills: a) Interaction and social development, b) Presentation and communication, c) Retrieval and handling of information and d) Planning and problem-solving. Interaction and social development include skills that address the student's own self-understanding, self-motivation and self-reliance, ability to receive feedback, and cooperation and teamwork. Presentation and communication skills address students' capabilities in written, verbal, and image-based communication, presentation, and demonstration of understanding through long-form projects and activities. The retrieval and handling of information cluster addresses student research and analytical skills, including their ability to find, analyse, and synthesise information using appropriate techniques and to answer specific questions with the information derived. Finally, planning and problem-solving addresses the ability to describe problems, develop a plan for problem-solving, use appropriate problem-solving techniques, and plan and monitor progress.

a) Interaction and social Development

In this category, the students are expected to work to understand their obligation to others (the lecturers and students) and particularly;

- Demonstrate the concept of self-reliance by relating to personal goals and planning. This includes performance and finishing tasks with set timelines.
- Relate to others and demonstrate cooperation with others through contributions to group-related task and group goals.
- Identify both personal strengths and weaknesses and receive feedback that is constructive.
- Formulate effective strategies to meet the goals while working with a team using effective collaboration.

b) Presentation and Communication

In this category, students are taught the skills of communicating effectively both verbally and in writing that fits the context of the subject. The particular activities engaged in class include;

- Demonstrate a grasp of the subject matter and the context of a topic through the production of a complex piece of work.
- Assess their areas of improvement in oral communication to make sure their verbal communication is high quality.
- Communicate a series of points on paper or in a presentation
- Distinguish ideas, facts, and judgments from writing about them
- Recognize the key themes demonstrated in oral presentations or written work and expressing their style, structure, standard, and correcting both grammar and syntax effectively.
- Write short notes, reports, and prepare materials for presentation using standard methods.
- Give presentations to the class using the various methods appropriate for specific audiences.

c) Retrieval and handling of information

In this learning unit, students are expected to learn how to seek information and interpret and handle it and then protect it from theft, loss, or misuse. The specific goals of the lessons include:

- Identify the wide range of information sources that range from primary sources to secondary sources.
- Find, interpret, and organize relevant information from given and gathered data.
- Scan information for a given purpose using the given time constraints.
- Use appropriate information technology devices, such as a computer, flash drives, to store, send, and transfer information without accidental loss of the information or corruption.
- Use spreadsheet packages to handle numerical data and tables.
- Demonstrate the ability to draw accurate and clear conclusions from a wide range of data.

- Demonstrate the ability to search for relevant information using a wide range of sources within a given time frame.

d) Planning and problem-solving

The students in this learning unit are expected to use appropriate methods to identify problems, gather information concerning those problems, and use the appropriate methods to draw appropriate conclusions (Steven & Fallows, 1998). They are also expected to learn how to plan events, taking into consideration the matters relevant to the planning. The specific issues taught and tested in this lesson include:

- Describe the nature of the problem and the problem situations.
- Break down the challenging issues into manageable parts, identifying the relevant information and allocating priorities to specific parts and proposing several solutions.
- Demonstrate an understanding of numerical conventions in the interpretation of data and trends.
- Learn how to manage time effectively and achieve set goals for set timelines
- Produce innovative methods to deal with certain tasks and realistic and creative solutions for complex challenges.
- Identify the criteria for success clearly and evaluate their own performance against those same criteria.

1.2 In the United States

There is no single set of employability skills integrated into undergraduate curriculum in the United States, as shown by three case studies in different fields. One of these studies focused on integration of employability skills into the curriculum for biology students (St. Louis et al., 2021). The authors identified the key employability skills as problem-solving, communication, and collaboration. They indicated that the main way in which students were taught these skills was through problem-based learning (PBL), which is a teaching approach in which students are asked to solve real-world problems. This approach was used throughout the undergraduate curriculum to gradually improve the targeted skills, and was supplemented by activities such as internships which broadened the application of learning (St. Louis et al., 2021).

Another study also focused on STEM students, this time investigating the employer perspective (McGunagle & Zizka, 2020). The authors identified five key employability skills that were critical across STEM fields, including teamwork, proactivity, problem-solving, verbal communication, and motivation. They noted that while many of these were addressed in undergraduate curricula, proactivity and motivation were left to students to develop. Another study, this time in accounting, showed that cooperation and problem-solving skills were in demand in large cities, while smaller cities focused on organisational and management skills (Paredes, & Rodriguez, 2021). These skills were also not guaranteed to be integrated into the curriculum. Thus, there is a remarkable diversity of employability skills expectations, which are integrated across curricula in different fields at different levels.

1.3 In Thailand

Thailand National Qualification Framework was introduced to higher education in 1999 and most recently revised in 2017 (Tamronglak, 2020). It covers all levels of education in Thailand, including the higher education level, as well as professional qualification requirements. At each level of Thailand National Qualification Framework, there are specific skills and learning outcomes, including knowledge, conceptual skills, interpersonal skills, analytical and communication skills, and ethical and moral development. Many of these skill domains are implicitly classic employability skills, for example including teamwork, problem-solving, and communication (Tamronglak, 2020). However, Thailand National Qualification Framework does not have explicit requirements for 21st century skills in higher education.

Compared to the UK and the US, employability skills are poorly integrated into the Thai undergraduate curriculum, according to studies that spanned several different fields. One study, which was a cross-comparison of student perspectives between Thai, Malaysian, and Indonesian students, found that overall integration of employability skills into the curriculum was low (Isa et al., 2020). Overall, students felt unprepared for the demands of the workplace. Specific gaps included poor preparation for the workplace, lack of real-world application of employability skills, and limited use of tools like fieldwork or internships which would offer a chance to practice and hone employability skills. Students did feel they were prepared for their subject matter, but key employability skills like communication, conflict management, life skills, analysis, and strategic thinking and communication skills were weaker in terms of their curriculum integration.

Another study, which focused on undergraduate Chinese majors in Thailand, found that there was no specific integration of employability skills into the curriculum (Jiracheewewong et al., 2017). The authors suggested internships or work experience could be used to integrate skills like communication and problem-solving. A third study looked at the application of the Duale Hochschule Baden-Wuerttemberg (DHBW) model of education in Thailand and China (Reinhard & Gerloff, 2020). The authors noted that this approach is focused on employability skills and integrates both technical and 'soft' skills into the curriculum and practice.

Table 1 compares the United Kingdom, United States, and Thailand on six points. First, the key employability skills and how they are incorporated into undergraduate curriculum is considered. Next, the extent to which employability skills are standardized and integrated between undergraduate fields of study is considered. The level of curriculum integration of employability skills is compared. This is followed by the extent to which different countries use real-world experience in the undergraduate curriculum. Finally, the employer and student views of the adequacy of employability skills integration into the undergraduate curriculum is considered, showing significant differences between Thailand and the comparison countries. It is noted that the DHBW approach could improve integration of employability skills, improving communication, problem-solving and cooperation as well as real-world work experience as presented in Table 1.

Table 1 Comparison of Undergraduate Curriculum Integrated with Employability in the UK, US and Thailand

Topic	United Kingdom	United States	Thailand
Key employability skills in undergraduate curriculum	Interaction and social development Presentation and communication Information handling and retrieval Problem-solving, creativity and planning	Analysis Teamwork Communication Cooperation and collaboration Problem solving Personal traits (motivation and proactivity)	Communication Analysis Problem Solving Conflict Management Life skills Strategic thinking Teamwork
Standardisation of employability skills between undergraduate fields	Consistent integration of general employability skills across different fields	Employability skills and integration into curriculum varies between fields, universities and geographic areas	No standard employability skills or integration approaches between fields or universities
Level of curriculum integration	Employability skills typically integrated into undergraduate curriculum and training programs	Employability skills may be integrated into undergraduate curriculum and training programs, with a lot of variation between universities and fields.	Is not typically integrated into program curriculum, but may be presented separately depending on the curriculum
Use of real-world experience (e.g., internships, cooperatives, work experience)	Routinely used in some fields, especially STEM	Routinely used in some fields, especially STEM	Short work experience is commonly used other forms of curriculum integration have not been as widely adopted

Table 1 (continued)

Topic	United Kingdom	United States	Thailand
Employer view of adequacy of employability skills integration	Students are viewed as well prepared	Employability skills of students varies	Low preparation of employability skills for students
Student view of adequacy of employability skills integration	Student view is relatively positive	Student view is mixed	Students feel unprepared

2. Proposed Curriculum for Higher Education Embedded with Employability

From the review of the curriculum at the University of Luton, we see it is possible to develop curricula that includes employability skills (Yorke & Knight, 2004). However, to curb the challenges of ineffectively developing a truly helpful curriculum, the author proposes an embedded curriculum and produce graduates that are highly marketable in their chosen careers (Yorke & Knight, 2004).

This curriculum involves making certain changes in the institutional structure (Yorke & Knight, 2004). These changes include adding new roles to some department heads, creating new departments, revising the school curriculum to add activities for the undergraduates and developing new policies for the students enrolled in the higher education institution (Yorke & Knight, 2004). These guidelines are used to generate new possibilities for the development of an integrated curriculum for higher education in Thailand, which will address the needs of students and employers.

3. Centralising Employability Skills in Higher Learning Institutions

This new curriculum should centralise employability as one of its core functions in the delivery of education to all students in the institution. This focus should lead to the development of a department that deals with the issue of careers, if the institution does not already have an existing one, or assign this new role to the existing one (Hillage & Pollard,1998). The Career Service Department will include a section dealing with employability issues. The Career Service will present the issues of employability during the strategic planning of the institution curriculum for the various degree programs being offered.

4. Structuring Employability Skills in the Current Higher Education Curriculum

While it is relatively straightforward to identify which skills employers need, what is less clear is exactly how these skills should be structured into the undergraduate curriculum for various undergraduate fields of study, in order to maximise the students' learning outcomes and employability skills acquisition. Here, critical issues include the need for routine research into the market's employability skills requirement, development of approaches to teaching and assessment of employability skills, and the specific activities that will be developed for employability. However, it should be noted that this would not require a complete restructuring for most universities, but rather modifications of many of their existing activities.

4.1 Research on Employability Issues in the Market

The Career Service Department should research the employability skills required by the employers in country and those in other countries. Upon getting that data and processing it, the department should identify the key employability skills that are in high demand and advise the Curriculum Development committees that are responsible for drawing up the different programs for undergraduate students.

4.2 Teaching and Assessing Employability Skills in the Higher Education Classroom

A critical need is for development of approaches for teaching and assessing employability skills in the higher education classroom. As these skills are not typically the main focus of coursework, the skills would need to be appropriately weighted in assessment. Specific skills for which teaching and assessment approaches should be developed include classic skills such as communication, analysis, problem solving, conflict management, life skills, strategic thinking and teamwork. It should also include 21st century skills as appropriate, including skills like big data and analytics, cross-cultural competency, and design thinking and creativity, depending on specific needs of the student's field of study.

Skills such as problem-solving and teamwork should be integrated, and written communication should be included in all subjects, to ensure that these skills are effectively developed from the first year to the final year. For instance, tutors should not just check whether the points given by the students are right on the test, but also ensure they are presented in the right order, and the language used is free of grammar and syntax errors. The students should be given specific assignments that demand oral presentations to the class to ensure they can express their opinions well verbally. Teamwork will be developed during group assignments and projects where each member can contribute to ensure a certain goal set by the tutor is met in the correct timeline. Other issues are time management, so planning will be taught through the use of projects where the students will be required to carry out various units in their core subjects to demonstrate they have effectively developed the skill of planning and management.

The curriculum should also include several important activities to sensitise the students on key issues of employability and development of positive and effective employability skills, such as Career talks, career days, and mandatory or elective internship placement or other work experience. Career talks, career days and similar activities are already undertaken in many universities in Thailand, either as part of an integrated approach to career planning or as one-off events. Similarly, some undergraduate programs at some universities, but not all, do offer or require work experience such as internship placements for degree completion. By standardising and integrating these activities into a cohesive approach to career planning and development, students can become much more aware of the importance of employability skills and exactly what skills they need to succeed in their chosen field.

Career Talks: Career talks will be embedded in the modules in the first and final years of all degree coursework. Speakers, especially entrepreneurs and employers from a variety of industries, will be outsourced by the Career Service Department to talk to students on the needs of the careers they have chosen. The first- year students will learn to study to be competent in their careers while the final year students will learn what to expect in the job field and prepare for that venture effectively.

Career Days: The Career Service Department will be required to organize career workshops at the school several times a year to enable students to learn about the needs of their careers in their chosen fields and thereby know the employability skills they need to develop and practice.

Internship Placement: The students will be mandatorily placed in internship programs in their respective fields where they can develop the skills of teamwork, communication, negotiation and problem-solving in a real workplace setting.

Conclusion

This article identifies the major concepts of employability and the skills needed to help the undergraduate become fully employable. The findings showed that employability skills, such as communication, collaboration, analysis, and problem solving were considered critical to students entering the workforce. These skills enabled them to use their subject-specific knowledge to best effect when they entered the workforce. Therefore, employability skills should be integrated into the undergraduate curriculum, whether in modules and courses, or in internships, work experience, and other real-world experience. These higher education efforts should enhance the students' education, so they obtain the skills they need before graduating to hopefully become in demand in their chosen job market after graduation. The research also identified the specific issues that have led to an escalation of employability concerns in Thailand. In particular, the findings showed that Thailand is relatively far behind countries such as the United Kingdom and United States in the integration of employability skills in the undergraduate curriculum. Although there have been experimental efforts to integrate real-world employability

skills, and many programs have begun to use short-term work experience and similar approaches, employability skills have limited integration into the curriculum. Thus, students are poorly prepared for the workplace, according to both their own perceptions, and those of employers. Thailand can learn different lessons from each of the comparison countries. In comparison to both countries, Thailand has an informal and piecemeal approach to employability skills, which is not as market-driven. From the United States, especially its approach to STEM education, Thailand could take the lesson that it is critical to integrate employer perspectives and industry needs into education at all levels, but especially in the undergraduate level for work preparation. By following the approach of working with industry leaders and employers to understand 21st century employability skills, Thailand can improve the skills it is teaching and improve outcomes. From the United Kingdom, Thailand can take the lesson that a balance of standardisation and specialisation of employability skills is desirable, as each field has its own requirements in addition to shared ones. Taking this approach could improve the preparedness of students across all fields for the working world. A proposal of needed curriculum to embed into the regular curriculum for employability skills to higher education delivery is also given in the research. This proposal is intended to address the need for employability skills to be integrated into Thai undergraduate curriculums in different fields, following the model set out in the UK for employability skills throughout the undergraduate education. Implementing such a proposal would help ensure that Thai students are provided with more up-to-date employability skills, and the opportunity to test and refine these skills in real-world situations. This study has not extended to testing the proposed integration model, but this is planned as a next step for the study through a trial of implementing and evaluating integrated employability curriculum.

References

Banasik, E., & Jubb, C. (2021). Are accounting programs future‐ready? Employability Skills. *Australian Accounting Review*, *31*(3), 256–267. https://doi.org/10.1111/auar.12337

Bist, S. S., Mehta, N., Mehta, D., & Meghrajani, I. (2020). Employers' perception regarding employability skills of management students undergoing internship. *International Journal of Work-Integrated Learning*, *21*(2), 145–161.

Camarinha-Matos, L. M., Goes, J., Gomes, L., & Pereira, P. (2020). Soft and transferable skills acquisition through organizing a doctoral conference. *Education Sciences*, *10*(9), 235. https://doi.org/10.3390/educsci10090235

Cassidy, S. (2006). Developing employability skills: Peer assessment in higher education. *Education+ Training*. *48*(7), 508-517. https://doi.org/10.1108/00400910610705890

Dearing, R. (1997). *Higher education in the learning society*. HMSO.

Di Gregorio, A., Maggioni, I., Mauri, C., & Mazzucchelli, A. (2019). Employability skills for future marketing professionals. *European Management Journal*, *37*(3), 251–258. https://doi.org/10.1016/j.emj.2019.03.004

Fajaryati, N., Budiyono, B., Akhyar, M., & Wiranto, W. (2020). The employability skills needed to face the demands of work in the future: Systematic literature reviews. *Open Engineering*, *10*(1), 595–603. https://doi.org/10.1515/eng-2020-0072

Fearon, C., van Vuuren, W., McLaughlin, H., & Nachmias, S. (2020). Graduate employability, skills development and the UK's universities business challenge competition: A self-determined learning perspective. *Studies in Higher Education*, *45*(6), 1280–1297. https://doi.org/10.1080/03075079.2019.1576166

Garcia-Retamero, R., Sobkow, A., Petrova, D., Garrido, D., & Traczyk, J. (2019). Numeracy and risk literacy: What have we learned so far?. *Spanish Journal of Psychology, 22*. https://doi.org/10.1017/sjp.2019.16

Golinski, M., & Baczkiewicz, D. (2021). Analysis of factors influencing the teamwork competences of managers starting their professional career. *European Research Studies*, *5*(24), 64–76.

Gracia, L. (2009). Employability and higher education: Contextualising female students' workplace experiences to enhance understanding of employability development. *Journal of Education and Work*, *22*(4), 301-318.

Grant, R., & Phene, A. (2021). The knowledge based view and global strategy: Past impact and future potential. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3840708

Green, Z. A., Noor, U., & Hashemi, M. N. (2020). Furthering proactivity and career adaptability among university students: Test of intervention. *Journal of Career Assessment*, *28*(3), 402–424. https://doi.org/10.1177/1069072719870739

Hadley, K., & Oyetunji, W. (2022). Extending the theoretical framework of numeracy to engineers. *Journal of Engineering Education*, *111*(2), 376–399. https://doi.org/10.1002/jee.20453

Harvey, L., Harvey, L., Locke, W., & Morey, A. (2002). Enhancing employability, recognising diversity: Making links between higher education and the world of work: *Main Report*. Universities UK.

Hillage, J., & Pollard, E. (1998). *Employability: Developing a framework for policy analysis*. Department for Education and Employment, London.

Isa, F. M., Noor, S., Ahmdon, M. A. S., Setiawati, C. I., & Tantasuntisakul, W. (2020). Comparison of students' perception about curriculum design versus employability in Malaysia, Indonesia and Thailand. *International Journal of Management in Education*, *14*(4), 331-351.

Jiracheewewong, E., Yongxia, M., & Han, X. (2017). The determinants for best employability skills and job opportunities for undergraduate students majoring in Chinese in Thailand. *Education and Urban Society*, *51*(7), 989-1004. https://doi.org/10.1177/0013124517747684

Khampirat, B., Hastindra Na Ayudhaya, N., Bamrungsin, P. and Flavian, H. (Ed.). (2020). Pedagogy and quality assurance in Thai higher education institutions. In *From pedagogy to quality assurance in education: An International Perspective*, Emerald Publishing Limited, Bingley, 129-153. https://doi.org/10.1108/978-1-83867-106-820201013

Kleckner, M. J., & Butz, N. T. (2022). Developing entry-level communication skills: A comparison of student and employer perceptions. *Business and Professional Communication Quarterly*, *85*(2), 192–221. https://doi.org/10.1177/23294906221078300

Klegeris, A., Dubois, P. J., Code, W. J., & Bradshaw, H. D. (2019). Non-linear improvement in generic problem-solving skills of university students: a longitudinal study. *Higher Education Research & Development*, *38*(7), 1432–1444. https://doi.org/10.1080/07294360.2019.1659758

Lee-Post, A. (2019). Developing numeracy and problem-solving skills by overcoming learning bottlenecks. *Journal of Applied Research in Higher Education*, *11*(3), 398–414. https://doi.org/10.1108/JARHE-03-2018-0049

Loughlin, E. M., & Priyadarshini, A. (2021). Adaptability in the workplace: Investigating the adaptive performance job requirements for a project manager. *Project Leadership and Society*, *2*(2), 100012. https://doi.org/10.1016/j.plas.2021.100012

Mason, G., Williams, G., Cranmer, S., & Guile, D. (2003). *How much does higher education enhance the employability of graduates?*, HEFCE.

McGunagle, D., & Zizka, L. (2020). Employability skills for 21st-century STEM students: the employers' perspective. *Higher Education, Skills and Work-Based Learning*, *10*(3), 591–606. https://doi.org/10.1108/HESWBL-10-2019-0148

Md Isa, F., Noor, S., Ahmdon, M. A. S., Setiawati, C. I., & Tantasuntisakul, W. (2020). Comparison of students' perception about curriculum design versus employability in Malaysia, Indonesia and Thailand. *International Journal of Management in Education, 14*(4), 331–351. https://doi.org/10.1504/IJMIE.2020.107997

Muluk, S., Habiburrahim, H., Zulfikar, T., Orrell, J., & Mujiburrahman, M. (2019). Developing generic skills at an Islamic higher education institution curriculum in Aceh, Indonesia. *Higher Education, Skills and Work-Based Learning*, *9*(3), 445–455. https://doi.org/10.1108/HESWBL-06-2018-0064

Ng, B. (2022). Future Directions: Importance of higher education on work readiness and job employability. In B. Ng (Ed.), *Higher Education and Job Employability. Knowledge Studies in Higher Education*, 10, 289–295. Springer. https://doi.org/10.1007/978-3-031-05716-8_14

Ng, P. M. L., Chan, J. K. Y., Wut, T. M., Lo, M. F., & Szeto, I. (2021). What makes better career opportunities for young graduates? Examining acquired employability skills in higher education institutions. *Education + Training*, *63*(6), 852–871. https://doi.org/10.1108/ET-08-2020-0231

NZ, C., & Aotearoa, M. R. (2020, February 26). *Skills employers are looking for*. https://www.careers.govt.nz/plan-your-career/get-ideas-for-your-career/skills-employers-are-looking-for/

Obi, L., Hampton, P., & Awuzie, B. (2020). Total interpretive structural modelling of graduate employability skills for the built environment sector. *Education Sciences*, *10*(12), 369. https://doi.org/10.3390/educsci10120369

Onthaworn, P. (2021, November 22). *Thai unemployment rate hits highest level since pandemic began*. Thai Enquirer. https://www.thaienquirer.com/35182/thai-unemployment-rate-hits-highest-level-since-pandemic-began/

O'Shea, M. A., Bowyer, D., & Ghalayini, G. (2022). Future proofing tomorrow's accounting graduates: Skills, knowledge and employability. *Australasian Accounting, Business and Finance Journal*, *16*(3), 55–72.

Osmani, M., Weerakkody, V., Hindi, N., & Eldabi, T. (2019). Graduates employability skills: A review of literature against market demand. *Journal of Education for Business*, *94*(7), 423–432. https://doi.org/10.1080/08832323.2018.1545629

Paredes, A. A. P., & Rodriguez, A. J. (2021). Employability skills and geographical location. *Journal of Organizational Psychology*, *21*(3), 101-120.

Pool, L. D., & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. *Education+ Training*, *49*(4), 277-289.

Rahman, A., Teck Heang, L., Yet Mee, L., Latha Ramalingam, C., & Siew Hoe, C. (2019). Job opportunities and employability skills required of business graduates in malaysia: An investigation through online job advertisements. *Journal of Marketing Advances and Practices*, *1*(1), 37-49

Rakowska, A., & de Juana-Espinosa, S. (2021). Ready for the future? Employability skills and competencies in the twenty-first century: The view of international experts. *Human Systems Management*, *40*(5), 669–684. https://doi.org/10.3233/HSM-201118

Ramdeo, S., Balwant, P., & Fraser, S. H. (2022). Not another team assignment! Student perceptions towards teamwork at university management programs. *Higher Education, Skills and Work-Based Learning*. https://doi.org/10.1108/HESWBL-01-2022-0015

Reinhard, K., & Gerloff, A. (2020). Internationalizing cooperative education: Implementing the German DHBW model in Thailand and China. *International Journal of Work-Integrated Learning*, *21*(3), 289-301.

Shebaro, B., DeMunynck, J. P., Hauser, C. R., Holgado, A., Thompson, R. S., & Waller, P. J. (2022). Closing the gap: Building internship programs for career readiness. *Journal of Computing Sciences in Colleges*, *37*(7), 40–47.

Steven, C., & Fallows, S. (1998). Enhancing employability skills within higher education: Impact on teaching, learning and assessment. In *Higher Education Close Up International Conference, Preston, UK*. 6-8.

St. Louis, A. T., Thompson, P., Sulak, T. N., Harvill, M. L., & Moore, M. E. (2021). Infusing 21st century skill development into the undergraduate curriculum: The formation of the iBEARS network. *Journal of Microbiology & Biology Education*, *22*(2), https://doi.org/10.1128/jmbe.00180-21

Tamronglak, A. (2020). Impacts of the Thailand qualification framework–Public administration on public administration education in Thailand. *Journal of Public Affairs Education*, *26*(3), 276–290. https://doi.org/10.1080/15236803.2020.1771991

Tripathy, M. (2020). Relevance of soft skills in career success. *MIER Journal of Educational Studies, Trends and Practices*, *10*(1), 91–102. https://doi.org/10.52634/mier/2020/v10/i1/1354

Walvoord, M. E. (2019). Building employability skills through on-campus internships. *Journal of Transformative Learning,* (Special).

Wangkat, P. (2019, November 20). *Jobless graduates a wake-up call*. Bangkok Post. https://www.bangkokpost.com/opinion/opinion/1798059/jobless-graduates-a-wake-up-call

Yorke, M. (2004). Employability in the undergraduate curriculum: Some student perspectives. *European journal of education*, *39*(4), 409-427. https://doi.org/10.1111/j.1465-3435.2004.00194.x

Yorke, M., & Knight, P. T. (2004). *Embedding employability into the curriculum*. Learning and Teaching Support Network.

Zinser, R. (2003). Developing career and employability skills: A US case study. *Education+ Training*, *45*(7), 402-410. https://doi.org/10.1108/00400910310499974