

# Attributes and Skills Required for Potential Employment of Graduates: A Survey in the Context of the Labour Market in Bangkok

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## Abstract

Our objectives were threefold: 1) to determine the expectations and perceptions of students, lecturers, and entrepreneurs regarding key employability attributes and skills of graduate students, 2) to encourage students to recognise and cultivate key employability skills and attributes to align their attributes and skills with the demands of the labour market, and 3) to encourage higher education institutes to recognise these skills and attributes and design proper and overarching curricula and teaching resources for students. This study was quantitative research. Data for this quantitative research were collated from questionnaires and interviews involving 549 students, 97 lecturers, and 90 entrepreneurs in Bangkok. Statistical analysis was performed using means and standard deviation to define key components of employability attributes (morals and ethics, emotional intelligence, work performance and effectiveness, and personality) and skills (interpersonal skills, critical thinking, professionalism and management skills, and language and information technology skills).

Our results found that: 1) Lecturers and entrepreneurs have emphasised the importance of intelligence and interpersonal skills in graduates. Students, on the other hand, perceive personality, language proficiency, and information technology skills as crucial for employability. Additionally, students consider their expected work performance, effectiveness, and interpersonal skills to be key attributes of employability. 2) Expectations of entrepreneurs and lecturers regarding employability skills and attributes should be shared with students, a knowledge with which they might be able to improve their attributes and skills to align them with the requirements of the labour market. 3) University curricula and teaching resources should be designed to equip graduates with the requisite skills and attributes to satisfy labour

market expectations. Students must be encouraged to participate in a cooperative education programme, which can help them gain pertinent knowledge and experience.

**Keywords:** Attribute, Skills, Potential Employability, Graduates, Labour Market

## Introduction

According to Thailand's unemployment data in 2021 was 1.89%, representing approximately 730,000 people. The same year, there were 290,000 new graduates, which increased the proportion of graduates to 10.04%. The unemployment rates of students with vocational and higher education degrees are higher. The proportion of graduates was 3.44% in 2021. Moreover, the record of the National Statistical Office of Thailand in 2020 revealed that many graduates are still unable to find jobs because of higher expectations and requirements of a greater skill set. They lack adequate knowledge and skills that should be supported and taught in educational institutes. On the other hand, some students pursue degrees in fields that might not satisfy market demands (Office of the National Economic and Social Development Council, 2022). The unemployment rate in Thailand in 2022 was 1.32%, a marked decrease from 2021, and in the second quarter of 2023, the rate of unemployment decreased further to 1.06%. (Office of the National Economic and Social Development Council, 2023). However, the unemployment groups currently include highly qualified people, and their unemployment is becoming more prevalent.

According to Thailand 4.0, the fourth economic development plan introduced by the Thai government, the essential skills of graduates required by the labour market include critical thinking and problem-solving skills, creativity and innovation skills, lifelong learning skills, cooperation and teamwork skills, along with communications, information, and media literacy skills. Other crucial skills include customer interactions or customer service skills along with competent communication language skills, in addition to human skills, adaptability, flexibility, and collaborative skills (Boocha & Janyarat, 2022; Puriwat & Tripopsakul, 2020; Rochanasak et al., 2019). Additionally, SEAC, which was a survey in Thailand's business context, recommends five soft skills required by human resources, which include thinking skills, innovation skills, virtual work skills, self-leadership skills, and interpersonal and team skills.

Nowadays, artificial intelligence (AI) is ubiquitous and is slowly replacing humans in different occupations. Many employees, particularly the younger generation, are faced with the prospect of being replaced by AI. Consequently, upskilling of employability will become

indispensable to survive and maintain future employability (Sinlapaprasert & Wongkalasin, 2021; Ngotngamwong, 2020).

At present, Thailand 4.0 has launched the Thailand 4.0 policy, which creates value for economic development. Many industrial sectors have set the working standard for employees. Employees with expected employability will have more opportunities and revenues. Thus, universities in Thailand have now recognised the importance of developing graduates with appropriate employability skills and attributes to meet the needs of the labour market. Moreover, many universities design adequate curricula to produce graduates with good qualifications and skills to meet the requirements of society and the labour market in both government and public sectors because the labour market has high comparison and selection of graduates in the same fields. On the other hand, many organisations have high expectations regarding the qualifications and employment abilities of graduates, often perceiving new graduates as lacking the necessary skills for their careers and being unsuitable for jobs (Chokchaiworarat et al., 2021; Rodyim, 2013; Charaum & Areesophonpichet, 2016).

Currently, many universities are trying to develop graduates to satisfy the requirements of the labour market by preparing high-quality instruction and cooperative programmes. Curriculum design is important because it directly and indirectly supports and impacts student employability. The learning outcome of a curriculum should be high for quality education, which can enhance the attributes and skills of graduates to fulfil employers' expectations. Additionally, lecturers' teaching techniques and teaching resources can be used to support the delivery of the course. Finally, prior experience in the real workplace is often useful for improving abilities and skills (Saong et al., 2023; Misni et al., 2020).

The continuously changing Thai economy has significantly affected the employment of new graduates. Therefore, in this study, we aim to determine the needs of the labour market in regard to employment in Bangkok. We believe that this work will contribute to the development of employability to produce graduates who can prepare themselves to face current global economic trends.

## Research Objectives

1. To determine the expectations and perceptions of students, lecturers, and entrepreneurs regarding key employability attributes and skills of graduate students.

2. To encourage students to recognise and cultivate employability skills and attributes as required and expected by the labour market to align with the requirements of the labour market.

3. To encourage higher education institutes to recognise and help develop employability skills and attributes of graduate students required and expected by the labour markets and be able to provide and develop proper curricula and teaching resources for students.

## Literature Review

### 1. Employability

#### 1.1 The Definition and Concepts of Employability

Employability can be defined in various contexts. The Macmillan Dictionary defines employability as ‘the fact of having the relevant skills, qualifications, experience, or qualities to get a job’, while the Cambridge Dictionary defines employability as ‘the skills and abilities that allow you to be employed’. In addition, employability, according to the Confederation of British Industry (CBI), is ‘an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realise his or her aspirations and potential in work’ (CBI, 1999, as cited in McQuaid & Lindsay, 2005). Moreover, employability, sometimes referred to as employability skills, can be explained as the transferable skills, including understanding and personal attributes of individual capabilities that are required by employers and the skills that assist employees or graduates to gain or obtain employment and be employable or useful in the workplace to maintain their work (Guilbert et al., 2016; Yorke & Knight, 2003; Brown et al., 2003; Harvey, 2001; Hillage & Pollard, 1998).

Additionally, some researchers have defined employability by focusing on each group of skill sets. For instance, Wedchayanon (2011) explained the skills for employability, which can be described from three groups of skill sets consisting of basic academic skills, conceptual skills, and personalities. Therefore, the definitions of each category are different. The definition of basic academic refers to employability skills based on the competencies of employees expected at a minimum level of proficiency and needed to be ready to handle the assigned tasks. The definition of conceptual skills is related to the skills affecting employees’ performance. Hence, these skills assist workers in controlling, managing, and improving their

capabilities for their jobs. The last definition is for personalities or personal attributes, which are key characteristics related to an employee's relationship with other people.

Consequently, employability, in the context of this research, can be defined as the attributes and skills required by the labour market. Moreover, employability is also used for finding jobs and maintaining employment.

## **1.2 Concepts and Importance of Employability**

The concepts of employability can include a wide range of individual skills, attributes, abilities, and performances that can be improved (Pool & Sewell, 2007). This concept is used at different levels, such as individual, organisational, and national, especially by human resources or other academic disciplines such as human resource management, human resource development, psychology, and educational science (Thijssen et al., 2008, as cited in Charaun & Areesophonpichet, 2016; McGoldrick et al., 2002; Garavan, 1991). Nowadays, employability skills play a significant role in business industries, organisation, institutes, and other workplaces. In an era of globalisation, employers are constantly seeking industrious and versatile graduates who can propel their organisations to new heights and establish their position in a competitive marketplace. New global entrepreneurs expect employees who have proper employability or abilities and performances for working in a 'virtual' environment, such as conference calls, emails, and travel. The ability to think globally, as well as an understanding of the organisation are also considered. Employability relies on learning, knowledge, practice, skills, and attitudes. As the self-perception in an employee's abilities in the workplace, both attributes and skills can influence the employee's career advancement variables such as work experience and training, emotional intelligence, cognitive ability, and personal adaptability (Nisada, 2011; McQuaid & Lindsay, 2005; Fugate et al., 2004).

Employability is of critical importance in that it is required by entrepreneurs, especially the human resources of each company. They will consider sufficient abilities and work performances, competencies, and skills of new employees and current workers in performing tasks, remaining employment, or obtaining new employment. The employability of workers is useful to the success of organisations. Employers possibly consider and look for employability as primarily a characteristic of an employee, particularly a potential employee. Moreover, employers usually outline required skills as a set of skills from employees. Hence, both new and current workers can present appropriate employability, which can be considered an asset to employers. Moreover, entrepreneurs often tend to consider the employability presented

by potential applicants in an interview (Fajaryati et al., 2020; Chorkaew, 2014; Harrison & Kessels, 2004; Brown et al., 2003; Baruch, 2001; Hillage & Pollard, 1998).

Many jobs are expected to be replaced by AI. The ability of AI to outperform and replace routine work done by humans is causing a tremendous disruption in employment (Thomas, 2018; Jesuthasan, 2017; Baker et al., 2017). This could exacerbate the situation of unemployment and lead to the displacement of humans with AI (Crosman, 2017; Hawser, 2019). Therefore, it is necessary for employees to have the potential for employability in work.

### **1.3 Aspects of Employability**

Several researchers have enumerated skill sets and qualifications that reflect employability that can be useful for many entrepreneurs or the labour market, especially for human resources. These also include job performance, skills, and attributes that can assist some employees in making decisions and finding jobs that align with employability skills (Berntson et al., 2006; Nisada, 2011). Therefore, many studies have proposed the aspects of employability skills and attributes in different ways.

Nisada (2011) categorised employability skills discussed in terms of three distinct skill sets: 1) basic academic skills (reading, writing, science, mathematics, and oral communication) expected by workplaces at some minimum levels of proficiency, 2) higher-order thinking or conceptual skills (learning, reasoning, creative thinking, decision-making, and problem-solving) used as new development affecting their work, and 3) personal qualities (team spirit, self-confidence, social skills, integrity, punctuality and efficiency, good work attitudes, cooperative inclinations, responsibility, self-control, honesty, adaptability and flexibility, self-directedness, good grooming, self-motivation, and self-management) used by the individual as specific personal attributes. In another study, Wedchayanon (2011) proposed the skills comprising employability, such as creative thinking, decision-making, problem-solving, team spirit, social skills, responsibility, self-control, honesty, adaptability and flexibility, and self-management. Additionally, Hinchliffe and Jolly (2011) investigated employability skills or performance for graduates ranked by employers, namely, interpersonal skills, written communication skills, information technology skills, experience of work environment, communication and business awareness, numeracy skills, and presentation skills.

Moreover, another research identified employability skills as those suitable and adaptable for working in Australia (Curtis & McKenzie, 2002) based on an analysis conducted by the Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI) in 2001. These skills included communication skills, teamwork skills, problem-

solving skills, self-management skills, planning and organisation skills, technology skills, lifelong learning skills, and initiative and enterprise skills.

Nowadays, there are requirements for employability skills and attributes for specific fields of work, such as hospitality, airline, and engineering, among others. Therefore, academic institutes should be cognizant of the importance of preparing and providing a curriculum that can carry out specific employability skills for learners. For instance, some researchers have suggested most important competencies for the hospitality industry consist of communication, willingness to learn, interpersonal, problem-solving and decision-making, self-management skills, teamwork, initiative, dependability and reliability, adaptability and flexibility, customer service and cultural sensitivity, mathematics, professionalism, planning and organisation skills, research skills, computer applications, strategic planning, development planning, marketing, employee training, managerial communication, leadership, and employee relations (Srisangkaew, 2018; Wood, 2003). In addition, Nair et al. (2009) provided a list of graduate attributes used in engineering fields, such as oral communication skills, numeracy, capacity to learn new skills, ability to apply knowledge in the workplace, leadership and managerial skills, understanding of professional ethics, capacity for cooperation and teamwork, interpersonal skills, time management skills, ability to cope with work pressure and stress, and so on.

Therefore, in this research, employability aspects were categorised into attributes and skills (see Table 1).

**Table 1** Attributes and Skills of Employability

Employability Aspects	Personalities
<b>1. Attributes</b>	
1.1 Morals and ethics	Dedication, diligence, patience, determination, discipline, generosity, honesty, and punctuality
1.2 Emotional intelligence	Enthusiasm, motivation, adaptability and flexibility, open-mindedness, empathy, self-esteem, and positive attitude
1.3 Work performance and effectiveness	Conscientiousness, creativity, responsibility, ability to deal with pressure and willingness
1.4 Personality	Reliability, self-confidence, and facial expression

Employability Aspects	Personalities
<b>2. Skills</b>	
2.1 Interpersonal skills	Communication skills, teamwork skills, etiquette, understanding of organisational culture
2.2 Critical thinking	Problem-solving, critical thinking, decision-making, Knowledge application
2.3 Professionalism and management skills	Leadership, planning, and organisation
2.4 Languages and information technology skills	Languages and computer literacy

#### **1.4 Employability Attributes and Skills and Education**

Employability skills are vital in the development of any economy, workforce, and empowerment of the community. Hence, many entrepreneurs or labour markets have high expectations for employability attributes and skills of graduates to work efficiently and successfully. In other words, employability can gain employment and contribute to the company successfully (Knight & Yorke, 2004; Curtis & McKenzie, 2002). Moreover, some researchers have noted that education and training are expected to make workers more employable. Skills can also enable workers to become more employable. Higher education and training of people are useful in this regard because they can seek more jobs and require less supervision in their work. Hence, many employers have basic consideration of graduates' performance by figuring out potential and performance through the ideas of graduates' identity (Rufai & Rashid, 2015; Hinchliffe & Jolly, 2011; Groot & De Brink, 2000).

Employability skills are not merely about getting a job after graduation. These skills pertain to lifelong success in a career that graduates can gain in their various jobs over time. In other words, employability attributes and skills are not just a set of skills that can be taught in class to students, especially in higher education, 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 for each individual (Cassidy, 2006; Lijun, 2007). Hence, many universities in many countries attempt to produce graduates with valuable skills to match the requirements of employers, especially universities that have specific fields (Nair et al., 2009; Tejavaniya, 2002).



As stated by Queensland University, 'The university considers that graduate attribute support can be found in both the planning curriculum (the goals, learning outcomes, assessment programme, and learning activities planned for students) and the enacted curriculum (the process and content of the learning experienced by students)' (Hager et al., 2002).

According to the expectations of employers for both personal qualities and achievements for efficient workplace performance, in the UK, higher education institutions (HEIs) are concerned with graduate employability, which is related to their performances. Students will be able to learn for many years through programmes not only in classes. Hence, there are attempts to improve higher education that rely on changing the formal curriculum, changing single courses or modules, and concentrating on what happens in the real or virtual classroom, among other strategies. Consequently, many institutes mainly attempt to improve their student employability by considering ways of enhancing employability, which can be divided into the following ways: 1) the work experience of students who have been hired by some workplaces will be preferred, 2) entrepreneurship modules added to the curriculum can be considered as a good and essential strategy to reach accomplishment in learning entrepreneurship, 3) careers advice or career service should be inputted into the programme to assist students and solve their problems, and 4) portfolios, profiles, and records of achievement collecting and presenting students' achievements should be prepared (Knight & Yorke, 2003).

With the introduction of a proper curriculum in Thailand, Thai graduates will be able to learn employability from their universities or academic institutes, including from their experience of training programmes to work successfully in the future. Consequently, universities or academic institutes can produce graduates with the required employability attributes and skills for their employment by providing a proper curriculum (Tejavaniya, 2002).

## **2. Standard Learning Outcomes for Graduates in Thailand**

We opine that higher education should provide a proper curriculum for students to prepare graduate students with employability attributes and skills expected by the workplace or labour markets. Thus, the curriculum should consider learning outcomes that are appropriate for graduate students. In Thailand, the Thai Qualifications Framework for Higher Education (TQF) provides basic learning outcomes for many faculties and is comprised of five aspects (Office of the Higher Education Commission, BE 2552):

- 1) *Morals and ethics*, such as faithfulness, discipline, and punctuality, using ethical consideration and moral discretion, paying respect to human rights, values, individual differences, etc.
- 2) *Knowledge*, such as being knowledgeable and understanding in own fields, understanding and recognising the current field or profession, etc.
- 3) *Cognitive skills*, such as being able to search information from various sources, analysing and utilising the selected data for referencing in knowledge, solving problems, etc.
- 4) *Interpersonal skills and responsibility*, such as communicating proficiently, being able to work as a leader and team member in various contexts and situations, being able to express ideas/opinions rationally and respect other people's opinions, interacting positively with other people, etc.
- 5) *Numerical analysis and communication and information technology skills*, such as being able to apply mathematics and statistics in working, being able to communicate proficiently in Thai or other languages, being able to utilise information technology effectively and ethically, etc.

### **3. Impact of AI on the Future of Employment**

In the last few years, AI has emerged as a potential technological advance used as a tools in many industries. Currently, AI has a significant impact on employment in the labour market. The proportion of firms and workers with AI adoption is rapidly increasing. A noteworthy example is that of ChatGPT (generative pre-trained transformer), developed by Open AI, a well-perceived language model. It involves AI used to teach computers to understand and interpret human language. The ability of the model includes responding to text-based enquiries or questions stated in a chat box. Additional abilities include solving a creative block as a writing process, generating and engaging content and captions for small business owners or medium enterprises, writing code and working with data as the benefits for engineering teams or programmers, and making productive work as remote work. (Kiderlin, 2023; Pegg, 2023; Daga, 2022; McGrath, 2021; Fay & Trenholm, 2019).

## **Research Methodology**

### **Research Samples**

The study samples were divided into the following:

- 1) A questionnaire which involved 549 students, 97 lecturers, and 90 entrepreneurs.



2) The interview part, which involved 97 lecturers and 90 entrepreneurs.

The participation of the above respondents was on a voluntary basis. The volunteer sampling technique was adopted, which could be applied by focusing on the consistency of the responses in each topic.

### **Variables**

Independent variables included in this study were age, gender, and education.

Dependent variables included the requirement of entrepreneurs or labour markets seeking graduate students with proper/expected employability skills and attributes.

### **Research Instruments**

This study was quantitative in nature. Questionnaires and interviews were used to acquire data.

1. Questionnaire data were collected from 549 students from government and private institutes, 97 lecturers from government and private institutes, and 90 entrepreneurs from government and private institutes.

Questionnaires administered to students, lecturers, and entrepreneurs were different.

The questionnaires were sent to students, lecturers, and entrepreneurs by using Google Forms. Each respondent was instructed to answer questions by reading questions carefully.

1) The form used for students was divided into two parts:

- 1.1) Personal information of students (rating scale and filling information):  
gender, age, year, faculty, and type of institutes.
- 1.2) Employability attributes and skills that are expected and perceived.

2) The form used for lecturers was divided into two parts:

- 2.1) Personal information of participants (rating scale and filling information):  
gender, faculty, and type of institutes.
- 2.2) Employability attributes and skills that are expected and perceived.

3) The form used for entrepreneurs was divided into two parts:

- 3.1) Personal information of participants (rating scale and filling information):  
gender and type of company.
- 3.2) Employability attributes and skills that are expected and perceived.

2. For the interviews with 12 entrepreneurs and 10 lecturers from both government and private institutes, we used a note-taking method.

### **Quality Testing**

Determining employability skills and attributes included six steps for collating data from questionnaire questions and interview questions.

- 1) Developing questionnaire and interview questions for students, lecturers, and entrepreneurs.
- 2) Collating data from questionnaires and interviews.
- 3) Analysing and synthesising the data based on a literature review to develop a draft questionnaire and interview questions for all samples.
- 4) Verifying content validity and item objective congruence.
- 5) Testing with non-sample group respondents.
- 6) Distributing questionnaires to students, lecturers, and entrepreneurs, collecting them back. Moreover, interviews with lecturers and entrepreneurs were collected.

### **Study Procedure**

We collected data from questionnaires sent to students, lecturers, and entrepreneurs from government and private institutes. Participants were told that the objectives and purposes of this research are related to expectations and perceptions of employability skills and attributes of graduate students. A cover letter provided background information regarding the purpose of the study and emphasised confidentiality and voluntary participation. Voluntary participants were not asked their names. Then, lecturers and entrepreneurs were also interviewed based on guidelines, and note-taking was used during interviewing.

### **Data Analysis**

We next arrived at the results by using descriptive statistics, namely, frequency, percentage, means and standard deviation, for all questionnaires.

### **Research Findings**

The statistics described the responses about expectations and perceptions regarding employability skills and attributes of graduated students from the three groups of participants detailed in the following tables.



**Table 2** Student Rankings of Expectations and Self-Perceptions Regarding Employability Attributes and Skills of Graduate Students

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
<b>1. Attributes</b>				
1.1 Morals and ethics	4.2275	.58340	4.2436	.60607
1.2 Emotional intelligence	4.2410	.58896	4.2371	.60157
1.3 Work performance and effectiveness	4.2925	.58799	4.3071	.61327
1.4 Personality	3.7231	.77355	3.8002	.80321
<b>2. Skills</b>				
2.1 Interpersonal skills	4.2336	.64020	4.2013	.66489
2.2 Critical thinking	4.0956	.67473	4.0956	.67473
2.3 Professionalism and managerial skills	4.0337	.75107	4.0009	.75726
2.4 Languages and information technology skills	3.7951	.81746	3.8270	.81339

Note. Respondents were asked to rank these skills in order of importance on a scale of 1–5.

Table 2 indicates the descriptive statistics of the mean score and standard deviation of expected and perceived employability attributes and skills of 549 students. In terms of expected attributes, the highest mean of expected attributes of students was work performance and effectiveness ( $\bar{X} = 4.2925$ ,  $SD = .58799$ ), the second was emotional intelligence ( $\bar{X} = 4.2410$ ,  $SD = .58896$ ), followed by morals and ethics ( $\bar{X} = 4.2275$ ,  $SD = .58340$ ), and the lowest mean expected attribute of students was personality ( $\bar{X} = 3.7231$ ,  $SD = .77355$ ). Regarding the results of perceived attributes, the highest mean of perceived attributes of students was work performance and effectiveness ( $\bar{X} = 4.3071$ ,  $SD = .61327$ ), followed by emotional intelligence ( $\bar{X} = 4.2371$ ,  $SD = .60157$ ), then morals and ethics ( $\bar{X} = 4.2436$ ,  $SD = .60607$ ), and lastly personality ( $\bar{X} = 3.8002$ ,  $SD = .80321$ ).

In terms of graduates' employability skills, students expected to have each skill respectively described as follows: interpersonal skills ( $\bar{X} = 4.2336$ ,  $SD = .64020$ ), then critical thinking ( $\bar{X} = 4.0956$ ,  $SD = .67473$ ), followed by professionalism and managerial skills ( $\bar{X} = 4.0337$ ,  $SD = .75107$ ), and languages and information technology skills ( $\bar{X} = 3.7951$ ,  $SD = .81746$ ) had the lowest mean of expectation. Likewise, their self-perception of each employability skill was consecutively presented as follows: the highest mean was for interpersonal skills ( $\bar{X} = 4.2013$ ,  $SD = .66489$ ), then critical thinking ( $\bar{X} = 4.0956$ ,  $SD = .67473$ ), and the next highest mean was professionalism and managerial skills ( $\bar{X} = 4.0009$ ,  $SD = .75726$ ), and lastly languages and information technology skills ( $\bar{X} = 3.8270$ ,  $SD = .81339$ ).

**Table 3** Student Rankings of Expectations and Perceptions Regarding All Aspects of Employability Attributes and Skills

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
All Aspects	4.0803	.55059	4.0891	.57236
1. Attributes	4.1210	.53159	4.1470	.56408
2. Skills	4.0395	.62881	4.0312	.62946

Table 3 illustrates the summary of students' answers about their expectations and self-perceptions regarding employability aspects. The mean score of expected employability attributes was  $\bar{X} = 4.1210$ ,  $SD = .53159$ , while mean score of perceived employability attributes was  $\bar{X} = 4.1470$ ,  $SD = .56408$ . In terms of employability skills, the mean score of expected employability skills was  $\bar{X} = 4.0395$ ,  $SD = .62881$ , while the mean score of perceived employability skills was  $\bar{X} = 4.0312$ ,  $SD = .62946$ . As describing all employability aspects, the mean score of expectations in employability was  $\bar{X} = 4.0803$ ,  $SD = .57236$ , whereas the mean score of students' perception in employability was  $\bar{X} = 4.0891$ ,  $SD = .57236$ .

**Table 4** Lecturer Rankings of Expectations and Perceptions Regarding Employability Attributes and Skills of Graduate Students

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
<b>1. Attributes</b>				
1.1 Morals and ethics	4.4562	.57312	3.8312	.83853
1.2 Emotional intelligence	4.4875	.51950	3.9028	.76001
1.3 Work performance and effectiveness	4.4206	.56235	3.8186	.82315
1.4 Personality	4.3436	.59210	3.9175	.66845
<b>2. Skills</b>				
2.1 Interpersonal skill	4.4253	.53785	3.7629	.78758
2.2 Critical thinking	4.4227	.55241	3.7320	.81749
2.3 Professionalism and managerial skills	4.3041	.63145	3.6753	.86012
2.4 Languages and information technology skills	4.1959	.65969	3.7990	.73478

Note. Respondents were asked to rank these skills in order of importance on a scale of 1–5.

Table 4 summarises the descriptive statistics of the mean score and standard deviation of expected and perceived employability attributes and skills for graduate students from 97 lecturers. In terms of expected attributes, the lecturers expected graduate students to have each attribute. The highest mean of expectations corresponded to emotional intelligence ( $\bar{X} = 4.4875$ ,  $SD = .51950$ ), the next highest mean was for morals and ethics ( $\bar{X} = 4.4562$ ,  $SD = .57312$ ), followed by work performance and effectiveness ( $\bar{X} = 4.4206$ ,  $SD = .56235$ ), and the lowest mean of expectations was personality ( $\bar{X} = 4.3436$ ,  $SD = .59210$ ). The lecturers perceived each attribute from graduate students as follows: the highest mean of perceived employability attribute was for personality ( $\bar{X} = 3.9175$ ,  $SD = .66845$ ), then emotional intelligence ( $\bar{X} = 3.9028$ ,  $SD = .76001$ ), followed by morals and ethics ( $\bar{X} = 3.8312$ ,  $SD =$

.83853), and the lowest mean corresponded to work performance and effectiveness ( $\bar{X} = 3.8186$ ,  $SD = .82315$ ).

Regarding graduate graduates' employability skills, lecturers expected graduate students to have each skill as follows: the first expectation from graduate students was to possess interpersonal skills ( $\bar{X} = 4.4253$ ,  $SD = .53785$ ), then critical thinking ( $\bar{X} = 4.4227$ ,  $SD = .55241$ ), next expectation was to have professionalism and managerial skills ( $\bar{X} = 4.3041$ ,  $SD = .63145$ ), and the lowest mean corresponded to languages and information technology skills ( $\bar{X} = 4.1959$ ,  $SD = .65969$ ). However, the results showed that lecturers perceived each employability skill of graduate students described respectively; the highest mean of employability skill was for languages and information technology skills ( $\bar{X} = 3.7990$ ,  $SD = .73478$ ), followed by interpersonal skills ( $\bar{X} = 3.7629$ ,  $SD = .78758$ ), then critical thinking ( $\bar{X} = 3.7320$ ,  $SD = .81749$ ), and lastly professionalism and managerial skills ( $\bar{X} = 3.6753$ ,  $SD = .86012$ ).

**Table 5** Lecturer Rankings of Expectations and Perceptions Regarding All Aspects of Employability Attributes and Skills

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
All Aspects	4.3820	.49355	3.8049	.68906
1. Attributes	4.4270	.51303	3.8675	.72173
2. Skills	4.3370	.51559	3.7423	.71022

Table 5 encapsulates the lecturers' answers about their expectations and perceptions regarding the employability aspects of graduate students. The mean score of expected employability attributes was  $\bar{X} = 4.4270$ ,  $SD = .51303$ , while the mean score of perceived employability attributes from graduates was  $\bar{X} = 3.8675$ ,  $SD = .72173$ . In terms of employability skills, the mean score of expected employability skills was  $\bar{X} = 4.3370$ ,  $SD = .51559$ , while the mean score of perceived employability skills was  $\bar{X} = 3.7423$ ,  $SD = .71022$ . Regarding all employability aspects answered by 97 lecturers, the mean score of expectations regarding employability was  $\bar{X} = 4.3820$ ,  $SD = .49355$ , whereas the mean score of lecturers' perceptions regarding employability was  $\bar{X} = 3.8049$ ,  $SD = .68906$ .





**Table 6** Entrepreneur Rankings of Expectations and Perceptions Regarding Employability Attributes and Skills of Graduate Students

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
<b>1. Attributes</b>				
1.1 Morals and ethics	4.5472	.48884	3.9736	.89445
1.2 Emotional intelligence	4.5889	.44450	4.0857	.75100
1.3 Work performance and effectiveness	4.4933	.50186	4.0222	.80585
1.4 Personality	4.2741	.61723	4.1556	.74653
<b>2. Skills</b>				
2.1 Interpersonal skills	4.5222	.52820	4.0250	.86769
2.2 Critical thinking	4.5139	.50747	3.9500	.88939
2.3 Professionalism & managerial skills	4.3833	.59986	3.9222	.91771
2.4 Languages & information technology skills	4.2056	.71065	4.0722	.84322

Note. Respondents were asked to rank these skills in order of importance on a scale of 1–5.

In Table 6, the descriptive statistics of the mean score and standard deviation of expected and perceived employability attributes and skills for graduate students from 90 entrepreneurs are presented. According to expected attributes, the entrepreneurs expected graduate students to have each attribute as follows: the highest mean of expectation corresponded to emotional intelligence ( $\bar{X} = 4.5889$ ,  $SD = .44450$ ), the next expectation was for morals and ethics ( $\bar{X} = 4.5472$ ,  $SD = .48884$ ), followed by work performance and effectiveness ( $\bar{X} = 4.4933$ ,  $SD = .50186$ ), and the lowest mean of expectation was for personality ( $\bar{X} = 4.2741$ ,  $SD = 4.1556$ ). However, entrepreneurs perceived each attribute from graduate students explained as follows: the highest mean was for personality ( $\bar{X} = 4.1556$ ,  $SD = .74653$ ), then emotional intelligence ( $\bar{X} = 4.0857$ ,  $SD = .75100$ ), followed by work

performance and effectiveness ( $\bar{X} = 4.0222$ ,  $SD = .80585$ ), and lastly morals and ethics ( $\bar{X} = 3.9736$ ,  $SD = .89445$ ).

According to the results for graduate students' employability skills required by entrepreneurs, they expected graduate students to possess the following: first, interpersonal skills ( $\bar{X} = 4.5222$ ,  $SD = .52820$ ), second, critical thinking ( $\bar{X} = 4.5139$ ,  $SD = .50747$ ), third, professionalism & managerial skills ( $\bar{X} = 4.3833$ ,  $SD = .59986$ ), and last languages and information technology skills ( $\bar{X} = 4.2056$ ,  $SD = .71065$ ). However, they perceived graduate students' employability skills as follows: first, languages and information technology skills ( $\bar{X} = 4.0722$ ,  $SD = .84322$ ), second, interpersonal skills ( $\bar{X} = 4.0250$ ,  $SD = .86769$ ), third, critical thinking ( $\bar{X} = 3.9500$ ,  $SD = .88939$ ), and last professionalism and managerial skills ( $\bar{X} = 3.9222$ ,  $SD = .91771$ ).

**Table 7** Expectations and Perceptions of Entrepreneurs in All Aspects of Employability Attributes and Skills

Employability Aspects	Expected		Perceived	
	Mean	SD	Mean	SD
All Aspects	4.4411	.42644	4.0258	.69797
1. Attributes	4.4759	.43640	4.0593	.70668
2. Skills	4.4063	.45489	3.9924	.74835

Note. Respondents were asked to rank these skills in order of importance on a scale of 1–5.

Table 7 provides a summary of entrepreneurs' answers about their expectations and perceptions regarding all employability aspects of graduate students. The mean score of expected employability attributes was  $\bar{X} = 4.4759$ ,  $SD = .43640$ , while the mean score of perceived employability attributes from graduates was  $\bar{X} = 4.0593$ ,  $SD = .70668$ . In terms of employability skills, the mean score of expected employability skills was  $\bar{X} = 4.4063$ ,  $SD = .45489$ , while the mean score of perceived employability skills was  $\bar{X} = 3.9924$ ,  $SD = .74835$ . As per the results of all employability aspects answered by 90 entrepreneurs, the mean score of expectation regarding employability was ( $\bar{X} = 4.4411$ ,  $SD = .42644$ ), whereas the mean score of entrepreneurs' perception regarding employability was ( $\bar{X} = 4.0258$ ,  $SD = .69797$ ).

## Discussion

In this survey-based study, we assessed the expectations and perceptions regarding employability attributes and skills of graduates in the context of the labour market in Bangkok. As results, entrepreneurs' opinions conform to lecturers' opinions of students' employability. At present, there are many media platforms used for learning languages and technology, such as YouTube and Facebook, as well as learning through education online at universities. Therefore, those media will be able to contribute to graduates to enhance their employability attributes and skills. As graduates lack professional work experience, professionalism had the lowest score. Consequently, it is necessary for students to practise and be trained while they are studying in universities before entering work society so that they can learn from assignments or tasks which can be applicable in the workplace in the future.

In Thailand, universities should provide students to have experience in real workplaces by using experiential learning to encourage students to work as cooperative students, a programme referred to as a cooperative education programme, which is planned for one semester or one academic year in some universities. Cooperative education in Thailand is one of the education systems emphasising the practical work of students in real workplaces. Students in this programme work as employees of the companies and will be assigned tasks or considered responsible for the duties of those of regular employees. Moreover, educational institutions should encourage students to have more opportunities by working in real workplaces before graduation because the students will gain more experience, knowledge, work skills, and attributes, including an understanding of working to prepare themselves before working in real situations. However, there are some limitations in training for young people. For example, some organisations require students who are mature adults, have experience, and have good grades. Moreover, some curricula have fewer opportunities to send students for training in organisations because the curricula might not be well known in labour markets or might be specialised, such as literature, library and information science, general science, etc. Although students are studying in the curriculum required by labour markets, they might be assigned basic work, which might not develop their skills in those fields.

According to the five learning outcomes for graduates in Thailand, the curricula of universities should provide content that is appropriate for students. In terms of the morals and ethics aspect, the contents of each subject should be related to moral, ethical, and philosophical concepts, which can encourage students to have more ethical reasons such as dedication, diligence, patience, determination, discipline, generousness, honesty, punctuality,

and mercy. Furthermore, active learning should be applied to teaching; for example, lecturers may cover case studies related to moral and ethical concepts and ask students to analyse, discuss, and present in the class. Moreover, integrated learning can be useful for this aspect because it will be appropriate for the nature of students. Students can learn both inside and outside the classrooms. Lecturers can act as facilitators of integrated learning by sharing experiences and motivating students to learn, analyse, discuss, and share their learnings. In other words, teaching and learning styles should result in active learning to make it interesting.

Nowadays, many universities try to prepare the knowledge aspect by focusing on principles that students will be able to gain further knowledge rather than quantities of content because students can easily learn through online or other social media. Therefore, the role of lecturers is to be a facilitator providing new ways of learning, which should be challenging and encouraging students to have appropriate knowledge and good competencies such as activities, problem-based learning, case-based learning, research-based learning or project-based learning because these learning will be useful for their work after graduation. Moreover, lecturers should cover important content while teaching and encouraging students to understand the underlying knowledge and theories. Hence, learning not only focuses on output but also the creation of a learning process.

In terms of the cognitive aspect, learner- or student-centred will be useful for teaching as it encourages students to create new knowledge through thinking process or intellectual process. The lecturers can encourage students to apply their knowledge, theories, and strategies in various situations. Thinking-based, problem-based, case-based, and research-based learning, along with integrated learning, can be incorporated into some curricula. However, students should have sufficient knowledge to apply while solving problems. Students can prove and investigate the results by themselves by collecting data or information both inside and outside the classes.

In terms of interpersonal skills and responsibility aspect, likewise, the curriculum should encourage students to learn through active learning by using group work activities, which can assist students in interacting and working with their teams. In addition, active learning will help students to practise interpersonal skills before working in the future. At the moment, interpersonal skills are crucial, which students should realise, because they will face the difficulty of working with people. They can apply interpersonal skills to adapt to working in organisations. Moreover, interpersonal skills can help increase work efficiency.

According to numerical analysis and communication and information technology skills, many universities pay attention to the information technology and language competencies of students. Therefore, learner-centred language curriculum and communicative language teaching should be employed for language and communication practice among students. Moreover, lecturers should encourage students to learn from other social media such as YouTube, Facebook, and Instagram because those sources will motivate students to learn a second or third language from influencers or tutors. Activities provided in classes will be more appropriate than content-based instruction. Regarding computing and ICT literacy, graduates should know and can use current and updated technology to use suitable information technology for solving problems and their work in the future. The student should know the way to find information through information technology as self-study. Therefore, the curriculum should encourage and monitor students to use appropriate information technology by assigning work.

Nowadays, many universities are shifting their focus from the quality of content to the quality of knowledge outcomes, recognising that students can readily access information online or on social media. Therefore, the role of lecturers is evolving into that of facilitators who introduce innovative and challenging learning methods. These methods, including learning activities, problem-based learning, case-based learning, research-based learning, or project-based learning, are designed to equip students with relevant knowledge and competencies that will be beneficial in their post-graduation careers. Moreover, lecturers, while teaching, should not only cover essential content but also guide students towards a deeper understanding of knowledge and theories. Therefore, learning does not only focus on outcomes but also on creating a robust and engaging learning process.

The learning process should consider assisting students in learning new knowledge after graduation rather than focusing merely on ‘right’ or ‘wrong’. Therefore, outcome-based education (OBE) can be regarded as a tool for academic achievement. According to educational philosophy, the aim of education should be producing learning outcomes (initial knowledge and competencies of students) specifically. The accomplishment of OBE should not be only paperwork but also investigating strategies, including finding problem solutions to difficulties that students might encounter.

OBE can be applicable at various levels, starting from the subject level, which emphasises learning and competencies. The competencies can be derived from the outstanding characteristics of that educational institution. For example, the vision of

Rajamangala Universities is to nurture hands-on graduates for entrepreneurial societies related to the requirements of labour markets, especially in the future. Consequently, the programme learning outcome (PLO) is developed by each programme or curriculum. Afterward, the course learning outcome was also developed by employing curriculum mapping to determine how each subject can improve the competencies of students. Therefore, lecturers should use PLO as an application to create lesson plans and learning methods for reaching achievement.

Based on the World Economic Forum's Top 10 Skills of 2025 report (Whiting, 2020), universities should prepare courses that are related to new skills. The top 10 skills of 2025 are categorised into four main groups, namely, 1) problem-solving, which includes analytical thinking and innovation, complex problem-solving, critical thinking and analysis, and reasoning; 2) problem-solving encompassing active learning and learning strategies, resilience, stress tolerance, and flexibility; 3) working with people, highlighting leadership and social influence; and 4) technology use and development, featuring creativity, originality and initiative, technology design, and programming.

In the future, technologies and AI will be adopted in many industries. AI, nowadays, is rapidly growing in the labour market. Hence, these technologies may disrupt the workforce or employment by replacing the task performance of humans.

These new technologies are set to drive future growth across industries, as well as to increase the demand for new job roles and skill sets. Such positive effects may be counter-balanced by workforce disruptions. A substantial amount of literature has indicated that technological adoption will impact workers' jobs by displacing some tasks performed by humans into the realm of work performed by machines. The extent of disruption will vary depending on a worker's occupation and skill set.

AI might transform business communication and operation, which can lead to a change in the requirement for employability skills and attributes. AI can replace human jobs in the future; therefore, unemployment may increase. On the other hand, some employees can easily lose their jobs, particularly new graduates, because some graduates lack experience, skills, and attributes. In contrast, AI lacks emotional intelligence to a great extent, which is important for some companies. Hence, some soft skills or some attributes of humans are necessary in the workplace.

Additionally, some universities in Thailand have plans to prepare AI training courses, which will train students in AI through online courses.

Nowadays, students place importance on readiness for work, career paths, and employment. Moreover, graduates desire to have jobs that ultimately fulfil their needs. However, the jobs can be full-time jobs in both private companies and government sectors. As per the results of this study, most students meet the demands or requirements of entrepreneurs for employability skills and attributes. Therefore, educational institutes that build these graduates to be the main driving forces for communities, societies, and the national economy should focus on the needs and expectations of those students. Students expect to study a good-quality curriculum. Nevertheless, students may not only consider curriculum as only one factor for studying but also consider the reputation of educational institutes. The reputation of each university can be assessed and contributed by some organisation. In other words, the curriculum and reputation of universities can create social acceptance and a good image of students to be accepted in society. In summary, most students of this study focus on the reputation of universities for deciding the quality of curriculum, which is similar in many universities. Additionally, students expect the good results of knowledge, skills, and attributes provided by the curriculum of each university after graduation. In consequence, the curriculum should reveal special identities to meet the needs of students and contribute to the employability skills and attributes for employment after graduation.

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