Employability Skills for Entry Level Workers: Alumni, Supervisors, and Lecturers Perceptions

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ABSTRACT

Today's global competitions required employees to have employability skills. Employability skills include clusters of critical skills that are required to produce productive workforce. The purpose of this study was to describe the level of the employability skill indicators that are needed by graduates to enter the world of work. This study also compared means of importance level of the employability skill indicators perceived by alumni, supervisors, and lecturers. This survey research was conducted using asset of questionnaires. A random sample of 237 respondents was selected from the three groups: (1) Bali State Polytechnic alumni, (2) supervisors in the industry, and (3) faculty members of Commerce Department of Bali State Polytechnic. Research instrument was developed and adapted from previous research, consisting of 45 employability skill attributes which were grouped into nine indicators or constructs. Research instrument was validated by a panel of experts. Reliability test also showed high Cronbach's Alpha value for the questionnaire. Data were analyzed using descriptive and inferential statistics. There are different levels of the employability skill indicators as perceived by the alumni, supervisors, and lecturers. The main finding of the study showed that there are two most important employability skill indicators: problem solving and self-management. There were no significant differences among supervisors, alumni and lecturers regarding employability skills. This indicates that the alumni, lecturers, and supervisors have the same perception regarding the employability skill indicators needed to enter the world of work.

Keywords: Employability skills, problem solving, self-management, entry level workers, Indonesia

INTRODUCTION

Employability skills are critical skills in a workplace. In addition to basic and specialized knowledge and skills, workers are nowadays expected to have an additional set of skills that go beyond their occupation. In recent years, employability skills are becoming increasingly important (Rothwell *et. al*, 2009). Poor employability skills become a great concern of the employers at the national, regional, and international labor market. According to the American Management Association (2010), critical thinking, problem solving, creativity, innovation, collaboration and communication skills are becoming increasingly important in today's global economy (AMA, 2010). Today's labor market does not only look for graduates with high academic qualifications, but also the ability to work (Bakar & Hanafi, 2007; Muhammad, 2012). Employability attributes of graduates are more important than their academic achievement. However, this does not mean that employability is based solely on these skills but rather that it complement the 'conventional' knowledge and skills, thus strengthening individual capacity and employability. Employers are looking for people who are capable of performing various tasks and roles. Employability skills attributes such as: ability to work in a team, communication skills, critical thinking, problem solving, adaptability and managerial capabilities (Hager & Holland, 2006, Tome, 2007; Lowden *et. al*., 2011) are needed to enter the world of work.

The main barrier to higher education graduates in entering the world of work is the gap between the graduate competencies and the skills needed in the workplace. Employability skills are considered as one missing link between education and training and the world of work. The current working environment is more challenging than the traditional workplace. Today's global competition requires employees to have critical thinking, possess communication skills and able to solve problems. In order to respond to the technology advances and the competitive world of work, it is necessary to prepare graduates to have the skills and ability to adapt to the new working environment (Saunders & Zuzel, 2010). Employability skills become very important as they facilitate the employees to move from one job to another, within and between organizations.

The curriculum should be designed in order to fulfill the criteria required in the labor market. The education system should be able to serve to fulfill specific needs of a particular society at a particular time (Maclean & Victor, 2007). Higher education and employment providers need to work together to enhance the employability skills of the graduates and the workers (Shafie & Nayan, 2010; Imeokparia & Kennedy, 2012).

The Indonesian government has issued the Indonesian Qualification Framework (IQF), which requires job seekers to have a number of abilities appropriate for different levels of qualification. The ability that must be possessed by the graduates of higher education programs of Diploma 3 (D3) and Diploma 4 (D4) include: able to complete a job with wide scope, able to demonstrate performance with measurable quality and quantity, able to formulate procedural problem-solving, able to manage group work, prepare a comprehensive written report, responsible for his own and groups work, able to apply their expertise, able to solve problems, able to adapt to the situation at hand, able to make decisions, able to provide guidance in choosing a range of alternative solutions independently and by group.

Considering the changes in today's workplace, job seekers must be well prepared. Vocational education plays an important role in producing graduates according to the needs of the industry. In Indonesia, Polytechnic is an educational institution that provides vocational education program. Polytechnic is specifically designed to prepare students to perform a job with specific skills. In contrast to academic system, vocational education is designed with the purpose of fulfilling the demands of the industry by providing the skills needed in the workplace.

RESEARCH PURPOSE AND OBJECTIVES

The purpose of this study was to identify the employability skills that are needed by the graduates of polytechnics when entering the world of work. This study was also designed to assess and compare the importance of the employability skills for entry level workers as perceived by the alumni, their supervisors in the industry, and their lecturers in the Accounting, Business Management, and Tourism program at Bali State Polytechnic, Indonesia. The following objectives were formulated to accomplish the purpose of this study:

  i.   to determine the importance level of the employability skills for entry level workers as perceived by the alumni.
 ii.   to determine the importance level of the employability skills for entry level workers as perceived by the supervisors in the industry.
iii.   to determine the importance level of the employability skills for entry level workers as perceived by the lecturers.
 iv.   to compare the means of employability skills' importance level among the three groups.

THEORETICAL FRAMEWORK

Employability skills are defined as skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions (DEST, 2002). Employability skills are also known as core skills, key skills, essential skills, key competencies, generic skills, necessary skills, workplace know-how, critical enabling skills,

transferable skills, key qualifications (NCVER, 2003). Literature has shown that these skills were critical for both entry-level and established employees.

Another definition of employability skill is expressed by Yorke (2006) and Overtoom (2000). Overtoom (2000) defined employability skills as transferable core skills that represent essential functional and enabling knowledge, skills and attitudes required by the 21st century workplace which are necessary for career success at all levels of employment and for all levels of education. According to Yorke (2006), employability skills is a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment to be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy. Employability skills framework has been developed in many countries, such as Canada, USA, Europe, and Australia. The Conference Board of Canada has recently published Employability Skills 2000+ (CBC, 2000). The Employability Skills 2000+ consists of fundamental skills, personal management skills, and teamwork skills. Employability Skills 2000+ consists of 56 set specific skills or attributes.

The Employability Skills Framework, outlined in *Employability skills for the future*, (DEST, 2002), provides the starting point for any discussion on employability skills in higher education in Australia. *Employability skills for the future* presents the findings of extensive research undertaken by the Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI) in 2001. The report identified personal attributes required for today's employees, as well as the eight employability skills. The eight employability skills are: communication, teamwork, problem-solving, initiative and enterprise, planning and organizing, self-management, learning, and technology skills. Personal attributes are terms used to describe a set of non-skill-based behaviors and attitudes that employers felt were as important as the employability skills and other technical or job-specific skills. The personal attributes included loyalty, commitment, honesty and integrity, enthusiasm, reliability, personal presentation, commonsense, positive self-esteem, sense of humor, balanced attitude to work and home life, ability to deal with pressure, motivation, and adaptability (DEST, 2002).

The main theoretical framework of this study was adapted from *Employability skills for the future, Employability Skills 2000+* (CBC, 2000), *Embedding employability into curriculum* (Yorke & Knight, 2006), and *Succeeding in the world of work* (Kimbrell & Vineyard, 2006). In this research, employability skills were divided into nine groups: communication, information technology, health and safety, problem-solving, teamwork, leadership, self-management, adaptation ability, and work ethics.

CONCEPTUAL FRAMEWORK

Based on the review of the literature (CBC, 2000; DEST, 2002; Kimbrell & Vineyard, 2006; Yorke & Knight, 2006), this study identified employability skill needed by graduates to enter the workplace. Field research was conducted to determine the perceptions of the respondents about the importance level of the employability skills. The data from the field research were analyzed using descriptive and inferential statistics. Figure 1 showed the conceptual framework of this study.
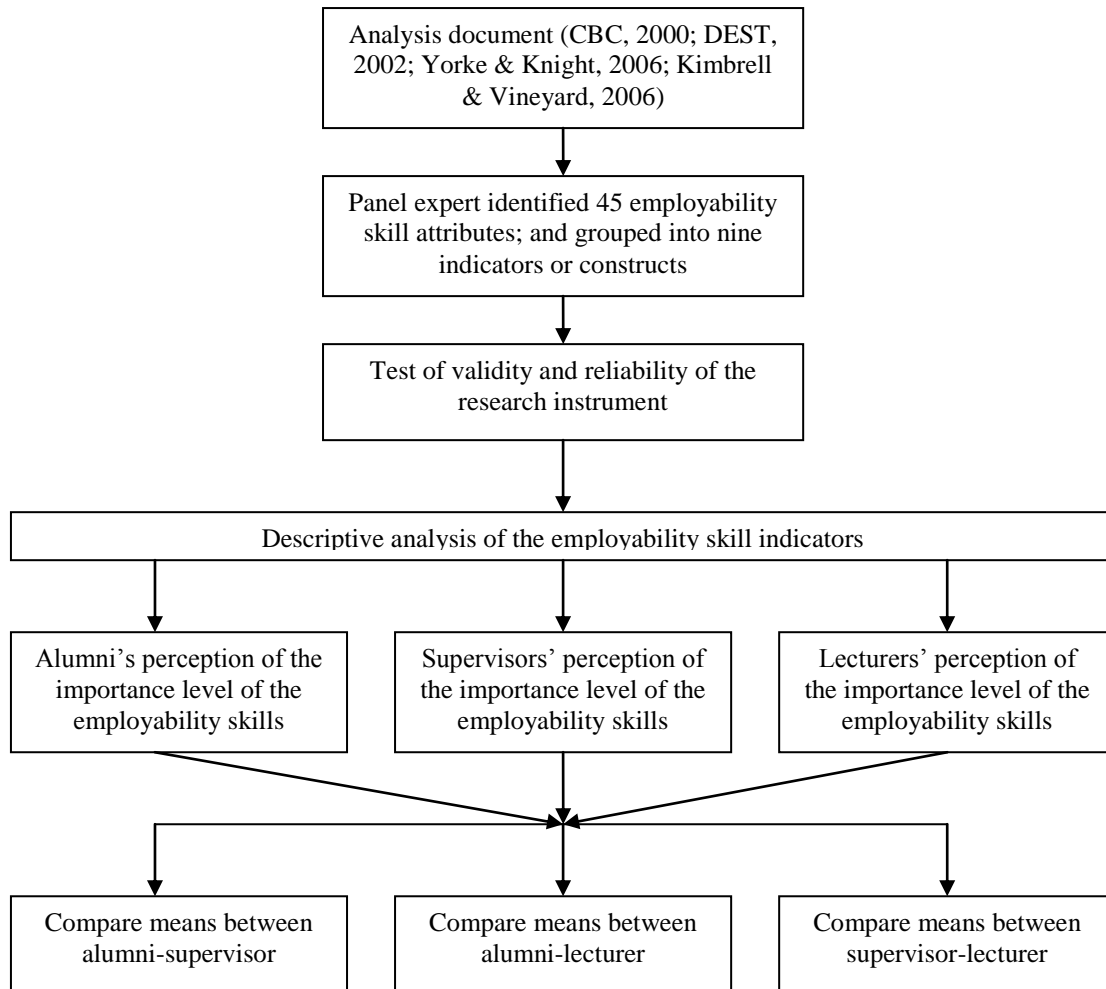
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┌─────────────────────────────────┐
│ Analysis document (CBC, 2000; DEST, │
│ 2002; Yorke & Knight, 2006; Kimbrell │
│ & Vineyard, 2006)               │
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│ Panel expert identified 45 employability │
│ skill attributes; and grouped into nine │
│ indicators or constructs         │
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│ Test of validity and reliability of the │
│ research instrument             │
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│ Descriptive analysis of the employability skill indicators │
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Alumni's perception of the importance level of the employability skills	Supervisors' perception of the importance level of the employability skills	Lecturers' perception of the importance level of the employability skills

Compare means between alumni-supervisor	Compare means between alumni-lecturer	Compare means between supervisor-lecturer

Figure 1: Conceptual framework of the study

RESEARCH METHOD

Research Design

This study utilized a survey research. Survey research is used to evaluate the behaviors and attitudes of participants (Bordens & Abbott, 2008) and can be used to assess needs (Gall *et al*., 2003). Survey is a non-experimental quantitative research method (Mitchell & Jolley, 2007) aimed to gather data from groups of people by way of questionnaires, and then the results are to be generalize to the population (Ary *et al*., 2002). Data were collected by means of self-administered questionnaires, in which the respondents answered the questions without the assistance of enumerator (De Leeuw, 2008).

Population and Sample

The population consisted of three groups, namely: (1) the alumni of Bali State Polytechnic, (2) supervisors in the industry, and (3) faculty members of the Commerce Department of Bali State Polytechnic. In an effort to compare respondents across the groups of population, a stratified sampling technique was used. Stratified sampling provides one way to obtain a representative sample (Bordens & Abbott, 2008). Furthermore, the samples in each group were randomly selected. In this study, a total of 237 respondents have been randomly selected from each group. The sample sizes of each group of the population are as in Table 1.

Table 1: The number of sample

Population Group	Total Sample
Alumni	80
Supervisors	75
Lecturers	82

Research Instrument

A questionnaire was developed and adapted from the "Employability Skills for the Future" (DEST, 2002) and other relevant literature (CBC, 2000; Kimbrell & Vineyard, 2006, Yorke & Knight, 2006). The questionnaire was developed through expert judgment and focus group discussions involving the human resource managers of the industry. In this research, we identified 45 employability skill attributes which are grouped into nine indicators or constructs (Table 2). A five-point Likert-type scale with the following responses was used in the instrument: 1 = not importance, 2 = minor importance, 3 = moderate importance, 4 = importance, and 5 = very importance.

Validity refers to the ability of a survey instrument (questionnaire) to measure what it claims to measure (Ary *et al*., 2002) and reliability refers to the consistency or stability of the questionnaire (Johnson & Christensen, 2008). Panel of experts have established the construct validity of the instrument. After suggestions were considered by the panel of experts, modifications to the questionnaire were made.

A pilot study was used to verify the validity and reliability of the instrument. *Pearson's product-moment correlation* was used to indicate the reliability of the instrument. The common measure of reliability is the Cronbach's alpha and the usual criterion is a Cronbach's alpha coefficient of 0.70 and above (Johnson & Christensen, 2008). A Cronbach's alpha coefficient of 0.70 and above indicates a high degree of internal consistency among the data collected. Some researchers using Cronbach Alpha categories as follows: 0.00-0.30 is low, 0.30-0.69 is moderate, 0.70-0.89 is high, and 0.90-1.00 is very high (Taylor, 1990).

The results have shown the coefficient Pearson correlation varied between 0.38 and 0.87, and all correlation coefficient was significant at the 0.05 levels. Meanwhile, the Cronbach's Alpha of each indicator varies between 0.54 and 0.87 (Table 2). In general, the Cronbach's Alpha values are in the classification of high degree, i.e. higher than 0.70. However, health and safety skills have a Cronbach Alpha 0.54, and it is categorized as moderate.

Table 2: The number of attributes on each indicator of employability skills and Cronbach's Alpha coefficient

Employability Skill Indicators	Number of Attributes	Cronbach's Alpha
Communication Skills	5	0.78
Skills Using Information Technology	5	0.74
Health and Safety Skills	3	0.54
Problem Solving Skills	8	0.77
Teamwork Skills	3	0.78
Leadership Skills	6	0.85
Self Management Skills	8	0.87
Adaptation Ability	3	0.73
Work Ethic Ability	4	0.81
Total Attributes	45	

Data Analysis

Survey research seeks to describe data quantitatively by way of descriptive statistics. Descriptive statistics is a tool to describe and summarize the data by using measures of central tendency, measures of variability, and measures of correlation (Bordens & Abbott, 2008). To describe the importance level of the employability skills as perceived by the alumni, supervisors, and lecturers, means and standard deviations were reported. The means score of the employability skill constructs were then ranked, from high to low. Constructs with a high means score indicated high importance level.

To compare the means among the perceptions of the alumni, supervisors, and lecturers, we an independent sample t-test was used. The purpose of this test is to see whether the difference between the means of two groups is statistically significant (Johnson & Christensen, 2008). Statistical analysis was performed to compare the means among the groups: (1) alumni-supervisor, (2) alumni-lecturer, and (3) supervisor-lecturer. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 12.0 for windows.

RESULTS

The Importance Level of Employability Skills Perceived by Alumni
The mean score of the perception of the alumni is 4.26, with a maximum score of 4.74, a minimum score of 3.74, and the standard deviation of 0.67. Descriptive analysis was also conducted on employability skill indicators. The mean of each indicator was sorted from highest to lowest value that indicates the level of importance (Table 3). Health and safety is an indicator of employability skills with the highest importance level, and leadership is an indicator of employability skills with the lowest importance level.

Table 3: Mean scores and standard deviation of employability skill indicators as perceived by alumni (n=80)

Rank	Employability Skills	Mean	Standard Deviation
1	Health and safety Skills	4.39	0.60
2	Adaptability	4.37	0.63
3	Problem solving skills	4.33	0.65
4	Self-management skills	4.30	0.71
5	IT using skills	4.27	0.63
6	Work ethics ability	4.24	0.65
7	Communication skills	4.21	0.74
8	Teamwork skills	4.20	0.65
9	Leadership skills	4.07	0.66

The Importance Level of Employability Skills Perceived by Supervisors
The mean score of perception by supervisors is 4.27, with a maximum score of 4.59, a minimum score of 3.95, and standard deviation of 0.67. The descriptive analysis identified health and safety is an employability skill indicator with the highest importance level and leadership is an employability skill indicator with the lowest importance level (Table 4).

Table 4: Mean scores and standard deviation of employability skill indicators as perceived by supervisors (n = 75)

Rank	Employability Skills	Mean	Standard Deviation
1	Safety skills	4.43	0.60
2	Work ethics ability	4.30	0.68
3	Self-management skills	4.30	0.71
4	Problem solving skills	4.29	0.64
5	Adaptability	4.27	0.66
6	Teamwork skills	4.24	0.64
7	IT using skills	4.24	0.70
8	Communication skills	4.22	0.69
9	Leadership skills	4.19	0.66

The Importance Level of Employability Skills Perceived by Lecturers

The mean score of perception by lecturers is 4.37, with maximum score of 4.72, minimum score of 4.00, and standard deviation is 0.61. According to the lectures' perception, problem-solving is an employability skills indicator with the highest important level. Meanwhile, the leadership is an employability skills indicator with the lowest importance level (Table 5).

Table 5: Mean scores and standard deviation of employability skill indicators as perceived by lecturers (n = 82)

Rank	Employability Skills	Mean	Standard Deviation
1	Problem solving skills	4.44	0.60
2	Work ethics ability	4.43	0.58
3	Adaptability	4.40	0.55
4	Communication skills	4.37	0.67
5	Self-management skills	4.36	0.61
6	Safety Skills	4.36	0.62
7	Teamwork skills	4.34	0.56
8	IT using skills	4.34	0.61
9	Leadership skills	4.26	0.64

Results of Independent Samples T-Test

Independent sample t-test was conducted to determine the differences of the importance level of employability skill indicators needed to enter the world of work among the groups: (1) alumni-supervisor, (2) alumni-lecturer, and (3) supervisor-lecturer. The results of the statistical analysis are presented in Table 6.

Table 6: The summary of independent sample t- test

Test Group	T-value	T-table	Significance	Remarks
Alumni–Supervisor	-0.30	3.25	0.77	Non significance
Alumni–Lecturer	-2.73	3.25	0.02	Non significance
Supervisor–Lecturer	-3.07	3.25	0.01	Non significance

Based on the independent sample t-test, there are no significant differences among groups of respondents regarding the importance level of employability skills indicators. These results indicate that the alumni, supervisors, and lecturer have the same perception of the various indicators required by graduates to enter the labor market.

DISCUSSION AND IMPLICATIONS

Based on the results of the descriptive analysis, there are different orders of the importance level of the employability skill indicators. Five employability skills indicators that top the importance level according to the graduate perception are: (1) health and safety, (2) adaptability, (3) problem solving, (4) self-management, and (5) the ability to use information technology. According to the supervisor, there are four employability skill indicators that have importance level above the average, namely: (1) healt and safety, (2) work ethics, (3) self-management, and (4) problem solving. Meanwhile, according to the lecturers perception, five employability skill indicators that have the importance level above the average are: (1) problem solving, (2) work ethics, (3) adaptability, (4) communication skills, and (5) self-management. Based on these results, there are two employability skill indicators which have a high importance level as perceived by the alumni, supervisors and lecturers, namely: problem solving and self-management skills. The findings of this study do not differ from the results of research conducted by Crawford *et al*. (2011). Crawford and team conducted a cross-institutional survey focusing on the identification of important soft skills needed for successful transition from education to workplace. Crawford *et al*. (2011) identified seven clusters of soft skills, which are sorted based on employers survey i.e.; communication skills, decision making/problem solving skills, self-management skills, team work skills, professionalism skills, experiences, and leadership skills.

Problem-solving and self-management skills are some of the generic skills indicators required by today's labor market. The results are consistent with several previous studies which indicated that the problem solving skills, self-management and adaptability are pertinent workers' (Hodge & Lear, 2011; Mastura *et al*., 2013; Prachi & Santosh, 2013). The CBI survey (2011) also concluded that today's graduates need skills in: self-management, teamwork, problem solving, communication, application of IT, application of numeric, business and customer awareness.

Problem solving skills is a person's ability to make decisions by evaluating a variety of options and information, in order to analyze the risk in selecting the best alternative in certain situations (DEST, 2002; Cleary *et al*., 2006). Problem-solving skills is one form of generic skills that are needed by today's labor market (Yeung *et al*, 2007; Lowden *et al*., 2011; UNESCO Bangkok, 2012; Mohd Yusof *et al.*, 2012). The self-management skill is a form of self-managing work without supervision. This is related to a person's independence in the work, efficient and effective work habits (Crawford *et al*., 2011). Therefore, it is expected that employees can work independently. Most employers want employees who are able to work effectively. In the recruitment of new employees, industries want employees who have a variety of skills such as personal and intellectual qualities (British Council and Think Global, 2011).

The means comparative analysis showed no statistically significant difference among groups of supervisors and alumni, alumni and lecturers, and the lecturers and supervisors. This indicates that the alumni, lecturers, and supervisors have almost the same perception about the employability skills needed to enter the workplace. Crawford *et al.* (2011) found that faculty, alumni, and employers are in close alignment regarding rank ordering of the skills clusters. The decision making / problem solving are ranked as the two most important skills clusters perceived by the groups in the study. The self-management is ranked third as the most important by faculty, alumni, and employers.

The implication of this study is on the understanding of the importance of employability skills needed by graduates to enter the workplace. Thus, it is important to develop employability skills of the polytechnic students in order to be competitive in the labor market.

CONCLUSIONS

There are different order of the importance level of the employability skill indicators as perceived by the alumni, supervisors, and lecturers. Health and safety, adaptability, problem solving, self-management, and the ability to use information technology are the five top importance level indicators perceived by graduate. The employability skills indicators that are considered important by the supervisors are health and safety, work ethics, self-management, and problem solving. Meanwhile, according to the lecturers perception, five employability skills indicators that have the importance level above the average are: problem solving, work ethics, adaptability, communication skills, and self-management. There are two employability skills indicators which have a high importance level as perceived by the alumni, supervisors and lecturers, namely: problem solving and self-management skills. The statistical analysis concluded that there is no statistically significant difference among alumni, supervisors, and lecturers regarding employability skill indicators considered important to enter the world of work.

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