

Employability Skills Through Industrial Training: Employers' perspective

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Abstract: Soft skills among students are essential and crucial in entering the work environment. Therefore, it is important for Higher Educational Institutions to distinguish the knowledge and soft skill levels of their students in order for the strategies and intervention to be implemented to rectify their capabilities. The main purpose of this study is to evaluate the knowledge and soft skills competency from the employer's viewpoints on Politeknik Tuanku Syed Sirajuddin (PTSS) engineering students participating in the industrial training programme. A total 159 employers from different industrial backgrounds had participated in this study. A questionnaire was used to collect data and was analyzed by using SPSS 23.0. The results of this study indicated that the employers were satisfied with the knowledge and soft skills competency portrayed by PTSS engineering students in preparing themselves for the real work environment. The employers were very satisfied with students' performance in all dimensions of soft skills measured. At the same time some comments were given by the supervisors about the weaknesses of the students in certain soft skills.

Key words: *Industrial Training, Employability Skills, Employers Perspective*

INTRODUCTION

Industrial training or internship is a practical experience opportunity offered by companies, to willing and capable beginners of a profession for a fixed term. Internship is normally offers to the undergraduate student either full time or part time for a fixed period. It is beneficial for the students, which help them to learn the practical impact of their study and know about a specific industry.

Industrial training is a significant method for combining theoretical education and practical working world. Tovey [1] stated that the industrial trainings are not only a benefit for the students but also a kind of mutual benefits for both students and industries. Industrial training really does benefit industries, like inexpensive sources of competent assistance, highly motivated present employees and the chance to cultivate prospective employees [2]. Often jobs are readily available, but the graduates lack what is needed to get and keep jobs. As such, it is crucial to study the employer perception on skills and standard of students that they perceived performed, so higher learning

institutions may restructure their syllabus that match with need of industry.

Malaysia is now said to be at the mid-point in its journey towards TN50 and is transforming to become a developed nation. To be recognized as an economically developed country, Malaysia needs to restructure its workforce by having highly skilled workers that has to be able to cope with the changing nature and demands of works.

Currently Malaysia still faces problems on high unemployment rate among graduate. Survey discovered on 2016 about 54,103 Malaysian graduates are unemployed for many reasons [3]. As the result, their employment opportunity is low and employer having similar problems in getting employees that match with their needs. Therefore, it is the duty of higher learning institutions to ensure that their students are well-equipped with employability skills and give them expose to industry through industrial training.

One way to measure this is through conducting surveys on the industrial training program. So far there have been limited surveys carried out on interns performance

in public university and others. Surveys like this are important to gauge the employer's satisfaction regarding the quality of the internship program. The findings of such surveys will contribute in providing the foundation for course structure towards continuous improvement through reviewing and improving the existing internship program. This will ultimately contribute to the production of high quality engineering graduates.

It is imperative to conduct this study in order to provide an insight on the effectiveness of the internship program in the program curriculum of the university and at the same time assessing the benefits of the parties involved. This paper attempts to answer the following research questions, namely: (1) What is the employer satisfaction level on the intern generic skills? (2) What is the generic skill that interns lack during the internship program?. The study is aimed at determining the level of employer's satisfaction on the intern generic skill and also determining the factors need to be improved for a better graduate.

LITERATURE

Industrial training is a win-win situation for everyone including the students, university and industries. It gives them an opportunity to apply theoretical knowledge acquired in the classroom with practical application of knowledge required to perform a task. Previous research shows that internship will give benefits to both organization and student. Organization most valued on their interns are communications; knowledge of the host organization, its structure, function and purpose; flexibility and fulfilling requirements above and beyond the necessary standard [4]. Beenen stated that student appears to be more satisfied, and more likely to both receive and accept job offers [5]. Study done by Hodges and Burchell revealed that 79% of employers considered that it was important for graduates entering business roles to have some business work experience prior to completing their tertiary study and they want graduates to be more 'work-ready' [6]. Meanwhile, Lam stated that industrial training can assist students to bridge the gap between the academic learning process and the practical reality. Internship may pave the way for permanent employment upon graduation as well as providing an in-depth understanding of actual business practice [7].

Industrial training is also capable to give students benefit such as improvements in career-related direction, gaining practical experience, improved marketability of graduates, job expectations, interpersonal skills, leadership and understanding of the business applications of classroom learning. Personal and interpersonal skills are characteristics and "soft people skills" that are related to attitudes and behaviour

toward work (commitment to quality and efficiency), that include integrity and ethics, and the ability to attract others to your well-seasoned and logical point of view [8]. Both hard skills and soft skills are inarguably imperative to succeed in a particular professional job. By definition, hard skills are learnable technical skills needed to perform a certain task. It is the ability to use more of the left-logical side of the brain to do something and includes being a subject matter expertise in certain professional skills. Thus, it is undeniable that hard skills can be developed through training and practice in that certain field. It is also an undeniable fact that both hard and soft skills are equally important criteria especially in employability.

Thus, to ensure the quality standard of the programs offered by the Higher Education Providers (HEPs) in the Malaysian Higher Institutions, the importance of both hard and soft skills has been emphasized by the Ministry of Higher Education via Malaysia Qualification Agency (MQA) has introduced the eight Malaysian Qualification Framework (MQF) learning outcome domains that required to achieve in the learning outcomes of all programs [9]. The programmes learning outcome domains suggested are as follows:

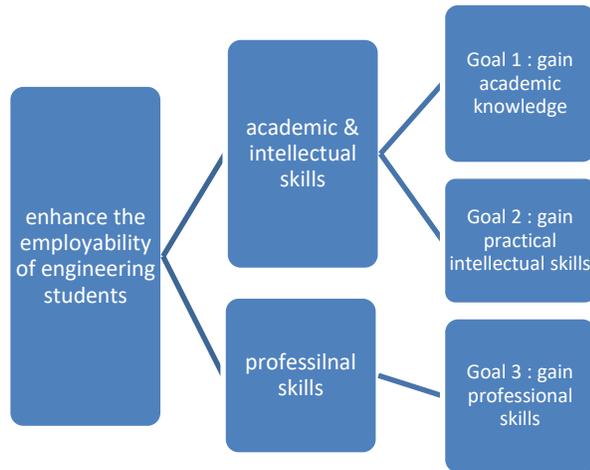
- Knowledge
- Practical skills
- Social skills and responsibilities
- Ethics, professionalism and humanities
- Communication, leadership and team skills
- Scientific methods, critical thinking and problem solving skills
- Lifelong learning and information management
- Entrepreneurship and managerial skills

In general, employers look for graduates with communication skills, empathy, motivation, decision making abilities, planning abilities and improvisation abilities. In the context of engineering students, the technical skills required from them are acquiring and applying the fundamental knowledge of engineering; competency in theoretical and research engineering; competency in application and practically oriented engineering; technical competence in a specific engineering discipline; ability to utilize a system approach to design and evaluate operational performance; ability to design and conduct experiments; as well as to analyze and interpret data [10].

Meanwhile Murali [11] stated that in enhancing employability for engineering students there are three main goals as shown in Figure 1. In order to do this, the education system of engineering needs to be continually updated with the new findings in the industry. Engineering is constantly developing and the new

knowledge needs to be passed on to the students through their curriculum no matter which university they are studying in.

Figure 1 : A Conceptual Framework of Enhancing Student Employability



Previous study found that even though mainly employer satisfied with the performance of students but there are some areas need improvement [12]. It revealed that employers found that the internship students were lacking in public speaking in particular when dealing with customers and they put emphasis on the importance of communicating with customers in English. Nurliana studies on pharmacy students, showed that 82% of students performance is excellent during industrial training but still need improvement on entrepreneurial and managerial skills [13]. Finally, Nor’Aini studies on 179 employers, indicated a satisfactory level of students’ performance during the training [14]. Most employers were willing to recruit the students in future. Technical skills were ranked as the most needed improvement by students. In summary, past researches had viewed industrial training as a positive developmental experience for Higher Educational Institution students and proved that favorable outcome as improved ability is needed to secure a career-oriented position. Previous study also showed that there are still grey areas that need to be improved in order to increase the students employment opportunity. This study will also stress on the in-depth skills that employers perceive lacking on the students during industrial training.

METHODOLOGY

There were 159 organizations involved in placing of 227 PTSS engineering students for 5 months of industrial training in the December 2017 session. Feedbacks from

organizations on performance of PTSS engineering students from their experience with the industrial training programs were obtained. The students were from four courses, mainly Diploma in Electronic Engineering (Computer), Diploma in Electronic Engineering (Optoelectronic), Diploma in Electronic Engineering (Communication) and Diploma in Mechanical Engineering. The questionnaire consisted of two parts. The first part asked the employers to rate on a five-point scale the employability skills possessed by the students. It consists of five dimensions of soft skills which are computer literate, communication skills, teamwork, procedures & regulations, professionalism ethics and attitude. List of skills as highlighted by Bailey and Yorke are used as a basis to identify skills that should be attained by the students from this study [15][16]. The mean acquisition is categorized based on mean interpretation as in Table 1.

Table 1 : Mean Interpretation

Mean	1.00 – 1.67	1.68 – 3.33	3.34 – 5.00
Mean Interpretation	Low	Medium	High

*Adapted from Wiersma [17]

The second part asked the employers to comment and reflect on the students during their industrial training. In order to increase student competence, researcher only focus on the employer’s comment on the weaknesses of the students which vary from one to another has had during the industrial training. Open-ended question used will give an opportunities for the employer to present their opinions in a way that might not be possible in closed questions.

RESULT AND DISCUSSION

Based on Table 2, it showed that all of the employers have a high satisfaction on the each element in employability skills possess by trainees who undergo the industrial training in their company. Generally, one may notice that almost majority of the employers rated their trainees between a scale of 4 to 5. The trainees give a good example during the industrial training as shown in mean value of 4.48, 4.37, 4.60, 4.51, 4.33 and 4.33 respectively. The three highest mean of employers agreed that are in teamwork, procedures & regulations and well-performed skills in computer literate. By looking at this figure, it can be noted that employers gave such an excellent impression to their trainees.

Table 2: Mean For Each Item

Element	Mean (M)	Standard Deviation (SD)
Computer Literate	4.48	0.605
Communication Skills	4.37	0.713
Teamwork	4.60	0.582
Procedures & Regulations	4.51	0.668
Professionalism Ethics	4.33	0.728
Reports	4.33	0.687

Even though the results showed that organizations were satisfied with student’s performance but in some areas especially in technical skill and communication skills, organizations feel that student’s skills were still lacking. This is shown in Table 3 based on the comments given by the 20 supervisors of different company. Based on the comments given by the supervisors, it can be summarized that the students are weak in practical/technical skills, need to improve communication skills in English, lack of self confidence, need professional certificate/course, attendance problems, need improvements in curriculum development of Diploma, poor computer skills especially in Microsoft Office, independence and teamwork spirits.

Table 3: Comments by the Supervisors

Element	Percent (%)
Weak in practical/technical skills	35
Need to improve communication skills	15
Lack of confidence	15
Need professional certificate/course	10
Attendance problems	5
Need module improvements	5
Poor computer skills	5
Teamwork	5
Independence	5

Majority of the employers have suggested that students need to improve a variety of technical skills. Employers’ suggestions for student improvement concerned both technical and behavioral skills. Among the suggestions were the strategies for improvement should focus on communication skills, confidence, attendance, module improvements, computer skills and independency in addition to technical skills, which are important for the built environment students to be successful in their own field. Students seemed to face some difficulties in understanding the new environment surrounding them as well as communicating in English language confidently. This may be due to a crammed time

schedule during academic semesters that cause them to isolate themselves from the community, especially when it is related to global issues that are beyond their subject of studies. Therefore, they need ample time to understand new issues and respond to the issues. Meanwhile, the moderate performance in English language as a medium of communication could be possibly due to less exposure on practicing English language in their social life. Stewart advocated improvements in behaviour skills such as creativity, communication, teamwork, problem solving and leadership [18]. Besides behaviour skills, most employers in this present study suggested that students should improve their technical skills; this is in line with the findings of Mustapha who noted that technical competencies were perceived by Malaysian employers as containing the most important knowledge and skills that technical graduates should possess [19].

The study results might also be helpful to academic institutions in the sense of better preparing students for engineering practical experiences by designing their courses of studies to be more practical. Taking advantage on the academic-industry cooperation practice, real cases at work could also be brought into lectures in order to enable the undergraduates to have a hands-on experience in tackling job task in their areas of studies at the real working world environment. The academic institution may empower industrial advisor as they can provide constructive feedback to the undergraduates as a means of sharpening their critical analytical skills, problem solving skills, decision making skills, oral communication skills, negotiating skills, and planning skills which are most sought after by employers nowadays.

SUGGESTION

Based on the feedback obtained, following are some suggestions to improve the current status of students performance before starting the industrial training period. Firstly, is to increase collaboration between academia with the industry, in order for both parties to communicate their expectations to each other, in area pertaining to curriculum development, career briefings to students, soft-skill development as well as industrial training programmes. This is in line with the recommendation made by the Ministry of Higher Education that institutes of higher education “should be industry friendly and demonstrate this by forming strategic alliances and collaborative ventures with industries”.

Secondly, is to ensure that students are made aware of the value of industrial training form the time they enter university. Constant contact with industry through career talks and industry briefings will help students to

become more aware of what is expected of them at the workplace and will give them the opportunity to empower themselves with the knowledge and skills that they need to be able to compete in the job market upon graduation. In relation to this, students should also have some form of pre-industrial training programme, and this should include modules on oral and written English communication appropriate to the workplace.

CONCLUSION

This study has provided some information about the employability skills needed by employers, when recruiting their future employees. The present paper revealed that PTSS students performance in industrial training is at a high satisfactory level regarding their personal and core skills, and at an excellent level relating to their process skills. This showed that industrial training is an essential component of engineering curricula to prepare for “work-ready” graduates for industries. An exposure to industry practice is vital for students to acquire employability skills through industrial experience. The similar trend on percentage of agreement by employers also indicates that the attributes attained by students in industrial training have met the required criteria by the employers. The employers also suggested, however, that students need to improve certain behavioral and technical skills. These results imply the importance of close collaboration between the university and industry in particular the professional institutions to lead to a positive impact upon the students in terms of their employability, thus meeting industry’s expectations.

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