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STUDENT PERCEPTION ON THE IMPORTANCE OF SOFT SKILLS FOR EDUCATION AND EMPLOYMENT

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Abstract

Student acquisition on soft skill is becoming more important in today highly global market. Most of the companies now are prefer to hire graduates that possess both skills; hard and soft. In certain cases, some companies are even emphasizing more on soft skills instead of hard skills. For non-technical student, most of the subjects by nature are embedded with soft skills. But for technical students the scenario might be different. The subject offered in their courses mostly focuses on hard skills. This somehow makes students having less awareness on the importance of soft skills. The purpose of this study is to discover student awareness and perception towards the importance of soft skills among engineering student. A total of 150 engineering students from Universiti Kuala Lumpur Malaysia France Institute are chosen as respondent. A questionnaire is used to gather the data. Based on the finding,students are aware, understand and perceived that soft skill is important for education and employment. Some methodsrecommended to improve students' soft skill are problem- based learning approach and integration of entrepreneurial

element in technical subject.

Keywords

Student Awareness, Soft Skills, Hard Skills

1. Introduction

In this new integrating age, soft skills are vital component of students' competencies. Students graduating with excellent grade are not guaranteed to get a good job. Academic qualification is not a sole ticket anymore to get good job; it must be blend up with soft skills. Nowadays, more and more excellent academic students produced every year, making job employment become more challenging. Not only in job employment sector, even to enroll in good university with a good program, are soft skills also needed. Students with A's straights in their Malaysia Certificate of Examination, are required to undergo an interview by some of the university before they are being accepted. The purpose of the interview is to see whether the candidate is having soft skills or not. Continuously, when they study in university, soft skill is part of lesson taught. For students embarking in social or social science program, they might acquire better soft skills comparing with those in engineering and pure science program. It is because natures of the program whereby most of the subject in the program structure require students to do a group work assignment. Along the process of completing their group work assignment students are actually acquiring soft skills such as teamwork, time management, adaptability, problem-solving and presentation skills. It is different with technical and pure science students. Most of the subject taken in their program requires them to acquire hands-on and hard skills. This is stated by Catelly (2011) that hard skills are the main target of engineering educational systems which students have to master such of these abilities: the specialty/subject knowledge, applying information technology, applying tools to model information systems etc. However, the globalization development raised challenges and the resulting demands on tertiary education have lowered the importance of the strictly academic/technical excellence. Consequently, soft skills were reevaluated and being put to a higher position. Considering this current situation, Universiti Kuala Lumpur has put strong emphasis on the acquisition of soft skill among its engineering student. To ensure that students is really be able to acquire soft skill along their study lifetime, the level of understanding and awareness towards the importance of

soft skill should be studied. Thus, the main objective of this study is to investigate perception of engineering students on the importance of soft skills for their education and employment.

2. The Importance of Soft Skills for Engineering Students / Employability

Most engineering students they graduate with acquisition of technical skills. They know how to handle sophisticated machineries and run the production equipment, deal with high technology, able to create new product etc. However some of them or probably most of them are lacking in soft skills. They are very excellent and potential to become good engineer, however they fail to get a job. It is because they do not know how to market themselves to their potential employer. Many countries including Malaysia are having an issue of employability and it becoming more critical lately. It has been identified that lack of soft skill is among the factors for this scenario. It is also being the biggest challenge for institutions of higher learning (IHL) to develop employable skills, enhance knowledge and make local graduates more attractive to employers. Evidence from surveys suggested that employers are more concerned about soft skills or attitudes rather than technical knowledge or competencies. Literature review from previous study identified that some of soft skills required in job employment are communication skills, creativity, teamwork capability, negotiating skills and problem solving skill (Sulaiman et al., 2008). While Accreditation Board of Engineering and Technology (ABET, 2012) stated that cooperation skills, communication skills, data analysis skills, and problem solving skills as the type of competencies that should be mastered by engineering graduates.

2.1 Communication Skills

Engineering students definitely want to become an engineer after graduates. They always think that to become an engineer one must have good technical knowledge. But this is absolutely not true. Being an engineer they must have soft skills as well. Communication is one of soft skill that engineer should acquire. An engineer often being required to communicate not only with other engineers, but also with co-workers from different departments as well as with upper-level management; which they do not have same background with engineer. Therefore, communication skill is important as to convey information to them. Engineers are also responsible to write a report that will be presented to management team. The ability to write precise report is also communication skill whereby it helps the manager to understand the report

easily. Those non engineers certainly do not understand technical report; this is where engineer should have communication skill whereby they have to simplify the complex concept and communicate it in a clear approach (Schulz, 2008). By having good communication, conflict can be avoided, right information can be obtained and relationship among organization members can be built with strong bonding.

It is common believe that engineering students always deal with machine. This might fade their ability to communicate with people. Communication is not just about learning a language but the way people execute them in practical. For communication to be effective, one should be clear, attractive and optimistic in his views and body language. Azami (2008) mentioned that currently many employers would choose engineering graduates, who have good communication skills and able to handle work-related problems in the recruitment process Another study done by Archer & Davison (2008) reported that employers considered good communication skills as important when recruiting new graduates; however they found that most new graduates were unable to express themselves effectively. This will diminish the opportunity of career development for engineering graduates.

2.2. Creativity

Creativity is a valuable soft skill in engineering fields. Creativity is useful not only in new product development, but in solving problem. The importance of creativity in problem solving is as important as technical skills that are used in identifying and troubleshooting source of problem. Organizations often depend on big ideas and creative employees to develop innovative products and services. For new product development, normally it is an engineer job to come up with a technical concept and design. This require engineer to have creativity so that they are able to invent and innovate new product (Butcher, 2013). Therefore, it is important for engineering students to have creativity. Engineers is actually are artists. They are artist is in what enables them to employ their knowledge of numbers and hardware and technical stuff to create effective and practicable engineering solutions (Cuello, 2013). Simply said, engineers are artists who are trained in the discipline of buttressing their creations (engineering design solutions) on the solid supports of the engineering sciences. Thus, it is essential for engineers to be creative. The more creative an engineer is, the more alternative solutions he or she is able to imagine for a given problem.

2.3. Teamwork

Next soft skill that they should possess is teamwork. After graduating, when they work in manufacturing sector, there is possibility that they will assigned to a job that relates with product development. In designing new product, it will involve various key employees. It is normal for engineer works hand in hand with marketing staff to ensure the product developed fulfills the customers' need. If the engineer who responsible for new product development is lacking in teamwork skill, it will contribute problem for the company to come up with new product which consequently difficult to compete with others especially in this technology age. Technology is changing very fast. That is the reason why company should always come up with new product in order to stay sustain in market force.

2.4. Negotiating skills

Negotiation is fundamental to the professional life of any person who needs to sell an idea, convince members of a team to work together, or develop solutions to both simple and complex problems. Engineers are no exception. For a construction company to ensure their project is success, hiring a civil engineer with good negotiation skill is important. The civil engineer who is given the task has to work with community groups, businesses, a party that is going to undertake the construction project, etc. Thus, this engineer need to develop a solution that will not only work from an engineer's perspective, but also be workable for the other parties involved. This requires effective negotiation skills. While the common view of engineers is that they spend all their time playing with numbers and the tools of their trade, unless they can bring their skills to bear to solve the problems with which they are presented, they cannot do their job effectively. One cannot be effective in a work environment which involves dealing with other people without effective negotiation skills. Engineers are same with other profession, they will work with clients or customers and colleagues thus they must be able to negotiate to solve problems, to reach agreements as well as to get people committed to implementing projects (Steve, 2010). Therefore engineering students should acquire negotiation skill as one of their soft skills set; as to prepare themselves to become competent employee for the company they are working with. Good technical skills blend up with negotiation skill would make engineering graduates more valuable in a job market. Perception on the less important of soft skills to engineering student is no longer accepted in today scenario.

2.5. Problem Solving Skills

Engineers with problem solving skill able to see things differently and do things in a different way: perhaps make a fresh start. In recent years there has been a great deal of discussion about the importance of employability skills alongside technical qualifications and intoday's high-pressure engineering environments, the ability to problem-solve is likely to for the cornerstone of everyone deeds. Engineer that has problems solving skill will see problem as an opportunities rather than as an obstacles. This engineer will find solution to the problem and does not leave the problem unidentified and rankle. To get problem solving skill, engineer should have creativity, able to reasoning and logic. For example, engineering graduates that work as an engineer is assigned to create new products and to resolve problems related to existing products. The engineer will use trial and error methods to find the solution of the problem. This approach is not systematic; and the thoughts and actions of an engineer using trial and error are unstructured. Thus, the result of the thinking process is unpredictable and is heavily depending on the personality of the problem solver and his experience as well as his creativity. This explains why in the opinions of engineering managers, thinking and problem solving skills are evaluated as one of the most important skills of an engineering professional (Belski, 2007).

3. Methodology

A total of 150 engineering students from UniKL Malaysia France Institute were considered in this study. The students were from various degree programs in engineering field such as Mechatronics, Welding and Quality Inspection, Mechanical, Industrial Automation and Robotics etc. The questionnaire given consist mostly close ended question, however wherever needed, the students were provided with the flexibility to make comments or provide additional information. In the questionnaire students were asked about their understanding on soft skills, their perception towards the importance of soft skills and their opinion on which soft skills are the most important for them. A scale 1 to 5 was used to rate the level of important on soft skill listed in the questionnaire. Scale 1 indicates "Not important" whereas scale 5 indicates "very important". Students were also asked on the soft skills that they think they already acquired throughout their study time. The data gathered is then analyzed by using SPSS and descriptive statistics was used to produce the analysis.

4. Results and Discussion

The following table shows data analysis and findings of this study.

4.1. Understanding of soft skill

In this section, the question given is basically to investigate whether or not students have clear understanding of soft skills. Students were asked about what skills are considered as soft skills from their point of view. Based on previous studies, a list of 12 soft skills was developed. Students need to choose any skills that they considered as soft skills. Out of 150 respondents, 93.3% considered communication as a soft skill, followed by leadership, teamwork capability and creativity with 90.7%, 88.7% and 88% respectively. Skills such as business management, conflict management and time management are among the skills that more than 50% respondents did not considered them as a soft skill attribute. This probably because they are not exposed to those soft skills as the subjects offered in their study program mostly are technical oriented.

Table 4.1: *Soft skill consideration by respondent*

No	Types of Soft Skills	Frequency
1	Communication	140
2	Leadership	136
3	Teamwork capability	133
4	Creative	132
5	Problem solving	125
6	Critical thinking	82
7	Common Knowledge	64
8	Negotiating skills	62
9	Responsibility	61
10	Business Management	57
11	Conflict Management	55
12	Time management	54

4.2. Perception on the importance of soft skills

For this part, students' perception towards the importance of soft skills was analyzed. The respondents are asked to state either "Strongly agree", "Agree", "Neutral", "Strongly disagree" or "Strongly disagree" to the statements given in the questionnaire. Majority respondent agreed that soft skills is a value added for them and believe that they will get better job if they have soft skills. Even though most respondents (76.7%) agreed that they can get better job with soft skillsequipped to them; around 52% stated that they will be able to get a job with high pay without having soft skills. This shows that they perceived better job is not related to job with high pay. About 85.3% respondents agreed that employers are really emphasizes on soft skills in choosing their employees and about 77.3% perceived that soft skills is important for career developments. More than half of total respondents feel that soft skills are difficult to acquired comparing to technical knowledge. This is probably due to the nature of the subject taken by respondents which focusing more on hard skills instead of soft skills. It is understood that most of the subject taught for engineering student is emphasizing on technical and hands-on knowledge. For example, students from Bachelor of Engineering Technology of Welding Quality Inspection, they only take about 7-10 non-technical subject out of 30-40 subject along their study time. That is mean 80-90% of student learning time are exposed to hard skills; they know how to use welding machine, making measurement of the material for welding purpose and so forth. But when it comes to soft skills, the students found it is difficult to acquire. Unless they are active with extracurricularuniversity activities, they might have problem to communicate effectively, teamwork with others, being a leader or being a problem solver.

Table 4.2: *Students perception on the importance of soft skills*

No	Statements	SD	DA	N	A	SA
1	I consider myself as having value added if I have some soft skills.	2	6	10	122	10
2	I can get better job if I equipped myself with soft skills.	6	13	5	115	11
3	I feel it is difficult to acquire soft skills compared to technical knowledge.	12	41	8	80	9
4	I think soft skills are less important than technical knowledge.	2	89	4	37	18
5	I still can get a job with high pay even though I did not have soft skills.	7	42	9	78	14

6	I believe that nowadays soft skills are really required by employers.	3	5	6	128	8
7	I also believe that soft skills are important for career development.	1	14	7	116	12
8	I think soft skills is "must have" skills not only "good to have" skills	1	26	22	98	3

SD: strongly disagree, D: disagree, N: neutral, A: agree, SA: strongly agree

4.3. Soft skill that perceived important for job employment

The data shows that 84% respondent perceived leadership as very important soft skill for job employment. Graduates with leadership skills might have more opportunity to be employed comparing to those who don't. Second highest ranking of soft skills that perceived as very important for job employment is teamwork capability. About 82.7% respondents believed one must have teamwork skills to be able to work with others. Graduates who is lacking in teamwork may create problem in future, thus, employer would normally reluctant to hire them. Besides leadership and teamwork, most respondent (78.7%) perceived that communication is one of the most soft skills that required by employer. The least important of soft skills for job employment based on respondents' opinion are presentation, proposal writing and common knowledge skills. The opinion might be influenced by student exposure and understanding towards the job scope for an engineer. They would think that as an engineer, presentation, writing proposal and common knowledge might not being used in executing their tasks.

Table 4.3: *Soft skills that most important for job employment*

No	Types of soft skills	Frequency
1	Leadership	126
2	Teamwork capability	124
3	Communication	118
4	Willingness to learn	94
5	Creative	72
6	Critical thinking	70
7	Passion and optimism	65
8	Negotiating skills	56
9	Writing business communications	42

10	Making presentation	37
11	Writing proposal	37
12	Common knowledge	21

4.4. Acquisition and improvement on soft skills

The last part of the questionnaire asked respondent on the soft skills that acquired by them. Only 61.3% respondent stated that they already acquired leadership skills. It is probably from their active involvement in curricular activities inside or outside campus. Next soft skill that they think they already acquired is teamwork. Group assignment given by the lecturer in most of the subject taken is a possible reason of that thought. None of respondent thinks that they already have skills in writing business communication. This is definitely because of limited exposed of business subject to engineering student. When asking about soft skills that they think need to improve, 94.7% respondents ascertain negotiating skill, 81.3% respondent stated critical thinking and 76% respondent consider common knowledge are the soft skills that they need to improve. These soft skills are normally not being taught in most of the syllabus of engineering subject. Hence, it might not possible for engineering student to have those skills throughout their study time.

5. Recommendation

Finding identified that students in this university are aware, understand and perceive soft skills is important for their education and employment, however, the current approach of teaching and learning limit them to mastering soft skills. There are some recommendations for the university in order to overcome this issue.

5.1 Problem-based learning and student-centered learning

Critical thinking and common skills are considered as soft skills that needed by most student. Implementing problem-based learning and student-centered learning in all technical subjects could be a possible approach to solve this issue. Through problem-based learning (PBL) approach, during teaching and learning session students are given a real life problem. They have to work with classmates to solve the problem that help develop their critical and common thinking as they make strong connections between concepts when they learn facts and skills. For

example, students taking engineering design subject, the lecturer could assign them to a project work linked with industry; which provides students to study the real problem, thereafter come up with some possible solution. This assignment not only develops critical thinking, but also improves student confidence level as they have to deal with people in real life industry.

5.2 Integration of entrepreneurial elements in technical subject

Students' feedback identifying that negotiation skill is among the skills that they think need to be improved. The syllabus of technical subject could be revised and taking into consideration of entrepreneurial elements. In some of engineering subject, students are required to design, create and produce new ideas, product or technology. The negotiating skills could probably being acquired by the students if they are asked to sell their idea or product to potential user. This activity could be done outside the classroom and should be considered as part of subject assessment. Currently very few subjects practicing this approach and the lecturer did not consider the activity as part of assessment. Thus, student disregards the activity as important for their soft skills development.

6. Conclusion

Lacking of soft skills are one of the factors contributing to unemployment amongst graduates in Malaysia. In some cases, graduates are employed but not at better position just because they do not have good soft skills. For non-technical student, the issue of lacking in soft skills may not as critical as engineering students.It is because subjects offered in non-technical study program mostly contain soft skill elements. Oppositely, for engineering student the subjects offered in the program structure aremostly technical oriented which hard skills are the main focuses. Through problem-based learning approach and integration of entrepreneurial elements in technical subject it is hoped that student will obtain both hard and soft skills. Thus, making them more marketable in job employment because soft skills are value added for students when seeking job.

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