

Exploring the Engineering Communicative Challenges amongst Undergraduates

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Abstract

Much has been said in the Malaysian media and recent research on the undergraduates' deficiency in soft skills. The alarming unemployment rate among the graduates appears to be strongly linked to two factors namely lack of communication skills and poor English proficiency among them. This paper unearths the unresolved issues with regards to the aforementioned factors. It presents the perceptions and experiences of the lecturers and practicing engineers supervising engineering students during the latter internship programme in selected industry. Their views in relation to students' oral communication in the engineering communication environment are highlighted as drawn from observations and interviews excerpts. The data suggest that although the engineering students are technically sound, they need to possess certain personal skills in order to market themselves. The pertinent set of skills is constantly highlighted by Malaysian employers in developing students towards becoming engineer. These vital skills which are closely related to the employability and workplace literacy need to be further enhanced in determining the graduates success or failure in the workplace.

Keywords: oral communication, themes, skills, engineering, industry

1. Introduction

From the report *Malaysia and the Knowledge Economy: Building a World-Class Higher Education System 2007*, it has been revealed that there was an alarming rate of unemployed graduates in Malaysia. It was estimated that about 74,182 graduates were unemployed in 2004 compared to 68,000 in 2003 and 42,500 in 2000, based on the government Labour Force Survey conducted in 2004 (EPU, 2007). In the following year, *The Malaysia Economy in Brief*, Department of Statistics, Malaysia, reported in Macro Economic Indicators (MEI) (2008), stated that the employment rate including the graduates in the first quarter of 2008 increased slightly from 3.2% to 3.6% (MEI, 2008).

These estimated figures reveal that a high rate of unemployment in Malaysia appears to be strongly linked to the lack of competency in communication skills and English proficiency among recent graduates. In a survey of employers, undergraduates, graduates and university administrators, graduates were said to be lacking in 'personal qualities and communication skills and were not able to market themselves' (Shuib, 2005: p. 1). Those graduates surveyed cited a lack of job experience and poor command of English, with inadequate communication skills, as reasons for their unemployment (The Asian Pacific Post, 2005). As a result, nearly 60,000 young graduates faced difficulties in finding jobs according to *Malaysia Today* (Singh & Singh, 2008). Such headline-grabbing reports raise serious questions about the work readiness of today's graduates.

In a statement released by the Malaysian National Computer Association (NST, 2004a) via media reports stated that Information and Communication Technology (ICT) graduates, in particular, faced difficulties in getting employment due to their deficiencies in communication, teamwork and problem-solving skills. Graduates were also said to be lacking in soft skills such as the ability to communicate and did not have the appropriate aptitude level in English language (Yapp, 2008). In addition, Information Technology (IT) graduates' performance was often perceived to be lower than the employers' expectation with regards to all types of communication skills in English (Kaur & Lee, 2008). Their study

reiterated that when hiring local IT employees, the employers' emphasis was on oral communication skills, besides other skills such as presentation, listening, interviewing and conversational skills in English.

2. Communicative Capability in the Engineering Profession

The demand on the graduates to have better teamwork and communication skills in which engineering is practised (Seat, Parsons & Poppen, 1999) is closely aligned with the industry's focus on non-technical skills (Nguyen, 1998), thus striking a balance between technical and non-technical competencies. Both practicing engineers and engineering graduates are expected to be technically and non-technically competent as they deal with multiple stakeholders such as the government and private organizations, the general public as well as with those at the workplace.

The ability to communicate effectively, give clear oral instructions, and make effective oral and written presentations to technical and non-technical audiences, where engineering students are concerned, can be found explicitly in the Engineering Councils' Policies of various countries such as the United Kingdom, Australia including Malaysia (Engineering Council UK, 2005; The Institution of Engineers Australia, 2004; Engineering Accreditation Council Malaysia, 2005). These desired skills, which are vital to technical skills, are essential in the engineering profession because analyses or potential solutions to problems have to be communicated effectively to decision makers as those who implement the solutions will base them on the information given (Tenopir & King, 2004).

The poor command of English is believed to be the main cause of unemployment, as emphasized by Rafiah Salim, the former Vice-Chancellor of University Malaya (Phang, 2006). English is given a prime emphasis by employers in recruiting future employees. In addition, it was found that 56% of these employers refrained from hiring fresh graduates because of their lack of command of English, as reflected in a survey of 4,000 Malaysian human resource managers and directors (Tneh, 2009). Interestingly, whenever issues of communication and unemployment are raised, English is inextricably linked to both.

As this may sound a household concern, the language capability of graduates cuts across the global demand. With these reports highlighted through public literature, the communication disadvantage amongst recent graduates requires a re-dress in order that they become compatible to the job-market. This paper presents the issues and challenges pertaining to the graduates said 'deficiencies' in the context of engineering profession from the practicing engineers and academia's perspectives.

3. Research Setting

The setting for this study was at respective industrial sites where the engineering students were located for their Industrial Training Program. Using a purposive sampling, 48 supervisors consisting of Faculty Supervisors (FSs) or lecturers, Industrial Supervisors (ISs) and Industrial Training Co-ordinators were involved as they were an integral part of the study due to their roles with the interns. Two types of interviews were conducted face-to-face: individual and focus groups. In the individual interviews, less structure was imposed in order to let the participants express their views and form opinions on the students' communication competencies. The main aim is to understand the meaning or perspective from their points of view as supervisors and their roles as decision makers.

In the focus group interviews, the main purpose was to exploit their interaction which provided new insights that were not able to be derived from the individual interviews. The participants were encouraged to share experiences and make comments on others' experiences and views. The information gained from this purposive sampling provided rich insights on issues and challenges pertaining to communication in the engineering context. The following sections deal with the analysis of the main issues from the interviews.

4. Communication Environment of Engineering Undergraduates : An Analysis

According to the FS, there is a difference between the communication environment in the government and private companies. In general, they (FSs) prefer and encourage their students to apply positions in multinational companies as opposed to the government organisations. This preference, according to them, is the most appropriate if the students were to consider their career enhancement. One of the FSs, Mr. Farid explained:

If they, the students, go to multinational company, they have to communicate in English. Those students who go for multinational and private sectors, those who got the good grasp of English language.

Another FS, Mr. Razali, described his first industrial visit experience at a private company:

The first two weeks, they, the students, lacked of confidence ... they have problem in communication with supervisor. All the members and top management are Chinese and they speak in Chinese. The students have to talk in English. At the end, they learnt a lot of things and appreciate what the supervisors have given to them.

However, not all students who were placed in the private sectors 'enjoy the English environment'. Some of them suffered, as according to FS Mr. Shahrudin:

I have a case where student ... her training at a multinational company at (the company's name). All the communication, conversation and instructions... all in English. So staff even internship students cannot use Malay. So the feedback (from the student) is very bad about the communication (in that company).

As a result, the student did not enjoy her internship. She had difficulty in performing tasks assigned to her and needed to refer to her industrial supervisors and colleagues for help. Surprisingly, the comments given by FSs Mr. Razali and Mr. Shahrudin in separate interviews were referring to the same company. There is no doubt that the communication environment in the multinational and private sectors is mainly dominated by English as the official communication language used in daily business transactions [43], but is not necessarily the language used most often.

FS Mr. Shahrudin related his experience supervising in industry prior to joining the higher learning institution.

In this company, our communication is little bit jumbled up between Malay and English. If we present to the customer, maybe we have to speak in English. But in daily workings, meetings, between us, or meeting, project discussions mostly in Malay.

Hence, English is used in dealing with clients to overcome intercultural communication barriers, while Malay (the official language in Malaysia) is used in day-to-day communication within the local context. If this is the case, the students could have easily applied to the government sectors without having to experience English. FS Mr. Farid said, 'If they are in the government sector, then they will use the native language', FS Mr. Zakaria, agreed saying that, 'If the communication on the organization is conducted in Malay, so there is no problem'.

However, the FSs have different opinions. Although being placed in the government sector seems like an easy path, the students, as most FSs claimed, learned 'nothing much'. One FS stated that the students would not gain much as they were just placed in a department which is not related to their field of study at the university, and are being assigned routine tasks from day one till the end of their training. He claimed that, 'there is no much communication happening in there ... they just listen to their supervisor and they do not go out for meeting ... just thinking they are student, do practical job'.

Their comments on the communication environment between the government and private companies are supported by the claim made by a FS, Prof. Hazim. He said:

The key difference is the command of the language. The official language used in government agencies is Bahasa (referring to the Malay language), whereas in private sectors regardless of their state big or small, most of them are using English especially the multinational, 100% are using English. So the students would have different exposure depending on where they are placed.

This different exposure according to Prof. Hazim has a major impact on students' communication competence. He gave an account of one of his previous interns' experiences. A reserved girl, who was placed in an established multinational company, was aware that English was used widely in the company especially when dealing with foreign clients. She realised that she needed to communicate openly with people of different levels and background. She felt intimidated because she acknowledged that her English command was far from satisfactory. Therefore, in order to be successful during her internship as well as building the foundation to be a future software engineer, she was determined to take additional tuition classes to improve her English before she graduated.

It is important to understand that despite the need to place the students in multinational and private sectors to elevate their English speaking skills, a great dilemma occurs in both government and private companies as to which language is to be used. English is dominant as a world international language used at global workplaces, not only as a 'language of business', but also used in 'socio-pragmatic purposes' (Venugopal, 2000). Specifically, it has been that English is considered the language of the corporate sector, while *Bahasa Malaysia* (Malay language) is the language of

the government sector. Furthermore, English is seen as predominant in the corporate sector, bilingualism is used within a certain context when necessary. The dilemma on the use of English is further discussed in the next section.

5. Discussion: Implementation Challenges of English as Communication Medium

Taking into consideration the importance of English as the *lingua franca* in multinational companies (Fontaine & Richardson, 2003) and English communication skills at the workplace, several respondents highlighted key concerns. The most dominant was whether or not the universities had catered for the needs and expectations of industry in equipping students with the necessary skills and awaiting challenges if English were to be imposed. One of the top management university officers, Dr. Rizal, explained that the industry is expecting:

students to be able to use English as the medium of communication, meaning that they are able to converse with others in English and able to write business papers, technical papers in English.

He further emphasized that students were best equipped with a good command of English while they were at their tertiary education stage. He added that if students were to go to the job market with some deficiencies, the integrity, credibility and the image of that particular higher learning institution would be affected. To avoid this situation, he suggested that the top management of his institution issue a clear statement to implement English in its technically-related educational programmes. He further added that the implementation of English in university programmes responds to a recent policy released by the Malaysian government which took effect in 2003. This policy outlines the use of English in all science and technical fields (Ridge, 2004). What matters now is the issue of implementation.

In responding to Dr. Rizal's suggestion on using English as the medium of instruction in the teaching and learning contexts, FS Mr. Arif, said that only a handful of lecturers conducted engineering subjects in English, the majority of them did not. He also stressed that it was not an easy job to convince everyone, although they realised the importance of English. He suggested that it would be easier if the instruction was executed from the top management, the top-down approach rather than bottom-up. Mr. Arif further argued that if the instruction would come from the top management documented in written form, then everybody would comply with the regulation. His argument clearly reflects what Kaplan and Baldauf (Gill, 2006) described as 'the process of top-down is [an] accurate description of the Malaysian way' (p. 87). According to these researchers, top management, seen as powerful and superior, had the authority to make changes without consulting the subordinates, and as subordinates they would comply with the decisions made.

Teasing out Mr. Arif's statement on the formality of issuing such instruction, it is worth keeping in mind what Gill (2006) notes in the underlying challenges of implementing the teaching of science and technical subjects in English at the tertiary level. In her paper, Gill discusses 'the confusion and haziness about the direction of change at the higher education level' (p. 87) faced by the universities as there is no formal documentation with regards to the changing of medium of instruction. However, Gill stresses that despite the fact that 'it is not made crystal clear, some universities have taken the initiative to work on the implementation strategies themselves' (p. 87). Interestingly, taken from Kaplan and Baldauf's point of view and Gill's statement, although it is still vague in terms of its clarification, some universities (including one university in this research study) have acted on implementing the English language policy because 'the directives received by academic management [comes] from policy makers' (p. 86).

Given the possibility that the idea of preparing students with good English before they are ready for the job market is possible, planning seems easier on paper than in execution. When probed as to whether the university is going to make it a policy to implement English, Prof. Hazim commented:

I think, we, the top management is aware that certain initiatives need to be done but of course they are not driving it as a policy yet. This is, I think in conjunction or in trying not to contradict also the national language policy that is practised by the government agencies.

So far as written document and communication within the university, we still have to use Bahasa (Malay language) and that entails our letters, memos and things like that, even documents that we produce with regards to the university; but as far as the students' work is concerned, we can propose.

In fact, as the faculty dean, Prof. Hazim had made a decisive judgment in implementing English at the faculty level although he was aware of the students' responses of the implementation issue. He stated that part of the students' council committee was not happy as the decision was seen as a way to force them to embrace it against their will. However, Prof. Hazim claimed that students gradually understood why the implementation was needed. He explained that the faculty's main aim is mainly to elevate students' English communication skills both in written and oral

communication. He also stressed that effective from 2001, all transactions with regards to assignments, examination, projects, report writings, presentations would be done in English, including the components in the *InTra* program—with the exception of the Diploma students.

Although some of the parties involved were not satisfied with the idea of imposing English, Dr. Rizal fully supported the faculty's initiatives. He urged that *'everyone must realise that they must use English, create the pressure on all students to enhance their command of English.* He believed that:

One thing about human behaviour is that you create a right environment, people would adjust to it. But if [you] try to create an environment but at the same [time], there's opportunity for them to get by, without actually getting into the environment, then they will go to the easier paths—the pleasant paths.

On another aspect, a university which has been studied has already implemented English in its learning and teaching context. Although on the surface, the implementation was taken with a positive note by academia, their reactions were mixed. FS Mr. Nizam admitted that at first he was taken aback by the new regulation that required a lecturer to use 100% English in teaching and learning, but he was able to adapt to the situation. He added that the university is providing support to academic staff by giving training and organising workshops to improve their English communication skills. His colleague, FS Mr. Razali, took the enforcement as a challenge. He felt that the implementation of English by the new management is seen as a giant step as there was no intermediate stage in between the transitions. He was concerned that this dramatic change might not 'survive' in the long term. Nevertheless, Mr. Razali and his colleagues were willing to make as much effort as they could to achieve the goals although it might be difficult at the initial stages.

Looking at it positively, FS Mr. Razali, understood and agreed with the enforcement because he took the view that the top management was working its best to place the university, being new, at a certain benchmark in order to be recognized. He further claimed that he had no problem in understanding English technical terms from articles or books; the only problem for him was in speaking. His colleague, FS Mr. Shahrudin, agreed with Mr. Razali as he was also concerned with the lecturers' difficulties including him in relation to communicating in English to transfer knowledge to the students. His concerns appear to be of the same as a Malaysian respondent in Nunan's (2003) study who stated that, 'a significant proportion of teachers ... do not have sufficient command of the English language to conduct their classes with confidence' (p. 602). When asked what would happen if the students found that they did not understand what was being delivered, most FSs said they (the lecturers) would opt for code-switching or code-mixing.

6. Conclusion

The communication experiences of Malaysian engineering students with regards to the faculty supervisors and industrial supervisors have reflected the need to address the former's problems pertaining to communicating in English in both the public and private workplaces. This examination of the challenges provides insights on steps to help undergraduates to improve and enhance their communicative capability via oral presentations and meetings with the supervisors and other significant individual's strategies prior to researchers' visit to the industrial sites. With this awareness on the significance of English usage in the workplaces, undergraduates would develop the motivation to take the learning of English more seriously. Being the dominant language used in private companies and perhaps obligatory in government organisations, English remains internationally recognized as the *lingua franca* in many countries. Therefore, undergraduates who regard English as a language to be used only in a formal or limited context have to take the horse by its reins themselves in order to be successful in the working environment.

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