

ENGLISH COMMUNICATION FOR DIGITAL TECHNOLOGY: BRIDGING THE GAP BETWEEN INDUSTRIAL REVOLUTION 4.0 REQUIREMENTS AND GRADUATES READINESS.

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ABSTRACT

Malaysia produces an average of close to 300,000 university graduates annually. The number of unemployed graduates especially from public institutions of higher education keeps on increasing. A degree can no longer be regarded as an automatic passport to employment. It is not prudent to blame the graduates entirely for their predicament. It is crucial to find out whether the courses offered at the universities, adequately prepare them with the right blend and attitude to compete in the job market. The role of English language is important for communication between people especially in higher institutions and businesses in Malaysia. At the workplace, the most important area is oral communication skills which all graduates should possess to guarantee that they can function efficiently. Hence, it is important to study whether polytechnic graduates are equipped with sufficient English communication skills to fulfil the needs of the prospective employers. This paper will report on whether Information Technology (IT) students are ready for the industrial revolution 4.0 requirements. This study adopts a case study design which involves a number of semester five students who are doing their industrial training and have completed MPU 4013 English for Digital Technology in their previous (fourth) semester. There are three research objectives will be achieved in this study. Firstly, it is to investigate IT graduates' readiness for future industrial demands. Besides, English communication performance and factors affecting the performance of IT graduates will be identified. Lastly, it is also important for this study to distinguish the industrial demands in terms of English communication skill. It is hoped that this study will provide us information on how to bridge the gap between industrial revolution 4.0 requirements and Malaysian IT graduates' readiness.

Keywords : English communication, Industrial Revolution 4.0, graduates' readiness.

1.0 Introduction

Industrial Revolution 4.0, building on the technological inventions of the Third, is disrupting industries, replacing and even removing jobs at a higher speed. The World Economic Forum's (WEF) Future of Jobs report states that 65 percent of children entering primary school today will end up working in jobs that do not exist yet. The report also observes that the most specialities currently in demand did not exist five to ten years ago. Disruptive labour market changes from the years 2015 to 2020 are expected to lead to significant loss of jobs. The type and quality of graduates that enters the workforce is rarely prepared to meet the ever evolving demands of the new marketplace.

1.1 Problem Statement

1.1.1 Industrial Readiness

All revolutions are disruptive, and Industry 4.0 is no exception. It poses risks, but looking at the bright sight, it offers tremendous opportunity for new products and services, better ways to serve customers, new types of jobs and wholly new business models. As with previous industrial revolutions, the impact of these changes has the potential to ripple across industries, businesses and communities, affecting not just how we work, but how we live and relate to each other.

According to a survey done by Talent Corp Malaysia, business leaders understand Industry 4.0 will bring dramatic changes and they need to prepare. Yet, they are less certain as how to take action, and they do not have much time. In this age of unprecedented global social and economic connectivity, the fourth industrial revolution is happening quickly in ways large and small. If leaders choose to think more broadly and act decisively, their organisations may play a leading role in ensuring Industry 4.0 acts as a positive force.

1.1.2 Malaysian Graduates Readiness

Malaysia is among the few economies in the ASEAN region with an incidence of youth unemployment in the double-digits, despite a low overall unemployment rate. It produces an average of close to three hundred thousand university graduates annually. There is a growing proportion of fresh graduates in mid-to low-skill employment. Combined data from Department of Statistics (DOSM) and the Ministry of Higher Education (MoHE) also reveals that underemployment is more severe for diploma holders. "Their readiness in responding to the 4th IR, and questioned if universities are capable of managing the convergence, fluidity, power shifts, contingency and ethical issues that came along with the 4th IR. He emphasised that investment in emerging technologies and human connectivity, building digital resilience, as well as institutional capabilities in digital governance and accountability, are key strategies for survival; however, it is unclear whether the higher education community are doing enough to adapt". (Grant, 2017)

The World Bank-Talent Corp Survey on Graduate Employability found that 90 percent of companies believe that university graduates should have more industrial training by the time they graduate, and 81 percent of companies surveyed rated communication skills as a major deficit among graduates. It is seen very clearly here that this communication involves English as the mean to interact with others inside or outside the industry in this era. The issue is highlighted to ensure that the graduates are equipped with hard skills for their particular field of work, as well as their communication skills to visualise the effective interaction which should be occurred among the workers and community as a whole.

While Malaysia has progressed in our journey towards becoming a high-income nation, we face increasingly stiff global competition in efforts to grow our talent base. Integral to achieving our national economic development goals is the ability of our workforce to adapt and cope with the increasing demand for skilled capabilities and quality output. Skills mismatch remains a challenge as the country continues to churn out graduates for the marketplace. Coupled with increased desire from industries for the Government to intervene in human capital policies and initiatives, improved attempts must be dissect the profile of our national talent pool in order to enhance talent quality and employability, especially of our graduates.

However, the same Talent Corp survey found that 53 percent of firms have never engaged career centres in their recruitment efforts. This goes to suggest that even though companies may comment that graduate lack requisite skills, efforts can still be made to prepare these graduates for workforce entry, perhaps through concerted partnerships between industry and academia. Industry leaders now acknowledge that our universities are not able to produce work-ready graduates without the academia acquiring a clear, accurate and updated understanding of what companies look for at entry-level hires. Understanding the urgent need to incorporate these industry-relevant requirements into the current curricular, teaching and assessment methods, this study aims to investigate whether the IT graduates are ready to face the challenges await .

1.2 Purpose of Inquiry and Inquiry Questions

This conceptual paper is intended to identify and understand the graduates' readiness of English Communication for Digital Technology in bridging the gap between Industrial Revolution 4.0 requirements. Therefore, the inquiry questions for this paper are:

- a. What factors affect the IT students' readiness for future industrial demands?
- b. How are the IT students' English communication performance?
- c. What are the industrial demands of English communication for IT graduates?

The answer to the inquiry questions will be based on an extended review and analysis of literature.

1.3 Significance of the Inquiry

This conceptual paper is significant because it will explore a number of factors that affect the graduates readiness of English Communication for Digital Technology in bridging the gap between Industrial Revolution 4.0 requirements. It will review some literatures which highlight the importance of communicative competence among graduates to secure employment upon graduation. It has also been the aim of the implementers to provide platform for the students to practise and prepare themselves for the real working life. As discussed in the previous study, academic success alone will not guarantee work if graduates lack employability skills. Among the employability skills which employers consider necessary include job seeking skills, interview skills, presentation skills which require a certain level of competency in English. Even though it is important to bear in mind that competency cannot be measured directly, if there is one way that employers can benefit from is though graduates' performance in a test which reflects their work readiness.

2.0 Summary of Theoretical Framework

The impact of technology has increasingly made an impact beyond industrial and economic perspectives, and it could take on a critical role in speeding up the awareness of a paradigm shift, as Rifkin (2014) advocates. However, there is a need to address the various unexpected consequences of the rapid pace of technological developments. The challenges that are induced by the technological innovations need to be addressed by complementary and advanced approaches to provide innovative solutions that include radical methods that can be deployed to anticipate the future emerging technologies and their impact from a holistic perspective.

A useful base to start with is using the sustainability concept in its entirety, which exceeds the emphasis on meeting the requirements of present generations without compromising the ability of future generations. Nevertheless, three key pillars - economic, social, and environmental -form the stems of the framework of Adams (2006). Technology and social innovation are the central drivers in providing sustainable results that meet the three key criteria of sustainability and act as an assessment mechanism to any related developments of Industry 4.0, as shown in Figure 1.

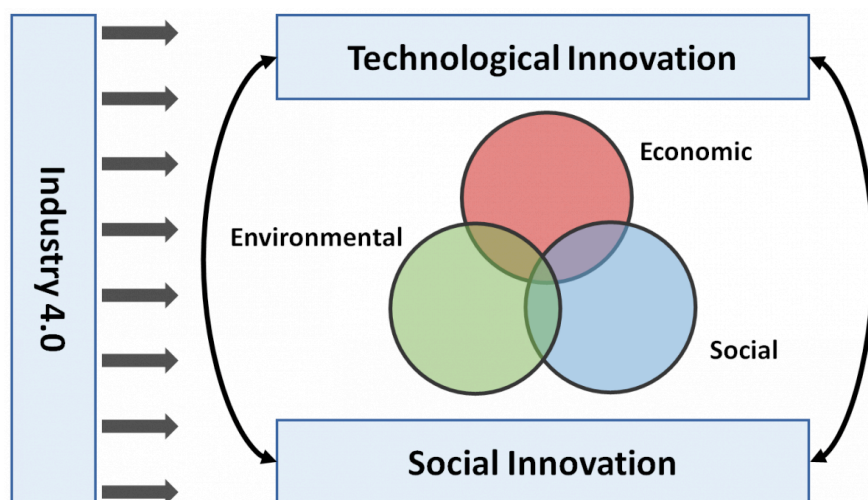


Figure 1. A framework to safeguard the potential of a sustainable Industry 4.0

Where as, sustainability in the framework acts as a filter and provides guidance to scrutinize technology developments surfacing of Industry 4.0. It also emphasizes the reciprocal roles of technology and social innovations.

The critical success factor in such an inclusive approach is designing a creative platform. This creative platform would include experts from different disciplines including engineers, economists, social scientists, environmentalists, futurists, artist, and other creative people who can work together as part of this framework and come up with novel solutions. A specific example that could result from such an arrangement and set of competencies would be in the development of advanced and integrated simulation systems to create, for instance, a virtual environment where people and emerging technologies can interact and behave naturally. As a result, several studies can be conducted to accurately anticipate the impact of various scenarios before populating technological breakthroughs. In this example, the timely development of augmented reality and virtual reality could play a critical role if such initiatives are pursued.

2.1 Analysis and Discussion of the Literature

2.1.1 Employers' Perspective on Communication Skills

Most employers look for candidates who not only have excellent academic performance but also possess good communication skills especially in English language (Ezihaslinda Ngah et al.2011). In Yemen where, as a result of graduates' poor performance in English, most of them were rejected when applying to work in oil companies. As such, the former Yemeni Minister of Oil and Minerals Mr. Khaled Bahah urged the graduates to improve their English skills in order to secure jobs especially with petroleum companies (Al-Tamimi and Shuib, 2009).

In recent years, the global economic environment has led to business focusing on Red Ocean strategies, aiming to shift from the battle for market share within known market spaces, to Blue Ocean strategies with moves to create new products or services and new demand in uncontested market space (Kim & Mauborgne, 2005). This new perspective has further developed to a White Ocean Strategy, which emphasizes social concerns focusing on People, Planet, Profit, and Passion (Chanchochai, 2012). These changing business strategies and attitudes have in turn influenced the way in which workplace English is used for communication.

In this context, English used as a foreign language in Thailand has gained an important role as a medium required for professional advancement as well as a tool to help businesses function more effectively (Hiranburana K. 2017). In addition, with increased expansion of communication technologies and electronic media, it is worth exploring the use of English and examining its features to supplement the many studies on the needs of English users in the workplace (So-mui & Mead, 2000).

Using traditional methods such as interviews to measure attitudes, these studies have come to conclusions as to learners' needs which have implications for the design of English for specific purposes courses (Bhatia & Bremner, 2012). Other researchers who have looked into English requirements in the workplace have emphasized the importance of competence in listening and speaking suggesting that the English curriculum in Thai universities in its current form cannot meet the demands for English as used in the workplace (Wiriyachitra, 2001).

This study showed that Thai business people made greater use of written English than spoken English for communication and that the main medium used was email which, unlike other forms of written English, shares several features with the spoken language. (Hiranburana 2017). The findings confirmed the conclusions of a study of English language needs in the Automobile and the Information Technology Industry conducted by the English Language Development Center (ELDC, 2003). In that study, personnel at all levels reported the importance of reading skills, in particular to read emails, but for administrators, writing e-

mails was essential. Regarding the types of communication for which English was most frequently used, Thai business participants considered memos (66%), meetings (65.3%) and written reports (63.9%) as the top-three. (Hiranburana 2017).

Moreover, some studies in needs analysis of Thai employees in different professions such as cabin crew (Chenraksana, 2005), and banking (Luankanokrat, 2011) revealed perceived problems in speaking and listening due to differences in accents of people of certain nationalities. Interestingly, most business communicators in the present study did not express difficulty in using English at work though some mentioned problems with listening skills especially understanding accents, idiomatic expressions, writing, and grammar, despite quite a number of deviations found in the authentic samples.

Chang (2004) elaborated that proficiency in English means the ability to present ideas, explain issues and problems, to speak up in a constructive manner, to resolve problems, to understand issues and problems faced by companies and to come up with workable solutions to problems are all good communication and interpersonal skills sought after by employers. Therefore, employees are expected to contribute from 'day one of being hired' (as cited in Kaur and Kaur, 2008:18).

According to Clagett 1997, in communication, the most important area is oral communication skills in English language which all graduates should possess to guarantee that they can function efficiently at the workplace. Realising that this critical soft skill increases graduates' employability, higher institutions in Malaysia are gearing their efforts toward improving the oral communication skills of their undergraduates.

Ayiesah Ramli et al. (2010) added to the notion that communication skills comprises of making effective presentations, having the ability to put up a good logical argument to persuade others, as well as the ability to express idea verbally – one to one or to groups, having relevant skills in written communication such as emails, reports, letters to clients, the ability to listen attentively and respond to others' comments ideally. On top of that, communication skills is the ability of an individual displays in consistently demonstrating the ability to effectively communicate with clients, colleagues, subordinates, and supervisors in professional manner and in the personal department. Communication skill is generally understood to be the art or technique of persuasion through the use of oral language and written language." (Communication Skills, n.d.)

In order to enhance learning of English for communication in business, course material designers should include common language patterns used in e-mails. Students should be encouraged to engage in collaborative and co-operative writing processes including problem solution and in the negotiation of meaning on a variety of topics, not only related to business. Students should also discuss issues to improve quality of life such as green projects and sports activities. These socially related topics could serve to enhance negotiation skills and facilitate communicative needs in general. (Hiranburana 2017).

2.1.2 Education System and Practices

According to Zaharim et al., (2009) one of the contributing factors of increased unemployment rate in Malaysia in the first quarter of 2008 is because "graduates are not ready for the workforce". In a workshop organized by the Economic Planning Unit in July 2004, representatives agreed that the graduates are "...well equipped with the technical skills such as in ICT, management, engineering and marketing but they lack in certain aspects such as ability to communicate, skills to solve problems and poor interpersonal skill" (Nurita et al., 2007 in Zaharim et al., 2009).

Furthermore, several research in engineering education basically found out that the current educational system and practices in Malaysia are unable to deliver graduates who are fully equipped with employability or generic skills required by employers nowadays or in the near future (Lee Fui Tong, 2003; Mohamad et al., 2004; Nurita et al., 2007 in Zaharim et al., 2009). Fong (2004) and Henwood (2007), as cited in Norshima Zainal Shah (2008) blame the exam-oriented education system practised in Malaysia for producing graduates who are not "work-ready" for their future employers in that they are fully equipped with theories but may lack practical exposure which could help prepare them the reality of working environment.

In Asia, Malaysia for example, Malaysian graduates, especially engineering graduates possess good basic engineering knowledge and are very competent. However, most of the employers complain that most of the graduate-level job applicants are lacking employability skills which refer to "the basic skills which are necessary for getting, keeping and doing well on a job" (Robinson, 2000 as cited in Zaharim et al., 2009).

2.1.3 English for Communication Syllabus

Due to the profound changes in the workplace, employers are increasingly expecting workers to have effective oral communication skills too (Hutchinson, 1987). In a research carried out by Gurdinder Kaur 2008, it is said that employers today are looking for graduates who are equipped with not only with specific skills and knowledge but also with the ability to communicate well. This is being supported by Zubairi 2008, who indicated that employers have continued to voice their dissatisfactions concerning the English competency of university graduates. A survey that has been carried out by MoHE in 2008 (Mohd Don Z et al. 2008) on employers in relevant industries to have shown that majority of graduates and workers were limited users of English especially in writing and speaking.

Thus, in order to overcome this problem, polytechnics have taken the initiative to prepare the English for Communication syllabus specifically for students pursuing Diploma education course. The English syllabus used in polytechnics is based on the syllabus provided by the Minister of Higher Education. Feedback from the ESP students, lecturers and the stakeholders will help to find out how much the content on oral communication skills actually help the students to carry out their industrial training

effectively. Although the polytechnic education has gained popularity based on the increase number as stated above, the current system of school education in Malaysia does not fully prepare the school-leavers for direct entry into the first year to any basic programme in polytechnic. The students from school entering into polytechnic lack of oral communication skills and they are not exposed to an English speaking environment. They did not get enough opportunities to practice speaking in English in real life as how Maclean 2007 argues that the new 'information age' requires knowledge and skilful workers.

One of the skills required as skilful worker is the communication ability to communicate well. Until now language learning has been considered as a mastery of linguistic skills instead of communication focused on meaning.

This study revealed that the respondents who went for industrial training was able to use English oral communication moderately. They were able to use the language and got the opportunity to practice the language at the workplace. The perceptions of the students show that they had improved their English oral communication during their industrial training. The findings of this study substantiate the claim that competency in the English oral communication is important and it is a prerequisite during their industrial training. Besides that, the English oral communication used by other employees and employers were also being exposed to them in polytechnic (Gunadevi et.al 2012)

3.0 Research Methodology

In Malaysia, Malaysian University English Test (MUET) is a test of English language proficiency used in Malaysian public higher educational institutions for the purpose of undergraduates' admission. However, in preparing students for the workplace, proficiency test alone is not enough. They also need to be competent in applying the four language skills in work related tasks which cover listening, speaking, reading and writing.

Thus, the role of English language is important for communication between people especially in higher institutions and businesses in Malaysia. Since English is the second language in Malaysia, the concentration is on generating learners with the ability to communicate effectively in different social and professional contexts. Currently in Malaysia, communication skills play the fundamental role at workplace situations. The importance of communication skills is significant in the management sector as stated in different job advertisements. Without efficient communication skills in the management sector, a manager would never achieve success.

Due to the demands, there is a need for the implementers to investigate students' readiness for the industrial requirements after enrolling the English course offered by polytechnics during their diploma program. This study will focus on Information and Communication Technology Department students from Northern Peninsular Malaysian polytechnics which offer MPU4013 English for Digital Technology Course as English course is only offered once in their whole six-semester diploma program.

A brief background of MPU4013 English for Digital Technology, this course is a necessary component in the field of Digital Technology. The course is designed to prepare students to perform effectively in their workplace as English is usually the medium of communication in the ICT world. This is also in line with the needs of the industries that need graduates who can communicate in English. Among the five Program Educational Objectives of this course, students are to possess relevant knowledge, skills and aptitude to meet job specifications, organisational and system needs. Besides, students have to have effective communication skills to convey information, problems and solutions, teamwork and interpersonal skills. Students are also required to possess skills for life-long learning and career development.

As for this study, it is important to have a cycle process whereby the syllabus contents will be revised based on the outcomes from the industry.

3.1 Case Study

This study adopts a single-case design (Yin, 2008) which is qualitative in nature. The rationale for adopting this design is because it enables to carry out intensive analyses towards the study to bridge the gap between English Communication and Industrial Requirements. Furthermore, Dörnyei (2007) and Yin (2008) assert that case study is an excellent method for obtaining a thick description of complex social issue embedded within a context and offers rich and in-depth insights that no other method could yield. This view is consonant with the aim of the study which is to bridge the gap between graduates' readiness with the industrial requirements. Two (2) students from each Northern Region polytechnic which are Politeknik Ungku Omar, Politeknik Balik Pulau, Politeknik Syed Sirajudin and Politeknik Sultanah Bahiyah will be chosen randomly by their English lecturer for this study. The students have to share their VLOG once a week with the researcher beginning from week 1 to week 14 of their semester 4 English course session. Besides, they will be sharing their VLOG from week 1 until the end of their six month industrial training in semester 6. Researcher will make a visit once a month to the company to do the interview and video record the students' communication and interaction in industry.

3.2 Survey and Interview

In order to achieve the first objective of this study, which is to investigate students' readiness for future industrial demands, survey and semi-structured interview will be conducted to IT students, English and IT lecturers and employers from industry to gather related data. For the second and third objectives, the same methods which are survey and interview will also be conducted to Industrial Training Coordinator and employers from industry. It is hoped that the data which will be gathered are relevant to this study and simultaneously beneficial for future actions.

The proposed survey and semi structured interview for this paper are designed not only to measure IT students' English language proficiency, but also to get feedback from the English and IT lecturers on the students' performance in IT generally and English communication specifically. Both methods will measure the students' ability to transfer one language skill to other language skills, for instance the input from listening and reading will be used as the output in the writing and speaking tasks. The measurement of graduates' ability is not only limited to proficiency but beyond that. Apart from proficiency, the transfer of input from one language skill to another skill as output reflects the real workplace setting which requires employees to apply all the four language skills to complete a given task within the required time.

The whole evaluation method will take into account the employers' expectations which influence graduates' employability success rates. It has also been the hope of the research team that this project will benefit all parties involved; the polytechnic curriculum developers, the graduates and employers in general. It is firmly believed that, if this study is properly designed and conducted, the outcomes could be used by the polytechnic department as the guideline in preparing the students for future industrial revolution 4.0 demands.

4.0 Conclusions

Communication skills seem to be prevalently at the top of many employability skills lists, it is vital to understand how employers view communication skills. Therefore, it can be said that graduate employability is not only determined by their academic performance but also strongly influenced by their communicative competence. Since the employers' perceptions are now becoming predominantly important in determining graduates' future career, there should also be a paradigm shift in the assessments of English Language among soon-to-graduate students so as to reflect their employability skills.

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