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Competency Level of Communication, Creative Thinking and Problem Solving among Tertiary Students

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Abstract

The challenges of Higher Learning Institutions (HEIs) today are closely related to efforts towards providing the human capital ultimately needed by the industries. Essentially, today's industries seek highly skilled and competent human capital and workforce. Therefore, it is of the greatest tasks that higher learning institutions produce knowledgeable and highly skilled graduates. Nonetheless, the increase of unemployment rate among tertiary graduates raises several questions regarding the effectiveness of the national education system in producing high quality human capital for the workplace. This research paper discusses the competency level of communication, critical thinking and problem solving skills among Universiti Kebangsaan Malaysia (UKM) students. A total of 534 study samples were involved. The questionnaire method was used and analysed using the SPSS analysis version 23. Results of the study showed that the level of communication skills competence was at a high level with the mean value of 4.164. Whereas, the level of critical thinking competence and problem solving skills were at a moderate level mean value of 3.84. This study proves the utmost importance of competence skills such as the communication skills, as well as critical thinking and problem solving skills among graduates in entering future work environment. Essentially, employers and industries value these fundamental skills to achieve positive, systematic and high productivity in their organisations.

Keywords: Competence, Communication Skills, Critical Thinking and Problem Solving Skills

Introduction

The Malaysian Education Blueprint 2013-2025 emphasizes six student aspirations, namely knowledge, leadership skills, bilingual skills, morality and spirituality, national identity and

thinking skills to be nurtured among students in preparation towards the global competitive environment. Significantly, our students need to master these elements so that they can perform positively in the current competitive global workplace. Othman and Hassan (2019) highlighted these situations whereby current firms and industries value graduates and workforces who possess the ability and skills to work in a competitive job market. This means that today's job markets are increasingly in need of graduates who are able to face competition and possess the various skills required as well as good academic abilities and qualifications (Ali et al., 2018).

In addition, Aziz (2011) emphasized that the students in the 21st century not only need to be equipped with academic knowledge, but also possess soft skills and competencies. These notions suggested that the education system at the school and tertiary levels need to enhance the quality of their students and graduates, especially in terms of possessing essential and critical aspects such as communication skills, cognitive skills, social skills, competitiveness, confidence, and analytical skills. Undeniably, Malaysia is focusing on economic and social development at the moment. This statement is also affirmed with the research conducted by Vidyullatha Usha and Reddy (2016) in which students need to be flexible, have the ability to learn or get proper training in order to improve their existing knowledge and further equipped themselves with various relevant skills and competencies to perform positively in firms and industries.

Thus to meet these needs, equipping tertiary students with relevant knowledge alone is not sufficient enough. Ultimately, students must also be equipped with necessary skills and competencies. Significantly, the 4.0 Industrial Revolution is estimated to create 1.5 million job opportunities in Malaysia in which 60% of skilled manpower services are required (Mohd Makhbul, Mohamad Hasun, & Abd Latif, 2019). Hence, Malaysian tertiary education sectors need to continuously consider these academic and competency endeavours in order to fulfil the needs of the human capital sectors for the firms and organisations in the local and global environment.

Nonetheless, the Malaysian government aims to fulfil at least 35% of skilled workers and job sectors by 2020. However, the researchers found that there is still a gap of approximately 4% which is yet to be filled up. Thus, in encountering these situations, more emphasis has begun to be given to the development of human resources especially with regards to producing highly skilled human resources in line with the needs of the 4.0 industrial eras.

Communication Competence

Ibrahim et al. (2018) stated that individuals convey information in two ways, verbally or non-verbally. Next, the message received by the listener is also obtained through verbal or non-verbal methods. One of the elements added in this form of communication is the response through feedback (feedback) in which the informant guides the message to the recipient of the message or message, which is also called the listener; then by looking at the response given proceeded to another message source.

This view signals that communication is initially a dynamic process that has continuity in the exchanges which take place among the parties that have a relationship in the process of a communication. Aris and Yunus (2016) indicated that individuals who communicate are termed as communicators who actively send and interpret information or messages. The source consists of each party who is also the recipient of the message. Fundamentally, communication components are involved through direct communication. Firstly, the communicator consists of individuals who convey information or news to others. Secondly,

the content of the message is carried by the sender of the message. Thirdly, media is an area where communicators use specific channels to support the effectiveness of information delivery to listeners or recipients. The fourth is the recipient of the message or information. Next is an effect or response, also known as feedback, which focuses on the effectiveness of the conveyed information. Essentially, the main components of competence are knowledge (cognitive domain), skills (psychomotor domain) and attitudes or personal qualities (affective domain). In brief, all these major components influence a person in the process of performing a task (Ramasamy 2011).

In fact, past studies conducted by Ali and Noordin (2010); Mohamed et al (2007) stated that the major reason for graduates in failing to secure a job is mainly due to not having good communication skills and also lacking good communication competencies. Furthermore, Ali and Noordin (2010) affirmed that the main factor of communication problems was students 'proficiency to communicate in English whereby these graduates are not well proficient to speak effectively in English, especially during job recruitments and interviews. Moreover, Jackson (2010) also highlighted that among the key issues often expressed by employers or industries were related to the weaknesses of the Malaysian graduates with regards to their communication skills especially in the English language, critical problem solving as well as teamwork skills.

This distinctive gap with regards to graduates' lack of the required skills and competencies sought after by employers rather signify that the employers today are more vigilant in making choices employing skilled employees so as to minimize the communication and interpersonal problems in their organisations. This means that graduates who possess good skills, as well as academic qualifications have the advantages of getting employed by organizations. Moreover, the findings of this study also supported the studies done by (Lankard, 1990; Dench et. al., 1988; Henry and Raymond, 1982; Ducoffe and Ducoffe, 1990). Etemi (2011) stated that learning outcomes were the result of a combination of knowledge, skills, abilities, attitudes, and personal understanding in a course or plan. The Learning Resource Group (2003) also affirmed that learning could determine students' behaviour resulted from the various experiences throughout the learning processes.

Essentially, Ali and Noordin (2006) pointed out that in 2005, the National Economic Action Council highlighted several factors which lead to the failure of the Malaysian graduates to secure employment, and that Malaysian graduates ranked eighth in terms of possessing good communication skills and academic performance. In a previous study done by Bills (2003), it was found that in countries such as the United Kingdom, the United States, New Zealand, Australia and Africa, communication skills are given great importance among all their graduates. The results of this study also indicated that the graduates' performances in ethics and values, critical thinking skills, leadership, decision making, and problem solving skills were regarded by employers as a relatively large skill gap.

Critical Thinking Competence

Thinking is a process towards the construction of knowledge and understanding. It involves human psychological activity. It could solve problems encountered, or in other words, it can resolve conflicts of various thinking skills. Thinking is divided into seven types, namely associative, coaching, critical, reasoning, inductive, deductive and creative. In thinking activities, related areas are cognitive communication, perception, memory and even language. In general, ideas can only be expressed through language. Through the notion of linguistic relativity by Whorf (1956); O'Sullivan et al (1996) stated that language is important

in determining thinking. Meanwhile, Andolina (2001) interpreted critical thinking as a process which included evaluating available resources, arranging them logically, determining their relationship to other or existing resources, considering various situations, and also determining their importance.

Nevertheless, John Dewey who is the father of modern critical thinking, defined "critical thinking through positive, persistent, thorough, or profound thinking closely related to beliefs or forms of knowledge which are unacceptable but are considered from various angles, including the process of judging supporting reasons before drawing conclusions and further action" (Fisher, 2011). Next, Lewis (2012) regarded the skill level of critical thinking propensity which is also considered as various concepts and symbols as stated by Chaffee (2014). He too supported the definition and further elaborated term as presenting critical thinking as a type of active thinking, making purposes and planning to deepen understanding regarding the environment by self-evaluating thoughts and the thoughts of others, making explanations, and also improving one's own understanding.

With regards to the academic context in Malaysia, a study conducted by Ali and Noordin in 2010 evaluated the relationship between critical thinking skills and cumulative grade point average (CGPA) among students enrolled in physics education courses in Universiti Teknologi Malaysia. A total of 109 students in first- and fourth -grade physics education classes participated in the study, including 26 male and 83 female students. The students involved were between 19 and 28 years old. The instrument used was the Watson Glaser Critical Thinking Appraisal (WGCTA-A) and Pearson-r correlation was used for statistical analysis. In addition, Kennedy, Fisher and Ennis (1991) emphasized the consequences of a lecturer's ambiguity to embalm critical thinking among his or her students could trigger confusion in assessing or evaluating good thinking. Studies which examined matters closely related to what was needed to achieve a program which applied critical thinking skills were conducted by past researchers such as (Watson and Glaser, 1980; Jenkins, 1998; Gadzela, 2002).

Methodology

This study included UKM students from various departments such as social science, science, and also engineering field in the Bangi campus. The study population involved were the entire UKM student population. In fact, the number of students in the higher education in Malaysia is 18,000. Therefore, once the study population was known, the researchers applied appropriate sampling techniques and measurement methods. Thus, a total of 534 samples were selected based on a selection of 500 samples exceeding the minimum set (Krejcie & Morgan, 1970).

In addition, this research also built options to cover sub-sectors based on the year of study and field of research. The sample in this study involved respondents among UKM students from all majors and years of study. Once the researcher has identified the study population sampling techniques and sizing methods were implemented. The type of survey used in this study was a cross-sectional survey, which collected information from a sample at a time (Creswell, 2005). Finally, for quantitative data analysis, the researchers used the Statistical Package for Social Sciences Version 23.0.

Data Analysis

Distribution of Mean Competency Score

In terms of the mean competency score, this sub-dimension was divided into two parts which consisted of communication skills with 30 items, and critical thinking and problem solving

skills with 27 items. Table 1 shows the mean value which equals to 4.01 illustrating a high level of competence.

Table 1:
Distribution of mean competency scores

Dimension	Mean	Standard deviation
Competency	4.0114	.41161

Findings of Mean Score and Standard Deviation for Communication Skills

Table 2 presents the distribution of mean scores and standard deviations for Communication Skills. Based on the results of the study, the total score given is μ = 4.164 (sp = 0.457). The results of this analysis also showed that the level of communication skills was also at a high level.

Table 2:
Distribution of mean scores and standard deviations of communication skills

No	Item	Mean	Standard Deviation
	Total value of communication skills	4.164	0.457

Critical Thinking and Problem Solving Skills

Table 3 illustrates the distribution of mean scores and standard deviations for Critical Thinking and Problem Solving Skills. Based on the results of the study, the total score given for the overall for critical thinking and problem solving skills is μ = 3.840 (sp = 0.467). The results of this analysis showed that Critical Thinking and Problem Solving Skills was at a moderate level.

Table 3:
Distribution of mean scores and standard deviations of critical thinking and problem solving skills

No	Item	Mean	Standard Deviation
	Total value of critical thinking and problem solving skills	3.840	0.467

Discussion

Based on the findings, the researchers found that the level of competence among UKM students in terms of communication skills was at a high level. Meanwhile, graduates' critical thinking skills were at a moderate level. This could mean that based on the elements of communication skills, UKM students were found to be able to accept views which were different. Thus, the researchers concluded that UKM students were individuals who always commit towards improving their communication skills and would also strive to give their commitments throughout the learning processes.

In addition, it also meant that most UKM students were aware and prepared to improve their communication skills in order to face the challenges of their future career environment. This statement further supported the study by Shah (2005) whereby higher education students

need to possess good communication skills as preparations for them to face the workplace settings. In fact, this is especially fundamental during interview sessions where employers sought potential employees with good communication skills and performances. Yassin et. al (2010) stated that through the process of education, it is essential that tertiary students and tertiary institutions mould students in the aspects of cultivating good communication skills as well as being important institutions which impart and deliver of knowledge to graduates and professionals.

In addition, the findings of this research also supported the data found by Abdul Rahim and Abd Rahim (2014) which presented that student tend to use communication strategies to solve the problems of giving and receiving information during verbal interaction situations. Similarly, Yassin (2010) opined that communication process is one of the major tasks individuals do, and it is the inevitable tasks which individuals engage in throughout their daily routines and activities.

With regards to the academic contexts in Malaysia, the study findings presented a moderate level for critical thinking skills components. It was observed that although there were students who did not achieve a high level in critical thinking skills, nonetheless, the level of critical thinking skills of the UKM students was seen to be at a moderate level. This is because of the implementation of critical thinking skills in the program syllabus which have begun to be introduced and practiced in the Malaysian learning system. This finding further supported the research done by Rosdi et. al (2018) which looked at the education system in Malaysia. It was found that aspects of students' thinking skills are now increasingly being given utmost attention by the higher learning institutions in Malaysia. Furthermore, via the international perspectives, most institutions of higher learning from abroad have issued directives to include the formal teaching of these critical thinking skills throughout the university curriculum. Essentially, these critical elements and skills are of additional values which the Malaysian students needed to acquire in facing a more challenging future in the 21st century. Significantly, UKM students were found to be able to think and decide the necessary actions to take when faced with problems. In fact, the respondents scored the highest for this item. However, the researchers also found that UKM students were still unable to examine why a problem solution feat failed. Unfortunately, this item reflected the lowest score. This could also mean that students did have awareness towards critical thinking aspects. In addition, the moderate level values signify that UKM students have had a few problems with regards to critical thinking skills. Md Din and Amir (2016) opined that one of the factors which caused students to fail to master critical thinking skills was the lack of attention to thinking skills during the teaching and learning processes. This notion was also supported by Ali (2005) who stated that the factors which influenced critical thinking skills among students could not be easily achieved. The reason for this fact was mainly due to the techniques or methods applied by lecturers in their tertiary classrooms which were deemed as relatively less effective to nurture critical thinking skills.

Conclusion

In conclusion, the importance of communication competence cannot be ignored as communication skills reflected a high value score based on the data findings. Nonetheless, it was observed that critical thinking skills are still at the moderate level among UKM students. This information is significant for tertiary institutions that play a major role to produce skilled and professional human capital to the workforce. Universities need to be aware of the fact that communication and critical thinking skills are deemed as the key determinants for

students once these graduates completed their studies and seek to get jobs in various organisations and industries.

Therefore, universities such as UKM and other higher learning institutions need to ensure that tertiary students are continuously and frequently involved in performing critical thinking tasks such as doing reflective activities. Notably, it also important that activities such as reading, and doing learning behaviours by reviewing are included in learning activities so that students' knowledge, skills and competencies are continuously enhanced and applied throughout their studies in the higher learning institutions.

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References

Aris, A., & Yunus, A. R. (2016). *Siri Latihan Pembangunan Staf: Komunikasi Berkesan.* Retrieved from https://www.researchgate.net/publication/308414649.

Abdul Rahim, N. A., & Abd Rahim, N. (2014). Strategi komunikasi lisan secara formal dalam kalangan pelajar kejuruteraan. *Procedia-Social and Behavioral Sciences*, *134*(2014), 382–388. DOI:10.1016/j.sbspro.2014.04.260.

Ali, E., Che' Rus, R., Haron, M. A., & Hussain, M. A. (2018). *Kebolehpasaran Graduan Pendidikan Teknikal Dan Vokasional: Satu Analisis. Sains Humanika, 10*(3-3). https://doi.org/10.11113/sh.v10n3-3.1510

Ali, M., & Noordin. S. (2006). Tahap penguasaan kemahiran berfikir kritis di kalangan pelajar pendidikan Fizik merentas jantina. *Buletin Persatuan Pendidikan Sains dan Matematik Johor, 15*(1): 1–12. http://eprints.utm.my/id/eprint/3637/.

Ali, M. (2005). Tahap penguasaan kemahiran berfikir kritis di kalangan pelajar pendidikan Fizik di Universiti Teknologi Malaysia [Unpublished Master's Thesis]. Universiti Teknologi Malaysia.

Ali, M., & Noordin, S. (2010). Hubungan antara kemahiran berfikir kritis dengan pencapaian akademik dalam kalangan pelajar Fakulti Pendidikan Universiti Teknologi Malaysia. *Jurnal Teknologi* 52: 45–55. doi:10.11113/jt.v52.136

Andolina, M. (2001). *Critical Thinking for Working Students*. New York: Delmar/Thomson Learning.

Bills, D. B. (2003). Credentials, signals, and screens: Explaining the relationship between schooling and job assignment. *Review of Educational Research*, *73*(4): 441–469. https://doi.org/10.3102/00346543073004441.

Chaffee, J. (2014). *Thinking Critically* (11th ed). New York, NY: Cengage Learning.

Creswell, J. W. (2005). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, NJ: Pearson Education.

Dench, S., Perryman, S., & Giles, L. (1988). *Employers' Perceptions of Key Skills*. Grantham, UK: Grantham Book Services.

Dewey, J. (1930). The quest for certainty: A study of the relation of knowledge and action. *The Journal of Philosophy*, 27(1), 14–25. https://doi.org/10.2307/2014669.

Ducoffe, R. H., & Ducoffe, S. J. (1990). Tips from top advertising executives: Implications for advertising education. *Journal of Marketing Education*, *12*(1), 52–58. https://doi.org/10.1177/105256299001200108.

Ennis, R. H. (1989). Critical thinking and subject specificity: Clarification and needed research. *Educational Researcher 18*(3): 4–10. doi:10.3102/ 0013189X018003004.

Etemi, F. Z. (2011). *Supporting and Developing the Structures for the Quality Assurance at the Private Higher Education Providers*. Kosova: Kosova Accereditation Agency.

Fisher, A. (2011). *Critical Thinking: An Introduction*. Cambridge: Cambridge University Press.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2010). *How to Design and Evaluate Research in Education*. 8th Ed. New York, NY: McGraw-Hill

Gadzella, B. M. (2002). Prediction of GPA with educational psychology grades and critical thinking scores. *Education* 122(3): 618–622.

https://www.researchgate.net/profile/Mustafa-Baloglu/publication/286926564_Prediction_of_GPA_with_educational_psychology_course_grades_and_critical_thinking_skills/links/567023f808ae2b1f87acd3cc/Prediction-of-GPA-with-educational-psychology-course-grades-and-critical-thinking-skills.pdf.

Henry, J. F., & Raymond, S. (1982). *Basic Skills in the U.S. Work Force*. New York: Center for Public Resources.

Hoinville, G., & Jowell, R. (1978). *Survey Research Practice*. London: Heinemann Educational Publishers.

Ibrahim, N. A. N., Mahbob, M. N., & Ahmad, A. L. (2018). Kepentingan komunikasi non-verbal dalam organisasi. *e-Bangi: Journal of Social Sciences and Humanities 15*(5), 107–116.

Jackson, D. (2010). An international profile of industry-relevant competencies and skill gaps in modern graduates. *International Journal of Management Education* 8(3): 29–58. DOI:10.3794/ijme.83.288.

Jenkins, E. K. (1998). The significant role of critical thinking in predicting. *Journal of Education for Business,* 73(5): 274–284. https://doi.org/10.1080/08832329809601644.

Kennedy, M., Fisher, M. B., & Ennis, R. H. (1991). Critical thinking: Literature review and needed research. In Idol, L. & Jones, B.F. (Trans). *Educational Values and Cognitive Instruction: Implications for Reform*, hlm.11–40. Hillsdale, N.J: Erlbaum.

Kerlinger, F. N. (1986). *Foundations of Behavioral Research* (3rd ed.). Holt, Rinehart & Winston: New York.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement* 30(3): 607–610. doi:10.1177/001316447003000308.

Lankard, B. A. (1994). Career education for teen parents ERIC Digest. *Retrieved from* https://www.ericdigests.org/1995-2/teen.htm.

Lewis, V. (2012). The power of critical thinking. Oxford: Oxford University Press.

Mad Shah, I. (2005). *Pengenalan Psikologi Industri dan Organisasi*. Edisi ke-4. Skudai: Penerbit Universiti Teknologi Malaysia.

Yassin, M. S., Lebar, M. S., & Abu Bakar, A. (2010). *Komunikasi dalam Pengajaran dan Kepimpinan Pendidikan*. Kuala Lumpur: Karisma Publications Sdn Bhd.

Mohamed, A., Mohd Isa, F, L., & Shafii. H. (2007). Kemahiran di kalangan graduan sebagai kriteria penting pasaran tenaga kerja: Kajian kes graduan Fakulti Kejuruteraan, UKM. Seminar Pendidikan Kejuruteraan dan Alam Bina 2007.

Makhbul, M. Z., Hasun, M. F., & Abd Latif, M. N (2019). Pengurusan sumber manusia hijau mendepani industri 4.0. *Prosiding 5th International Conference on Management and Muamalah 2018 (ICoMM 2018)*, 159–172. http://conference.kuis.edu.my/icomm/5th/images/e-proceeding/IC-016.pdf.

Makhbul, M. Z., Yussof, I., & Awang, A. H. (2015). Antara realiti dan harapan: Kajian empirikal persepsi majikan terhadap prestasi graduan tempatan. *Geografia*, *11*(10), 27-36. http://journalarticle.ukm.my/9531/.

Rosdi, M. F., Abdul Kadir, S. & Nazri, M. I. (2018). Tahap kemahiran dan kecenderungan pemikiran kritis murid tingkatan dua dalam mata pelajaran kemahiran hidup bersepadu (KHB) di Negeri Kedah dan hubungannya. *Asia Pacific Journal of Educators and Education*, 32: 45–60. doi:10.21315/apjee2017.32.4.

O'Sullivan, T., Rice, J., Rogerson, S., & Saunders, C. (1996). *Successful Group Work*. London: Routledge. https://doi.org/10.4324/9781315041773

Othman, N. M., & Hassan, A. (2019). Elemen kesediaan kerjaya ke arah kebolehpasaran graduan Kolej Vokasional bidang hospitaliti di Malaysia berdasarkan keperluan pensyarah. *Journal of Management and Operation Research, 1*(20): 1–9. https://ecdcpublishing.com/wp-content/uploads/2018/10/JoMOR-2019-VOL-1-NO-20.pdf.

Ramasamy, S. (2011). An analysis of informal reasoning fallacy and critical thinking dispositions among Malaysian undergraduates [Monograph]. Retrieved from http://ur.aeu.edu.my/id/eprint/493.

Vidyullatha, T., Usha, N., & Reddy, K. S. (2016). Fundamental elements of employability skills. *International Journal of Multifaceted and Multilingual Studies*, 3(6), 42–46. https://www.researchgate.net/publication/334273372_Fundamental_Elements_of_Employability_Skills.

Watson, G., & Glaser, E. M. (1980). *Watson-Glaser Critical Thinking Appraisal Manual.* San Antonio: Psychological Corporation.

Whorf, B. L. (1956). *Language, Thought and Reality*. Carroll, J.B. (pnyt.). Cambridge, MA: MIT Press.