MUET English Examination as a Predictor of Academic Achievement for TESL Teacher Trainees at a Public Teacher Education Institution in Malaysia

Nurul Najwa Baharum, Nur Azliyana Abd Kadir, Siti Nur Naquiah Mohd Farid, Nur 'Izzah Mohammad Shuhaimi, Wajihah Abdul Rahim, Abu Bakar Razali & Arshad Abd Samad

Faculty of Educational Studies, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia
Email: najwabaharum96@gmail.com, assakhinah96@gmail.com, nieekye2908@gmail.com, izzahshuhaimi@gmail.com, wajihahrahim@gmail.com, abmr_bakar@upm.edu.my, & arshad.samad@yahoo.com

Abstract

The Malaysian University English Test (MUET) is a standardised university entrance English language proficiency examination in Malaysia and is seen as one of the most important English language proficiency tests used by Malaysian public universities. Due to more international students (who have taken more internationally recognized English language proficiency tests) coming into Malaysian universities, it is important to assess the accuracy of the MUET as a benchmark to indicate the level of English proficiency of Malaysian students being at par with other international English assessment. In this regard, this study is conducted on a group of second year teacher trainees in the B. Ed Teaching English as a Second Language (TESL) program at a public university in Malaysia. A Bivariate Correlation Pearson test was conducted for the overall MUET score together with their CGPA (Cumulative Grade Point Average) to identify important predictors of academic achievement. The study found that the overall MUET scores and CGPA has positive correlation, and that MUET can serve as a predictive of academic achievement. Moreover, from the four components of MUET, only 'Reading' and 'Speaking' components seemed to be the heaviest predictors of students' academic achievement.

Keywords: Academic Achievement, English as a Second Language (ESL), Teacher Trainees

Introduction

English language is the second language and is considered as one of the important languages in Malaysia, next only to the national Malay language. Due to its importance in the plural society of Malaysia, it is regarded as a language that is important to be mastered by all Malaysians especially in securing better education, employment, and even social status. With

regards to Malaysian university students, the mastery of English language is really pivotal in securing a place for bachelor's degree in Malaysian public universities. As such, even after finishing their studies at bachelor's degree level, their proficiency in the English language within their specific fields of study is also seen as very pivotal in portraying their mastery of both the language and content of their studies to be applied in the workforce that is more and more going globalized and international. For instance, according to a research done by Zainuddin, Pillai, Dumanig and Philip (2018), Malaysian employers agree that the Malaysian graduates' ability to converse in the English language does play a major role in their employability. It is said that some Malaysian employers are willing to consider employing candidates with at least average English proficiency as long as they have good communication skills (Ting et al., 2017). In this regard, in the current employment scene in malaysia, Malaysian candidates must have at least average English language proficiency in order to obtain jobs that are according to their expertise. Moreover, English language competency is also crucial in the higher education sector in Malaysia. This is because the English language is widely used as a medium of instruction in most universities in Malaysia (Khalil, 2015). To top it off, it is also the Malaysian Ministry of Education's aim to develop holistic, entrepreneurial and balanced graduates who are able to communicate well. With these, it can be seen that English language is highly used in the workforce as well as in the higher education sector in Malaysia.

The importance of English language competency in the academic contexts has led universities in Malaysia to incorporate English language proficiency requirements into admissions and placement in academic programmes (Othman, 2013). For instance, it has been argued that competency in English is required in Malaysian tertiary institutions as students are expected to have a near-native reading competence in order to read academic reading texts prescribed for the respective disciplines (Ponniah & Tay, 1992) along with other English language proficiency skills, such as writing, listening and speaking. Due to the importance of the mastery of English language among Malaysian tertiary students as well as for future workers, the Malaysian Ministry of Education has devised the Malaysian University English Test (MUET) which is an English language proficiency test that acts as a compulsory entrance examination to be taken by pre-university students for their entry into tertiary education in Malaysia. The Malaysian University English Test or better known as MUET is not only used to measure the English language proficiency of pre-university students but it is also used as an aptitude test for certain disciplines. MUET comprises all the four language skills, namely: listening, speaking, reading and writing skills. It measures and reports candidates' level of proficiency based on an aggregated score range from 0 to 300. The scores correlate with a banding system ranging from Band 1 to Band 6 (Malaysian Examination Council, 2014).

Malaysian University English Test (MUET) and English Proficiency

In Malaysia, MUET is used to measure and acts as a benchmark in determining students' English language proficiency upon entering tertiary education. The comprehension skills are assessed through multiple choice comprehension questions based on listening and reading texts. As for communicative ability, speaking and writing tasks in the MUET examination are designed to elicit students' language output that is assessed according to grammatical accuracy, contextual appropriateness and communicative effectiveness. A student's overall result on all four language components of the MUET often determines the number and nature of English language courses he or she has to attend in the Malaysian university. In most universities in Malaysia, the minimum MUET scores for university entrance is Band 3. However, some universities will require higher scores for programs, such as English

Studies and Teaching English as a Second Language (TESL) as courses in these programs are taught in English and linguistically more demanding. Based on a study done by Rethinasamy and Chuah (2011), they found that there was a relationship between students' MUET score and their performance in English Preparatory class. The results show that students who have higher band ranging from Band 4 to Band 6 performed better in the English Preparatory class compared to those who scored Band 3 and lower. Whereas, students who scored band 3 were discovered to perform better than expected compared to Band 1 and Band 2 students. However, another study that was conducted by Shahner Pawanchik (2006) found that even after taking MUET test, students' proficiency in English are still debatable and it does affect their academic achievement in University. Apart from that, there was a study conducted by asking the examiners' perceptions towards students' English proficiency based on their MUET Speaking Test. The examiners stated that there are limitations of MUET Speaking Test such as they might not assess students' real speaking ability because they need to have prior knowledge on the topic discussed (Sabri et al., 2014). Thus, more studies and research should be done to get a clearer view on MUET and the relationship with students' English proficiency.

Predictive Validity Studies

Predictive validity is important to be done in applied research and often used in program evaluation studies. It is a test constructed and developed for the purpose of predicting some form of behaviour (Allen & Yen, 1979). It indicates the ability of the measuring instrument to differentiate among individuals with reference to a future criterion (Haradhan, 2017). In this regard, tests that are constructed to pick applicants who are most likely to be successful subsequently in their training while rejecting those applicants who are most likely to be failures if given admission (Nwana, 2007).

In view of conducting predictive validity study to examine the association between English proficiency levels and academic achievement, according to Yen, Dorothy and Kuzma, Joanne (2009) few studies have been carried out to do so. To be fair, there are a few common English Tests that are used across the world to compute the level of English of a student. For instance, International English Language Testing Service (IELTS) and Test of English as a Foreign Language (TOEFL). In another instance, a study from Kerstjens and Nevy (2000) investigated 113 international students in an Australian university who did IELTS, they then compared them with their first GPA result. The result revealed a significant relation between the students' GPA result and their IELTS reading and writing test result. However, the listening and speaking scores were not found to be predictive of their academic results. With the studies above being done, and from the review of limited literarure, in regards to the MUET examination, it was found that very few studies have been carried out to study the relationship between the MUET's test scores and the academic results. For example, Abd Samad et al. (2008) studied prediction of the student's CGPA result according to their MUET result. They investigated 52 third year TESL students in a Malaysian university. They concluded that some part of MUET can be a predictor of student's academic achievements. With the same result found by Kerstjens and Nevy (2000), Abd Samad reported that the MUET's reading section represents the most accurate predictor of a student's academic achievement. However, so far only these studies were found to examine the association between English proficiency levels and academic achievement, in particular on the MUET examination in the Malaysian context.

Predicting the Validity of the MUET Examination on TESL Trainee Teachers' Academic Achievement

In Malaysia, English is used and established as the second language, next only to the national Malay language. As such, recently, the Malaysian national English language education policy, the English Language Education Reform in Malaysia: The Roadmap 2015-2025, was launched to help boost the level of English language education in Malaysia to international standards. As one of its aspirations, the roadmap serves as a guide for English language curriculum developers and educators to ascertain that students achieve proficiency levels aligned to international standards, which is benchmarked against the Common European Framework of Reference (CEFR) from schools up to tertiary education and also in teacher training (ELSQC, 2015).

Along these lines, the entire process of English language education in all tertiary educational institutions which award the degree of Bachelor of Teaching that prepare future English language teachers for the teaching profession has to be aligned to international standards of English language proficiency and competencies (ELSQC, 2015), and this alignment includes the use of the MUET examination to indicate the level of English language proficiency of these teacher trainees. The intake of trainee teachers for TESL program is therefore based on the MUET examination that is also aligned with the standardized minimum CEFR proficiency level for the initial process of selection for teacher education programs. Upon graduation, the exit proficiency levels for all TESL trainee teachers must be set at a minimum Band 5 in MUET which equivalent to the C1 level in CEFR, where these trainee teachers need to be proficient at least at Band 5 level in MUET or C1 level of CEFR to be considered worthy to be teaching English as a second language in Malaysian schools (ELSQC, 2015). Mastery of all aspects of the English language is essential for Malaysian English teachers, especially as these trainee teachers will become actual teachers who would teach these English language skills to the Malaysian students in schools. Since they are expected to be English teachers, the MUET would be a prime test for TESL trainee teachers as it supposedly predicts their English language proficiency and academic achievement. As such, this research was conducted to investigate;

1. What is the relationship between English language proficiency as measured by MUET and the TESL trainee teachers' academic achievement as measured by their CGPA?
2. What is the relationship between individual scores on the MUET and the TESL trainee teachers' academic achievement as measured by their CGPA?

Research Methodology

The study was conducted using a quantitative approach which required the gathering of quantifiable data in which statistical, mathematical and computational techniques is used (Bahtia, 2018). More specifically, the researcher conducted predictive validity study as a way to find correlation between English proficiency levels (MUET scores on English reading, writing, speaking and listening skills) of TESL trainee teachers and their academic achievement (CGPA). This research employs probability sampling to ensure that the selection of individuals from the population are representative of the population. The participants for this study are amongst the second year TESL trainee teachers from UPM which were chosen by simple random sampling. Based on the Krejcie and Morgan (1970) table, the sample size required was 32 participants. The data for this study is based on the students' results for their first semester. The demographic information of the respondents was also collected which includes

gender, age, academic background, their cumulative grade point average (CGPA); and scores (band) on MUET examination.

Data analysis is carried out in two stages. The first stage is to analyse their scores on MUET as a whole and their CGPA in the TESL program. Then, the scores of each component of MUET is analysed using descriptive analysis and statistics. The second stage of the analysis is to determine the ability of MUET as a whole and its components to predict academic success as measured by CGPA by using a Bivariate Pearson Correlation test that is calculated using the SPSS. The analysis is carried out to identify important predictors of academic achievement by correlating each of the independent predictor variables with each other as well as with the academic achievement criterion

Results and Findings
Demographic Information

Table 1.1 and 1.2 is the tabulation of data of the participant's demographic information. A total of 32 TESL Trainee Teachers participated in the research. Table 1.1 shows the frequency and percentage of gender in the sample population, which consists of 10 male TESL trainee teachers (31% of respondents) and 22 female TESL Trainee teachers (69% female of respondents). The sample population is not biased towards a particular gender, the number of females were generally more than the number of males undergoing the TESL programme. In the search of participants however, the participation of boys was all taken into account as they were the minority.

Table 1.1:
Number of Male and Female Respondents in the Sample Population

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	31.3	31.3	31.3
	Female	22	68.8	68.8	100.0
	Total	32	100.0	100.0	

Table 1.2 shows the participants' variety of academic background before enrolling into their bachelor degree in TESL. Their academic background ranges from the foundation of TESL, Certificate of Higher Education Malaysia (STPM), Diploma in English studies, and Science Matriculation. It was obtained that a number of 12 students which is 38% of the participants were from Foundation, 13 students which is 41% of the participants did their STPM, 13% with a total of 4 students had undergone their diploma and the minority with a 9% totalling with a number of 3 students were from Matriculation in Science.

Table 1.2:
Academic Background of the Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Foundation in TESL	12	37.5	37.5	37.5
	STPM	13	40.6	40.6	78.1
	Diploma	4	12.5	12.5	90.6
	Matriculation	3	9.4	9.4	100.0
	Total	32	100.0	100.0	

Statistics and Descriptive Analysis of MUET and CGPA scores

Table 2.1 shows the statistics of both their MUET and CGPA scores. The mean score for MUET was 4.13. The maximum score for MUET was band 5 and the minimum score was band 3 with a standard deviation of 0.492. On the other hand, their CGPA for the first semester, 2017/2018 had a standard deviation of 0.163 with an average score of 3.669. The maximum score of their CGPA was 3.900 and the minimum score was 3.220.

Table 2.1:
Analysis of MUET and CGPA scores.

	MUET	CGPA
Mean	4.13	3.66894
Std. Deviation	.492	.162958
Minimum	3	3.220
Maximum	5	3.900

Table 2.2 shows the descriptive analysis of the number of participants falling under the score category of bands 3, 4 and 5 of MUET examination. It can be seen that out of the 32 respondents, only 2 (6%) of the participants scored band 3. A majority of 75% scored band 4 which is a total number of 24 students and a number of 6 students, 19% of the participants scored band 5.

Table 2.2:
Frequency and percentage of MUET band scores

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BAND 3	2	6.3	6.3	6.3
	BAND 4	24	75.0	75.0	81.3
	BAND 5	6	18.8	18.8	100.0
	Total	32	100.0	100.0	

Statistics and Descriptive Analysis of Sub-Components of MUET scores

Table 3.1 shows a descriptive analysis on the MUET sub-component scores. Based on the analysis, it is found that the mean of the reading score is 81.06 with the highest marks of 101 and the lowest mark of 51 out of 120. The second MUET sub-component scores analysed is the writing component with the mean of 61.53 and the highest score of 75 and the lowest score of 43 out of 90. The standard deviations for both sub-components are 11.517 and 6.758 respectively. The descriptive analysis results also shows that the MUET sub-component listening mean score is at 34.75 with maximum score of 44 and lowest score of 25 upon 45. Meanwhile, based on the analysis the mean for speaking score is 29.19 with the maximum score of 40 and lowest score of 18 out of 45. Therefore, the standard deviation for listening is 6.345 and speaking is 4.902.

Table 3.1:
Means and standard deviations achieved on sub-components of MUET scores

	N	Minimum	Maximum	Mean	Std. Deviation
Reading	32	51	101	81.06	11.517
Writing	32	43	75	61.53	6.758
Listening	32	25	44	34.75	6.345
Speaking	32	18	40	29.19	4.902

In attempting to establish MUET as predictor of academic achievement, an analysis on the correlations between MUET and its component scores and CGPA were calculated. Results derived from correlating MUET aggregated band score and sub-component scores with students' CGPA are displayed in Table 3.2. The correlation between overall MUET score and CGPA is: $r=0.401$, $p=<0.01$. The analysis below also indicated that each of the students' MUET component scores has significant correlation with their CGPA ($p<0.01$).

Table 3.2:
Correlations between MUET components and Cumulative Grade Point Average (CGPA)

	CGPA
Listening	0.011
Speaking	0.372*
Reading	0.386*
Writing	0.221
Overall MUET score	0.401*

* Correlation is significant at the 0.05 level (2 tailed)

From the analysis in Table 3.2, the correlation between MUET and CGPA as mentioned above is: r=0.401, p=<0.01. This result thus shows that overall MUET score has significantly high positive correlation with the trainee teachers' CGPA. From this analysis it can be deduced that students with high overall MUET score mostly have high CGPA scores as well. Their high English language proficiency helps them in increasing their academic achievement.

The two highest correlations for MUET components are the correlations between CGPA and Speaking (r= 0.372, p= <0.01) and between CGPA and Reading (r= 0.386), p= <0.01). It can be assumed that the significantly high positive correlation as shown between CGPA and the two particular components are due to the fact that many of the coursework in the field of study heavily emphasize the demand on productive skills, such as speaking in English, as well as receptive skills, which is reading in English. That being the case, it is possible to suggest that there is correlational relationship between MUET and CGPA. Thus, the former may have predictive ability on CGPA achievement. In a study case on predictive validation studies done by Criper and Davis (1998) and Graham (1987), there is a suggestion that a correlation of 0.30 can be considered high given the plethora of factors that may affect the students' academic achievement other than language. Taking into consideration of these limitations, it is safe to conclude that the highly positive correlation and in consideration of the causal nature shown in Table 4, speaking and reading of MUET components can be regarded as a reasonably good predictor of short term performance in ESL education courses, particularly for reading and writing.

Discussion and Conclusion

The aims of this study were to examine the relationship between English language proficiency evaluated by overall component of MUET scores and CGPA as well as to examine the relationship between individual scores of MUET and CGPA of TESL trainee teachers in a public university in Malaysia. The findings reported that overall MUET scores and CGPA has positive correlation, which indicates that the students that scored high in MUET also scored high CGPA. This indicates that MUET is can serve as a predictive of academic achievement moderately by taking into consideration of other factors that may affect academic achievement other than language proficiency. Moreover, all of four components of MUET, which are 'Reading', 'Writing', 'Speaking' and 'Listening', only 'Reading' and 'Speaking' components seemed to be the heaviest predictors of students' academic achievement.

These results are in line with Abd Samad's (2008) findings on prediction of the student's CGPA result according to their MUET result, where he found that reading is the most accurate predictor of a student's academic achievement. In another study by Yen and Kuzma (2009), they found that 'Listening' and 'Reading' scores are the strongest part in significant correlations between students' GPA and IELTS results. Although this study reported a low correlation between 'Listening' and GPA, there is a still a similarity of these findings with Yen and Kuzma's findings where 'Reading' was still the most significant part among the four components. Furthermore, Lee King Siong (2004) stated "the importance of reading for university education is reflected in the weight age given to the reading comprehension component in the MUET: it is 45% of the total marks" (p. 9). He also argued that the potential of reading part in determining the student's academic achievement in future teacher courses should be then investigated.

On the other hand, the second highest component correlate with student's GPA among TESL trainee teachers is Speaking' component. This result however was contradicting with most of the previous study where a large volume of published studies describing 'Speaking' has no relationship with student's academic achievement. For instance, the studies from Kerstjens and Nevy in 2000, in which they investigated the GPA result with the student's IELTS result among 113 international students in Australian University, found that there is a significant relation between the GPA result with 'Reading' and 'Writing' component but 'Speaking' and 'Listening' were not found to be a good predictor of their academic results. In addition, a study by Juliana Othman in 2013 found that 'Speaking' is the least component that correlate with student's GPA with only 0.234 correlations to be compared with Listening correlation with 0.322, Reading 0.327 and Writing 0.276.

In conclusion, the MUET examination can be considered as a good predictor of academic achievement of its takers – especially for the components of English 'Reading' and 'Writing.' The authors believe that the main reason why the 'Reading' and 'Writing' components in the MUET examination can serve as good predictors of academic reading and writing performance is due to the fact that the tasks in these sections in the MUET examination are quite similar to academic reading and writing tasks that are normally conducted in higher education institutions (i.e., expository and analytical reading, as well as critical, academic writing). The nature of these 'Reading' and 'Writing' tasks in the MUET examination mirror the academic reading and writing that undergraduate students engage in their undergraduate and postgraduate studies at higher education institutions, and therefore the MUET 'Reading' and 'Writing' scores can be good predictors for their academic reading and writing performance.

However, not the same can be said about MUET 'Speaking' and 'Listening' sections being good predictors for its takers' academic achievement. The nature of 'Speaking' test in the MUET examination can be argued to be quite prescriptive and performative, in which the conversations within the MUET speaking test is done by taking into account that all participants are required to speak within a short period of time on a topic that are given on the day of the examination. Furthermore, the conversation is being monitored closely by the examiners, which might inhibit the test takers to be able to really argue for or against the topic of discussion, or even profess their thoughts and ideas as clearly or as meaningfully as they wished given the circumstances. Meanwhile, the 'Listening' section in the MUET examination is done in a way where the test-takers are required to listen to audio-recording played by the examiners and they are required to indicate the right answer on the test answer sheet. Both of these 'Speaking' and 'Listening' tasks in the MUET examination (being

prescriptive, performative) do not really mirror the kinds of intellectual, critical and analytical academic speaking and listening activities that are taking place in the higher education institutions. That is why the MUET 'Speaking' and 'Listening' sections are not really good indicators of students' academic speaking and listening performance.

From the results of the study, the authors believe that there are a number of implications, especially for higher education institutions, when admitting or graduating students from their institutions. The authors believe that while higher education institutions can fairly rely on MUET 'Reading' and 'Writing' scores to indicate or predict the academic achievement of their prospective students, they must be wary of the results for the components on 'Speaking' and 'Listening,' as these components of the MUET examination might not be good indicators for their English speaking and listening skills that might affect their academic achievement. These findings are quite important for programmes that focus on students' ability to speak and listen in the English language very heavily, such as Counselling, Education, Journalism, Law, Mass Communication, Psychiatry, and so on and so forth. For these programmes that require their students to constantly engage in academic and non-academic speaking and listening tasks, they might want to rely on other methods of indicating their prospective or current students' English speaking and listening abilities (if these skills are indeed important for their programs), such as through interviews and other types of speaking and listening tasks.

In conducting this research, the researchers have taken note of several limitations that could possibly affect this research. The first limitation would be the number of respondents that were limited. In this research, the researchers were only able to gather around 32 respondents that suited their research sample criteria. As stated by Kelley, Clark, Brown and Sitzia (2003), large number of respondents with rigorous selection helps in gaining more accurate results and it gives better estimation of the population. Next, the researchers were also aware of the fact that there are other factors that can affect respondents' academic achievement other than language proficiency. Other factors, such as motivation, exposure, attitude and others might affect one's academic achievement as well. The researchers recommend that future studies could make a research whether MUET really does its job in assessing students' English language proficiency. So, instead of focusing on the whole semester CGPA, future studies could focus on results of English language subject only that is provided in university.

References

Abd Samad, A., Abd Rahman, S. Z., & Yahya, S. N. (2008). Refining English language tests for University entrance: A Malaysian example. Asian Journal of University Education. Vol 3(1), 57-71

Al-Khalil, E. A. (2017). The Role of English in Present Day Higher Education. International Journal of Social Sciences & Educational Studies, 4(2). https://doi.org/10.23918/ijsses.v4i2sip123

Allen, M. J., & Yen, W. M. (1979). Introduction to Measurement Theory. Monterey, CA: Brooks/Cole Publishing Company.

Bahtia, M. (2018). *Quantitative Research Methods*. Retrieved from Humans of data: https://humansofdata.atlan.com/2018/06/quantitative-research-methods/

Clark, D. (2010). Bloom's taxonomy of learning domains: The three types of learning. Retrieved from http://www.nwlink.com/~donclark/hrd/bloom.html

English Language Standards and Quality Council, Ministry of Education Malaysia. (2015). *English language education reform in Malaysia - The roadmap 2015-2025*. Putrajaya: Ministry of Education Malaysia, Malaysia.

Forehand, M. (2010). Bloom's taxonomy. Emerging perspectives on learning, teaching, and technology. Retrieved from http://projects.coe.uga.edu/epltt/index.php?title=Bloom%27s_Taxonomy

Haradhan, M. (2017). Two Criteria for Good Measurements in Research Validity and Realibility. *Munich Personal RePEc Archive*, 1-32.

Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, *15*(3), 261–266. https://doi.org/10.1093/intqhc/mzg031

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement.*

Lee, K. S. (2004). Exploring the connection between the testing of reading and literacy: The case of the MUET. *GEMA Online Journal of Language Studies, 4*(1), 1-10.

Malaysian Examination Council. (2008). Regulations, Test Specifications, Test Format and. 1–53.

Menon, S. (2017). Use of English at tertiary level. Retrieved 10 22, 2019, from The Star Online: https://www.thestar.com.my/news/education/2017/11/12/use-of-english-at-tertiary-level

Nwana, O. C. (2007). Textbook on Educational Measurement and Evaluation. Owerri: Bomaway Publishers.

Othman, J., & Nordin, A. B. (2013). MUET as a predictor of academic achievement in ESL teacher education. *GEMA Online Journal of Language Studies*, *13*(1), 99–111.

Pappas, E., Pierrakos, O., & Nagel, R. (2012). Using Bloom's Taxonomy to Teach Sustainability in Multiple Contexts. Journal of Cleaner Production. doi: 10.1016/j.jclepro.2012.09.039

Pawanchik, S. (2006). Improving Students' Proficiency In. *The 2006 European College Teaching & Learning Conference*, (pp. 1-6). Penang.

Rethinasamy, S. (2011). The Malaysian University Test (MUET) and its Use for Placement Purposes: A Predictive Validity Study. *Electronic Journal of Foreign Language Teaching*, 234-245.

Sabri, S. T. (2014). A Review of Speaking Component in SPM and MUET. *The International Journal of Humanities and Social Studies*, 261-266.

Stephanie. (2015). *Probability Sampling*. Retrieved from Statistics How to: https://www.statisticshowto.datasciencecentral.com/probability-sampling/

Ting, S. H., Marzuki, E., Chuah, K. M., Misieng, J., & Jerome, C. (2017). Employers' views on the importance of English proficiency and communication skill for employability in Malaysia. *Indonesian Journal of Applied Linguistics*, *7*(2), 315–327.

Yahya, A. A., Toukal, Z., & Osman, A. (2012). Bloom's Taxonomy-Based Classification for Item Bank Questions Using Support Vector Machines. In Modern Advances in Intelligent Systems and Tools (pp. 135-140). Berlin, Germany: Springer.

Zainuddin, S. Z. B., Pillai, S., Dumanig, F. P., & Phillip, A. (2019). English language and graduate employability. *Education and Training*, *61*(1), 79–93.