THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND LANGUAGE LEARNING STRATEGIES AMONG THE STUDENTS OF ENGINEERING TECHNOLOGY

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Abstract
This study aims to find out the relationship between personality traits and language learning strategies among the students of Engineering Technology. The respondents were from semester 2 and semester 3 who enrolled in bachelor programs of Engineering Technology. The respondents were given a set off questionnaire on personality traits and language learning strategies. Big Five Inventory (BFI) was adapted in order to find out the respondents’ personality traits, while Strategy Inventory of Language Learning (SILL) was also adapted to find out their preferred language learning strategies. The finding from this study shows that most of the respondents tend to have dominant personality of agreeableness, while their most preferred language learning strategy is metacognitive learning strategies. In general, there is relationship between personality traits and language learning strategies with medium correlation (r = .42). Hence, this portrays that it is necessary for lecturers to know students’ personality and their preferred language learning strategies as that will ease the process of teaching and learning. Lecturers will have a guide on the type of classroom activities to be organized during their teaching. At the same, this may ease learners to acquire the language better.

Index Terms- Personality traits, language learning strategies, Big Five Inventory (BFI), Strategy Inventory of Language Learning (SILL), Correlation

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INTRODUCTION
Study on personality traits receives attention from various fields and it has been concluded that there were two main reasons behind the increasing attention given to personality traits[4]. First, personality plays an important role in every parts of life[5], [6] including the academic achievement [4] and secondly, developing of personality is a lifelong process which learning at school or university shapes the personality of individual [5]. Personality has taken place since the era of Aristotle when he wrote about the Ethics describing about moral and immoral behaviour[8]. Since then, personality traits have been examined and further, researchers turn to relationship between personality traits and other variables related to learning, and various other fields. However, study on personality traits and learning is still considered limited[9] and in local context, with regards to students of Engineering Technology, it could be considered new as there is limited number of Engineering Technology programs offered locally. Furthermore, there is limited study on personality traits among the late adolescent or young adults. Thus, it is hoped that this study can contribute to the field by providing finding on personality traits among young adults[8].

The definition of personality is still debatable and there is yet any consensus on the definition which the scholars have agreed on. Among the classic definitions of personality was defined as a dynamic organization which consists of physical and psychological that impact individual personality[10]. For Eysenck, personality is generally stable which makes individual consistent in behavior and this is determined by biological processes[11].

As for learning strategies, there are diversities of definitions which each theory approaches from different perspectives. As basis, ‘strategy’ which originated from Greek means ‘command of a general’[12] and[13] state that learning strategies are precise thinking and communication process used by learners in order for them to acquire the language. It shows that learners use cognitive before selecting specific strategies according to the task given to them. Meanwhile, language learning strategies can also be plan or action or even both for learners to take as a way for them to develop their language proficiency[14]. Nevertheless, [15] highlighted the definition which in favor to behavior or specific actions taken in order to solve difficult language task. In addition, [16] believes that learning strategies are set of tactics that people employ to control their learning process. She focused on the action taken by learners in regulating their learning process.

Personality might influence learners in choosing language learning strategies[17] and due to that it is necessary to conduct this study to obtain better understanding on the probability of the relationship between personality traits and language learning strategies. Studies have been conducted on these two variables[18] [19][20][21], with positive results that confirmed the correlation between personality traits and language learning strategies.

[19] looked into the relationship between language learning strategies, mindfulness and personality traits among EFL undergraduates in two universities in Iran. The main instruments were the Big Five Inventory (BFI), Strategy Inventory of Language Learning (SILL) and Mindful Attention Awareness Scale (MAAS), and Structural Equation Model approach was employed in analyzing the data obtained via questionnaire which was translated into Persian language. The finding showed that there is positive correlation between memory and openness and conscientiousness.

Prior to that, [20] studied on the effect of personality traits on use of cognitive English Language Learning Strategies (ELLS) which involved female university students in Iran. Based on the study, it was found that openness and conscientiousness could predict cognitive strategies better among the other domains of personality traits. It seems that this study found the same type of personality of their respective respondents which are openness and conscientiousness. [19] also studied on the relationship between language learning strategies and personality traits among female
In addition, a case study was conducted in India, and conscientiousness personality trait has shown positive connection to memory, metacognitive, cognitive and affective strategies [22]. The facet of conscientiousness such as striving for achievement, self-discipline and deliberation correlated significantly to memory, cognitive, metacognitive and social strategies. In another study, [27] carried out a study with thirty students, twenty-six language instructors, and twenty-two professional language trainers. The results showed that extroverts were in favor of affective and visualization strategies.

[22] has also investigated the relationship between perceptual style preferences, language learning strategies and personality types. From the data analysis, it was found that perceptual style preferences were related significantly to language learning strategies, where female students used more strategies than male counterparts and there was also a positive relationship between personality type and language learning strategies. Among the latest studies on personality traits and language learning strategies was conducted by [23], Their study involved college students which the instruments employed for personality traits was the Manchester Personality Questionnaire Version 14 (MPQ) and Strategy Inventory of Language Learning (SILL) for language learning strategies. Kendall’s Tau-C analysis has shown positive significant relationship between personality traits and language learning strategies, and there are different personality traits and language learning strategies among each year level.

Nevertheless, [24] noticed that their study which involved 553 college students and working adults from Alberta (Canada), Montana, Nebraska, New Mexico, Oklahoma and Texas produced different result. In short, it was found that overall personality type was not related to learning strategy preference. Nonetheless, three of four indicators of personality type show an individual relationship to strategy preference. Although there are individual relationships related to strategy, it cannot be concluded to the group as that is based on individuals. Thus, personality cannot be the determinant to language learning strategies. Besides, [25] encountered the same finding where personality traits do not influence language learning strategies in a study conducted in Hong Kong which involved 100 university students.

In general, there seems to be relationship between personality traits and language learning strategies. However, there are also studies which produced contradictory results as presented above. Hence, this shows that there is still lack of agreement based on the studies conducted on both variables and there is also contradictory of results [26]. For example, some studies show that extrovert is applied by the good language learners, while other studies show that introvert is the best. Since the results have yet to be concluded, it is necessary for this study to look into personality traits and language learning strategies. Furthermore, study on these two variables among second language learners of Engineering Technology in Malaysia is very limited or has yet to be explored. Therefore, the study on personality traits and language learning strategies among second language learners of Engineering Technology is needed to be conducted as to provide an insight of the field.

**RESEARCH METHODOLOGY**

This study focuses on personality traits and language learning strategies among the students at the higher learning institute offering engineering technology programs. This research examined the personality traits of the respondents of engineering technology in order to find out the average personality of them. The questionnaire was employed in order to obtain the data and Big Five Inventory (BFI) was exploited for personality traits, while Strategy Inventory for Language Learning (SILL) was utilized for language learning strategies. The questionnaires have been tested prior to being used for this study. This is to ensure that the respondents are able to comprehend the words used in the questionnaire and eventually provide the sincerest answer.

The study focuses on the students of Engineering Technology at one of private higher learning institutes in Johor Bahru which is Universiti Kuala Lumpur – Malaysian Institute of Industrial Technology (UniKL MITEC). As for this study, it only involved students from the three degree programs which are Bachelor of Engineering Technology (BET) in Quality Engineering, BET in Instrumentation and Control Engineering (BICE), and BET in Facility and Maintenance Engineering (BFaME). The respondents were from semester II and semester III because they were still enrolling in English subjects. The rationale of not selecting the semester I students is they were new to the environment at university and they were still adjusting to the culture of learning at university. At UniKL, English subjects are centralized subjects that are offered in every semester and students have to register and pass the subjects. As centralized subjects, the syllabus and the assessments are all the same across the institutes and programs. The total number of BET student from semester II is 47, which is 32.2 percent from the total population of semester I and the number of semester III student is 99 students. Thus, the total number of students for these two semesters was 146, which represents 49.5 percent from the total population of BET students at UniKL MITEC.

This study employed questionnaire as main instrument to obtain data from the respondents. The questionnaire consists of three different sections, with Section A is respondents’ demographic information, Section B is meant for personality traits, while Section C is for language learning strategies. In detail, adapted Big Five Inventory (BFI) was used for personality traits. BFI consists of 44 questions and each question contains short phrases which should ease the respondents in providing the feedback. It was said that the questionnaire for BFI requires about 5 minutes to be answered by respondents [27]. In total, there are 44 statements in the questionnaire, and for personality traits openness has the greatest number of items which is 10 items. It is followed by agreeableness with nine items, while the other domains consist of eight items for each one. The items in BFI consist of positive and negative statements where the negative statements require reverse score. From 44 items in BFI, 16 items are negative statements, and the balances are positive statements. Table 1 shows the details of positive and negative statements for this questionnaire. Openness personality has the least number of negative statements with only two items as compared to other personality domains. The other domains consist of three to four negative items. On the other hand, openness domain has the most positive items which are eight items, while the other domains consist of four to five positive items only.

| Domain | Positive items | Negative items | Total |
|--------|----------------|----------------|-------|
| Extraversion | 6, 21, 31 | 8 |
| Neuroticism | 9, 24, 34 | 8 |
| Agreeableness | 2, 12, 27, 37 | 9 |
| Openness | 35, 41 | 10 |
| Conscientiousness | 8, 18, 23, 43 | 9 |
| Total | 28 | 16 | 44 |

As for language learning strategies, Strategy Inventory for Language Learning (SILL) version 7.0 by [28] was employed for this
study. This is due to positive feedback such as SILL is the most comprehensive and widely used instrument [34] and also the most influential instrument [35]. It has also been recognized as “the most comprehensive classification of learning strategies” [36]. It has also been proven to be the best among other classification system [36] with adequate indices of reliability and validity [39].

SILL includes six categories of strategies which are memory, cognitive, compensation, metacognitive, affective and social. These six categories are presented in 50 statements, accompanied with five choices. Each category of strategy consists of different number of statements. For direct learning strategies, memory strategy has nine statements which are from question 1 to question 9, cognitive strategy has 14 statements (question 10 to question 23), and compensation strategy has 6 statements only (question 24 to question 29). Likewise, the indirect strategies consist of three strategies and each strategy contains a slight difference of total number of statements. In details, metacognitive has 8 statements (question 30 to question 38), while affective strategy and social strategy each with 6 statements. In order to ensure that the questionnaire provided with the respondents’ first language is reliable for this study, a pilot test was conducted. The pilot test involved 30 respondents at random.

The questionnaire was checked statistically for its Cronbach’s Alpha and it was found that it is ranging from 0.53 to 0.73. From five domains of personality traits, three of them show Cronbach’s Alpha with more than 0.70, while the other two domains are at 0.64 and 0.53. The ideal coefficient scale should be above 0.70 [40]. However, if the questionnaire consists of short scales with less than 10 items, it is common to find low Cronbach’s Alpha [41].

Furthermore, this questionnaire was also provided with students’ first language. Hence, BFI is reliable to be used to assess personality traits of this study.

Due to the same difficulty with BFI which is to understand some items from SILL, and in order to allow respondents to provide the sincerest response, the questionnaire was provided with Bahasa Melayu since respondents’ first language is Bahasa Melayu. The translated version for SILL was adapted from (2014) [39]. The bilingual SILL went through the same process of pilot test to check on its reliability. For this pilot test, 30 respondents involved which 23 of them are male students, and 7 of them are female students.

Based on the pilot test, SILL is reliable to be used. Among the six types of learning strategies, metacognitive has shown the highest Cronbach’s Alpha which is 0.84 with nine items. The least type of learning strategies with low Cronbach’s Alpha is affective strategies with only 0.59. However, there are only six items for this strategy and [38] and [42] mentioned that these items are acceptable due to number of questions. Hence, in total there are 94 questions in the questionnaire and there are three sections.

FINDING AND ANALYSIS
There were 146 respondents involved in the study which consist of students from Bachelor of Engineering Technology (BET) programs from semester II and semester III. There are 97 male respondents which is 66.4 percent and 49 female respondents which equivalent to 33.6 percent. This obviously shows that male students overpowered female students in BET programs with a difference of 32 percent.

A. Personality Traits
There are five traits of personality and they are openness, conscientiousness, extraversion, agreeableness and neuroticism. Based on the finding, agreeableness shows the highest mean (M = 3.64, SD = .43), followed by openness (M = 3.59, SD = .42), and extraversion has the third highest mean (M = 3.55, SD = .45). The least means are neuroticism (M = 3.21, SD = .39) and conscientiousness (M = 3.43, SD = .45). Means for agreeableness, openness and extraversion are categorized as high according to Oxford’s category, while neuroticism and conscientiousness are considered as medium. Besides that, there are small differences between each mean of each domain of personality traits. The mean difference between agreeableness and openness is 0.05 only, while between the mean difference between openness and extraversion is only 0.04.

B. Language Learning Strategies
In details, most of the respondents preferred metacognitive strategies (M = 3.49, SD = .87), followed by cognitive strategies (M = 3.47, SD = .94), compensation strategies (M = 3.41, SD = .97), while the least preferred strategies are affective strategies (M = 3.09, SD = 1.04). Cognitive and compensation strategies are both direct strategies of language learning. All means score for six strategies are at the medium level, and in average, the Mean for language learning strategies is also in a range of medium level of usage.

C. Relationship between Personality Traits and Language Learning Strategies
In general, there is a correlation between personality traits and language learning strategies. Nevertheless, in order to provide better understanding, this section presents the details correlation between domains in personality traits and the groups of language learning strategies. There is correlation between openness and five groups of language learning strategies which are memory strategies, cognitive strategies, compensation strategies, metacognitive strategies and affective strategies. All these five correlations ranging from low to medium strength with the correlation between openness and compensation strategies being the highest (r = .31) and the smallest is correlation between openness and metacognitive strategies (r = .18) and also between openness and affective strategies (r = .10). However, openness does not correlate to social strategies. As for conscientiousness, this domain correlated from low to medium strength to memory strategies (r = .22), cognitive strategies (r = .31), compensation strategies (r = .21) and also to metacognitive (r = .26) and social strategies (r = .17). Memory strategies, cognitive and compensation are categorized as direct learning strategies. Thus, the correlations represent that that learners with dominant personality of conscientiousness have tendency to employ five different types of learning strategies except affective learning strategies. However, conscientiousness personality trait does not correlate to affective strategies.

The next domain which is extraversion is correlated to all six groups of language learning strategies and it is ranging from low to medium strength. For this study, the highest correlation is between extraversion and cognitive language learning strategies (r = .37) while the smallest correlation is between extraversion and compensation strategies. The only negative domain in personality is neuroticism and this domain is related to only affective language learning strategies, while agreeableness is not related to any type of language learning strategies.

One interesting finding of this study is extraversion which is the third highest mean after agreeableness and openness is the only domain correlated to all six types of language learning strategies ranging from r = .18 to r = .34. This is in agreement to other finding which extraverted individuals prefer to involve actively in social activities and also in classroom activities [44] and in addition, extraversion contributed directly to speaking anxiety [45]. This is to show that extraversion has strong positive impact on language learning. Furthermore, in multiple regression analysis, extraversion, agreeableness was one of the predictors for learners to use cognitive strategies, memory strategies and metacognitive strategies. Since extraversion personality is the only domain which correlated to all six language learning strategies, this shows that learners with...
dominant extraversion personality utilize all six language learning strategies more frequent as compared to those who have low extraversion of personality.

The highest correlation value is between extraversion and cognitive strategies \( (r = .34) \), while the smallest correlation for this domain is compensation \( (r = .18) \). Extraversion is the only personality trait correlated to all six groups of language learning strategies ranging from medium range to small range of correlation. The other domain of personality trait is agreeableness and for this domain, it seems that there is no correlation towards any six groups of language learning strategies. As for neuroticism, it correlated to only one group of language learning strategies which is affective strategies \( (r = .17) \) even though the correlation is categorized as small correlation.

As for neuroticism, this domain is correlated to only one group of language learning strategy which is affective strategies \( (r = .17) \), while agreeableness did not correlate to any group of language learning strategies. The correlation between neuroticism and affective strategies in this study is different than the study with Korean undergraduate students which neuroticism is only correlated weakly to metacognitive strategies \( (r = .17) \) \[40\]. With high level of neuroticism, the learners employed affective strategies which they try to relax whenever they feel afraid of using English, self-encouragement, give reward to oneself, they note down when they feel tense, writing down the feeling when they feel nervous and talk to someone about their feeling when learning English.

Based on correlation analysis, openness is correlated to five language learning strategies except social strategies. Openness correlated moderately to cognitive \( (r = .30) \) and compensation \( (r = .31) \), while memory \( (r = .26) \), metacognitive \( (r = .18) \) and affective \( (r = .18) \) are considered weakly correlated. This shows that engineering students who involved in this study with high openness frequently used more of these five learning strategies. From five of the strategies correlated to openness personality, memory, cognitive and compensation are direct learning strategies. These three strategies require mental or thinking process in learning such as making connection between existing information and new information, practicing new words in a sentence, and making pictorial image in mind as to remember new word. However, the other two strategies which are metacognitive and affective are indirect learning strategies.

Openness is correlated weakly to memory strategies which consist of 9 items ranging from number 1 to number 9 in SILL. It portrays that engineering technology students who scored high in openness also always use the strategies such as making relationship between the knowledge that they already have with the new knowledge obtain when learning English, practice new English words in sentences, connecting sound of new word to image or picture, making mental picture, use rhymes to remember new words, use flashcard, physically act out, revision, and remember location of page, on the board or on street sign. Learners with high openness are willing to experience new things \[40\] and they can be considered as adventure learners who will try any strategies out of their comfort zone. In addition to that, in order to be good language user, learners should be open-minded to accept, utilize and evaluate new knowledge such as unfamiliar vocabulary, new rules of target language, and new approach \[40\]. This also shows that students of UniKL with high openness employed creating mental linkages, applying images and sounds, reviewing well and also employing action as these are all the sub-groups of memory strategies.

CONCLUSION

This research work has discovered the most dominant personality traits and the most preferred language learning strategies among the students of engineering technology. Agreeableness is the most dominant personality, and metacognitive is the most preferred language learning strategies. Significant correlations were also found between personality traits and language learning strategies with extraversion personality correlated to all six types of language learning strategies. These findings contribute awareness to lecturers and subject developer to take into consideration of this information because teaching and learning activities should improve students' language performance. All five domains of personality exist in each individual with different dominant level. This illustrates that in every individual, there are other personality which less dominant and with certain combination of personality traits might influence the way they learn language.

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The relationship between personality traits and language learning strategies among the students of engineering technology

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