

EXAMINING ENGLISH AS SECOND LANGUAGE (ESL) ENGINEERING STUDENTS' ATTITUDES TOWARDS WRITING IN ENGLISH

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Abstract – Writing, a productive language skill, is an integral part of language. English as Second Language (ESL) writing is an output process where the words are composed, knowledge and ideas are organized and weaved to put together a meaningful body of text, where English is the second language of the learners. Engineering students, whose learning and training are primarily on concepts and calculations, have been known to not focus on writing skills as much as their core subjects. This has been proven by criticisms by employers and industry players on engineering graduates' communicative written skills. The purpose of this study is to examine engineering students' attitudes towards ESL writing. Through random sampling, 30 engineering students at undergraduate level from a private engineering and technology university in Perak were selected as participants in the survey. The instrument is adapted from Podsen's (1997) writing attitude survey. The study will help to understand engineering students towards ESL writing from their point of view thus help educators to shift any curriculum needed in the effort towards producing engineering graduates with proficient writing skills. Findings found the respondents' attitudes is equally divided into moderate and high, indicating positive attitude.

Keywords – ESL writing, EFL, attitudes, engineering students

I. INTRODUCTION

As one of the outcomes of colonialism by Britain, English has become a dominant language in the world (Rassool, 2013). In Malaysia, a once-colonized, and now a developing country, English is one of the most important languages, and has long been associated with technology, career growth and business. Although Bahasa Malaysia is the official language in Malaysia, English is very widely spoken and used in business, education and governance. Since it is the most spoken language in the world, English is also the language of international business, media and internet. Thus it is highly valued to be proficient in English. The adoption of English as lingua franca in education is a necessity as knowledge and skills are often only accessible through English. In the national higher education, English is the language of instruction. Although a few institutions and disciplines use Bahasa Malaysia, English is generally the sole medium of instruction in science, medicine and in all programmes in private higher institutions. The role of the English language is heightened by the effort to establish more consistency in systems and processes in higher education and further the flexibility of qualifications, of staff and students (Hashim & Leitner, 2014).

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ESL Writing

As an output of language, writing is a way of narrating feelings, thoughts, needs and events using specific symbols in accordance with certain rules (Berk & Ünal, 2017). It helps to expand learners' thoughts, organize their knowledge, practice language, develop their knowledge accumulation and develop their mental dictionaries (Berk & Ünal, 2017). Writing is a process of uncovering as the writers struggle to think, compose and put their ideas together to construct and weave acceptable sentences to create a meaningful, logical, and comprehensible work. It is a fundamental literacy skill that all students need to master to be able to function effectively in school.

Writing in the mother tongue is challenging enough for many students, but as for writing in the second language, difficulty intensifies for the students (Gilmore, 2009). As a result, English as a Second Language (ESL) learners have to amplify their efforts to put their thoughts on paper. In the context of ESL, the lack of writing skills remains a prominent problem even at tertiary level (Nor Aslah Adzmi, 2009).

Writing abilities and academic success is highly related since writing is a basic skill in learning. However, studies have shown that ESL students are apprehensive to writing activity and academic writing. Studies have shown that when students do not enjoy learning the target language, they will perform negatively in the language (Andrade & Williams, 2009; Gregersen & Horwitz, 2002; Tuncay & Uzunboylu, 2010). To write well and to accomplish the best performance in writing, one must have a positive attitude towards the activity.

Eagly & Chaiken (1993) describe attitude as "A psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour". However, in this study, attitude is operationally defined as the learners' perception, understanding and beliefs of ESL writing, as assessed by a questionnaire. Identifying the attitudes of students has significant benefits for language educators, administrative, and researchers to gain better understanding into the process of language learning and teaching. Furthermore, students have different needs, preferences, beliefs, learning styles, and educational backgrounds, and that commanding change upon these factors can cause negative implications (Al Noursi, 2013).

The significance of writing to ESL students has made it essential to distinguish students' writing attitudes so that the correct teaching approach and an integrated curriculum be developed. The term attitude has been defined as "affective feelings of liking or disliking toward an object that have an influence on behaviour" (Kaufman, 1999, p. 50). Students' attitudes are one of the key factors that define their success

in learning. Attitude to the second language, its speakers and the learning context may be some of the factors that determine their success or failure in different aspects of language learning (Candlin & Mercer, 2001). Writing performance can be one of those aspects.

Engineering Education

Engineering is the practical applications of scientific and mathematical principles. Typically, enrolling students are drawn to engineering courses because of the stress on sciences, technology, mathematics and problem-solving. These students may have had success within these areas during school, thus they recognize their interest and competences. Communication skills, and specifically writing skills, are usually felt to be insignificant in these signature engineering skills (Beer and McMurrey (1997: 1). In engineering education, English is the medium of instruction. This is because the education of engineers will train them to work in the global context. Engineering graduates may have opportunities to work internationally, hence they need to be sufficiently proficient in English.

Increased blending of boundaries between disciplines caused by the need to understand phenomenon more comprehensively and new technological innovations has made it more crucial that engineering professionals be able to convey their ideas effectively with other professionals.

Artemeva, et al. (1999) identified the need to enhance language and communication skills, thus proposed at developing a course designed to engineering's specific communication needs and challenges. The researchers instantly recognized that "the first challenge is to recognize that these students usually bring with them a resistance to the notion of engineering as a profession that requires literacy." In 1999, a research survey filled in by the American Society of Mechanical Engineers (ASME) discovered 52 percent of mechanical engineering department chairpersons regarded the written and oral communication skills of their graduates to be solid, whereas only 20 percent considered these skills to be weak. Surprisingly, an equivalent survey of industry representatives found contradictory results, with only 9 percent considering the communication skills of current mechanical engineering graduates to be strong and 52 percent seeing those same skills to be weak (Artemeva et al.,1999).

Numerous studies increasingly recognize that engineering students require language and written communication skills to thrive in the workplace. In spite of that, students' written work products are evidence that the need has not been embodied by them. This may be because writing proficiency in their curriculum is not given as much importance as courses integral to their major. It is possible that the situation also lead to the perception that writing exercises is only necessary for English composition classes.

Located in Perak, there is a tertiary engineering and technology education institute which was established 20 years ago by the national petroleum company, Petronas. Also known for its close collaboration with industries, it is a highly ranked private institution, attracting students locally and internationally in pursuing engineering and technology courses. English is the medium of instruction for all the

courses taught in the campus, and majority of the students are ESL learners.

At the university, students have very little subjects that reinforce writing at undergraduate level. At foundation level, they sit for two English courses – Technical English and Proficiency English. Technical English holds the bigger credit hours compared to Proficiency English. In Technical English is essentially acquiring English language skills in science and technology context, emphasis on writing is currently very limited. On the other hand, for the subject Proficiency English, students are required to practice a limited number of varying formats of essay writing such as expository and argumentative.

When they enrol to undergraduate level, students are required to take Academic Writing, however this course is focused mainly on the formats of writing in academia. Since most of their writing are reports, students in engineering face less demands in writing skills, that, as a consequence their writing skills were little developed. This results in difficulties in writing such expressing ideas and structuring arguments. Being future engineers, these students require communicative writing skills to deal with multiple parties.

Problem Statement

Writing is seen as a challenge for ESL students. In a private engineering and technology university, engineering students at undergraduate level do not get sufficient exposure to curriculum in English writing. As future engineering professionals, they need to be equipped with language and writing skills required by the industry to effectively communicate with multi-parties. However, students may not see the importance of sharpening their communication skills because this need may not have been emphasized to them. Furthermore, most of engineering curriculum is based on the language of mathematics. Students are trained to explore difficult problems in terms of equations and applicable mathematical principles and operations, with answers conveyed numerically.

A study of the learners' attitudes would present a better understanding of the students' situation. The researcher would be able to gain access into the learner's view. Therefore, the purpose of this quantitative study is to examine engineering students' attitude towards ESL writing.

II. LITERATURE REVIEW

There have been many research in the past that claimed positive attitudes and interest towards writing may improve students' skills and performance and lead to academic success and possible career achievements (Sullivan 2006, Wan Hurani Osman and Anna Lynn Abu Bakar, 2009). Hull and Rose (1989) observed that deeper research about the relationship between cognition and writing has resulted in more complexity in the understanding the relationship.

Students' attitude towards writing is a prominent problem that needs to be addressed by writing instructors. More often, many students who are apprehensive in writing dislike to write and do not have a positive attitude towards it. Due to this, they often do not spend a lot of time on their drafts.

Some would rush through it or procrastinate and as a result, produce low quality work.

In a study conducted by Noriah Ismail et al (2007), ESL students who are apprehensive and perform poorly writing often fail to do corrections or revisions and do not seem to take their written assignments seriously. The scarcity of interest and lack of ability to write well have been noted in other studies regarding writing among ESL tertiary students. It is found that many students take their writing tasks lightly. They do not spend much time to reflect on their writing process (Wan Hurani Osman and Anna Lynn Abu Bakar, 2009) and consequently often commit careless mistakes or produce dull and incompetent work. Furthermore, in order to write well, students need to really invest some time on writing (Saadiyah Darus, 2008). Graham (1991) asserts that to master the skill, learners need more than four days of writing practice a week. Furthermore, he also pressed the encouragement of meaningful and purposeful writing activities which could maintain the students' writing enthusiasm active and alive. It is clear that the time students spend to learn writing at the tertiary level is limited.

Moreover, students' lack of attention is evidenced through the essays they submitted. Even after given two and a half hours to complete their essay, they would hand it in after one hour of writing. Subsequently, the essays submitted lack depth in content and are usually full of errors. When questioned, the students' reason for their attitudes are absence of ideas and the urge to leave after seeing many other students leave the exam hall. This negative attitude combined with lack of interest to write well have been reported in other studies regarding writing among tertiary students (Nor Aziah Alias, et al. 2001; Ng Kui Choo 2006; Wan Hurani Osman & Anna Lynn Abu Bakar 2009; Noriah Ismail, et al. 2010; Noriah Ismail, et al, 2012).

Studies on students' perceptions and beliefs has shown that getting to know students' perceptions and beliefs is imperative in developing the right programme to meet their needs. Mazdayasna and Tahririan (2008) observed that Iranian students were conscious of their needs as they indicated that they were very intent to improve their language proficiency in order to perform in their academic. Typically, the students who perceive writing as difficult would dislike the activity (Ismail et al., 2012). There were some factors why the students have negative perception toward writing, namely the lack of time to practice in the class and the ineffective writing course guide and resources to write critically (Ismail et al., 2012). Furthermore, Zhu (2001), who examined ESL graduate students' writing challenges, asserts that the major difficulty the ESL students face are the rhetorical and the linguistics aspects during the completion of the writing tasks.

Lee (2008) claimed that the classroom context may play a vital role on the students' perceptions of teacher's feedback. Students may identify feedback either as an effective or negative indicator of their learning. Studies carried out in the area of students' perceptions and preferences of the kinds of feedback, established that students hold very strong views about the types and amount of feedback offered by their teachers (Ferris, 1995; Montgomery and Baker, 2007).

An action research was conducted by Lievens (2012) aimed to set straight engineering students disinclination towards

viewing writing skills as a core element in the engineering curriculum. While taking the academic writing class, students were required to discover for themselves which communication skills are significant for professional engineers, and to submit their suggestions for the current curriculum in a short research paper. 443 engineering professionals filled out the online questionnaire. The outcome shocked the students: writing tasks represent a very significant amount of their working time and writing skills heavily influence their professions. Majority of the engineers claim to experience difficulties in writing tasks at work. Lievens accomplished the objective which was to influence their attitudes and beliefs in the degree to which an engineering career in the 21st century depends on writing and communication skills. The outcome was that students gained an improved awareness of the importance of writing and communication skills for the engineering profession.

A prominent problem which persists during writing among many ESL students concerns their attitude and habits. For instance, a study conducted on one hundred Diploma students at MARA University of Technology Malaysia (UiTM) taking an ESL General English course discovered that the majority of the students have negative attitudes and do not have much interest in writing especially academic writing. The students are not very interested to write well and often procrastinate their work and turn in poor quality essays (Noriah Ismail et. al. 2010).

III. METHODOLOGY

The research design chosen for this study is quantitative survey method. In education research, surveys are important because they can provide quantitative descriptions of the characteristics, behaviours, and attitudes of students, educators, principals, parents, leaders, and other specific populations. Precise data from a well-made survey can be helpful in guiding effective policy and program decisions in education. A survey can produce quantitative descriptions of the characteristics and attributes of a population. Surveys are suitable data collection tools for many purposes.

The researcher adapted a writing attitude survey by Podsen (1997). The questionnaire is adapted from Podsen (1997)'s Writing Attitude Survey. This 20-item instrument uses a 5-point Likert-like response scale ranging from "Strongly Disagree" to "Strongly Agree," to determine the respondents' attitudes about writing and their perceptions of themselves as writers. Twelve items are positive statements regarding feelings toward writing, whereas eight items are negative statements. The negative items are scored in reverse for consistency when scoring. The range of possible scores is from 20 to 100, with higher scores indicating a more positive and confident attitude toward writing and one's self as a writer. The researcher also added 3 more items regarding their opinions on writing within their current engineering setting. The results are tabulated and analysed systematically.

Using random sampling, 30 students who are taking engineering courses from various branches at undergraduate level participated in the survey. Consisting of 15 male and 5

females, all the participants are in their second year in their degree.

IV. FINDINGS

The result of the students' questionnaire shows that the students' writing attitude level fall in the category of moderate and high based on Podsén (1997) writing attitude questionnaire. High scores indicate positive writing attitude and low apprehension level, and vice versa. Generally, it can be said that the respondents have a positive attitude towards ESL writing.

TABLE 2: ATTITUDE SCORE

Writing Attitude Level	Attitude Scores	N	%
Low Attitude	0-33	0	0%
Moderate Attitude	34- 66	15	50%
High Attitude	67-100	15	50%
Total		30	

Table 2: Attitude score

The minimum score is 20 and the maximum is 100. Based on the respondents' scores on the adapted writing attitude questionnaires, the students can be grouped into two levels which are moderate and high. It can be seen that 15 of the students or 50% are at moderate level with score 34-66 whilst the rest are at high attitude level, which is scored at 67-100. Since some of the statements in the items were negative, they had to be decoded first to calculate the score. It can be seen that the respondents are equal in both high and moderate attitudes.

TABLE 2: PARTICIPANTS' RESPONSES TO POSITIVELY STATED ITEMS

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean
(1) I have no fear of my writing being evaluated	3.3% (1)	36.6% (11)	20% (6)	23.3% (7)	16.6% (5)	3.1
(2) I look forward to writing down my ideas	0.0% (0)	16.6% (5)	26.6% (8)	26.6% (8)	30% (9)	3.7
(3) I would enjoy submitting my writing to magazines for evaluation and publication	13.3% (4)	26.6% (8)	1.0% (3)	36.6% (11)	13.3% (4)	3.1

(4) I like to write my ideas down.	0.0% (0)	6.6% (2)	30% (9)	30% (9)	33.3% (10)	3.9
(5) I feel confident in my ability to express my ideas in writing.	0.0% (0)	6.6% (2)	40% (12)	33.3% (10)	20% (6)	3.6
(6) I like to have my friends read what I have written	6.6% (2)	13.3% (4)	33.3% (10)	33.3% (10)	13.3% (4)	3.3
(7) People seem to enjoy what I write.	0.0% (0)	23.3% (7)	43.3% (13)	30% (9)	13.3% (1)	3.1
(8) I enjoy writing.	6.6% (2)	16.6% (5)	30% (9)	33.3% (10)	13.3% (4)	3.6
(9) I like seeing my thoughts on paper	0.0% (0)	6.6% (2)	26.6% (8)	43.3% (13)	23.3% (7)	3.8
(10) Discussing my writing with others is an enjoyable experience.	0.0% (0)	6.6% (2)	20% (6)	56.6% (17)	16.6% (5)	3.8
(11) Writing is a lot of fun.	6.6% (2)	13.3% (4)	33.3% (10)	30% (9)	16.6% (5)	3.3
(12) It is easy for me to write good letters/ emails	3.3% (1)	13.3% (4)	40% (12)	33.3% (10)	20% (6)	3.6

The table above depicts the positive statements in the questionnaire. It can be seen that the mean for all the 12 items are between 3.1 and 3.9, which is an indication that the respondents are mostly neutral about the statements. It can also indicate uncertainty on their part while giving their answers. The highest percentage is on item 10: 'Discussing my writing with others is an enjoyable experience', where 56.6% of the respondents agreed. 63.3% (A+SA) answered that they would enjoy submitting their writings to magazines and publications. 46.6% (A+SA) of the respondents feel that writing is a lot of fun. 86.6% (A+SA) of the respondents said they enjoyed seeing their thoughts in paper or writing. It is interesting to note that majority of the respondents reveal they are not afraid of their writing being evaluated (39.9% combined percentage of strongly agree and disagree) and 53.3% (A+SA) respondents are confident in their ability to express themselves in writing. The mean scores for all the

positive items fall between 3.1 and 3.9, expressing neutrality of the respondents' view. It can be said that positive, though they do not feel strongly about it because more answered 'agreed' rather than 'strongly agreed'.

TABLE 3: PARTICIPANTS' RESPONSES TO NEGATIVELY STATED ITEMS

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean
(13) I avoid writing whenever possible.	6.6 % (2)	30.0% (9)	36.6% (11)	23.3% (7)	3.3% (1)	2.8
(14) I am afraid of writing when I know it might be evaluated	16.6% (5)	16.6% (5)	1.0% (3)	30% (15)	6.6 % (2)	3.1
(15) My mind seems to go blank when I start writing	1.0% (3)	20% (6)	53.3% (16)	13.3% (4)	3.3% (1)	2.8
(16) Expressing my ideas through writing is a waste of time	6.6 % (2)	36.6% (11)	36.6% (11)	20% (6)	0.0% (0)	2.8
(17) I don't think I write as well as most people	3.3% (1)	30.0% (9)	40% (12)	16.6% (5)	1.0% (3)	3
(18) I'm not a good writer	1.0% (3)	23.3% (7)	40% (12)	16.6% (5)	1.0% (3)	2.9
(19) I'm nervous about my writing	26.6% (8)	16.6% (5)	36.6% (11)	20% (6)	0.0% (0)	2.5
(20) I never seem to be able to write down my ideas clearly	1.0% (3)	23.3% (7)	46.6% (14)	13.3% (4)	6.6 % (2)	2.8

As for the negative statements answered by the respondents, 36.6% (SA+A) expressed fear of writing if they are going to be evaluated. 53.3% respondents were neutral for item (15) 'My mind seems to go blank when I start writing' which refers to mental block whilst writing. For item 17, 'I don't think I write as well as most people' more respondents disagreed than agreed, which indicates the respondents are confident that they write as good as others. The mean value for negative statements range from 2.5 to 3.1 which is from

disagree to neutral. This is a positive sign of their attitudes towards writing.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
(22) I believe English writing skills is crucial for future engineering professionals.	0.0% (0)	0.0% (0)	20.0% (6)	23.3% (7)	56.6% (17)
(23) Communicative writing skill is just as important as core engineering courses for the future.	0.0% (0)	3.3% (1)	26.6% (8)	26.6% (8)	43.3% (13)
(24) I believe we have given adequate exposure and practice to English writing in the curriculum at UTP.	3.3% (1)	3.3% (1)	20.0% (6)	50.0% (15)	26.6% (8)

Table 4 depicts the respondents' opinion on writing skills in the engineering setting. Based on the responses, majority of the participants, 79.9% (SA+A) are of the belief that English writing skills is crucial for future engineering professionals. 69.9% (SA+A) were also in favour that communicative writing skill is just as important as core engineering courses for the future. However, the majority (76.6% =SA+A) are of the opinion that they have been given adequate exposure and practice to English writing in the curriculum at the university. Despite having only one academic writing subject throughout their 4-year degree, they feel it is enough and are confident to venture into the world as engineering professionals.

Even though English is the second language for Malaysians, in the university where the study is conducted, English is used as the official and main language for all courses taught, events conducted and all administrative purpose. The role of Bahasa Malaysia is reduced to only informal conversations in the campus. Thus it can be said that within an English speaking environment, students, in this case engineering students are comfortable and confident in using the language, specifically writing. This can be linked to Vygotsky's sociocultural theory and language learning development, where the sociocultural context is crucial in the process of language development.

To match the purpose of this independent study, which is to examine engineering students' ESL writing attitudes, because the scores is divided equally, it can be said the attitudes of engineering students towards ESL writing range from neutral to positive. Since they do not have much practice and assessment in writing, this may have led to consider their writing proficiency to be acceptable from their point of view.

V. CONCLUSION

Helping to produce well-rounded engineering graduates not only comes from teaching strategies and curriculum shift, but also in attitude study. Based on the results and conclusion, it can be concluded that undergraduate engineering students have a generally positive attitudes towards writing in English even though they also respond neutral to some statements. Positive attitude makes it easier for educators to polish their writing skills towards being engineers with competent communicative writing skills. In a nutshell, the educators involved in engineering education and language teachers have to do more research to perhaps shift their curriculum to integrate more writing skills in core courses.

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