The Impact of HOT Skills on Enhancing Professional Communication Strategies among Malaysian TESL Students

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Abstract: Effective professional communication is required for the university students, particularly studying Education, to achieve their career goals. Perhaps a set of the most important skills for enhancing professional communication strategies among the university students and practitioners are to use Higher Order Thinking skills (HOTs). This research was conducted to investigate the Malaysian students' attitude towards HOTs in their professional communication strategies at two private universities in Malaysia. It tried to analyse the implementation of HOTs to indicate if these skills are able to enhance the university students' professional communication strategies in academic and professional settings. This study involved 54 respondents which consisted of 41 Bachelor of Teaching English as a Second Language (BTESL) students and 13 Diploma of TESL (DTESL) students already done their internship. The research instruments were questionnaire and interview. The researcher-designed questionnaire was distributed through online to all the respondents. Moreover, the interviewees were randomly selected by the researchers. Data were analyzed by using descriptive statistics and a comparative study. Overall, the findings showed that only a few trainee Malaysian BTESL students fell under the category of good background knowledge in HOTs. However, in the comparative study, it surprisingly showed that Malaysian DTESL students had a better understanding of HOTs compared to Malaysian BTESL trainee students. Therefore, it is suggested that HOTs are significant required thinking and creative skills which all Malaysian university students need to obtain during their education in the university level so that they can communicate effectively in this competitive world to achieve their career objectives.

Keywords: Higher Order Thinking Skills, Creativity, Analysis, Evaluation, Communication strategies.

1. INTRODUCTION

Recently, there has been wide interest in enhancing creative and thinking skills among Malaysian university students and their classification into lower order thinking skills (LOTs) and higher order thinking skills (HOTs). Although, the effect of HOTs on students' language skills and academic achievement have been studied extensively in recent years (Michael & Jones, 2015; Chinedu, Kamin & Olabiyi, 2015; Philips, 2004; Venville, Adey, Larkin & Robertson, 2003), there is a scant attention to its impact on enhancing the TESL students' professional communication strategies in their careers and administrative level.

According to Lewis & Smith (1993), HOTs include critical thinking, problem solving, decision making, and creative thinking. These are the major elements required in teaching and administration, either in public organizations or private sectors. Each successful teacher/ lecturer/ or manager needs to gain these skills in order to cover the objectives of his/ her job. As it has been suggested HOTs are concerned with cognition. The cognition here is not only dealt with the ability to think logically, but being able to control the cognitive process to enable one to think critically and creatively when it comes to problem solving in any organization. To achieve the aspiration, there has been significantly a focus on the importance of HOTs. This importance lies on not only in the Education subjects at the university level, but also on other disciplines and their subjects. The successful teachers/ lecturers/ or leaders need to gain the knowledge of thinking process that required analysis, evaluation and synthesis. These skills can be considered as higher order thinking skills. It is very important for each leader to be equipped with the proper technique of HOTs before proceeding his/ her administration in any organization.

Effective communication needs accurate communication skills and attempting to perceive systematically. Communication in various settings with different topics is a complex process. It involves different purposes and varying processes which needs different capabilities. It seems that effective leaders may infer more information from their addressee's discourse and interact with them. In other words, they need to be able to perceive, infer, analyse and create their intended communication purposes. These processes are very close to Bloom's (1956) taxonomy

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for HOTs. It seems to the researchers that teachers and managers are familiar with HOTs can be involved in effective interactions in their administrative settings. Effective communication in the English language is the most significant strategy in educational and administrative settings. HOTs have been extensively studied; however, less attention has been paid to its impact on Malaysian TESL students. To this end, the current research focused on introducing HOTs to the Malaysian students of TESL at the university level and analyzing their perception and attitude towards making use of the skills in their professions.

Therefore, the main objectives of this research are to find out Malaysian TESL students' background and attitude towards HOTs in constructing questions, analyse the participants' perception pertaining of applying HOTs in their communication skills, and investigate the implementation of HOTs in enhancing English professional communication strategies among Malaysian TESL university students. Accordingly, the following research questions are formulated based on our objectives:

1. What is Malaysian TESL students' attitude towards HOTs in constructing questions?

   1.1 Do they have any background knowledge?

2. What is Malaysian TESL students' perception towards the effectiveness of HOTs in enhancing communication strategies?

3. What are the challenges for Malaysian TESL students to implement HOTs in practicing professional communication strategies?

1.1. Review of Related Literature

Back to the origin of HOTs, in 1936, Piaget came out with cognitive development stages. Piaget related age with learning style and gave adulthood as mental picture of being logical, reasoned and understanding of self-reflection and critical thinking. Later on, Jerome Bruner (1960) supported it with a new concept 'Spiral Curriculum'. According to 'Spiral Curriculum', learners can reflect the previous learned topic in new context and new information interface. The HOTs got outstanding value when Bloom's (1956) taxonomy came with the three domains as cognitive, affective and psychomotor. Bloom also introduced HOTs which consist of five level of thinking such as knowledge, comprehension, application, analysis and evaluation. However, in 2001, Bloom's taxonomy got revised by Anderson and Krathwohl (2002) with addition of one more level which is creating (as cited in Anderson *et al*., 2013).

Lewis and Smith (1993) both are wondering whether there is a difference between LOTs and HOTs. According to Newman (1990), in order to differentiate between the two categories of skills, concludes that Lower Order Thinking skills require simple application and routine steps while higher order thinking skills challenge students to interpret, analyze or manipulate information. However, Newman argues that the term higher and lower skills are relative, a specific subject might demand higher skills for a particular student, whereas, another one requires lower skills. Divide thinking skills into two categories will help educators in developing activities that can be done by slow learners before they can move to skills that are more practical.

Malaysian curriculum stresses on developing highly-skilled and knowledgeable individuals which one should acquire critical and creative thinking skills. Although the concept of HOTs was introduced as far back as the 1980s, it has not been fully accomplished in the curriculum of universities and school system. The success of HOTs implementation depends on the level of students' autonomy and interaction (Hillocks, 1986). Lack of pedagogical knowledge among lecturers in innovating their practices by integrating HOTs in their lessons has also been found to be problematic. According to Yee *et al*. (2012), students should be taught to acquire HOTs so that they will be equipped with the thinking skills and they can interact and converse with their addressees effectively. Later when they involve in their careers, they may be able to communicate professionally to achieve their intended objectives.

Frangenheim (2006) constructed a model based on Bloom's taxonomy to promote strategies for pedagogical practices by integrating HOTs which has the thinking skills framework for students. This model helps the lecturers and students of different disciplines in understanding the importance of using HOTs and equip them with creativity and innovative strategies in their professional communication. The students become more engaged in their learning through the implementation of HOTs and they are able to practise their critical and thinking skills effectively through various activities prepared by the lecturers. Results from various studies illustrated that the students' interest and engagement in the classroom impacts on positive learning outcomes which even motivates them to pursue challenging tasks in the classroom environment (Ames, 1992; Kaplan *et al*., 2002).

Yet, Michael and Jones (2015) in their studies analysed the influence of HOTs and lower order thinking skills on the students' academic achievement in the history class. The participants of their research consisted of eleven males and females. The research tool was the teacher-made quizzes to collect the data. There were certain instructions for both the lower and higher order thinking skills based on Bloom's taxonomy. The findings revealed that there was a significant difference between the students' performance instructed by lower and higher order methods. In addition, the results indicated that instructing higher order thinking skills was more informative and constructive for the students in the different disciplines.

Although many researchers have discussed and investigated HOTs broadly, it has been misunderstood. Many researchers and educators considered higher order thinking the same as the complexity of the questions raised or given to the learners. The complexity might be one of the aspects in HOTs, but it is not the only one and it needs for the further research. It should also be stated that there are only few papers paid attention to the impact of HOTs on enhancing the managers' professional communication strategies in their careers and administrative level.

2. METHODOLOGY

For the current study, two type of methods were used to collect the data which were Survey research and Quantitative design. The researchers prepared a questionnaire to collect data from the participants and a few of them were randomly selected for the interview. The quantitative method is used to quantify the collected data through the questionnaire, the data can be transformed into usable descriptive statistics. In this study, we distributed the questionnaire for more than 50 students and 7 of them were randomly picked for the interview session.

Evaluation of the internal consistency of the questionnaire was carried out by calculating the Cronbach Alpha coefficient. The authors consistently assessed the validity and reliability of the questionnaire. This coefficient ranged 0.83, showing that the research instrument is reliable.

2.1. Participants

For this study, 54 participants were selected to be part of this research and they were given the questionnaire to answer. Later on, the researchers randomly selected 7 (based on their interest and availability) out of the total of respondents to conduct the interview session. These 54 participants were from BTESL and DTESL programs at two international universities in Malaysia. They were selected to be a part of this research because they had already done with their internship at primary schools and with the experiences they gained, it definitely provided sufficient amount of accurate data to this study.

2.2. Research Instruments

A set of questions in the questionnaire were designed by the researcher and given to the respondent. This questionnaire is to gather data pertaining their background knowledge on HOTs and perception toward the implementation of Higher order thinking skills in learning Writing skills. Face-to-face interview with the respondent that randomly picked by the researcher was conducted after collecting data with the questionnaire. The purpose to have this interview is to strengthen the data that were given by the respondent while answering the questionnaire. During the interview session, the researcher asked some of the questions that stated in the questionnaire again to the respondent just to make sure that they answer it based on their understanding.

2.3. Data Analysis

The questionnaire is divided into two parts for the researchers to analyze and gather the data. The first part has been considered for answering the first research question: "How much background knowledge of HOTs in constructing questions do trainee teachers have?" Ten questions were constructed for this particular part. The respondents were asked to label the level of bloom's taxonomy for each question or situation. The researchers categorized the respondents according to their score in order to find out their level of understanding of HOTs in constructing questions based on the table below. Table **1** demonstrates the norms.

Table 1: Range of Scores and Scales

Score	Scale
1 - 3	Poor
4 - 5	Average
6 - 7	Good
8 - 10	Excellent

For the second part, the focus is on the second research question, which is "What are the perceptions

Table 2: Respondents from BTESL Programm (Codified Data)

NO	NAMES	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	Total	
												C	W
1	Student 1	1	0	1	0	1	1	1	1	1	0	7	3
2	Student 2	0	1	1	1	0	0	0	0	0	1	4	6
3	Student 3	0	0	0	0	1	0	0	0	0	0	1	9
4	Student 4	0	0	0	1	1	1	0	0	1	0	4	6
5	Student 5	1	1	0	0	1	0	0	1	0	1	5	5
6	Student 6	1	0	0	1	1	0	0	0	0	0	3	7
7	Student 7	0	0	1	1	1	1	0	0	0	1	5	5
8	Student 8	0	0	0	0	0	0	0	1	0	0	1	9
9	Student 9	1	0	0	0	1	0	1	0	1	0	4	6
10	Student 10	0	1	0	1	1	1	0	1	0	1	6	4
11	Student 11	1	1	0	0	0	0	1	0	0	0	3	7
12	Student 12	0	1	0	0	1	1	1	1	1	0	6	4
13	Student 13	0	1	0	0	1	0	1	1	0	0	4	6
14	Student 14	0	0	0	0	0	1	0	0	1	0	2	8
15	Student 15	0	0	0	0	0	0	0	1	1	0	2	8
16	Student 16	1	0	0	1	1	0	0	0	1	0	4	6
17	Student 17	0	1	0	1	1	1	0	1	0	1	6	4
18	Student 18	0	1	0	1	1	1	0	1	0	0	5	5
19	Student 19	1	1	0	0	1	1	1	1	0	0	6	4
20	Student 20	1	1	0	0	1	1	0	1	0	0	5	5
21	Student 21	1	0	0	0	1	0	0	1	0	1	4	6
22	Student 22	1	0	0	1	1	0	0	1	1	0	5	5
23	Student 23	1	0	0	0	1	1	0	1	1	0	5	5
24	Student 24	1	1	0	1	1	1	1	0	0	1	7	3
25	Student 25	1	0	0	0	1	1	0	1	1	1	6	4
26	Student 26	1	0	0	0	0	0	0	0	0	0	1	9
27	Student 27	0	0	0	0	0	0	0	0	1	1	2	8
28	Student 28	1	0	0	1	1	1	1	1	0	1	7	3
29	Student 29	1	0	0	1	1	1	0	0	1	0	5	5
30	Student 30	0	0	0	0	0	0	0	0	0	0	0	10
31	Student 31	0	0	1	0	0	1	1	1	1	0	5	5
32	Student 32	0	0	0	1	1	1	1	1	0	0	5	5
33	Student 33	1	0	0	1	1	0	1	0	1	1	6	4
34	Student 34	0	1	1	0	1	1	1	1	1	0	7	3
35	Student 35	0	1	0	1	1	0	1	1	1	0	6	4
36	Student 36	0	0	0	0	0	0	0	1	0	1	2	8
37	Student 37	0	1	0	0	0	0	1	1	0	0	3	7
38	Student 38	1	1	0	0	1	0	1	1	0	1	6	4
39	Student 39	1	0	1	1	1	0	0	0	1	0	5	5
40	Student 40	0	0	0	0	0	0	0	0	1	0	1	9
41	Student 41	1	0	1	0	1	0	0	1	1	0	5	5
Total (Correct Answers)		20	15	7	16	29	18	15	24	19	13	176	234

Table 3: Respondents from DTESL Program (Codified Data)

NO	NAMES	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	TOTAL	
												C	W
1	Student 1	0	0	1	0	0	1	1	0	0	1	4	6
2	Student 2	1	0	0	0	0	1	1	1	0	0	4	6
3	Student 3	0	0	0	0	1	1	0	0	1	0	3	7
4	Student 4	0	0	1	1	1	0	0	1	1	0	5	5
5	Student 5	0	0	0	1	1	1	1	1	1	0	6	4
6	Student 6	1	0	0	1	1	0	1	1	1	0	6	4
7	Student 7	1	0	1	1	0	1	0	1	1	0	6	4
8	Student 8	0	0	0	0	1	0	0	0	1	0	2	8
9	Student 9	0	0	1	0	1	1	0	1	0	0	4	6
10	Student 10	0	0	1	1	1	0	0	1	0	0	4	6
11	Student 11	0	0	0	0	0	1	0	1	1	0	3	7
12	Student 12	0	0	1	0	0	1	1	0	1	0	4	6
13	Student 13	1	0	0	0	1	1	0	0	1	0	4	6
Total (Correct Answers)		4	0	6	5	8	9	5	8	9	1	55	75

of trainee teachers towards the effectiveness of HOTs in learning writing skills?" Another 10 questions were constructed for this part and it is all rating scale questions where they will choose between strongly disagree, disagree, agree and strongly agree. The researcher eliminated "neutral" from the rating scale in order to get a better and accurate result. The researcher will use pie chart to demonstrate the result as shown below.

3. RESULTS

Tables **2** and **3** indicate the total results of the respondents from the participants of this study, BTESL and DTESL. The 41 respondents from BTESL managed to answer 176 questions correctly while 13 respondents from DTESL managed to answer 55 questions correctly. However, the number of wrong answers are more than correct answers for both groups. Therefore, it proved that the trainee students from both programs in the two universities were not well equipped with the knowledge of Bloom's taxonomy before they proceeded to their internship.

The highest number of wrong answer that most of the BTESL respondents did is question no.3 "Create a mind map with at least 5 main branches and each must have 2 supporting points". 12 of the respondents answered "Creating" and even there are 8 respondents answered "Understanding". It has clearly shows that the word "create" in the questions confused the respondents. For instance, 8 BTESL respondents can't differentiate between LOTs and HOTs.

On the other hand, for DTESL respondents, the question no.2 has the higher number of wrong answer among all the questions. Surprisingly, no respondents were able to answer this question. Question no.2 "Sketch your favourite superhero from any movies." is actually categorised as LOTs, specifically the Application skills. 6 respondents answered "Creating" while another 5 respondent chose "Remembering". Again, the word "sketch" confused the respondents where they think that sketching is considered as creating something new but when it comes to this particular questions, the students are asked to sketch their favourite superhero from any movies, which they are expected to draw something that they remember and understand in term of the colour, shape, story and etc.

Tables **2** and **3** demonstrated the scale for both groups, the BTESL and DTESL respondents based on their individual scores and total scores. For BTESL,

Table 4: Respondents from BTESL Program (Score and Scale)

NO	NAMES	Total		Result
		C	W	
1	Student 1	7	3	Good
2	Student 2	4	6	Average
3	Student 3	1	9	Poor
4	Student 4	4	6	Average
5	Student 5	5	5	Average
6	Student 6	3	7	Poor
7	Student 7	5	5	Average
8	Student 8	1	9	Poor
9	Student 9	4	6	Average
10	Student 10	6	4	Good
11	Student 11	3	7	Poor
12	Student 12	6	4	Good
13	Student 13	4	6	Average
14	Student 14	2	8	Poor
15	Student 15	2	8	Poor
16	Student 16	4	6	Average
17	Student 17	6	4	Good
18	Student 18	5	5	Average
19	Student 19	6	4	Good
20	Student 20	5	5	Average
21	Student 21	4	6	Average
22	Student 22	5	5	Average
23	Student 23	5	5	Average
24	Student 24	7	3	Good
25	Student 25	6	4	Good
26	Student 26	1	9	Poor
27	Student 27	2	8	Poor
28	Student 28	7	3	Good
29	Student 29	5	5	Average
30	Student 30	0	10	Poor
31	Student 31	5	5	Average
32	Student 32	5	5	Average
33	Student 33	6	4	Good
34	Student 34	7	3	Good
35	Student 35	6	4	Good
36	Student 36	2	8	Poor
37	Student 37	3	7	Poor
38	Student 38	6	4	Good
39	Student 39	5	5	Average
40	Student 40	1	9	Poor
41	Student 41	5	5	Average
Total (Correct Answers)		176	234	Average

Table 5: Respondents from BTESL Programm (Score and Scale)

NO	NAMES	TOTAL		Result
		C	W	
1	Student 1	4	6	Average
2	Student 2	4	6	Average
3	Student 3	3	7	Poor
4	Student 4	5	5	Average
5	Student 5	6	4	Good
6	Student 6	6	4	Good
7	Student 7	6	4	Good
8	Student 8	2	8	Poor
9	Student 9	4	6	Average
10	Student 10	4	6	Average
11	Student 11	3	7	Poor
12	Student 12	4	6	Average
13	Student 13	4	6	Average
Total (Correct Answers)		55	75	Average

there are only 11 respondents managed to score between 6-7, 18 respondents with score between 4-5, and 12 respondents with score lower than 3. The overall score for BTESL is average. In contrast, for DTESL respondents, there are 3 respondents scored between 6-7, 8 respondents with score between 4-5, and 3 respondents with score lower than 3. The overall score for DTESL is average. The respondents from both programs only acquired the knowledge of bloom's taxonomy in an average level where actually most of the educators are expected to master the skills of bloom's taxonomy before starting their teaching career.

Table 6: Individual Marking System

Score	Scale
1 - 3	Poor
4 - 5	Average
6 - 7	Good
8 - 10	Excellent

Table 7: Overall Marking System (BTESL)

Score	Scale
41 - 123	Poor
164 - 205	Average
246 - 287	Good
328 - 410	Excellent

Table 8: Overall Marking System (DTESL)

Score	Scale
41 - 123	Poor
164 - 205	Average
246 - 287	Good
328 - 410	Excellent

3.1. THE COMPARATIVE STUDY

In order to make a comparison between both groups of respondents, 13 respondents from BTESL were randomly picked from the website, Stattrek with the help of random number generator. The numbers that were randomly picked are 24, 11, 19, 21, 30, 03, 14, 20, 29, 06, 02, 26 and 27. Exceptionally, DTESL respondents performed better compared to BTESL respondents based on the Table **5** It is clearly stated there that 13 respondents from BTESL group mostly achieved with the poor result while DTESL group only have 3 respondents fall under the "poor result" category. By looking at the total score, BTESL only managed to reach the score of 43 which it is considered as Poor result. However, this outcome is not 100% accurate due to the randomized respondents from BTESL in order to have a balance number between both groups.

Table 9: Comparative Scores between BTESL And DTESL

BACHELOR IN EDUCATION TESL PRORAMME

NO	NAMES	Total		Result
		C	W	
1	Student 24	7	3	Good
2	Student 11	3	7	Poor
3	Student 19	6	4	Good
4	Student 21	4	6	Average
5	Student 30	0	10	Poor
6	Student 3	1	9	Poor
7	Student 14	2	8	Poor
8	Student 20	5	5	Average
9	Student 29	5	5	Average
10	Student 6	3	7	Poor
11	Student 2	4	6	Average
12	Student 26	1	9	Poor
13	Student 27	2	8	Poor
Total (Correct Answers)		43	87	Poor

DIPLOMA IN EDUCATION TESL PRORAMME

NO	NAMES	Total		Result
		C	W	
1	Student 1	4	6	Average
2	Student 2	4	6	Average
3	Student 3	3	7	Poor
4	Student 4	5	5	Average
5	Student 5	6	4	Good
6	Student 6	6	4	Good
7	Student 7	6	4	Good
8	Student 8	2	8	Poor
9	Student 9	4	6	Average
10	Student 10	4	6	Average
11	Student 11	3	7	Poor
12	Student 12	4	6	Average
13	Student 13	4	6	Average
Total (Correct Answers)		55	75	Average

3.2. Perspectives and Challenges

In this part of the results, it will be divided into two categories which are perspective towards HOTs and challenges that trainee teachers encountered when implementing this particular technique in their pedagogical practices.

3.2.1. Perspective towards HOTs

Based on the all figures below (Figures **1-5**), it is obvious that majority of the respondents agreed to implement HOTs in their writing lessons, students can actually learn writing better. According to Figure **1**, 36 of the respondents from both groups agree that they

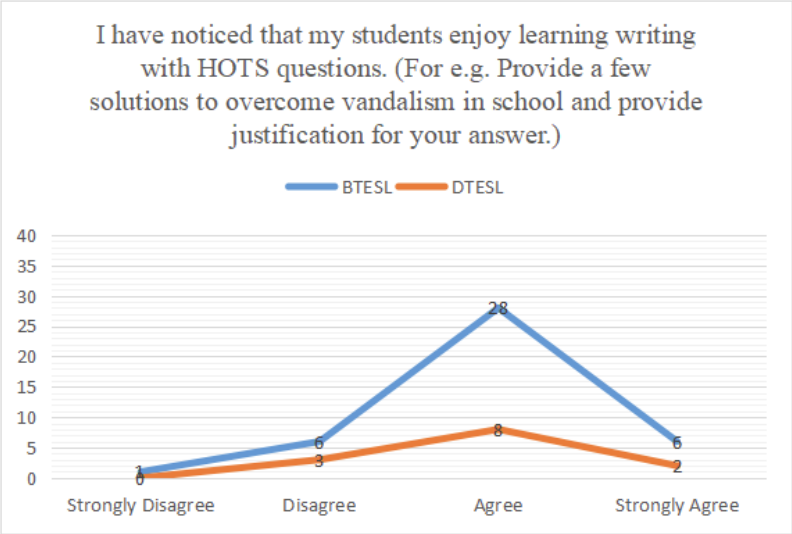

Figure 1: Line chart for Questionnaire Part C, Question 1.

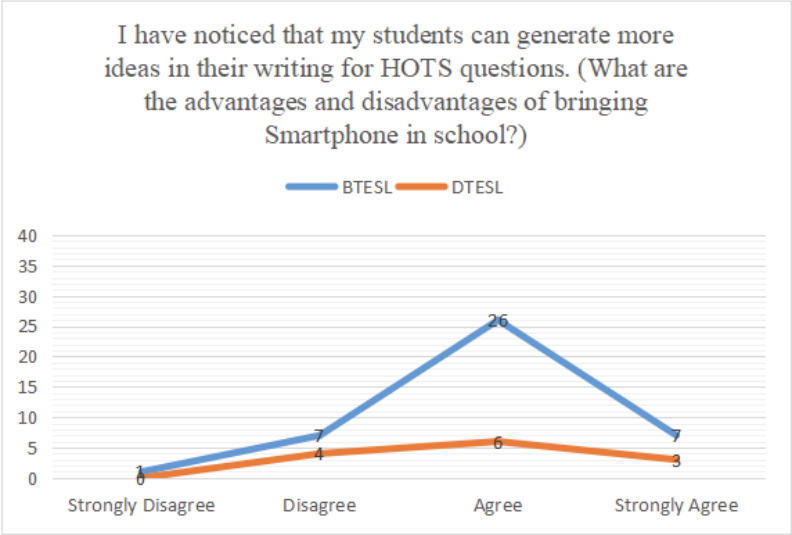

Figure 2: Line chart for Questionnaire Part C, Question 2.

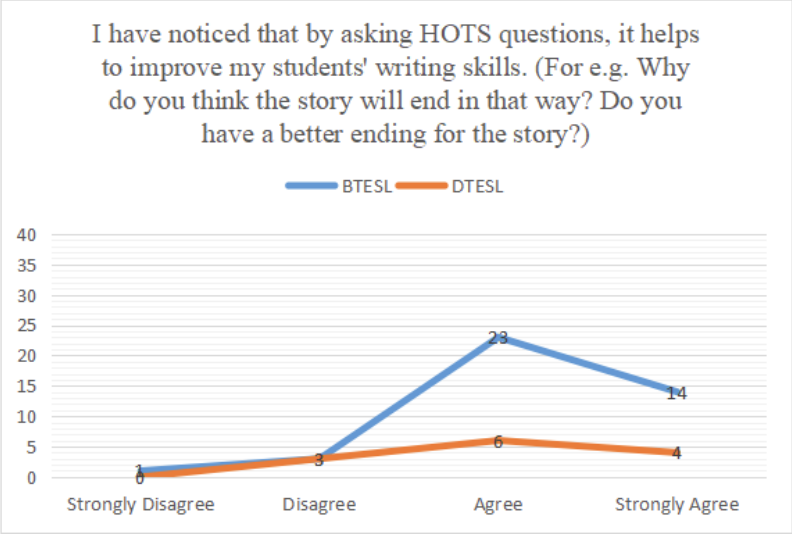

Figure 3: Line chart for Questionnaire Part C, Question 3.

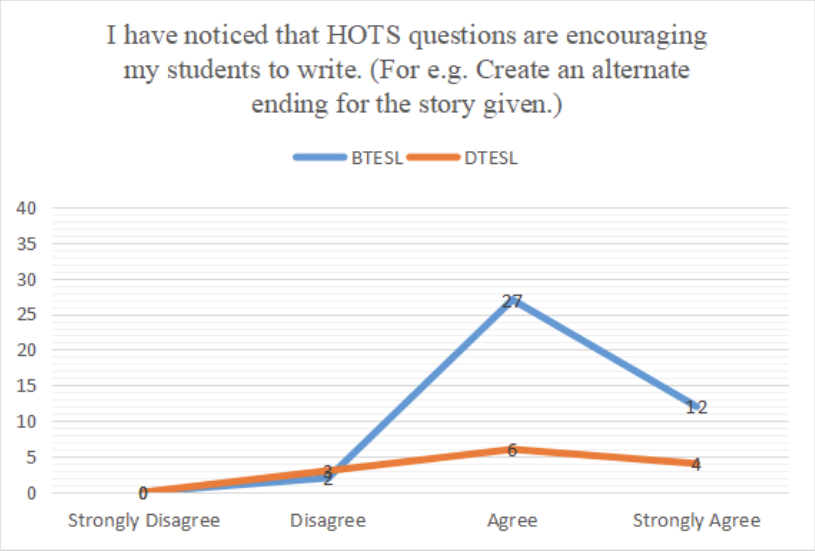

Figure 4: Line chart for Questionnaire Part C, Question 4.

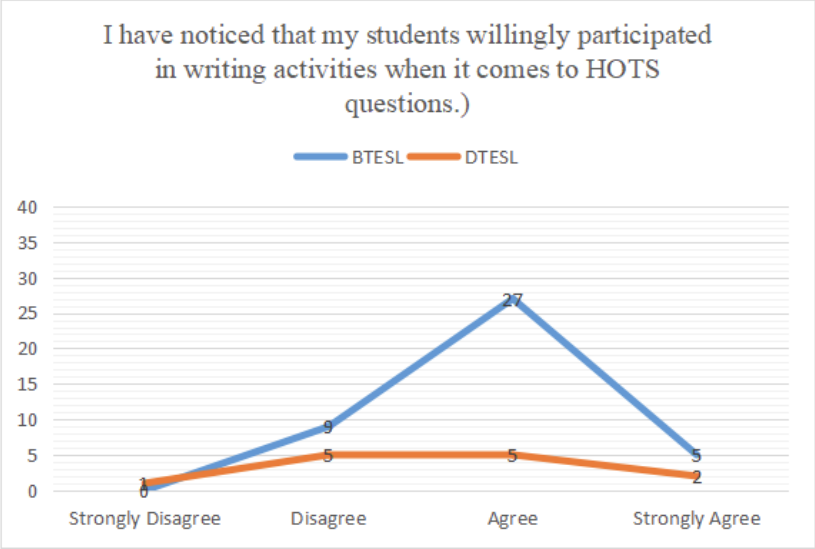

Figure 5: Line chart for Questionnaire Part C, Question 5.

have noticed their students actually enjoy learning writing with HOTs questions compared to LOTs questions. This showed that these 36 trainee teachers believe that by integrating HOTs in their writing lesson, it can actually attract student's interest and motivate them to write in an enjoyable environment. However, there are 18 of the respondents from both groups didn't agree that their students enjoy to learn writing with HOTs questions. During the interview, one of the interviewee mentioned that his/her students have difficulties in generating ideas and this is the reason why this particular trainee teacher didn't implement HOTs questions while teaching them. Besides, another interviewee also mentioned that their students will not participate in writing activities when he/she integrating HOTs questions. He/she believes that HOTs questions actually discourage students to learn. In overall, the result is still considered as positive because most of the respondents showed that they are really confident with the technique itself, their perspective, and their answers. It proves that they all had been applying such technique in their classroom and the significant fact is that the outcome was great.

3.2.2. Challenges in Implementing HOTs

According to Figure **6**, 48 of the respondents from both groups prefer to teach writing with HOTs questions rather than LOTS questions. Surprisingly, there are 6 respondents from both groups do not prefer to teach writing lesson with HOTs questions. This question is to see whether the trainee teachers have a positive or negative view on this particular technique. It

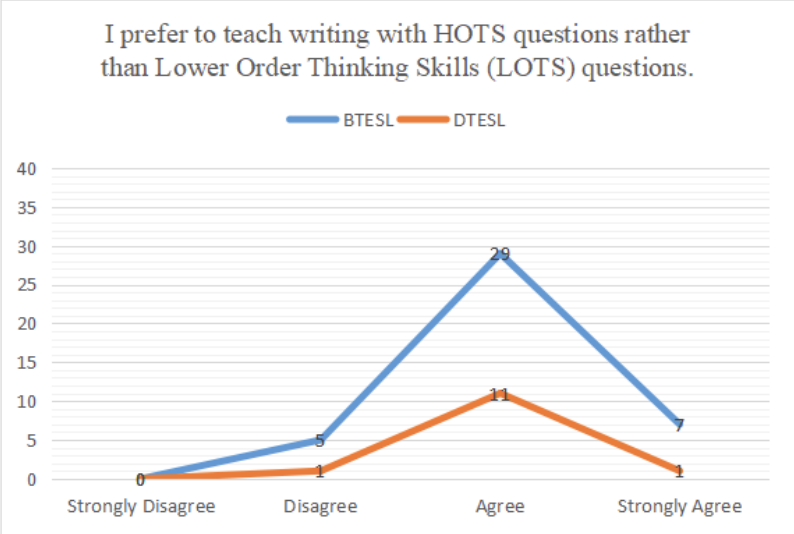

Figure 6: Line chart for Questionnaire Part C, Question 6.

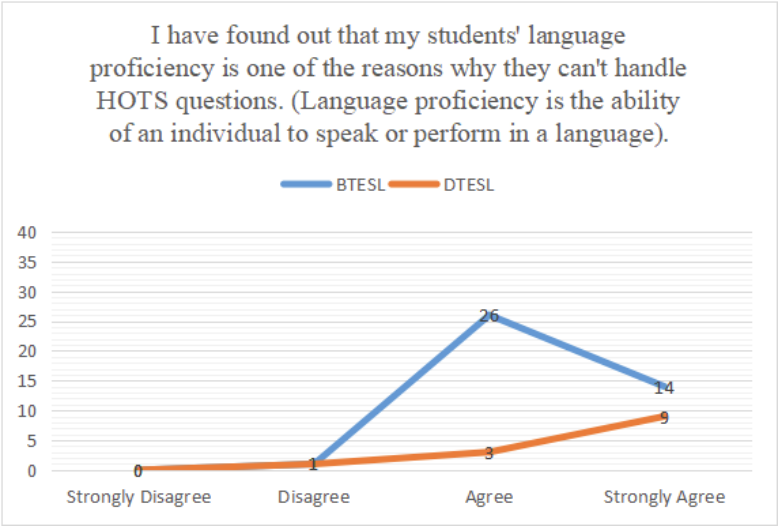

Figure 7: First challenge of HOT SKILLS: Students' Language Proficiency.

was surprisingly noticed that 6 of the respondents didn't agree teaching writing with HOTs questions. One of the respondents mentioned during the interview session that HOTs questions were difficult for students to answers. The interviewee believed that learning should always start from the easiest and move slowly to the difficult question.

As stated in Figure **7**, 52 of the respondents from both groups, BTESL and DTESL agreed that their students' language proficiency level was one of the reasons why they can't handle HOT skills questions while 2 respondents disagreed that students' language proficiency level was the factor that led to issues in handling HOTs skills questions. The word "language proficiency" is referred to the ability of an individual to speak or perform in a particular language. During the interview session, one of the interviewees stated that a lower language proficiency student would have a higher possibility of encountering problems in answering HOTs questions compared to an advanced language proficiency student due to the lack of knowledge in the linguistic area. In term of vocabularies, low language proficiency students would have difficulties in putting their ideas into words and form sentences that people can understand. Furthermore, some of the respondents quoted that the interference between mother tongue and second language also made students have difficulties in answering HOTs questions. Students would tend to directly translate their mother tongue to second language and write based on the translation which it caused confusions to the readers. This problem might lead to a major learning difficulties due to the imprudent way of learning the language.

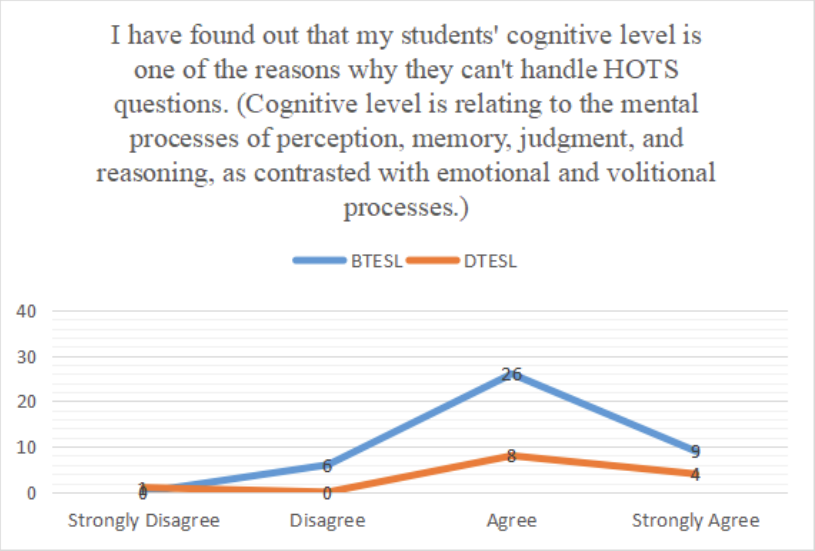

Figure 8: Second challenge of HOTs: Students' Cognitive Level.

As reported in Figure **8**, 47 of the respondents from both groups agree that their students' cognitive level is one of the reason why they can't handle HOT skills questions while 7 of the respondents were disagree on the statement above. Cognitive level is relating to the mental process of perception, memory, judgement and reasoning, as contrasted with emotional and volitional processes. When the researcher had the interview session with the selected respondents, one of them specified that students with lower intelligence quotient will have difficulties to answer HOT skills questions due to their reasoning ability. They will not be able to solve a problem when the questions are beyond their thinking ability. For instance, HOTs questions also required one to think critically and creatively which both are equally important in thinking skills. Students that have a slower mental process will not be able to perform critical and creative thinking at the same time.

Based on Figure **9**, about 37 respondents from both groups agreed that their student's background was one of the reasons why they can't handle HOTs questions whilst 17 of them believed that student's background got nothing to do with HOTs questions. Students' background is referred to their culture, race, religion and etc. In the interview, some of the respondents said that most of their Malay students had difficulties in answering HOTs questions. When these particular trainee teachers tried grouping Malay students with other races, it helped them to understand the HOTs questions better. The answer does not represent as overall due to the most of trainee teachers went to Government Schools (i.e. "Sekolah kebangsaan")

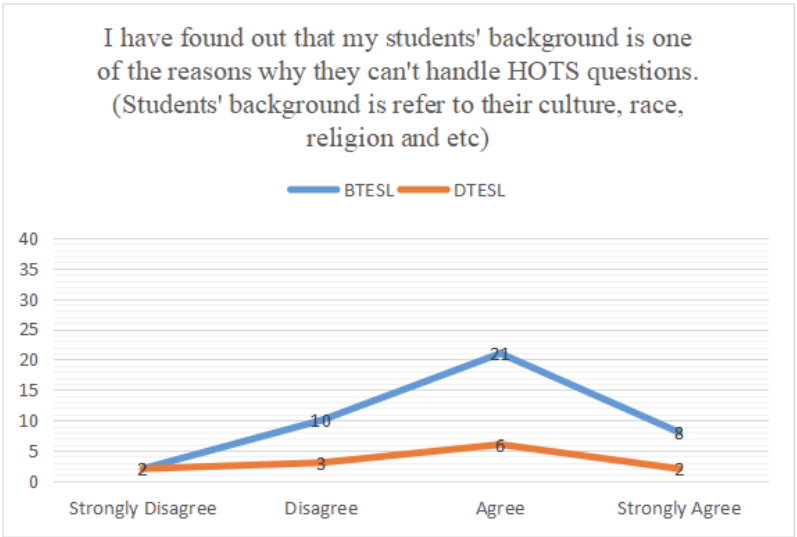

Figure 9: Third challenge of HOTs: Students' Background.

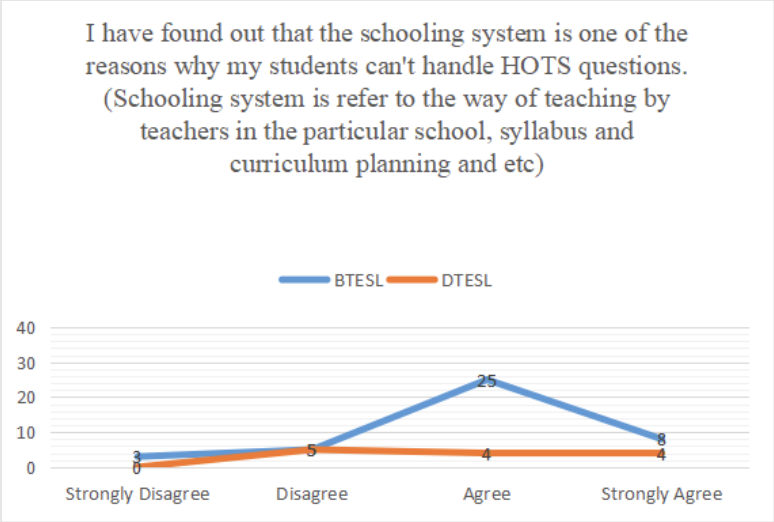

Figure 10: Fourth challenge of HOTs: Schooling System.

during their internship where majority of the students are Malay. Furthermore, one respondent also mentioned that family issues can actually affect the way of students' thinking. He/she believed that parents played an important role in educating their children in terms of way of thinking and life style. "Single parent will have problem in spending time to guide their children", he/she added.

Pursuant to Figure **10**, about 41 respondents from both groups agreed that the school where they went for internship had got its own certain system, its schooling system was one of the reasons why the students can't handle HOTs questions whilst 13 of them from both groups believed that the schooling system had nothing to do with handling HOTs questions. The schooling system referred to the way of teaching by teachers in the school, syllabus, curriculum planning and etc. One of the respondents said that the school he/she went during internship; it focused more on the LOTS because everyone should be treated equally. All in all, the way of teaching should focus on the whole instead of individual. Besides, another respondent mentioned that the trainee teachers were lacking of creativity in creating teaching materials. This actually led students to discouragement level so that they had been on the boring way of teaching by the teachers. Teachers working in the school still applied the traditional way of teaching in classrooms. Furthermore, one of the respondents also stated that the senior teachers didn't agree on the 21st century education. They think that the exam result is all that matters. All these problems actually lead to the deficiency of implementing HOTs in daily classroom because the teachers didn't play as a good role model and have a bad aspect of this particular technique.

4. DISCUSSION

The findings from the questionnaire and interviews presented sufficient amount of data pertaining the research questions as in the Introduction section. In the following sections, the important points in terms of gaining background knowledge of HOTs in constructing questions, the participants' perception about the effectiveness of HOTs, and the challenges of this study were discussed.

4.1. How much Background Knowledge of HOTs in Constructing Questions were Gained by Trainee Teachers?

As reported before (see section 3.1), we can get an overall picture of how much background knowledge of HOT skills that these respondents, also known as trainee teachers acquired. From the result itself, we can see that out of 54 respondents, only 14 respondents fall under the category of GOOD background knowledge of HOT skills. It is surprise that most of the trainee teachers that already done their internship didn't well equipped with this technique before proceeding their internship. It is also shock that in the comparative study, Diploma students that already done their internship have a better background knowledge compared to Degree students. This result implied that those trainee teachers proceeded to bachelor program didn't continue practicing HOT skills in their daily life or for educational purposes. As a matter of fact, HOT skills are rarely taught in bachelor classroom because the faculty assumed that the bachelor students should already mastered it before progress to bachelor.

4.2. What are the Trainee Teachers' Perception Towards the Effectiveness of HOTs in Learning Writing Skills?

Based on the finding, the data showed that most of the trainee teachers have a positive perspective toward the effectiveness of Higher Order Thinking Skills in teaching writing skills for their learners. Although a few of the trainee teachers didn't support well on this technique, in overall it is still conceded as positive feedback from most of them. We can see that mostly are positive feedback by the respondents where they all agree that by integrating feedback into writing lesson can actually benefits their students.

4.3. What are the Challenges for Trainee Teachers to Implement HOTs in Teaching Writing Skills?

As stated before, the results indicated the challenges that most of the respondents encountered in implementing HOTs are as follows: Students' language proficiency, cognitive level, schooling system and students' background. 52 out of 54 respondents voted for Student's language proficiency as the most challenge that they faced while integrating this technique. Especially when it comes to ESL learners, the interference between their mother tongue and second language are affecting the students to form sentences based on their ideas. Most of the respondent believe that one is required to have a better language proficiency in order to answer HOTs questions because thinking the answer is easier then writing it down. From the overall result, it implied that most of the teachers that trying to integrate HOTs into their lesson are facing difficulties due to the list of challenges that required a long duration to solve it.

4.4. Discussion of the Findings

The findings illustrated that most of the trainee Teachers have not been able to learn and apply the techniques of HOT skills in their interaction and communications. Teachers' professional development especially in the field of teaching experience and qualification give an impact on the use of higher order thinking skills in classroom. (Shukla, D. 2016) Trainee teachers should master this particular technique in order to provide good teaching experience incorporating HOT skills in classroom.

The findings from the questionnaire and interviews also indicate that trainee teachers perceived their roles in the writing classroom as follows: they felt that their students are engaged actively in the writing activity when they integrated HOT skills questions, they also believe that by using HOT skills questions can actually help students to generate more ideas. For instance, they see some improvement in their students' writing when applying HOT skills in their writing classroom. The HOT skills lesson also helped to motivate and encourage students to write more and participate actively in the lesson. It proved that the language teachers play an important role to promote HOT skills when it comes to language skills (Dong's 2014).

The respondents in this study felt that HOTs are difficult to implement due to the challenges that they encountered during the writing lesson. According to Soo, Nor Haniza, Rohani & Siti Nuur-ila Mat (2015), some of the teachers are having bad impression towards incorporating thinking skills into English language lesson because they assume that thinking skills are often associated with science and mathematical subjects. They also mentioned that teachers have been found to lack creativity in innovating their lessons. Teachers also are in confusion on how to include higher order thinking skills with the content subject because they are having troubles in explaining about HOTs and ways to access them (Schulz, 2016). The findings proved that although this technique has been introduced in the past decades but educators are still don't see it as important as it should be. They tend to find excuses for not incorporating HOTs in their lessons. The challenges should not become the reasons for educators to promote HOTs to their students.

5. SUGGESTIONS AND CONCLUSIONS

5.1. Suggestions

The authors have provided a few suggestions based on the findings if this project. They are as follows:

1. The researchers suggest that it is better to create an application in the future about Higher Order Thinking skills. This application will design specifically for educators especially young educators. It will provide a detailed information of Higher Order Thinking skills together with keywords, examples, and questions. This application aims to help young educators to acquire HOTs before starting their teaching career. Najah Saud *et al*. (2018, p. 1) highlights that "an interactive digital environment triggers the student's imagination and understanding of the course". The interactive digital environment,

technology acceptance model (Mohd Shukri Ab. Yajid *et al*., 2017), and Mobile Apps help teachers, learners and businessman to gain experience how to use professional strategies in their communications and academic writing. As Azar (2014, p. 1836) emphasizes the future of learning and education is enhanced by mobile learning (M-learning).

2. The researchers suggest that it is better to create a new HOTs framework that will fits into 21st century education and can be easily incorporate into language classroom. A list of task will be suggested based on the level of HOTs and teachers can refer it as a guidebook while planning their lesson.

3. The researchers suggest to add on HOTs subjects into education program especially for language courses such as TESL, TEFL and etc. This is to help the future educator to master the technique, not only understanding the ways of applying it but at the same time, they will know how to access their students based on HOTs.

4. The researchers suggest to make HOTs as a compulsory element for all educational organization such as primary school, secondary school, college and university. Each educator must at least incorporate one or two HOTs questions in their lesson every day and should be written down in a form of lesson plan to make sure the Ministry of Education can keep it on record.

5. The researchers suggest to educate parents and the society with the importance of HOTs. Parents and the society play an important role in the students' life. Parents and society that are well equipped with HOTs knowledge will produce better generation by integrating HOTs in their daily lifestyle. For e.g. Parents can find sometimes to discuss with their children about the current issues.

6. The researchers suggest to have HOTs test before letting any trainee teachers to proceed to their internship. This is to make sure that all the trainee teachers are qualified to carry out lesson incorporating with HOTs.

5.2. Conclusion

In conclusion, although this study was done in a small scale but it provided supportive intuition to the usefulness of implementing HOTs in teaching writing for ESL learners. According to Rajendran (2001), he stated that teachers were confident in teaching the subject but were not ready to incorporate HOTs in their classroom due to lacking of activities that have been introduced to language classroom for HOTs. This research was conducted with the purpose of investigating trainee teachers' attitude towards the implementation of HOTs in teaching writing skills for ESL learners and identifying the challenges in incorporating HOTs in the classroom settings.

Throughout the findings, we were able to find out the real challenges that nowadays teachers facing while integrating HOTs in their language classroom. Besides, the findings also managed to show how much background knowledge of HOTs those respondents acquired. Together with the data that we collected, it will definitely benefit teachers to have a clear picture of implementing HOTs and how to prepare and plan for HOTs activities. It also encourages teachers to have a positive attitude while trying out this particular technique.

From this study, we are positive to tell that implementing HOTs in teaching academic writing and professional communication skills for ESL learners is highly recommended and it is able to improve student's performance in their writing and communication tasks. HOTs should be put as the priority in our education system and all educators should always be in line with the government's long term goal of becoming a developed nation and developing thinking individuals as human capitals for the 21st century.

However, this study is not representing as an overall view of HOTs in language classroom due to the small scale of the research. A further investigation or study in the same topic will surely strengthen the findings and proving that implementing HOTs in enhancing professional communication strategies and teaching writing skills is beneficial for TESL programs.

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