

# Teacher Trainees' Role in Implementing Higher Order Thinking Skills in The ESL Classroom.

Chandra Mohan Vasudeva Panicker<sup>1</sup>, Melor Md. Yunus<sup>2</sup>, Mohamed Amin Embi<sup>3</sup>

<sup>1</sup>Lecturer, Language Department, Institute of Teacher Education, Batu Lintang Campus, Sarawak, Malaysia

<sup>2</sup>Associate Prof., Faculty of Education, National University of Malaysia, Selangor, Malaysia

<sup>3</sup>Professor Dato, Faculty of Education, National University of Malaysia, Selangor, Malaysia

## ABSTRACT

*This study explored how teacher trainees implement higher order thinking skills (HOTS) among their pupils in the ESL classroom during their practicum. The trainees used four different platforms; questioning technique, group activities, individual activities and lesson plans to encourage HOTS with varying results. The participants of this qualitative case study consisted of four teacher trainees who were in their final phase of their practicum. Data were collected through three main instruments; classroom observations, semi-structured interviews and document analysis. Results of this study revealed that (a) a change in the questioning technique cause a change in thinking level of the pupils, (b) group activities made pupils to be active and responded at a higher thinking level, (c) well-planned individual activities encouraged pupils to think at a higher level, and, (d) thinking level was found to be closely related to lesson planning. HOTS in this study was identified based on verbs and the upper levels of Bloom's taxonomy Besides, pupils' proficiency level and teachers attitude also contributed to the findings of this study.*

**Keyword:** - : higher order thinking skills, questioning techniques, group activities, individual activities, bloom's taxonomy, verbs

## 1. INTRODUCTION

The rapid process of globalization and the technological changes are posing new and demanding challenges to individuals and societies alike. All over the world, school systems are rethinking ways to equip students with knowledge and skills to live in this challenging era. Over the decades, the aim of developing and enhancing students' higher order thinking (HOT) has been a major educational goal (Fisher, 1999; Marzano, 1993; Supon, n.d; Zohar & Schwarter, 2005 as cited in Tan and Siti Hajar Halili, 2015). In recent years, education system worldwide has also developed framework on increasing emphasis on thinking skills as one of the 21st century skills. According to Saavedra and Qpfer (2012), there are compelling economic and civic reasons for education system to develop students' 21st century skills. The economic rationale is that computers and machines can cost-effectively do the sorts of jobs that people with only routine knowledge and skills can do, which means that the workplace needs fewer people with only basic skills sets and more people with higher-order thinking skills.

All over the world there are initiative to address the 21st century skills. In Finland one of the new focus on "citizen skills" is thinking skills which includes problem solving and creative thinking meanwhile in United States, the Common Core Standards initiative includes the application of knowledge through higher-order skills. In fact, the teaching of higher-order thinking skills is a hallmark of American education reform. It distinguishes critical thinking skills from low-order learning outcomes, such as those attained by rote memorization (Watson, 2017). In Singapore the education system is now trying to balance knowledge transmission with more explicit attention to 21st century competencies. Besides, leaders from Denver, Hiroshima, New York City, Seattle, Seoul, and Singapore gathered in Shanghai to share their approaches for creating systems that support students with developing the competencies they need to succeed and ideas for strengthening the reach and impact of their work (Russell, 2016)

In Malaysia, both the revised new primary school curriculum (KSSR) and the Malaysia Education Blueprint (2013-2025) have given great emphasis on fostering HOTS in the teaching and learning process. In the Malaysia Education Blueprint 2013-2025 (MEB), it is stated clearly “The emphasis is no longer just on the importance of knowledge, but also on developing higher order thinking skills” p.E6. However, several structural reforms had already been introduced: critical thinking through the Integrated Curriculum for Secondary Schools (KBSM) in 1988, Vision 2020 in 1991 which aspires to establish a scientific and progressive society, the Critical and Creative Thinking Skills (KBKK) in 1996 and Smart school concept in 1997 before the introduction of MEB. All these efforts were to ensure that every child in this country will master a range of important cognitive skills, including higher order thinking skills.

At the teacher training institute, the training and preparation of future teachers is vital and need serious attention. In shift four of the MEB, it is mentioned that the quality of a system cannot exceed the quality of its teachers. (MEB, 2011) As such the quality of the teacher is determined by quality of the lesson; how thoroughly the lesson had been planned and organized, how well the cognitive skills had been incorporated into the activities of the lessons and how efficiently higher order thinking skills had been incorporated in the activities carried out in the classroom to evoke and enhance the students’ thinking skills. To do all these, a teacher needs to think extensively and incorporate higher-order thinking skills in his/her lesson. The incorporation of HOTS in the teaching and learning activities is still insufficient and lacking. A literature survey conducted in relation to HOTS from the year 1993 to 2017 revealed that most studies were focused on thinking skills in general. Though there were some studies related to HOTS, but these studies were not about incorporating HOTS in activities carried out in the ESL classroom. Therefore, this study was relevant and was carried out to address this issue.

The aim of this paper is to investigate the role of teacher trainees in implementing Higher Order Thinking Skills among their pupils in the ESL Classroom.

## **2. LITERATURE REVIEW**

According to Thomas & Thorne (2009), HOT takes thinking to higher levels than restating the facts and requires students to do something with the facts — understand them, infer from them, connect them to other facts and concepts, categorize them, manipulate them, put them together in new or novel ways, and apply them to seek new solutions to new problems.

This study focused on the four-upper level of the bloom’s taxonomy; applying, analysing, evaluating and creating. Though applying is usually considered as part of lower order thinking skills, but in this study this level is taken to be a bridge between LOTS and HOTS. The main reason why the researcher considers this level as a bridge is because the focus of this study is on activities that involve primary school children (aged 9-11 years old) who had very minimal exposed to HOTS activities prior to this study.

Therefore, the implication here is, children can think at both lower and higher level. However, their thinking level cannot be equated to that of an adult. Children thinking is influenced by teacher’s planning, teaching and learning activities and questioning technique in class. In this study, teacher plan and implement activities that has elements of HOTS incorporated in them. Teachers plan activities after considering their pupils’ thinking levels. In this study, the focus is on incorporating HOTS in the activities of the lessons. Therefore, when the participants plan their lesson, they consider the thinking level of their pupils especially pupils with low proficiency level. As mentioned earlier, “application” in this study is taken as higher order thinking skill since most primary school pupils find this level challenging. As stated by Kagan, S (2005) application is considered higher order thinking level. It is important to see the difference in the thinking levels between adults and young children when planning a lesson.

## **3. METHODOLOGY**

This study adapted a case study approach that examined the role of teacher trainees in implementing HOTS in their English language teaching and learning activities in the ESL classroom.

## **4. PARTICIPANTS AND SETTING**

Participants for this qualitative case study was purposefully selected from among the final year teacher trainees who are pursuing a degree in Teaching English as a Second Language (TESL) and who had completed their third phase of teaching practice. The four participants, two males and two females, were selected from three different TESL

classes. The site chosen for the study are SK Sungai Jati dan Sk St. August (pseudonym), Sarawak. These sites were chosen base on three criteria as outlined by Spradley (1980); simplicity, accessibility, and permissibility.

## 5. INSTRUMENTS

There are three main instruments for this study; document, observation field notes and semi structured interviews.

## 6. PROCEDURE

First the researcher asked the teacher trainees to write four lesson plans from any of the language skills. They were required to incorporate elements of HOTS when writing their lesson plans.

Then, all four participants were observed by the researcher and by two other experience lecturers based on their written lesson plans. Only the researcher was allowed to observe the participants by the school authorities. The other two observers observed the recordings of these lesson and filled in the observation forms. The aim was to see the role of teacher trainees in implementing HOTS into activities of their lesson.

Finally, a semi-structured interview was conducted for all the four participants. The researcher posed related questions to validate the respondent's responses and probed further into related areas. Although there were several approaches, the researcher employed a one-on-one interview where the researcher interviewed one participant at a time.

## 7. DATA ANALYSIS

The data collected from the semi-structured interviews, classroom observations and documents were analysed using thematic analysis.

## 8. FINDINGS AND DISCUSSION

The analysis of the data revealed; (a) a change in the questioning technique cause a change in thinking level of the pupils, (b) group activities made pupils to be active and responded at a higher thinking level, (c) well-planned individual activities encouraged pupils to think at a higher level, and, (d) thinking level was found to be closely related to lesson planning.

### 8.1 A Change in the Questioning Technique Cause a Change in Thinking Level of the Pupils

The role of the teacher trainees is vital if HOTS were to be an important part of a lesson. Lesson activities were planned by the them and thus determined how pupils would think and respond. HOTS activities made pupils to be active and involved in the lesson (P1/Interview 1/ 22.6.2016). Asking appropriate question is a key to achieve this, because HOTS questions can also make pupils to think at a higher level before they answer the question (P2/Interview 2/22.6.2016). This again depends whether the teacher trainees tried to guide the pupils to think at a higher level. Clasen and Bonk (1990) as cited in Limbach, and Waugh, (2010) posited that although many strategies exist that can impact student thinking, teacher questions have the greatest impact. They went on to indicate that the level of students' thinking was directly proportional to the level of questions asked. Thus, teacher trainees in this study posed questions that geared the pupils to answer at a higher level. Sometimes pupils were completely lost when they were asked to answer HOTS questions. In this situation, teacher trainees guided the pupils by providing some information (not the required answer) or asked some lower order questions that would help them to respond to the question which was at a higher level. For example, in a lesson where pupils were asked to describe a pet using their own words, initially the pupils found it hard to do so. Then the teacher trainees carried out an activity in which the pupils made a model cat and spoke about it based on a few questions directed to them. The pupils responded to the questions orally. After that the pupils were able to talk about their own cat using their own words. (Classroom Observation/P2/L3/5.4.2016). In this situation, by providing these activities and asking related questions guided the pupils and encouraged them to think at a higher level. Again, the role of the teacher trainees to facilitate the pupils by asking relevant questions was crucial.

Similarly, in a task that involved two activities; sequencing a story and writing a new ending to a given story, the pupils responded as a group to the first activity and individually to the second activity (Classroom Observation/P1/L3/6.4.2016). The teacher trainee incorporated HOTS in these two activities, so for the first activity he placed the pupils in groups and gave them a group task. They were asked to read sentences, think, discuss and sequence the story correctly. This activity involved the process of analyzing the information which was an element of HOTS. In the second activity, the pupils needed to think of a new ending to a story that they have learned in class. This activity was done as an individual activity and it involved creative thinking and the application of HOTS. Once again, the pupils' thinking was challenge and enhanced to go beyond ordinary level by the action of the teacher trainee.

Further proving into this matter produced a better explanation to the reasons given by the teacher trainees during the interviews. By incorporating HOTS, as stated earlier, the teacher trainees were able to create a platform where the pupils' can think beyond the usual level of thinking. In reading comprehension activity for example, if the participants asked questions that requires the pupils to recall answers from their memory, then the elements of HOTS were not present. However, when the teacher trainees improve their questions and questioning techniques to include questions that requires pupils to think and figure out the answer, then they gave the pupils opportunity to think at a higher level. The extract below from two classroom observations show the questions posed by the teacher trainees justified the above-mentioned scenario.

### Reading Comprehension

Topic: Occupation

Year: 3

**Table1-** Classroom observation: P3/Observation 2

Questions	Student's Response	Thinking level of the Question based on Bloom's Taxonomy
1. What is this occupation?	"Doctor teacher" "He is doctor teacher"	Understanding (LOTS)
2. If you were an artist, what will you draw? Why?	"I will draw Superman and Spiderman teacher because .....they are strong, and they are my hero."	Evaluating (HOTS)

### Reading Comprehension

Topic: Invention

Year: 4

**Table2-** Classroom observation: P1/Observation 1

Questions	Student's Response	Thinking level of the Question based on Bloom's Taxonomy
3. Who is this? What did he invent?	"Pua Khein Seng" "Pen drive teacher"	Understanding (LOTS)
4. If you were like Pua Khein Seng, what would you invent and Why?	"I will invent a walking pencil teacher because .....when I want a pencil it will walk to me"	Evaluating (HOTS)

The examples above show the questioning process during reading comprehension lessons in an ESL classroom. Typically, a teacher would read aloud the text (usually in a primary classroom) for the pupils to hear the pronunciation. Later, the teacher would ask the pupils to read the text either individually or as a whole class. The reading would either be silent reading or reading aloud. This is followed by explanation the meaning of the difficult words found in the text. Then, to assess the pupils' understanding, the teacher would ask questions related to the text. Most of the time, the questions asked were LOTS questions since the answers were found in the text. In this study, based on the classroom observations, the teacher trainees did read the text, ask their pupils to read and did

explain the meaning of the difficult words. However, their WH questions, included HOTS questions because they wanted their pupils to think at a higher level (Int/P1/L136-138, P2/L197-203, P3/L201-203 & P4/L227-234).

In example one, “What is this occupation? (teacher trainee showing a picture of a doctor extracted from the text). The pupil response was very straight forward; “Doctor, teacher”. When the teacher asks for a complete sentence, the pupil responded: “He is a doctor, teacher” The question was a direct LOTS question which was at the second lowest level of Bloom’s taxonomy; Understanding. The pupils needed to understand the picture he saw and respond. It could even come from his memory of the lesson. However, to improve pupils thinking and to elevate to a higher level, the teacher trainee asked a more challenging question that required the pupils in the class to think beyond the LOTS level. The teacher trainee asked; “If you were an artist, what will you draw? Why would you draw that picture? The answer to this question is not found in the text but its related to occupation, which is the topic of the lesson. To answer these two parts questions, the pupils took some time to think before responding. One pupils responded, “I will draw Superman and Spiderman.” When the teacher trainee asked “Why?” the pupil responded; “because they are strong, and they are my hero.” These questions made the pupil to evaluate his own ability if he was an artist and what he would draw before responding. Evaluating is at second highest level in Bloom’s taxonomy.

In the second example, the teacher trainee asked a LOTS question first; “Who is he? and “What did he invent?” (showing a picture of an inventor from the text that they have read). One of the pupils responded; “Pua Khein Seng” and to next question; “Pen drive, teacher” Both these questions were at the Understanding level in Bloom’s taxonomy. The response was also at LOTS level. However, later the teacher trainee asked a HOTS question; “If you were like Pua Khein Seng, what would you invent and why? This again was a question at Evaluating level in Bloom’s taxonomy. The pupil that responded to this question, evaluated himself as the inventor; “I will invent a walking pencil, teacher” The reason given was; “When I want a pencil, it will walk to me” The response given by this pupil was at HOTS level.

The explanation above justified that a change in the type of questions asked, changed the responses given by the pupils, from mere understanding to higher order. Question 1 and 3 required the pupils to give a straight forward answer like responding based on the picture shown. However, question 2 and 4 made them to think beyond, they did not answer immediately but they had to think about the answer first before responding because these questions were not straight forward questions. Therefore, the type of question and the questioning technique have a significant impact on the responses given by the pupils.

## **8.2 Group Activities Made Pupils to be Active and Responded at a Higher Thinking Level,**

To develop pupils’ participation and thinking skills, the activities carried out by the teacher trainees must be engaging. Lesson activities were planned by them and thus determined how pupils would think and respond. HOTS activities made pupils to be active and involved in the lesson (P1/Interview 1/ 22.6.2016) For example, in an activity where the pupils were asked to imagine to be an inventor and state what they would invent? The pupils thought about the question, did some discussion and came up with some creative ideas (‘flying car”, “walking pencil”, ‘talking dictionary”) (Classroom Observation/P1/L1/ 14.3.2016) Thus, the teacher trainee’s initiative to ask HOTS questions had triggered these responses and the questions were an important part of the activity.

One way to get pupils engaged in activities is by conducting group activity. Group activity is an effective way to encourage collaborative learning. One reason why HOTS was incorporated into group activities was to create a platform for the pupils to give opinions or to express their views concerning a matter in the lesson (P3/Interview 3/22.6.2016). If group activities were well organized by the teacher trainees and include the elements of HOTS, then that would give opportunities to pupils to participate and express their opinions and views. For example, in a group activity where pupils were asked to discuss about occupations, they were supplied with four questions and four pictures. Two questions were straight forward questions while the other two were questions required the pupils to give their opinions (Classroom Observation/P3/L2/22.3.2016). The giving opinion questions would encourage pupils to exercise their thinking skills as they needed to.

HOTS was also incorporated in the teaching and learning activities to encourage pupils to think critically, not just obtain answers from the text (P2/Interview 2/ 22.6.2016). In the context of this study, thinking critically means to think above the level of remembering and understanding. In fact, it is higher than the level of applying. In

a group activity for example, pupils were asked to read eight sentence strips and were asked to classify the information into three main categories. It was a grammar lesson and the grammar items were possessive pronouns. The pupils needed to analyze all the sentences, identify the possessive pronouns, classify them and place them under the correct categories as activity that required them to work together to resolve the problem. (Classroom Observation/ P2/L4/11.4.2016).

Another reason for incorporating HOTS was to help pupils to think individually and as a group (P1/Interview 1/22.6.2016). Thinking individually or as a group can be an ordinary matter in an ESL classroom but thinking at a higher level is what matters here. Some activity required pupils to think on their own and respond individually while others required the pupils to brainstorm and discuss in their groups before responding to a particular question posed by the teacher. Whether it would be an individual respond or group respond depends on the task and the teacher who execute the task. However, the pupils needed to be engaged in the activities to resolve them.

### **8.3 Well-Planned Individual Activities Encouraged Pupils to Think at a Higher Level**

Activities are a major part of any lesson especially in the primary classroom. One way to integrate HOTS in the lesson is through the activities that are carried out. In this study the trainee teachers integrated HOTS in the lesson that they planned. A typical lesson usually will have between four to six activities. However not all the activities have the elements of HOTS. The average is between one to two activities. The types of activities also vary from as simple as question and answer session to creating posters and mini books. In view of this scenario, the role of the teacher trainees is very important in making their lessons effective. Their knowledge of HOTS, their planning, and their ability to incorporate this knowledge in the activities that they carried out made all the difference.

The integration of HOTS in the lessons was seen through the verbs and the levels of bloom's taxonomy as applied in the activities and how these enhanced, encouraged and created opportunities for pupils to think at a higher level. The use of verbs like opinion, construct, identify, classify, create, apply, produce, interview, reorganize, and give ideas and the four upper levels of bloom's taxonomy; applying, analyzing, evaluating and creating in all the eight observations reflect the incorporation of HOTS in these lessons. As said earlier an effective lesson should enhance, encourage and create opportunities for pupils to think at a higher level. Therefore, an activity like creating a poster, conducted by the teacher trainee can be an ordinary activity if the teacher asks the pupils to fill in blanks of a ready-made poster or copy and draw a poster from the whiteboard. No HOTS were involved, mere remembering of facts and copying. However, in this lesson (CO/P1/L2/23.3.2016) the teacher incorporated HOTS and made the lesson effective by asking the pupils to create their own posters based on the knowledge that they have obtained and write information related to the posters. This encourage and create opportunity for the pupils to use their knowledge and creativity to produce the poster.

Similarly, an activity like listening and completing a text can be at the lower level of Bloom's taxonomy if the teacher just asks pupils to listen to a text and fill in the blanks. The teacher trainee improved this lesson by introducing 'Bubble-map' (CO/P2/L3/5.4.2016). First, the participant allowed pupils to listen to a text about pets and tick the correct answers. Then, she gave them eight sentence strips about tigers and cats. In their groups, the pupils were asked to paste the correct sentences in a bubble map. To do this they have to read the sentences, categorize the sentences before pasting them in the bubble map. This involved thinking and sorting sentences which is rather challenging for the primary school pupils. Therefore, a teacher can transform an activity that was initially focus on LOTS to HOTS by adding an additional task that would challenge the pupils and give them opportunity to think at a higher level. A lesson need not be completely HOTS, it can have both LOTS and HOTS activities like the example above.

Another common HOTS integrated activity in an ESL classroom is questions and answers. This activity is usually carried out after a reading comprehension task. The teacher trainees can incorporate HOTS in this activity by introducing HOTS questions. The teacher trainee had done this in his question and answer activity (CO/P3/L1/14.3.2016). He asked two questions at the end of the lesson, one question required pupils to give a Yes/No answer while the second question required the pupils to answer a 'Why' question. This question encouraged pupils to think and sort out their answer in the head before answering it. It was a question that ask for their opinion. Thus, the effectiveness of the lesson had been enhanced by incorporating the elements of HOTS.

In fact, an interesting and creative activity like creating a shape poem can make a lesson effective. Most teachers taught poem by asking pupils to recite the poem and discussing the meaning of difficult words and phrases. This approach would only allow pupils to remember facts and recall them, it is at the lower level of Bloom's taxonomy. However, teacher can introduce activity like shape poem which can enhance the level of thinking to the upper level of Bloom's taxonomy. The teacher trainee made her lesson effective by introducing shape poem in her ESL classroom (CO/P4/L1/17.3.2016). Besides reciting the poem, she made the pupils to construct sentences related to a picture (superhero) which they drew and write the sentences around the shape of the picture. Two action verbs related to HOTS were involved; create and construct. The pupils studied the picture that they had drawn and thought of suitable sentences. Then they constructed the sentences and wrote them around the shape of their pictures.

The incorporation of HOTS can also be seen in the four lessons planned by each of the participant. The participants had incorporated HOTS in all the lesson that they planned to make them effective lessons. This means that the incorporation of HOTS had contributed positively to the lessons. The participants had introduced activities like bubble map, shape poem, mind map, question and answer, predicting, writing email, making a modal laptop, double bubble map, interview, writing postcards, compare and write, sequencing, rewriting, creating a scrapbook, and mentor-mentee in their lessons. These activities focused on actions verbs like construct, create, identify, give opinion, compare and contrast, organize, interview and construct and sequence. All these action verbs are related to the four upper levels of Bloom's taxonomy. Therefore, teacher trainees' incorporation of HOTS through the various activities had contributed to the lesson in more than one way. The contributions can be seen from the effectiveness of the lesson. As said earlier effective refers to how the activities had enhanced, encouraged and created opportunities for pupils to think at a higher level in the classroom.

Teacher trainees incorporated elements of HOTS in their lessons based on the verbs and the upper levels of Bloom's taxonomy. The elements of HOTS were integrated in the activities in this lesson. Each participant wrote four lesson plans each. Participant 1 planned seven activities which incorporated HOTS; three were at applying level, another three at creating level and one activity at evaluating level. Meanwhile, participant 2 planned five activities that incorporated HOTS, one at creating level, two at analyzing level, another two at applying level and one at creating level. Participant 3 on the other hand planned seven HOTS activities of which three were at analyzing level, three more at evaluating level and one at applying level and finally participant 4 planned five HOTS activities, two at creating level, two more at evaluating level and only one at applying

These HOTS activities were planned and carried out to encourage pupils to think at a higher level, to activate pupils' participation and involvement in the lesson. It is the teacher trainees' planning and their effort to incorporate HOTS in the lesson that brought forth lessons which enhance pupils' thinking and participation.

#### **8.4 Thinking Level was Found to be Closely Related to Lesson Planning**

Asking question is a good technique to engage pupils and to sustain active learning. Asking question form part of any lesson because it invites the pupils to think and to present a respond. The level of teachers' question asked is considered as what determines the level of students' thinking as it was claimed that the former is directly proportional to the later (Clasen 1990, Savage 1998, Seker & Komur 2008 as cited in Lee (2015) As such questioning technique was vital and employed in ESL classroom in this study. Therefore, teacher trainees asked HOTS questions in the ESL classroom and got pupils to think and participate. Teacher trainees incorporated HOTS by planning and designing activities that made the pupils actively involved. Research had indicated that almost 40% of classroom time is spent in a question -response mode, Johnson, Markle, & Haley-Oliphant, (1987) as cited in Mehmet Arslan, (2004) However, according to Ornstein, 1987, only lower cognitive level questions were practiced by the teachers. In this study, the questions asked by the teacher trainees were questions that needed thinking on the part of the pupils. They were not lower cognitive level questions. For example, during the classroom observation, the teacher trainees asked the following question;

“Why do we have to help our neighbors?”	(Classroom Observation P1/L1/17.3.2016)
“What can you do to show that you love your friends?”	(Classroom Observation P2/L1/17.3.2016)
“What will happen if there were no firefighters?”	(Classroom Observation P2/L2/24.3.2016)
“If you were an artist, what will you draw? Why?”	(Classroom Observation P3/L2/22.3.2016)
“Why do you write a wish note?”	(Classroom Observation P4/L4/08.4.2016)

These were not direct questions, so the pupils had to think before responding. As stated earlier in this discussion, the role of the teacher trainees is important. By asking “why and opinion questions, they were able to make their pupils to think and respond at a higher level. There is a close connection between the questions asked and the type of responses given by the pupils. The responses given by the pupils required reasoning, expressing opinion, extended thinking which generated higher level responses.

In the lesson plan, teacher trainees included questions in different parts of the lesson plan. Generally, the parts can be divided into three; the pre-teaching, while-teaching and the post-teaching part. The analysis of the sixteen lesson plans showed almost all the HOTS question were in the while-teaching part (refer Table 4.2) which also carried the most activities. These questions produced high level responses from the pupils as portrayed in Table 4.3 below. Higher level responses here mean, responses that were not simply derived from a given text or given immediately but responses that made the pupils think and figure out the answer. At the Pre-Teaching stage, all the question asked were LOTS questions and at the Post-Teaching Teaching stage, some questions were LOTS questions.

**Table 3-HOTS questions from different parts of the lesson plans**

None		
	➤ What do you think will happen to the turtle?	➤ How can we conserve the sea?
	➤ If you were Mr. Tan, what would you invent? Why?	➤ Do you think inventions are good? Why?
	➤ Why it has a hard shell?	➤ Where do you like to go for a holiday? Why?
	➤ Why do you like to sing in a concert?	➤ Why must we take care of sea creatures?
	➤ How is the pencil case different from a colour pencil box?	➤ What do you think will happen if there are no rules?

to be continued...

..continuation

- Why do you think the King killed the eagle?
- What do you think will happen to the King?
- What do you think is the ending of this story?
- Do you like the story? Why?
- Why do you think the gingerbread man stopped running?

- If you were a fisherman, what will you use? Why?
  - Why is a fishing net better than a 'bubu'?
  - If you were given a choice, which animal would you like to keep as your pet? Why?
  - What could had happened if the woodcutter did not go to the house?
  - Why should you follow rules?
- Did you like this story? Why?

**Table 4-Examples of high level responses**

Questions	Responses
1. What do you think will happen to the turtle?	The turtle will have no food to eat and it will die.
2. If you were Mr. Tan, what would you invent? Why?	I will invent a walking pencil because when I want the pencil, it will walk to me.
3. How is the pencil case different from a colour pencil box?	The pencil case is for keeping pencils, pen and eraser but the colour pencil box is for keeping colour pencils.
4. What do you think is the ending of this story?	I think the monster will escape and live in another island.

Developing pupils' participation and thinking skills is vital and the role played by the trainee teachers is undeniably necessary. Planning HOTS lesson with activities that are incorporated with the elements of HOTS and asking such HOTS questions during these activities are equally important. These teacher trainees want to see their pupils thinking and responding at a higher level which is in line with the nation's aspiration to gauge pupils' cognitive performance as stipulated in the Executive summary of the Malaysian Education Blueprint (2013-2025, pg. E-6).

## 9. CONCLUSION

Therefore, the reasons why teacher trainees incorporated HOTS in the ESL classroom points strongly to what they wanted to achieve in their pupils through this action. Based on the responses given by the teacher trainees during the interviews, there is a desire for them to incorporate HOTS in their classroom. What triggered them to act is the unresolved weaknesses that they saw in their pupils during their earlier practicum phases. Most pupils were unable to thinking at a higher level and participated actively in the activities that were carried out. This was partially due to low level questions used in the classroom and activities that hardly integrate the elements of HOTS. This situation motivated the them to take the initiative to incorporate HOTS in their lessons during their final practicum phase.

They improved the questions that they asked the pupils in the classroom, from totally lower order to partially higher order. The questions were not totally higher order because they realized that, such action would have been too challenging for primary school pupils. They needed to bridge the HOTS questions to the LOTS ones. This made the pupils to think more and think beyond the usual level. The trainees improve the activities that they conduct in the ESL classroom, from group activities that required minimum interaction with their classmates to active interactions with others through group activities. From individual activities that required remembering and recalling

of facts to task that made them apply, analyze and evaluate information and even creating learning materials. This process made to be engaged in the activities that they were involved in.

Besides, the teacher trainees help pupils to improve the level of their responses by guided them by asking lower order questions that led to higher order ones. They not only wanted their pupils to think beyond the usual level and be actively involved, they also wanted them to respond at a higher level. The responses made by the pupils were influence by the questions asked and activities carried out by the teacher trainees. The whole process of incorporating HOTS revolve around the elements of HOTS that were integrated in the activities carried out by the trainees in their ESL classroom.

## 10. REFERENCES

- Kagan, Spencer. 2005. "Rethinking Thinking. Does Bloom's Taxonomy Align with Brain Science?" Kagan Online Magazine (Fall). [www.kaganonline.com](http://www.kaganonline.com)
- Lee, Da En , 2015. Using questions to develop students' higher-order thinking skills: a primary English teacher's beliefs and practices. Retrieved from; <https://core.ac.uk/download/pdf/38086274.pdf>
- Limbach, B., & Waugh, W. (2010). Developing Higher Level Thinking. *Journal of Instructional Pedagogies*, 3. <http://www.aabri.com/manuscripts/09423.pdf>
- Mehmat, A, 2004. The Role of Questioning in the Classroom, *Hasan Ali Yücel Eğitim Fakültesi Dergisi Sayı 2* (2006), 81-103
- Malaysian Education Blueprint 2013-2025, 2012, Preliminary Report-Executive Summary, 2012
- Ornstein, A.C. (1987). Questioning: The essence of good teaching. *NASSP Bulletin*, May, pp. 71-79.
- Russell, C (2016) Building Education Systems to Support the Development of 21st Century Competencies International Strategies <http://asiasociety.org/education/building-education-systems-support-development-21st-century-competencies>
- Spradley J, 1980, Participant Observation. New York: Holt, Rinehart, and Winston, 1980.
- Thomas, A. & Thorne, G, 2009, How to Increase Higher Order Thinking. Metairie, LA: Centre for Development and Learning. Retrieved May 2016 from, <http://www.readingrockets.org/article/higher-order-thinking>
- Tan, S.Y and Siti Hajar Halili (2015) Effective Teaching of Higher Order Thinking (HOT) in Education. *The Online Journal of Distance Education and e-Learning*, April 2015. Vol.3. Issue 2 <http://tojdel.net/journals/tojdel/articles/v03i02/v03i02-04.pdf>
- Watson, S (2017) Higher Order Thinking Skills (HOTS) in Education. <https://www.thoughtco.com/higher-order-thinking-skills-hots-education-3111297>