# Teachers' Practice of Higher Order Thinking Skills in the Lesson of Islamic Education

Mohd Aderi Che Noh<sup>1</sup>, Mohd Talhah Ajmain<sup>2</sup>, & Engku Zarihan Engku Abdul Rahman<sup>3</sup>

Faculty of Education, Universiti Kebangsaan Malaysia<sup>1, 2, 3</sup>

aderi@ukm.edu.my<sup>1</sup> & ezarihan@yahoo.com<sup>3</sup>

#### **ABSTRACT**

This study is a survey research that has been conducted among Islamic Education teachers in secondary schools in Bangi and Kajang, Selangor. This study aims to identify the level of knowledge and skills of these teachers in applying higher order thinking skills (HOTS) in teaching and learning process of Islamic Education. Questionnaires were used as the main instrument in this study. A total of 105 Islamic Education teachers were involved as respondents. The data obtained from the questionnaires were analyzed using IBM SPSS 22.0 involving mean score, standard deviation, percentage and frequency. Generally, previous findings show that teachers' mastery of HOTS is still moderate. However, the findings in this study indicate that the knowledge level of Islamic Education teachers is high with a score (mean = 4.2 and standard deviation = 0.65) alongside their level of skills mastery which is (mean = 4.00 and standard deviation = 0.50). This study is expected to assist the schools, researchers and the Curriculum Division of Islamic Education and Moral Studies of the Ministry of Education to re-evaluate and continue providing variety of plans to increase teachers' knowledge and skills, specifically Islamic Education teachers in the effort to further implement HOTS in Islamic Education lessons in order to meet the needs of the National Education System of the 21st Century hence increasing teachers' quality in implementing new skills in teaching and learning process.

Keywords: Higher Order Thingking Skills, Teacher, Teaching, Learning

## **INTRODUCTION**

The success of an innovation or changes which had been implemented, would not be achieved without the presence of the implementor agent. (Fahimah Hassan, Faza Hassan, Hilmi Hassan & Mohd. Aderi Che Noh. 2014) In other words, changes within the school level would not be able to achieve success if the knowledge of the teachers and their preparations are still frail. In this situation, the changes refers to a component within the curriculum of education itself, which is known as HOTS. TIMSS and PISA international researches has shown that the quality of teachers' mastery is the basic and most significant in determining the students result (Salihuddin Suhadi et. al 2014). However, the quality of the system could not overpowered the teachers' quality (Maszuria A. Ghani, Salina Omar, Marina Abd Wahid dan Rosnah A. Rajak. 2014). According to Imam Al-Ghazali (1992), teachers' knowledge is one of the most important component in encouraging students to look for useful knowledge. A knowledgeable teacher would create an active process of T&L in order to ensure that the students received new and valuable knowledge. Therefore, knowledgeable teachers would not merely deliver their knowledge without ensuring that the conceptual of the knowledge has been well comprehend and possible in enhancing students' ability to learn. In order to produce students with HOTS, the teachers themselves need to acquire the knowledge of HOTS. Thus, HOTS involve the skills from the aspect of teachers' quality in T&L session. It is a big challenge for Islamic Education teachers to enforce high order thinking skills in their T&L as it requires wide knowledge and well preparation of various methods, which highly involves students' cognitive aspect.

High order thinking skills (HOTS) is the highest level in the hierarchy of cognitive process. The main element in enforcing HOTS to the students, are the teachers. Teachers' responsibility is to ensure that the aim of the Islamic Education would be accomplished (Al-Kaylani. 2005). Thus, it is necessary for the teachers to master the contemporary skills in order to cater the students' needs. Their knowledge of HOTS will influence the implementation of the skills during T&L session. Therefore, HOTS exercises and workshops should be given to the teachers in order to enhance their qualities in T&L, which will give impact to the students learning as well. This is because, teachers play the main role in triggering the implementation of HOTS to the student during T&L session in the classroom (Syazwani Roni & Zamri Mahamod. 2015).

Even though there were previous researches conducted that related to the implementation of HOTS for the teachers, there were yet any research that focuses on implementation of HOTS in the perspectives of a secondary school Islamic Education teacher, especially in the aspects of knowledge and the preparation required towards implementing HOTS, itself. Thus, this article emphasis on the importance of HOTS knowledge mastery and various skills preparation for the teachers during the T&L session.

## HOTS WITHIN THE ISLAMIC EDUCATION TEACHERS

Misunderstanding will occur if the understanding towards the concept of HOTS knowledge are not well comprehend (Talhah Ajmain & Aderi Che Noh. 2016). The recent findings shows that the teachers define HOTS differently among each other (Amir Khan, Aderi Che Noh & Tarmimi Hussein. 2016). Due to the confusion towards the concept of HOTS, teachers tend to apply the traditional method and approaches that are more towards teachers-centered, such as giving lectures. The concept and the goals of HOTS are seen confusing by the teachers, as there are issues raised which questions whether the implementation of HOTS by the teachers are considered as T&L, or an assessment item (Amir Khan, Aderi Che Noh & Tarmimi Hussein. 2016).

There were a few researches conducted by Rajendran (2000); Nuliyana (2015) & Tarmizi (2016) which stated that HOTS within the teachers are still at the low level. This opinion is in line with the Needs Research Report made by the consultant of Kestrel Education (UK) and 21 Century Schools (USA) that had been presented on the 2nd of November 2011, which stated that the high order thinking skills within Malaysian teachers are still at the low level. An extended research conducted by Ainol Madziah (2015) towards 1171 Islamic Education teachers, shown that the level of teachers' knowledge in high order thinking skills are still at the low level. This statement has been proven through the results of a questionnaire that had been distributed randomly to 1171 Islamic Education teachers, which stated that less than 62% of these teachers apply practical level discussion, synthesizing and evaluating in their teachings. The excuse given by the GPI towards the issue of less evaluation skill and failure in guiding students towards this skill is due to the teachers' poor knowledge of HOTS.

Recent research conducted by Hasmaliza Hassan (2016) conclude that, the teachers' knowledge of HOTS are still in the moderate level despite have been in the 4th years since it has first been introduced. The perception towards teachers' moderate level of knowledge in HOTS shown that their mastery in basic knowledge items and characteristics of HOTS are not encouraging enough and should be improvised. Thus, GPI need to enhance the knowledge of HOTS whether or not through the printed reading materials, HOTS related websites or

collaborative of teachers with high experience in HOTS as well as workshop practices (Nor Rashidah Abd Hadi & Khadijah Abdul Razak 2016).

To conclude, before implementing HOTS in their lesson, the teachers need to master the knowledge of thinking skills beforehand (Beyer. 1995). This is because they will require those knowledge in guiding their students (Som & Mohd Dahalan. 1998). Next, Philips (1997) and other academician such as al-Ghazali, Ibnu Khaldun and al-Syaibani (Nur Hanani et. al. 2014) stated that in teaching thinking skills, the teachers themselves are required to have deep knowledge on the characteristics of thinking skills that would be taught, the methods in creating learning situations which leads to thinking and the methods in evaluating thinking skills as variety of prior knowledge and strong understanding will eventually create accurate practice and answers.

According to Aflaha & Aderi (2016), the effectiveness of teaching are depending on the teachers' ability to apply the effective teaching skills in order to ease students' learning activities. Among the factors which limits the teaching of thinking skills are the teachers' weak competency in applying related skills (Norafifah Hamid et. al. 2016). There were a few researches which stated that teachers rarely used high order thinking skills questioning technique (Kelsom 2010; Kamarul Azmi et. al. 2011; Kamarul Azmi et. al 2009) and tend to use teachers-centered teaching method which emphasis on gripping factual information without encouraging the students to enhance their high order thinking skills (HOTS) (Ab. Halim et. al. 2004; Syed Najmuddin et. al. 2009; Kamarul Azmi et. al. 2011; Abdul Jamir et. al. 2012; Nurliyana Abd Halim 2016).

Researches has stated that teachers rarely apply the facts-mastering techniques and does not encourage their students to apply high order thinking skills (HOTS) (Ab. Halim et al. 2004; Syed Najmuddin et al. 2009; Kamarul Azmi et al. 2011; Abdul Jamir et al 2012; Nurliyana Abd Halim 2016). This has shown that Islamic Education teachers does not emphasis on high order thinking skills questioning and students centered learning activities evn though such skills will create an effective education which eventually will produce independent students that also be able to think creatively and critically in solving problems.

As for other researchers, Wan Mat & Hjh Norkhairiah (2011) stated that there are some Islamic Education teachers that started to be creative by varying their T&L activities such as questioning, story telling, lectures, memorising and practices. However, the result gained from the researches shows that most of the questions distributed by the Islamic Education teachers are monopolized by intermediate and low level difficulties. Top five most popular methods applied by these teachers are questioning (90.8%), practicing (62.1%), memorising (59.2%), story-telling (54.9%) and lecturing (36.9%). Based on all activities listed, three of it (story-telling, memorising and practicing) as stated by Halim and Rahimi (2010), are more towards developing students' understanding and memory strength, while questioning suits better in building students' HOTS. Abd Rahim (1999) also stated that teaching that prioritize on memorising tend to less emphasis on the process, techniques and strategies of effective thinking. As for activities which encourage thinking skills such as brainstorming (16.5%), inquiries (14.6%), project (10.7%), dialogue (7.3%), problem solving (12.6%) and simulation (4.9%), are rarely practiced.

Rajendran (2001), from his research has suggested that there were lots of inefficiency in binding HOTS with learning. Even though the teachers believed that high order thinking

questions would trigger the students' high order thinking process, 90% of the questions that they distribute are still within the low level. A recent research by Tarmizi (2016) was in line with this opinion, saying that Islamic Education teachers does not mastered and yet applied the skills of contemporary teaching methods in teaching HOTS. Overall, the result of the research shows that the teaching of Islamic Education are still within the low and intermediate level due to teacherrs' lack preparation, determination in conducting the T&L.

In reference to the previous researches, there were a few weaknesses spotted regarding the implementation of HOTS by the Islamic Education teacher. In 2014, a finding produced by the inspectorate of Malaysian Education Ministry regarding a research conducted in 2012, stating that only a number of 23 until 54 percent from 2610 T&L activities which proven the teachers ability to apply HOTS in their T&L (Inspectorate, 2014). The report has raised an issue of the teachers' disability to apply high order thinking skills questioning in T&L. In 2015, another research has been conducted in Putrajaya high school, focusing on Islamic Education subject, which the result has stated that the level of HOTS implementation are still intermediate (Norasmahani et. al. 2015). Eventually, through the memorising methods and students-centered activities conducted, the students became bored, sleepy and act negatively during the process of teaching and learning. (Rosila Yaacob, 2007; Rahayu Lasan & Aderi Che Noh, 2016).

The weaknesses in implementing HOTS are not only from the teachers' poor knowledge of HOTS, but also their mastery in preparing other necessary skills. HOTS will create students with potential in teaching and changing their surrounding and benefit to others around them. Nevertheless, all of these begins with the teachers' possession on that particular method and skills (Talhah Ajmain & Aderi Che Noh. 2016). The teachers are expected to have wide and deep knowledge of HOTS, as well as able to deliver the knowledge precisely and significant to the real situation, as stated by Yusuf al-Qurdawi (2005), there will be no effective learning without the implementation of correct method that suits the learners' needs. Therefore, 21st century method of teaching requires students' active participation apart from the teachers' well-managed guidance. According to Robyn (2014), in applying HOTS, the lesson planning should be in order and systematic. By means, the T&L of Islamic Education subject should be varied in order to ensure that the students would enjoy and have fun part from merely achieving the lesson's objective.

Based on the researches mentioned above, it is clearly stated that there are contradiction among the teachers' mastery of knowledge regarding HOTS and the skills required, which had been discussed previously. Nevertheless, HOTS in Islamic Education subject had been implemented since 2013. This transformation had raise a lots of issues regarding its' implementation within the school level. However, the teachers' mastery in applying HOTS in teaching Islamic Education is undeniably one of the main factor that will bring success to students' performance. If the teaching process remain unchanged, with no sufficient preparation and insertion of HOTS questions, the students' achievement will be affected (Zamri 2012).

## **METHODOLOGY**

This research implies the observation method by using questionnaires as the main instrument. According to Syed Arabi Idid (1998); Najib Ghafar (2003), observation method is a suitable method in measuring the respondents' opinion regarding any particular issue or topic, as well as achieving the respondents' aim. Reviewing the questionnaire is also the best method in collecting

data especially if the research involves large population. (Babbie 2004). The selection of the research sample is based on random sampling involving Islamic Education teachers from secondary schools located in Bangi and Kajang. Overall, Bangi and Kajang has 14 secondary schools. Due to the small amount, the researcher decided to choose populations from both areas.

In this research, the questionnaire were administered by the researcher and consists of 25 items which measured using the 5 point likert scale. It is divided into three sections which is Part A, B and C. The items used were adapted from Ahmad Tarmizi (2016), Hasmaliza (2016), and Nurliyana (2015). Part A consists of 5 items related to respondents' demography profile, as Part B consists of 10 items related to the Islamic Education teachers' implementation of HOTS in teaching and learning. Last but not least, Part C which consists of 10 items, measuring the teachers' skills in implementing HOTS. The data and information received from the respondents based on the questionnaires were analyzed qualitatively.

The location of the research involves 14 secondary schools located around Bangi and Kajang, Selangor. These location were chosen as both were located near to the researcher's house and there were yet any research conducted related to high order thinking skills, within these areas. These were among the factors which motivated the researcher to conduct this research. Apart from that, conducting research within these areas has ease the researcher to visit and review all 14 schools with only small cost usage and even save time in comparison to conducting research in other states.

## **FINDINGS**

The research sample was distributed to 105 Islamic Education teachers who taught Islamic Education subject in all secondary schools within Bangi and Kajang area. The teachers' background analysis were stated in the respondents' demography information. Table 1 shows the respondents' profile.

Demography	Category	Frequency	Percentage (%)
Sex	Male	12	11.4%
	Female	93	88.6%
HOTS Workshop	Attend	94	89.5%
Attendance	Never attend	11	10.5%

Table 1: Respondents' Profile

The respondents are consists of 12 (11.4%) male teachers and 93 (88.6%) female teachers. From the aspect of attendance to HOTS Workshop, the number of teachers attended are 94 as teachers who never attend are 11. Overall, in this research, there were more female teachers in comparison to male teachers, and the number of teachers who had ever attend to HOTS Workshop are more than those who never attend. Nevertheless, despite have been conducted for three years, there were still a number of teachers who never attended the HOTS Workshop.

Based on table 2, it had been concluded that the Islamic Education teachers' knowledge of high order thinking skills (HOTS) are within the high level with overall mean score of 3 to 4. However, there were two items which stated as low level knowledge (3.83 and 3.90) with each standard deviation as 0.563 and 0.597. Nevertheless, both items does not show large differences and still considered within high level knowledge based on the mean score stated (Jamil 2002).

Table 2: Islamic Education Teachers' Level of Knowledge regarding the Implementation of High Order Thinking Skills (HOTS)

No.	Knowledge Items	mean	sd
1	Know which contents from the Islamic Education syllabus has the elements of HOTS.	4.25	.515
2	Plan to apply the elements of HOTS in teaching.	4.26	.572
3	Students actively involved in the process of teaching and learning.	4.24	.528
4	Know how to increase students' level of knowledge in HOTS.	3.90	.597
5	Know how to expand students' knowledge of HOTS.	3.96	.634
6	Know how to determine the lesson content based on students' ability.	4.05	.488
7	Know how to expand the students' individual potential.	3.96	.517
8	Know how to evaluate students' development in HOTS.	3.94	.618
9	Know the techniques in teaching Islamic Education with the implementation of HOTS.	4.09	.521
10	Know variety of strategies in implementing HOTS.	3.83	.563
	Overall	4.05	.386

Based on Table 3, each items shows the Islamic Education teachers' skills preparation in implementing HOTS. Overall, it shows a high level of mastery based on the overall mean score of 3 to 4. However, there were two items which shows low level mean score of skills mastery (3.57 and 3.84) with each standard deviation as 0.633 and 0.621. Nevertheless, both items does not show large differences and still considered within high level knowledge based on the mean score stated (Jamil 2002).

Table 3: Islamic Education Teachers' Skills Preparation Level in Implementing High Order Thinking Skills (HOTS)

No.	Teachers' Skills Preparation	mean	sd
1	Has sufficient teaching sources for HOTS teaching and learning	3.57	.633
2	Plan the Islamic Education lesson to implement the elements of HOTS.	4.05	.488
	Determining the content of Islamic Education subject based on students' ability.	3.97	.489
	Apply various strategies and techniques to implement the elements of HOTS.	3.94	.435
5	Use teaching aids to create an effective T&L.	3.96	.499
6	Teach based on the infusion method.	3.84	.621
7	Actively involving students.	4.08	.513
8	Give effective feedbacks to students.	4.09	.502
9	Expand students' individual potential in learning HOTS.	4.11	.487
10	Evaluate students' development in HOTS.	4.00	.588
	Overall	3.96	.332

## **DISCUSSION AND IMPLICATIONS**

This research shows a clear picture of the mastery level acquired by most of the Islamic Education teachers within the Selangor state, in implementing high order thinking skills (HOTS) upon conducting Islamic Education teaching and learning session. The findings of the research has shown that the knowledge mastery and implementation skills in applying high order thinking skills (HOTS) by the Islamic Education teachers are both within the high level. The overall findings shows that the Islamic Education teachers has a high level knowledge regarding the application of Taxonomy Bloom by Anderson in teaching and learning Islamic Education subject. The result of the findings shows similarity with the previous researches conducted by Rosnani (2006) and Rosnainani (2003) which stated that the teachers' level of knowledge in implementing thinking skills are in high level. However, the research conducted by Nooriza Kassima & Effandi Zakaria (2015) figured out that the Islamic Education teachers' knowledge regarding HOTS are yet unsufficient.

Based on the findings of this research, it is clearly shown that the teachers were able to comprehend the concept and the definition of high order thinking skills (HOTS) as well as have positive perception on the implementation of thinking skills in teaching and learning. However, this finding is different with the findings from researches conducted by Innabi (2006) and Alazi (2008) which stated that the teachers' level of knowledge in HOTS are low as the teachers that had been researched, shows no comprehensive concept regarding HOTS. The finding from a research conducted by Norafidah Noralidin Jabayan & Juliana Osong (2015) also stated that most of the teachers' knowledge on HOTS are limited only to questioning techniques and thinking maps based on i-THINK. Thus, it can be concluded that a teacher's mastery of knowledge is related to the depth of the knowledge, itself. The Islamic Education teachers' knowledge about HOTS are still in concern, to the extent that it is considered too much for the teachers to apply variety of skills including HOTS which had been instructed by the government. Based on the research by Nooriza Kassima & Effandi Zakaria (2015), it is stated that the input gained from HOTS Workshop and courses able to help the teachers to develop their knowledge especially related to the application of Revised Bloom Taxonomy (Anderson and Krathwohl, 2001). It was even worse that the finding figured out a number of teachers who never attended any courses related to HOTS due to lack of opportunity, which eventually lead to poor knowledge of HOTS in adapting to the taxonomy.

Based on the findings of this research, even though the teachers were able to acquire the concept and definition of HOTS, they tend to implement applying level methods into their T&L, in comparison to synthesising and evaluating level, as well as neglecting students-centered activities which eventually causes the students to lost interest in learning (Kamarul Azmi et al., 2010). Among the challenges faced by the teachers in implementing HOTS are time constraint, as well as the focus to finish the syllabus (Norsham Ghani. 2014). A research by Suhaimi & Razali Hassan (2014) has shown that the teachers faced challenges and problems in terms of limited time provided. This statement is aligned with the finding from a research by Diana K. May & Munirah Othman. (2009), Syawal Aamran & Saemah Rahman (2015) which stated that the students were worried and lost their confidence if they were pressured due to the time constraint.

Nevertheless, in implementing HOTS, Madzanah (2002) suggested that the task should be conducted in group or in pairs. Even though the implemention of such method might be difficult to conduct in a large size classroom, the thinking skills activities which conducted within pairs and groups are much controllable and saves time, despite involving large number of students. This opinion is supported by Eggen & Kauchak (1997) which stated that group work task would be able to develop students HOTS by encouraging the students to discuss among themselves and at the same time, overcome the time constraint problem. Thus, the teachers need to form the students into groups in order to implement HOTS activities, which could overcome the time constraint problem. This exposure should be stated in the workshops and during practices. A research by Nurul Asiah (2015) has figured out the main factor which leads to teachers' disability in implementing HOTS, is the poor exposure of HOTS. This statement is supported by other researchers, based on their experience in attending HOTS Workshop. The Islamic Education teachers would not be able to implement HOTS, unless they really master in it.

Based on researches by Sukiman (2012) and Barahimalar (2014), the factor which causes the teaching of HOTS became less-emphasized, is the thought that the students should master the conceptual and factual component of the learning first before they proceed with the thinking process (Sukiman et al. 2012). There were also other opinion which stated that the teachers should acquire various knowledge first. Thus, the concept of HOTS should be prioritized and explained practically in every HOTS Workshops.

Descriptive analysis shows that the Islamic Education teachers' preparation in implementing HOTS are within the high level. Overall, the Islamic Education teachers has practiced the skills, strategies, components and the elements of HOTS in teaching Islamic Education subject. The findings of this research are similar to the reseaches by McNeil and Malkeet Singh (2002), which they have suggested a few strategies for the teachers to apply in introducing HOTS to their students. One of the suggestion is to ensure that the teachers have mastered the high order questioning skills, as this activity will help the students to be an excellent and successful thinker. Other suggestions are forming study groups and allow the students to present their findings in front of the other students, which are the examples of synthesizing and evaluating level activities.

The research also figured out that the Islamic Education teachers rarely distribute questions which require high order thinking skills to their students. This finding is aligned to a research by Nooriza Kassima & Effandi Zakaria (2015) which stated that the teachers' preparation in implementing their skills are within the intermediate level. This is because the teachers used to ask some simple questions directly in the end of their lesson. Instead, they should prepare the questions beforehand, by planning suitable questions to ask during the teaching process. Philips (1997) stated that the distributing questions based on cognitive level will give impact to the students' reactions. This is due to the variety of cognitive level within the students' answers. Generally, remembering level questions are within the easiest level in comparison to high order thinking question which requires students to give their own opinion and suggestion. Ennis (1991) also gave the same conclusion. The teachers implementing preparation in terms of skills could be developed by using various answering question techniques and practices with the usage of HOTS in order to encourage students to actively involve themselves in the learning as well as practicing high order thinking. This could prevent students from being passive during the lesson. This statement is supported by Normah (2014) from her research which states that teachers were encouraged to use various methods and techniques in order to help students possess the thinking skills. Among the methods suggested are repetition technique, practices, quiz and field trip to any suitable places. However, the activities should depends and suits the topics that they had been taught.

The finding also stated that the Islamic Education teachers' knowledge and skills preparation in implementing high order thinking skills (HOTS) are within the high level, aligned with another research conducted by Sukiman et al. (2012). However, this finding is different with a research by Tarmizi (2016), which stated that these skills should be developed more. Other researchers Nooriza Kassima & Effandi Zakaria (2015), based on their research to some secondary school teachers, also stated that the teachers' preparation in terms of knowledge and skills are still insufficient, because there were yet a few Islamic Education teachers who hardly manage to distribute high order thinking skills questions in their classroom. Among the implications identified from the research and the strategies suggested are letting the Islamic and Moral Education Committee through School Curriculum Development Centre to review and evaluate all the basic necessities required such as remembering, understanding, applying, comparing, analysing, and evaluating skills in implementing high order thinking skills (HOTS) in the Islamic Education teaching and learning based on the subject's syllabus, teachers' ability, students variety, school's infrastructure and teaching aids.

Other than that, Islamic Education teachers should be equipt with HOTS' effective methods of teaching with the usage of variety learning strategies. An early preparation in implementing these skills would allow the teachers to prepare suitable questions and give more opportunity for the students to apply the thinking skills in solving problems (Omardin 1999; Halimah 2009; Zamri & Nor Razah 2011). The questioning should also based on the level, scope and focus (Atan 1983; Halimah 2009). Thus, in teaching HOTS, the teachers should be well prepared all the time and in every situation as the students might ask them questions related to the current situation. This is because, an effective teaching strategies will develop interest and motivation for the students to enhance their performance to a higher level.

Along with the other researches (Sukiman et al. 2012; Rosnani Hashim & Suhailah Hamzah 2003) and Barathimalar (2014) which stated that Islamic Education teachers need to be well-equipt with variety of skills and should be positive in accepting as well as practicing it. The authorised State Education Committee (JPN) and Region Education Committee (PPD) should organise more workshops, practices, lectures or conventions to let the teachers exposed to variety of techniques in instilling HOTS, apart from conducting scheduled monitoring on the implementation of HOTS inside the classroom in every school. This is aligned to Al-Qardawi's (1980) opinion, stating that appreciation and practical aspect, which are the basic components of an education and learning that students should practice in order to possess the skills and knowledge thoroughly. Throughout the process of implementing HOTS explicitly in the classroom, there were a few challenges faced such as lack of practices and continuous development activities to enhance teachers' skills in teaching thinking skills (Norafifah Hamid et. al. 2016).

The problems and challenges in implementing HOTS should be identified and developed thoroughly. By identifying the problems, the implementation of HOTS in the classroom teaching would be much easier, and thus able to progress the students' achievement. Teacher also plays important roles as a source and an activator behind the process of implementing HOTS in the school. The teachers should sincerely cooperate and eager to instill HOTS to their students. If the method applied received a passive feedback from the students and does not encourage the implementation of HOTS, eventually all the efforts by the PPK, JPN and PPD would be up to no avail. Thus, the aims of the Nation Educational Philosophy which is to create a creative, innovative and competitive individual would hardly be achieved.

## **CONCLUSION**

To conclude, the findings show that the Islamic Education teachers in this study has high level of mastery in implementing HOTS in teaching. These were clearly stated based on the level achieved by the Islamic Educational teachers in implementing high order thinking skills (HOTS). Hopefully, the research has given a clear picture of the teachers' level of mastery in the knowledge and implementation skills of HOTS, especially to Secondary School Islamic Education teachers within the Bangi and Kajang, Selangor areas.

High order thinking skills (HOTS) are the basic component of the education process. The teachers' credibility in acquiring the knowledge aspect of HOTS and their preparation in varying the implementation methods of teaching thinking skills will influence the students' thinking skills, which eventually ensuring the effectiveness of the teaching process. Teachers as the main element in integrating a society which capable of high order thinking skills, should be the most competent in applying HOTS. Once the teachers able to practice teaching with the pedagogical content that encourage the students HOTS development, the teacher would be able to enhance the students' achievement. Other than that, the development of HOTS will eventually ease the transmission of information and skills into their personal responsible action and functions within the community or society. The Islamic Educational teachers' wisdom will certainly overflow if they were able to transform the knowledge and skills they had taught into real situations, especially for situations that required the application of HOTS. This research should be developed in the form of qualitative in order to gather more empirical proves.

### REFERENCE

- Ab Halim Tamuri & Khairul Azman AJuhary. (2010). *Amalan pengajaran guru Pendidikan Islam berkesan berteraskan konsep "mualim"*. Journal Islamic and Arabic Education, 2(1) 43-56.
- Ab. Halim & Kahirul Azman Ajuhary. (2010). *Amalan Pengajaran Guru Pendidikan Islam berkesan Berteraskan Konsep Mu'allim*. Journal of Islamic and Arabic Education 2(1), 43 56.
- Abdul Jamir Md Saad, Ab Halim Tamuri Dan A'dawiyah Ismail. (2012). *Pembelajaran Aktif Dalam Pengajaran Dan Pembelajaran Berkesan Pendidikan Islam*. Retrieved From Www.Ipislam.Edu.My/Index.Phd/Research/Tag/PKPI2012
- Aderi Che Noh, Khadijah Abdul Razak & Ahmad Yunus Kasim. (2015). Kompetensi Guru Muslim Berasaskan Kemahiran Abad 21. Jurnal Pendidikan Islam, 13-29.
- Aderi Che Noh, Noraini Omar & Hanani Hussin. (2014). *Sumber Pendidikan Islam.* Bangi: Penerbitan Fakulti Pendidikan Universiti Kebangsaan Malaysia.
- Aderi Che Noh. (2015). Pengajaran & Pembelajaran Tilawah Al-Quran Sekolah Menengah di Malaysia. Bangi: Penerbit Universiti Kebangsaan Malaysia.
- Aflaha Aziz & Aderi Che Noh. (2016). Pendekatan *Pengajaran Al-Ghazali Dalam Pendidikan Islam*. Seminar Wacana Pendidikan Islam.
- Ainol Madziah. (2015). *Aspek Penilaian Dan Pentaksiran Bagi KBAT & Kemahiran Insaniah*. Seminar, Muzakarah Pakar: Pembentangan Kajian Keberkesanan Pendidikan Islam. IKIM.
- Al-Ghazali. (1992). *Ihya' Ulumuddin (menghidupkan ilmu-ilmu agama).* Jild 4. Singapura: Pustaka Nasional.
- Al-Kaylani, Majid Arsan. (2005). *Ahdaf altarbiyyah al-islamiyyah*. Dubai: Dar al-Qalam, Emiriah Arab Bersatu.

- Allazi, K, F. (2008). *Teachers' perception of critical thinking: A study of Jordanian secondary school social studies teachers.* The Social Studies, November/December.
- Amir Khan, Aderi Che Noh & Tarmimi Hussein. (2016). *Amalan Kemahiran Berfikir Aras Tinggi Dalam Pengajaran Pendidikan Islam.* Prosiding, Wacana pendidikan Islam siri ke-11.
- Anderson, L.W., & Krathwohl, D. R. (2001). A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy. New York: Longman Publishing.
- Babbie, E. (2004). *The practice of social research (9th ed.).* Belmont: Wadsworth Publishing Company.
- Beyer, B. K. (1995). Critical Thinking. Indiana: Phi Delta Kappa Educational Foundation.
- David, C. (2014). Profesionalisme Guru Novis dalam Pengurusan Pengetahuan, Kesediaan Mengajar dan Kemahiran Berfikir Aras Tinggi (KBAT) Terhadap Pelaksanaan Pengajaran di Sekolah. Seminar Kebangsaan Integriti Keluarga. Kota Kinabalu: UMS.
- Eggen, P. & Kauchak, D. (1997). *Educational Psychology: Windows on classroom*. 3rd .Upper Saddle River, NJ: Merril.
- Ennis, R. (1991). *Evaluating Critical Thinking*. Los Angeles, CA: Critical Thinking Press & Software.
- Hair, J.E., Anderson, R.E Tattham, R.L. and Black, W. C. (1998). *Multivariate Data Analysis*. 5th Ed. Upper Saddle River; Prentise Hall.
- Hanani Hussin, Aderi Che Noh, & Ab. Halim Tamuri. (2014). *The Religious Practices Teaching Pedagogy of Islamic Education Excellent Teachers.* Mediterranean Journal of Social Sciences, 5(16), 239–246. Retrieved June 12, 2015, from http://doi.org/10.5901/mjss.2014.v5n16p239.
- Hasan Langgulung. (1991). Asas-asas Pendidikan Islam. Shah Alam: Hizbi.
- Innabi H. & Sheikh, O.E. (2006). The change in mathematics teachers' perceptions of critical thinking after 15 years of educational reform in Jordan. Educational Studies in MathematicS no 64: 45-68.
- Ismail, Kelsom And Sidin, Zaitun (2010) Aras Penyoalan Guru Pendidikan Islam Dalam Sesi Pengajaran Dan Pembelajaran Berasaskan Taksonomi Bloom. Tesis, Universiti Teknologi Malaysia (UTM).
- Jemaah Nazir dan Jaminan Kualiti Kementerian Pendidikan Malaysia. (2014). Laporan Kebangsaan Tahun 2014, Pemeriksaan Khas KBAT.
- Kamarul Azmi Jasmi, Ab. Halim Tamuri & Izham Hamzah. (2010). Faktor pentadbir dan pengetua dalam kecemerlangan guru cemerlang Pendidikan Islam dan guru di sekolah menengah: satu kajian kes. JIAE: Journal of Islamic and Arabic Education, 2 (1). pp. 13-20.
- Madzanah Osman. (2002). *Pelaksanaan kemahiran berfikir dalam pengajaran Bahasa Melayu di sekolah menengah.* Tesis Sarjana, Universiti Putra Malaysia.
- Majid K. (2009). Kaedah Penyelidikan Pendidikan. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Mat Sulaiman & Norkhairiah Hashim. (2011). *Aplikasi kemahiran berfikir dalam pengajaran Pengetahuan Ugama Islam.* Journal of Applied Research in Education, Vol 15, No.1 & 2, 2011, pp.43-58.
- McNeil, J. & Malkeet, S. (2002) Nurturing thinking skills. CDTL Brief Jurnal, no (4): 6-8.
- Munirah Othman, Syawal Aamran & Saemah Rahman. (2015). Kebimbangan dan Efikasi Kendiri Pelajar dalam Kemahiran Berfikir Aras Tinggi (KBAT). Seminar Kebangsaan Pendidikan Negara Kali ke 5 (SKEPEN2015).
- Najib Ghafar. (2003). *Penyelidikan Pendidikan*. Skudai: Penerbitan Universiti Teknologi Malaysia.

- Nooriza Kassim & Effandi Zakaria. (2015). *Integrasi kemahiran berfikir aras tinggi dalam pengajaran dan pembelajaran matematik: Analisis keperluan guru*. Prosiding Seminar Education Graduate Regional Conference (EGRC 2015).ISBN 9786021313800.
- Nor rashidah Abd Hadi & Khadijah Abdul Razak. (2016). *Pengetahuan Guru Pendidikan Islam Dalam Melaksanakan Pembelajaran Berasaskan Masalah.* Prosiding, Wacana pendidikan Islam siri ke-11.
- Norafidah Noralidin Jabayan & Juliana Osong (2015). *Meningkatkan Tahap Kemahiran Berfikir Aras Tinggi (KBAT) Dalam Pengajaran Dan Pembelajaran Bahasa Malaysia Melalui Komuniti Pembelajaran Profesional (KPP)*. Proceeding, 6th Pedagogy International Seminar. 6(1): 1-412.
- Norafifah Hamid, Norajila, Azlina Wahab & Rawi Nordin. (2016). Kemahiran Berfikir Aras Tinggi Dalam Pengajaran Dan Pembelajaran: Analisis Dari Perspektif Al Quran. Prosiding, Wacana pendidikan Islam siri ke-11.
- Noraishah Kasiran (2004). Penguasaan aspek kemahiran berfikir secara kritis dan kreatif di dalam mata pelajaran sains KBSM di kalangan pelajar tingkatan empat daerah Kuala Langat. Universiti Teknologi Malaysia: Tesis Sarjana Muda.
- Norasmahani Nor, Sofiah Suhaimi, Syamira Abdul Wahab, Khushairi Che Ismail, Aderi Che Noh, Khadijah Abdul Razak. (2015). *Pelaksanaan KBAT dalam pengajaran dan pembelajaran Pendidikan Islam Sekolah Menengah: Satu tinjauan di Putrajaya*, Proceeding: 7th International Seminar on Regional Education, November 5-7, 2015 hlm 361-375.
- Normah. (2014). Penerapan Kemahiran Berfikir Aras Tinggi (KBAT) Dalam Pengajaran dan Pembelajaran Pendidikan Islam Sekolah Rendah. Prosiding, Wacana Pendidikan Islam Peringkat Kebangsaan Siri ke-10.
- Norsham Ghani. (2014). Tahap pengetahuan dan sikap guru-guru Pendidikan Islam terhadap amalan penerapan kemahiran berfikir secara kritis dan kreatif di negara Brunei Darussalam. Tesis Sarjana. Fakulti Pendidikan. UKM.
- Nurliyana Abd Halim. (2015). Pengetahuan, Sikap dan Kesediaan Pelajar Tehadap Kemahiran Berfikir Aras Tinggi dalam Pembelajaran Pemahaman Bacaan. Tesis. UKM.
- Nurul Asiah Fasehah Binti Muhamad. (2015). *Pengaruh Tahap Kepercayaan Epistemologi Islam dan Thap Konsep Kendiri Terhadap Tahap Amalan Pengajaran Guru Pendidikan Islam*, Tesis Dr. Falsafah, Fakulti Pendidikan, Universiti Kebangsaan Malaysia.
- Omardin Asahaari. (1999). *Pengajaran Kreatif untuk Pembelajaran Aktif.* Malaysia: Dewan Bahasa dan Pustaka Kuala Lumpur.
- Othman, K., Ismail, S., Jaafar, H. & Samsudin, A. (t.th). *Aplikasi peta pemikiran i-THINK dalam pengajaran dan pembelajaran literasi nombor*.
- Phillips, J. A. (1997). *Pengajaran kemahiran berfikir: Teori dan amalan*. Kuala Lumpur: Utusan Publications.
- Phillips, J.A. (1997). *Pengajaran kemahiran berfikir: Teori dan amalan*. Kuala Lumpur: Utusan Publications & Distributors Sdn. Bhd.
- Rahayu Lasan & Aderi Che Noh. (2016). *Kemahiran Abad Ke-21: Peranan Dan Cabaran Guru Pendidikan Islam*. Prosiding, Wacana pendidikan Islam siri ke-11.
- Rajendran. (2000). Pengajaran Kemahiran Berfikir Aras Tinggi: Kesediaan Guru Mengendalikan Proses Pengajaran dan Pembelajaran.
- Robyn Collins. (2014). Skill For The 21st Century: Teaching Higher-Order Thinking. Journal of Curriculum & Leardership 12(14), An electronic Journal for leader in Education, http://www.curriculum.edu.au/leader/teaching higher order thinking, 37431. htmlissueID=12910 [Diakses pada 19 Sept 2016]
- Rosnanaini Sulaiman. (2003). *Pelaksanaan Strategi Pengajaran Kemahiran Berfikir Dalam Mata pelajaran Sejarah Di Peringkat Sekolah Menengah: Satu Kajian Kes*. Tesis Doktor Falsafah. UKM.

- Rosnani Hashim. (2006). Keberkesanan Program Falsafah Untuk Kanak-kanak Terhadap Kemahiran Membaca dan Berfikir Kritis: Kajian Kes di Sebuah Sekolah Rendah. Jurnal Pendidikan Islam, Jilid 12(1).
- Salihuddin Suhadi, Baharuddin Aris, Hasnah Mohammed, Norasykin Zaid & Zaleha Abdullah. (2014). *Penguasaan Pelajar Dalam Kemahiran Berfikir Aras Tinggi Dengan Pembelajaran Kaedah Sokratik*. Konvensyen Antarabangsa Jiwa Pendidik, 11-13.
- Salleh Huddin, Maimun Aqsha Lubis, Aderi Che Noh, Faizal Rajab & Redhuan Ghazali. (2016). *Pembelajaran Kemahiran Berfikir Aras Tinggi (KBAT) Dalam Pengajaran Dan Pembelajaran Subjek Pendidikan Islam*. Prosiding, Wacana pendidikan Islam siri ke-11.
- Shahabuddin Hashim, Rohizani Yaakub & Mohd Zohir Ahmad (2003). *Pedagogi– Strategi dan Teknik Mengajar dengan Berkesan.* Pahang: PTS Publications & Distributors Sdn. Bhd.
- Shaheda Rashid & Maimun Aqsha Lubis. (2016). *Menjana Kemahiran Berfikir Aras Tinggi Dalam Pengajaran Dan Pembelajaran Pendidikan Islam Melalui I-Think*. Seminar Wacana pendidikan Islam siri ke-11.
- Sharifah Puteh, Adibah Ghazali, Mahzan Tamyis & Aliza Ali. (2012). *Keprihatinan Guru Bahasa Melayu Dalam Melaksanakan Kemahiran Berfikir Secara Kritis Dan Kreatif.*Jurnal Pendidikan Bahasa Melayu. Vol. 2, Bil. 2. 19-31.
- Shukri, Yee Mei Heong, Tee Tze Kiong dan Mimi Mohaffyza. (2015). Kepentingan gaya pembelajaran dan kemahiran berfikir aras tinggi dalam kalangan pelajar teknikal. Seminar Kebangsaan Majlis Dekan-Dekan Pendidikan Universiti Awam. Universiti Tun Hussein Onn Malaysia (UTHM).
- Som & Dahalan Ramli. (1998). *Kemahiran Berfikir Secara Kritis dan Kreatif (KBKK).* Selangor. Pearson Malaysia Sdn Bhd.
- Suhaimi & Razali Hassan. (2014). *Pelaksanaan Kemahiran Berfikir Aras Tinggi (KBAT) dalam Pengajaran Pendidikan Islam Berasaskan Kaedah Simulasi.* Prosiding, Wacana Pendidikan Islam Peringkat Kebangsan Siri Ke-10 (Wpi10).
- Sukiman Saad, Noor Shah Saad, & Mohd Uzi Dollah. (2012). *Pengajaran kemahiran berfikir aras tinggi: Persepsi dan amalan guru matematik semasa pengajaran dan pembelajaran di bilik darjah.* Jurnal Pendidikan Sains & Matematik Malaysia, 2(1), 18-36.
- Syahrul Riza Hamzah. (2010). Konsep Pendidikan Islam Menurut Pemikiran Ibnu Khaldun. (Noor Shakirah Mat Akhir, Ed.). Kuala Lumpur: Scholarmind Publishing.
- Syazwani Roni & Zamri Mahamod. (2015). *Penyepaduan Kemahiran Abad Ke-21 dalam Pengajaran Dan Pembelajaran Bahasa Melayu.* Kertas kerja.
- Syed Arabi Idid. (1998). *Kaedah penyelidikan komunikasi dan sains sosial*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Talhah Ajmain & Aderi Che Noh. (2016). Kefahaman Ilmu Dan Kemahiran Berfikir Aras Tinggi Mampu Melahirkan Murid Yang Mengajar. Prosiding, Wacana pendidikan Islam siri ke-11.
- Wan Amirah, Wan Ismail, Maimun Aqsha Lubis & Muhammad Isa. (2016). Kesediaan guru pendidikan Islam sekolah rendah di Selangor terhadap penerapan KBAT dalam pengajaran dan pembelajaran. Journal of Advanced Research in Applied Sciences and Engineering Technology, Vol.3, No.1: 79-92.
- Yusuf Al-Qardawi. (2005). (Trans.) Muhamad Zahiri Awang Mat. Konsep Pendidikan Menurut Imam Al-Shatibi. Safa Integrated Network. Selangor.
- Zamri Mahamod & Magdeline Nor. (2012). Penguasaan pengetahuan pedagogi kandungan guru Bahasa Iban.