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Islamic Education Based on Higher Order Thinking Skills (HOTS) in The Perspective of Neuroscience

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ABSTRACT

Education is not only the process of transferring knowledge. Then a student is asked to memorize, then is assessed based on the ability to memorize that knowledge. At the same time, a student at this time needs to have high-level thinking skills or HOTS. The launching and recommendation of the application of HOTS in the learning process is one of the strategic efforts to improve learning capacity, especially the learning of religious education in the HOTS of critical thinking. Logically, the problem of higk level thinking, which is the person's cognitive skills, is the upper front part, which is called the prefrontal cortex. The brain part of this part is known as the center of ecretutive control, or the student is a high-level thinking. Also, place of problem solving, regulation, create character and personality. Sciences strategic activities are carried out in Islamic Education so that they can get high-level ability to be enhanced with the HOTS indicator: (1) analysis level, (2) evaluation level, (3) level of integration. This research enriched scientific knowledge in other studies.

Introduction

Education is an effort that is carried out deliberately and systematically to motivate, nurture, assist and guide someone to develop all their potential to achieve a better quality of self. The essence of education is an effort to mature human beings as a whole (physically and mentally), both by others and by themselves, in the sense of demands that students have the freedom to think, feel, speak and act as well as be confident with a complete sense of responsibility in every action and the behavior of everyday life (Basri, 2007:34). Higher-order thinking skills form the basis of the implementation of the 2013 Curriculum (Dede, 2019:47). Then the educator must be creative, namely becoming a scenario or preparation for teaching as signs, because the more important thing is improvisation. Educators must pay attention to the interests, concerns, and desires of students. Higher-Order Thinking Skills (HOTS) or high-order thinking skills include critical, logical, reflective, and metacognitive thinking. The active

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ability when a student faces unusual problems, uncertainties, questions, or dilemmas (King, 2007: 32) (Gita, 2019:63-64). Students need HOTS to manipulate information and ideas by transforming and implying their understanding, such as when students combine facts and ideas through synthesis, draw conclusions, explain, hypothesize or arrive at a conclusion or interpretation (Armiati, 2018:3).

Islamic Education (PAI) is a conscious effort to prepare students to believe, understand, appreciate and practice the Islamic religion through activities, guidance, teaching, or training, so that they become Muslim humans who believe and have devotion to Allah Almighty, and practice their religious teachings. in everyday life both in personal life and in religious life, strengthen personality and are jointly responsible for the development of the nation and state. Religious education basically directs students to form attitudes and behaviors in accordance with religious teachings. In addition, in practice, the presentation of Islamic Education material that is delivered and accepted by students as an absolute truth value of Allah, however, does not constitute a guarantee that the value received will be their attitude and behavior. Based on the results of research conducted by Yusuf, it shows that among the factors that have the lowest influence in shaping the attitudes and religious deeds of students, it turns out that it lies in the lesson of Islamic Religious Education in schools (Eva, 2018:100-101).

Teaching and learning activities are the most important activities in education, which are basically carried out in formal education, namely schools, even though the teaching and learning process can be carried out anytime and anywhere. That way, the education held in schools is able to produce quality human resources (Agie, 2018:44). Whether or not the results obtained by students in learning activities are in accordance with these teaching and learning activities. With the existence of systematic learning activities, the learning process will run well. An effective and efficient learning process will also improve student learning outcomes. Every child has the right to get education in accordance with the child's development and needs (Murtafiah, 2019:125). The role of the educator here is very helpful. Because of the importance of education in life, educational components such as: curriculum, teachers, students, school facilities and school facilities, family environment and the role of parents are very strategic in achieving good student learning outcomes. So efforts need to be made to improve the quality of education, so that the nation does not depend on the status of a developing nation but can hold the title of an advanced nation and not be less competitive with other nations (Akmal, 2016:58-72). One of the problems faced by the world of education is the problem of weakness in the teaching and learning process, because students are less encouraged to develop thinking skills. The learning process in the classroom is directed at students' ability to memorize information. Students do have a lot of knowledge, but they do not seek out the knowledge itself,

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only waiting for information conveyed by the teacher, so this knowledge is not implemented in everyday life and will even be forgotten more quickly (Rizka, 2018:44-45).

The curriculum is a guideline used in the implementation of education which has provisions to achieve educational goals. The curriculum is used to carry out education so that learning can be maximally achieved. The current curriculum is the 2013 curriculum. The learning process carried out in the 2013 curriculum uses thematic learning. Measuring success in achieving learning is influenced by several components, one of which is the assessment of learning outcomes by educators. Therefore, for success in achieving the learning process an assessment system is used to answer the challenges of 21st century learning which includes critical, creative, communicative and collaborative thinking skills. This test is known as HOTS (High Order Thinking Skills) (Ratna, 2018:162). In the 2013 curriculum the assessment used is authentic assessment. Authentic assessment is an assessment that reflects the real world or real context. In accordance with Permendikbud No. 104/2014 "authentic assessment is a form of assessment that requires students to display attitudes, use the knowledge and skills gained from learning in doing real tasks and situations". Assessment in the learning process is the result of student achievement in learning which is used as a measuring tool for learning. To achieve maximum learning outcomes, students are required to think skills in solving a problem given by the teacher (Nurul, 2019:38).

Higher Order Thinking Skills (HOTS) is an effort that can be made to improve the quality of learning and graduates. This is implemented as a follow-up to Indonesia's low ranking in the Program for International Student Assessment (PISA) compared to other countries. Higher order thinking occurs when a person acquires new information and is stored in memory and interrelates or rearranges or expands that information to achieve goals or find possible answers in confusing conditions (Lewis & Smith, 1993). Meanwhile, according to Brookhart (2010) high-order thinking skills are categorized into three parts, namely as a form of transfer of learning outcomes, as a form of critical thinking, and as a problem-solving process. Referring to these two opinions, the application of HOTS in the learning process is very important.

Learning is a process of interaction between teachers and students and the elements in them. Teachers play a very important role in teaching and learning activities (Hasan, 2016:231). The teacher is the most dominant factor that determines the quality of learning. Good quality of learning, of course, will produce good learning outcomes as well. According to Rusman (2012: 148) in the learning system teachers are required to be able to choose the right learning method, be able to choose and use learning facilities, be able to select and use evaluation tools, be able to manage learning in class and in the laboratory, master the material, and understand the character of students. One of the teacher's demands is being able to choose

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the right learning method for teaching). If the learning method used by the teacher is right, the achievement of learning objectives will be easier to achieve, so that the value of student learning completeness will increase, student interest and motivation will also increase and a pleasant learning atmosphere will be created (Wulandari, 2013) (Maya, 2018:165).

Students not only get lesson material from but also about life skills, for example in finding solutions to problems faced in real life such as family, friends, and society in a wider scope. Basically every student must be able to think but not all students use their thinking skills properly and optimally. Students need various stimuli to maximize and explore their thinking potential. As stated by Leonard (2013) which states that basically every action taken by humans is the fruit of thinking, but not all humans want to use their brains to think good things. High-level skills are skills that involve high cognitive levels in Bloom's taxonomy. Bloom's cognitive taxonomy consists of six levels, namely knowledge, understanding, application, analysis, synthesis, and evaluation. The six cognitive levels were then revised by Anderson and Krathwohl (2001) to remember (remembering), understand (understanding), and apply (analyze), evaluate (evaluating), and create (creating). Levels one through three are low level skills and levels four to six are high level skills (Sulis, 2019:553).

The development of neuroscience has touched the spiritual dimension. There are four things that when combined will produce spirituality, namely life, positive emotions, spiritual experiences, and rituals. Through SPECT services, Daniel Amen divides the brain into five main systems, namely: the prefrontal cortex, the inner limbic system, the basal ganglia, the singular gyrus, and the temporal lobe. These five systems have a relationship with spirituality. Tools that can measure spirituality and describe its relationship with the brain include the Indonesian Spiritual Health Assessment (ISHA) (Rio, 2018:127). In relation to this problem, the Ministry of National Education has launched HOTS (Higher Order Thinking Skills) based assessments. HOTS is a high level of thinking as indicated by critical, analytical, logical, creative, and metacognitive thinking. The results of literary research show that students who are trained to think critically have a positive impact on the speed of learning success in the development of individual knowledge (Chinedu dan Kamin, 2015). The opposite of HOTS is LOTS (Lower Order Thinking Skills). This HOTS-based assessment is in the context of implementing Curriculum 13 which requires the ability to think of students at the metacognitive level, not only to remember, understand, and describe subject matter but also in the ability to develop teaching students in applying understanding and mastery of the material.

The declaration and recommendation of HOTS application in the assessment, including an intensive learning process in terms of understanding and thinking patterns that have a positive impact on students in Indonesia. HOTS is a strategic effort to improve the quality of learning,

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which has been recommended by experts and researchers, especially Islamic studies. In Islam, character building is a fundamental problem for shaping a people with character. Character building is formed through fostering akhlakul karimah (noble morals) (Yeni, 2018:24). The problem is whether Curriculum 13 is for Islamic Education Subjects in Madrasahs and Schools so that it can demand the ability of students to understand the material to the point of high level ability. (higher thinking or higher skills) which are metacognitive or arrive at the competence of students having basic Islamic religious abilities which are cognitive-applicable or LOTS-based assessments. In various media, we don't know much about the importance of studying Islam, especially we as Muslims who are relatively guided by the Al quran and Al Hadith. As for the ways we must know, in order to easily study the material we must encourage students to include in their souls their love and intimacy in learning the science of Islam. In this HOTS-based application it will have a lot of impact on positive attitudes in learning and teaching forums.

Method

The purpose of this study is to reveal that it is in developing thinking skills critical students in the subject of Islamic religious education (PAI) need to be applied based learning Higher Order Thinking Skills (HOTS). Research methods, which is used in this research is a method qualitative using a descriptive approach and library research. This research approach is descriptive qualitative in library research. Data source this research is literature, both from books and literature journal in the field of Islamic Religious Education, Hots, and Neuroscience. Data collection is done by using observation is interactive and continuously from various sources, both manually and digital. The collected data is then reduced, displayed, and verification. Data analysis was carried out with organize data, break it down into units, perform synthesis, arrange into a pattern, choose what is important and to be studied, and draw conclusions what to cheer up to others (Sugiyono, 2019).

Results and Discussion

Higher Order Thinking Skills (HOTS)

Gunawan (2003: 171) explains Higher Order Thinking Skills (HOTS) as a thought process that requires students to manipulate existing information and ideas in certain ways that give them new understanding and implications (Rochmah, 2015: 29). Higher Order Thinking Skills (HOTS) include aspects of critical thinking skills, creative thinking skills, and problem solving skills. Critical thinking is the ability to analyze, create and use criteria objectively and evaluate data. Creative thinking is the ability to use complex thinking structures so as to bring up new

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and original ideas (Rochmah, 2015: 27-39). The ability to solve problems is the ability to think in complex and deep ways to solve a problem (Lewy, 2009:14). Critical thinking is one of the characteristics of an intelligent human being. Critical thinking is independent, self-disciplined, self-monitored, improves own thinking processes. However, critical thinking will occur if it is preceded by critical awareness which is expected to be developed through education. Thinking skills can be developed through a conditioning for thinking (Wahid, 2017: 221). This condition is expected to be able to run in learning activities and daily life, so that teachers and students get used to thinking critically and creatively. Critical thinking is the ability of an individual's mental processes obtained through experience, so that individuals can make good decisions or actions (Hartini, 2015:86-101). Various results of educational research show that critical thinking is able to prepare students to think in various disciplines, and can be used to prepare students to live careers and in real life. On the other hand, problems related to the development of critical thinking in learning often go unnoticed by teachers. The development of critical thinking is only expected to appear as an accompanying effect (Agus, 2019:100).

Critical thinking indicators put forward by Wade (1995) include: (1) activities formulating questions, (2) limiting problems, (3) testing data, (4) analyzing various opinions and biases, (5) avoiding considerations that emotional, (6) avoid oversimplification, (7) consider multiple interpretations, and (8) tolerate ambiguity. Meanwhile, Beyer (1985) suggests critical thinking indicators, namely being able to (1) determine the credibility of a source, (2) distinguish between the relevant from the irrelevant, (3) distinguish fact from judgment, (4) identify and evaluate assumptions that are relevant. unspoken, (5) identify existing biases, (6) identify viewpoints, and (7) evaluate the evidence offered to support recognition (Pratiwi, 2015:123). To be able to achieve higher order thinking skills, a learning model is needed that is able to require students to be able to find their own understanding. One learning model that is student centered and a learning model that is able to train students' high-order thinking is the Learning Strategy for Learning Ability to Think (SPPKB) learning model (Astuti, 2019: 136). study the facts or experiences of the child as material to solve the proposed problem, that learning by rote and procedural skills will be easily forgotten if not practiced (Shu, 2005). Conversely, the material will be easy to remember if it is obtained through a deep and thorough understanding such as a learning experience enriched by various means of interaction between students and the learning environment, which will greatly assist students in synthesizing, evaluating and applying the knowledge they receive (David, 2006:295-306). In SPPKB, subject matter is not just presented to students. However, students are guided to discover for themselves through the dialogue process by utilizing the experiences of students (Sanjaya, 2008: 226-227) (Amri, 2016: 46). HOTS contains problem solving skills, creative thinking skills, critical thinking skills,

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argumentation skills, and decision making skills (Husna, 2018:170-176).

To improve the quality of an education, it requires improvements in education, one of which is in terms of assessment, it is very important to develop HOTS-oriented assessments or higher-order thinking skills, namely: a thinking model that does not just remember information, but invites students to think at the highest stage to develop a learning environment in which students become new idea creators, information analysts, and knowledge generators (Widya, 2017:109). HOTS in learning aims to improve students' higher thinking skills, therefore in this case educators as facilitators must facilitate students to become better thinkers and problem solvers, namely by providing a problem that allows students to use higher order thinking skills (Hamid, 2018:82-98).

Neuroscience

Neuroscience is a new education system that studies the nervous system. Educators generally rarely pay attention to this problem. Neglect of this system causes the learning atmosphere to die. Etymologically, neuroscience is a neural science that studies the nervous system, especially studying neurons or nerve cells with a multidisciplinary approach (Taufiq Pasiak, 2012). In terminology, neuroscience is a field of science that specializes in the scientific study of the nervous system. Neuroscience is also referred to as the study of the brain and all other nerve functions. Neuroscience is a field of study regarding the nervous system in the human brain. Neuroscience also studies the awareness and sensitivity of the brain in terms of biology, perception, memory, and their relation to learning. The human brain is kept by about 100 billion nerve cells with complex functions as the control center for all human activities (Rezky, 2014:420). For neuroscience theory, the nervous system and brain are the physical principles for the human learning process. Neuroscience is a field of scientific research on the nervous system, especially the brain. Neuroscience is the study of the brain and mind. The study of the brain forms the foundation in understanding how we feel and interact with the outside world and in particular what humans experience and how humans affect others (Schneider, 2011). Neuroscience can make connections between cognitive processes contained in the brain and the behavior that will be generated. This means that, every command processed by the brain will activate important brain areas (Harun, 2003).

Kandel (2000) said "The last frontier of the biological sciences – their ultimate challenge – is to understand the biological basis of consciousness and the mental processes by which we perceive, act, learn, and remember." Neuroscience seems to be a branch of biology. However, currently there have been many research collaborations between fields of science within the framework of neuroscience, such as psychology-neuro and cognitive disciplines, computer

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science, statistics, physics, and medicine (Jodi, 2010: 97). Neuroscience is a field of science that specifically studies nerve cells or neurons. Wattimena R, in Introducing the status of Neuroscience, stated that this science studies everything about the human brain, studies its biological elements, and studies the process of human relations with God. Neuroscience is a combination of many fields of expertise, scientists, and research objects related to the brain (Hammi, 2017:155).

The Concept of Learning Islamic Education Based on Higher Order Thinking Skill (HOTS) in a Neuroscience Perspective

Talking about HOTS-based assessments cannot be separated from our discussion of what is often called Bloom's taxonomy. Bloom and colleagues distinguished learning outcomes (learning out come) or what is often called CP (Learning Outcomes) into three domain categories, namely cognitive (al-majal alma'rify), affective (al-majal al-infi'aly), and psychomotor (al-majal an-nafsahroky) (Marzuqi, 1996 and Nurgoyantoro, 2016). These three domains become references in the KBK, KTSP, and K 13. The exploitation of these three domains is more obvious in K 13 as formulated in Core Competencies 1 and 2. Thinking means using analytical, creative, practical, and intelligence skills that are needed in life daily. Higher order thinking skills such as meta-cognitive abilities are part of higher order thinking skills. Mc Loughlin and Luca (2011) stated that HOT means the capacity to go beyond the information given, to adopt a critical stance, to evaluate, to have metacognitive awareness and problem solving capacities (Widodo, 2013:162-163). In general HOTS can be defined as a thought process that involves critical processing of information in dealing with situations or solving certain problems (Shinan, 2014;45-59).

The ability to think is divided into two parts, namely low-level thinking skills (Low Order Thinking Skill or LOTS) and high-order thinking skills (Higher Order Thinking Skill or HOTS). According to Piaget, children's intellectual development can be divided into four periods, namely: (1) motor sensory period at the age of 0-2 years; (2) the pre-operational period at 2-7 years of age; (3) the period of concrete operations at 7-11 or 12 years of age; (4) the period of formal operations at the age of 11 or 12 years and over (Jazim, 2017: 105). Students' high-order thinking skills are a barometer of the nation's intellectual level. As agents of change, students must be able to show their identity in intellectual, moral, and elegant ways. In the brain there is a prefrontal Cortex that functions to regulate critical-analytical thinking, plan for the future and make decisions (Suyadi, 2018:140). Therefore, in the 21st century, the learning process carried out in schools and colleges must really be considered, in order to produce competent graduates. One of the problems faced by the world of education is the problem of weakness in the teaching and learning process because students are less encouraged to

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develop thinking skills. The learning process in the classroom is directed at students' ability to memorize information (Rizka, 2018: 45). HOTS referred to in this study is the ability to think critically (Zaenal, 2017:93).

In learning in schools, teachers tend to use questions in supporting books which are dominated by indicators of remembering, understanding and application in Bloom's Taxonomy. Problems with indicators of analyzing, evaluating and creating are very few in supporting books. Indicators of analyzing, evaluating and creating are indicators of higher order thinking (HOT) questions. HOT questions tend to be complex and one of them is an open-ended question. When students are faced with open-ended questions, it will produce various problem solving processes. The completion process depends on the experience and knowledge of each individual (Nurina, 2008: 1). With the development of brain analysis methods, a great deal of research has been done to find out how the brain learns or reason. The part of the brain that plays a role in digestion is the prefrontal cortex (Yulia, 59). Higher Order Thinking Skills (HOTS) as students' thinking skills in obtaining new information stored in their memory, then connecting and delivering it for the expected purpose (Hamid, 2018: 83). The essence of learning is the activeness of students in the learning process and the educator acts as a facilitator (Poppy, 2013: 109). In a discussion this should also require concepts that affect learning, namely.

Warehouse of questions

A classroom where students feel free to ask questions without negative reactions from their peers or their teachers is a class where students feel free to be creative. Encourage students to ask questions and if for some reason you cannot find their questions during class time, show how they can answer them themselves, or have them save the questions until the next day.

Connect concepts

Lead students through the process of how to relate one concept to another. By doing this, you teach them to relate what they already know to what they are learning. This level of thinking will help students learn to make connections whenever possible, which will help them gain more understanding. For example, let's say that the concept they are learning is "Chinese New Year." The broader concept is "Vacation," and if you take it one step further, it can become "Celebration." Every little concept can be linked to a bigger and wider concept.

Teach students to conclude

Teach students to draw conclusions by giving them "Real World" examples. You might start by giving students pictures of people lining up in the soup kitchen. Ask them to look at the image and focus on the details. Then ask them to draw conclusions based on what they saw in the picture. Another way to teach young students how to conclude is to teach easy concepts

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like the weather. Ask students to put on their raincoats and boots, then ask them to sum up what they think the weather looks like outside.

Use an idea map / concept map

An idea map or concept map provides students with a great way to frame their thoughts in an organized way. By drawing diagrams or mind maps, students can better relate concepts and see their relationships. This will help students develop a habit of connecting concepts.

Teach problem-solving strategies

Teach students to use step-by-step methods to solve problems. This higher-order thinking will help them solve problems more quickly and easily. Encourage students to use alternative methods of solving problems as well as offer different problem-solving methods. Because the child's metacognitive abilities do not appear on their own, but require practice. The role of parents and teachers as role models to practice this ability so that it becomes a habit (Ruqoyyah, 2017:45).

Encourage creative thinking

Creative thinking is when students discover, imagine, and design what they think. Using your creative senses helps students process and understand information better. Research shows that when students use creative higher order thinking skills, it actually improves their understanding. Encourage students to think "out of the box". The cognitive domain is related to a person's intellectual ability and thinking competence (Nurgiantoro, 2016). In Marzuki (1996), the goal of this cognitive domain is to focus on intellectual activity (an-nasysyath al-aqly wadz dzihny). The affective domain is a domain that is more related to learning attitudes as indicated by the feeling of learning (masya'ir), learning motivation, behavioral tendencies, learning enthusiasm, and values. The psychomotor domain (psychomotor domain) is more related to physical skills or movements (psychomotor).

Neuropsychologists have also suggested that there is an important role in the prefrontal cortex (PFC) brain, which is called the executive function. The function of PFC is higher order thinking and occupies an important position in the teaching and learning process (Nani, 2018: 544). Bloom and friends make categories or levels of ability that are in the cognitive domain from the lowest to the highest levels, namely knowledge (knowledge or C1), comprehension (C2), application (application or C3), analysis (analysis or C4), synthesis (synthesis or C5), and evaluation (evaluation or C6). Marzuki (1996) provides an illustration of Bloom's cognitive level as follows. HOTS is a high-level thinking plan which is indicated by critical, analytical, logical, creative, and metacognitive thinking (Ainin, 2018: 156). Higher order thinking skills or HOTS include thinking skills such as creative and critical thinking, analysis, problem solving and visualization (Prastiwi, 2016:2).

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Cognitive Realm Illustration

The illustration of Bloom's taxonomy proposed by Marzuki (1996) above shows that there is a level of competence from the lowest level, namely the mustawa at-tadzakkur level (remembering or cognitive knowledge) or level 1 to the highest cognitive level, namely mustawa at-taqwim (assess) or level 6. The bloom taxonomic cognitive process is divided into low-level thinking (LOST) and high-level thinking (HOTS) (Edy, 2011: 492-510). In general, the six cognitive competencies are grouped into cognitive competences for the low group and the high-group cognitive competencies (see fig 1).

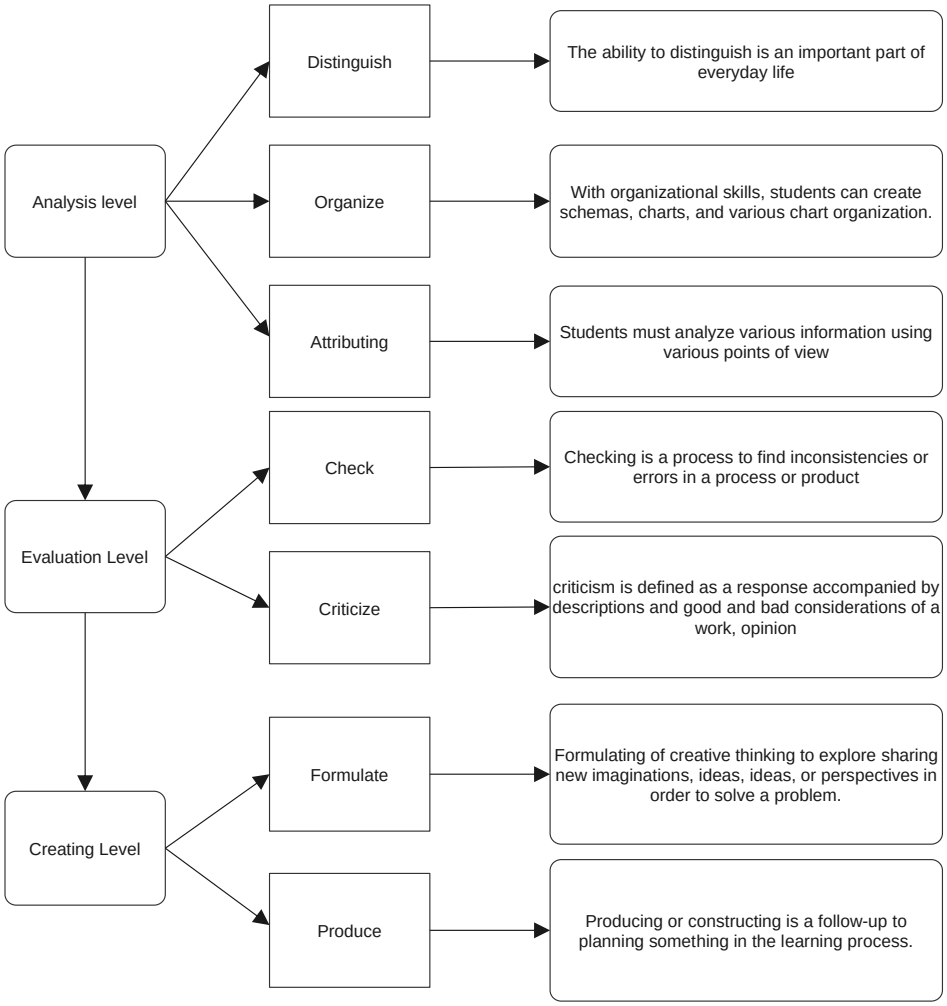

Fig 1. HOTS-based learning is usually synergized with the bloom taxonomy through several indicators

Basically, the two levels of thinking refer to the bloom taxonomy which consists of 6 aspects (Ilham, 2017: 217). Cognitive competencies level 1 to level 3 include a low group cognitive group called LOTS (Lower Order Thinking Skills) or also called lower order thinking competence. Meanwhile, cognitive competencies level 4 to 6 include a high-level cognitive group called HOTS (Higher Order Thinking Skills) or higher oreder thinking competence. In an assessment perspective, HOTS is an instrument used to measure higher order thinking skills

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(Kemedikbud, 2017). High-order thinking skills or often referred to as Higher Order Thinking Skills (HOTS) can make an individual interpret, analyze or manipulate information (Trimo, 2018:29-37).

HOTS is a skill of combining, manipulating and transforming existing knowledge and experience to think critically and creatively in making decisions and solving problems in new situations (Emi, 2013: 17-22). HOTS is the main component in critical, creative, and creative thinking which pedagogically can help students develop more innovative ideas, ideal perspectives, and can build imaginative knowledge. In addition, HOTS also focuses on developing students' abilities to have effective analytical skills, reference information, and create something new (Chinedu and Kamin, 20150. The cognitive competency category proposed by Bloom was revised by his own colleagues (Revision of Bloom's Taxonomy), namely Anderson & David R. Krathwohl (2001). The results of their revision lay in the placement of evaluation competency at level 5, which was originally in the form of synthesizing competence. Then they placed creating competency at the level position.

Thus, the synthesis competence by Anderson & David R. Krathwohl was eliminated (Kemendikbud, 2017 and Nurgiyantoro, 2016). Furthermore, Anderson and Krathwohl (2001) classified the dimensions of thinking into three categories, namely HOTS, MOTS (Middle Order Thinking Skills), and LOTS as quoted by the Ministry of Education and Culture (2017). (Budiman, Agus. 2014. "The Development of Higher Order Thinking Skill (HOTS) Assessment Instruments in Mathematics for Class VIII Semester I Junior High School Mathematics". Journal of Mathematics Education Research 1 (2): 139-151.) It cannot suddenly be applied in questions, if the learning process has never been applied. Muhammad Nur Rizal, an education observer from the Fun Schools Movement (GSM), added that the learning process in class has not been able to turn on the students' reasoning. The ability to take the exam is only based on the habit of doing grid-based questions. In teaching and learning activities (KBM) teachers tend to pursue the achievement of teaching material, do not involve students optimally, students tend to learn if there are tests, student-student and teacher-student interactions are less (Tri, 2013:165).

Therefore, to improve the quality of education, not only increase the difficulty level of questions using the HOTS concept, but also as a whole starting from the curriculum. For example, by reducing material and increasing reflection and project-based learning processes. However, these changes must apply in the system of recruitment and professional development of teachers. The key to this problem lies with the educators, said Satriawan. "Unfortunately, teacher training to be ready to implement the HOTS method has not run optimally," (Agus, 2014: 139-151). Higher order thinking skills are a thinking skills that do not

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only rely on the ability to remember, but require other abilities that are more than that (Mufida, 2016). This is the result of the learning process that has been carried out by the teacher through monitoring to determine the learning progress of students and increase the effectiveness of learning activities (Hasan , 2016: 204). Fun learning will be marked by the amount of student attention to assignments, so that learning outcomes can increase. In addition, in the long term students are expected to be happy learning to create lifelong independent learning (Syamsu, 2016:373).

What we can take from the above statement is that Islamic Education (PAI) is a conscious effort to prepare students to believe, understand, live and practice the Islamic religion through activities, guidance, teaching, or training, so that they become believing Muslim humans and devoted to Allah Almighty, and practice the teachings of his religion in everyday life both in personal life and in religious life, strengthen personality and are jointly responsible for the development of the nation and state. The human brain is kept by about 100 billion nerve cells with complex functions as the control center for all human activities. HOTS is a strategic effort to improve the quality of learning, which has been recommended by experts and researchers, especially Arabic learning. As for how we must know, in order to easily study the material we must encourage students to include in their souls their love and affection in learning general science and especially the science of Islam.

Conclusion

Higher Order Thinking Skills (HOTS) is an effort that can be made to improve the quality of learning and graduates. Students must have the ability to think high in order to get an easy understanding. HOTS is a high level of thinking as indicated by critical, analytical, logical, creative, and metacognitive thinking. The results of literary research show that students who are trained to think critically positively impact the speed of learning success in the development of individual knowledge. In terminology, neuroscience is a field of science that specializes in the scientific study of the nervous system. Neuroscience is also referred to as the study of the brain and all other nerve functions. Neuroscience is a field of study regarding the nervous system in the human brain. Neuroscience also studies the awareness and sensitivity of the brain in terms of biology, perception, memory, and their relation to learning.

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