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Research paper

The Implementation of Teaching and Learning for Islamic Education Subject (Fiqh) based on Cognitive Developmental Psychology Levels in Madrasah Tsanawiyah Negeri (MTs N) Malang 1

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Abstract

The object of education is human being. Undersanding student developmental psychology is essential in teaching and learning process. The research entitled "The Implementation of Teaching and Learning for Islamic Education Subject (Fiqh) Based on Cognitive Developmental Psychology Levels In MTsN Malang 1" is intentionally aimed to explore how the teaching and learning on Islamic studies (Fiqh) could be implemented by considering the students developmental psychology. This is descriptive qualitative research utilizing two perspectives as theoretical bases, Islamic perspective refers to Prophet Muhammad theory, and western perspective refers to Jean Piaget and Lev Vygotsky theories. The research begins by finding the problems, then breaking theories down to be reasearch instrument and comparing it as applied in model school, MTsN Malang 1. The result, based on both Islamic and western perspective theories, shows supports. Teaching and learning process are considered to implement interactive and cooperative models. Interactive model is implemented by utilizing learning technology such as LCD-projector and computer to show audio-visual contents, quiz creator and edmodo. And cooperative model is implemented not only by learning technology, but also language development applied in mapping and presentation set. Analysis result shows that teaching and learning based on cognitive developmental levels gives more understanding for most students' proved by students' interest and excellent score. The novelty is that the research used developmental psychology which specified on cognitive to be applied in Islamic Education subject (Fiqh).

Keywords: *Teaching and Learning, Islamic Education Subject (Fiqh), Cognitive Developmental Psychology Levels.*

1. Introduction

The aim of education is to support the students development physically and psychologically. For the teacher, giving acceptable understanding for the students is needed to reach the learning purpose without pressure. Students are special with their uniqueness. In the term of age they look similar, but actually they are heterogenous with their own character and way of thinking.
Education is mostly generalize the student character and way of thinking. Teachers look the heterogenous students as the same way. This could effect to the student eagerness and motivation in teaching and learning process.
In fact, educational institutions are commonly generalize the student characteristics to support their development. It is proved by the question why the students look so bored and relucant to study the certain subject in such complicated curricullum? It could be they receive the lessons immediately. Therefore, schools need to understand the learning process suitable to the students development physically and psychologically [1].
The research presents one of psychological consideration needed in learning process to be based on cognitive development. There are two perspectives as theoretical bases, Islamic perspective and western perspective.

Islamic perspective is generally adopted from prophet Muhammad SAW. He was a leader, teacher, entrepreneur as a representative and ideal mankind for ummah (society). In this research would be present several thought refers to prophet Muhammad as a teacher. Fisrtly, we could understand an ayah of the Qur'an, Ar Rum: 54, generally explains the phases of human development.

54. Allah is He Who created you from a state of weakness then He gave strength after weakness, then ordained weakness and hoary hair after strength; He creates what He pleases, and He is the Knowing, the Powerful.

[2] classifies the phases of human development with characteristics of each phase.

1. The first phase is the children in the age of 0-2 years. It is the period of breastfeeding and weaning.
2. The second phase is in the age of 3-5 years which is in the period of play group.
3. The third phase is 6-8 years old children. It is the period of childhood in elementary school.
4. The fourth, the age of 9-12 years old is the period of transition. It is last period of elementary school.
5. The fifth phase is the childrn in 12-15 years old which is in adolescence period or start to be *baligh* in Islamic term. This is the period when several parts of body grow based on gender phisically and mature psychologically.

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6. The sixth phase is in the age of 15-18 years which in puberty period. Generally, the children in this phase is in high school period.
7. The seventh is the age of 18-30 years. It is productive phase in which human have independent to achieve the goal.
8. The eighth, the phase of maturity is in the age between 30 and 60 years. It is the period of being wise in understanding.
9. The last phase of human development is over 60 years old which commonly the productivity of human are getting decreased.

The second grade students of secondary school are in phase of adolescence (*baligh*) period and have some characteristics of thinking way as follow:

1. At the time of problems-coming. The children aware that the problems influence their life, have strong desire to look for the best sollution able to make them satisfied through deep thinking.
2. Object-thinking decision. The children are trying to make the correct conclusion and understanding the scope of problems, but rarely lack of sorting ability of two resemble objects.
3. Ability of collecting possible hypothesis. They are going to look for related and relevant data of the problem, and excluding low possibility hypothesis to find the solution.
4. Ability of sorting hypothesis. The children have eager to search the correct data or truth, and strong of intuition, disposition and motivation.

Some strategies concluded from Islamic taught cloud be implemented in teaching and learning are:

1. Use brainstorming as warm up session before the class starts to make sure student focus
2. Give a humor or another relaxation within discussion or class session
3. Stimulate the student senses as maximal as possible, such as by drawing, giving explanation orally with additional body gesture, using a model or 3D tools, and completing with text.
4. Consider the student way of thinking
5. Motivate to learn through experience
6. Comfort to keep learning in any blocking factors
7. Punish with great love and peace for mistake or trouble, and avoid physical punishment especially vital organs. There are several points need to paid atention for unavoidable physical punishment (beating), such as the students are over 10 years old for 10 times beating maximally, causing no injuries, without hard tools, and teacher should stop when the students are accept the mistakes and ask mercy of Allah.
8. Give *ibrah mau'idhah* (taking a positive learning of any cases)
9. Help the students at the time of getting difficulties in learning
10. Give reward for excellent student
11. Come closer (even hold the student hand or shoulder) to comfort and increase their interest in question-answer session
12. Teach the student interactively
13. Try to apply methods of *hikmah* (learning wisely), *mau'idhah hasanah* (nice speech), and *mujadalah* (debate) as said in *An Nahl*: 125 in a correct way
14. Give the students logic and rational explanation, such as by applying methods of *tamsil* (analogy), *tasybih* (similar case), and stimulating to keep searching or asking. Conclude the class by giving the reinforcement.
15. Try to apply methods of story telling (history of Islamic civilization), targhib (convincing the students about the truth and power of Allah), and *uswah hasanah* (good figure).

Western perspective is adopted from two figures of cognitive development, Jean piaget and Lev Vygotsky. These two figures have different point of view in formulating the student cognitive development.

Jean Piaget, 1896 – 1980, is a Swiss psychologist famous in his research of child and cognitif develompent. He is also a pioneer of constructivism theory about knowledge. His big contribution of cognitive development is cited in great quantities [3].



Figure 1

As a constructivism figure, Piaget believes that human could understand (knowledge) through collecting and organizing information in which the ability and organizing information shows the maturity of cognitive development. Why is it so?

In earlier work, as a biologist, he believes that biological development is environmental adaptation. In adaptation process, human would need to understand through organizing the environment. At the moment of human trying to think to organize environment, it shows the process of cognitive development.

Piaget formulates three steps as concept of organizing information. Firstly, Schema is a term of Piaget to show the concepts of the certain object saved in human mind. Secondly, Assimilation is the process if gaining knowledge through experience. In other word, it is the process of matching the stimulus with the schema. Thirdly, Accomodation is the process of new schema reformation in which there is a gap between the earlier schema with the assimilation process.

In organizing information, Piaget introduces the terms of equilibrium and disequilibrium to show the condition of human mind. Equilibrium is balance condition shows human could understand and adapt to the environmet. This conditions is commonly formed after the accomodation process. Dissequilibruim is the unbalance condition shows that human is in lack of information, trouble or confuseness on the certain thing. This condition demands human to keep searching.

Those four steps of information-organizing concept are occured in every level of human development. Through his reserach, Piaget formulates four levels of human cognitve development.

Four stages of human cognitive development in Piaget view are sensory motor stage with the age of 0 -2 years, pre-operations stage between 2 and 7 years old, concrete operations stage for 7-11 year old children, and formal operations stage for over 11 years old until getting mature.

This research focusses on teaching and learning for secondary students, for which mostly in concrete operations stage. Those who are in this stage are characterized as the one having ability of concrete problem solving, thinking logically, understanding talks about laws or rules, having ability of classifying and seriating (arranging smaller to bigger and the opposite), and understaning reversibility.

On concrete operation stage, students are able to think in concrete way, even abstract things should be explained concretely to be understandable. Piaget explains three self-characters of the children in concrete operations stage. Firsly, identity. Secondly, compensation, it is ability to understand movable thing to another but has the sam subtance, size and quantity. Thirdly, reversibility, it is the ability to understand a series of steps / procedures. It means students have reversible thinking.

Based on Piaget theory of concrete operations, there are some practical recommendations as principle in teaching and learning for concrete operation students.

1. Use learning medias stimulate senses concretely, especially for abstract and complicated lesson contens.
2. Teach the students in a short instruction, try not to instruct several steps at one time, and give additional acts or body gestures to explain words clearly.
3. Prepare effective learning by short and communicative communication which is well prepared.
4. Use simple analogy to explain complicated or complex ideas.
5. Stimulate the students to analize and think by presenting some concrete points.

Lev Vygotsky, 1896 – 1934, is a Russian psychologist has big contribution in child development theory. He also is a founder of unfinished theory, cultural-historical psychology. He became famous in 1980s through his social cognition theory, "zone of proximal development" [4].



Figure 2

Zone of proximal development (ZPD) is a zone when the students are able to solve the problem with guidance or support of others that Vygotsky calls as scaffolding. Scaffolding could be question, stimulus, reminder, small step, et cetera. This area of ZPD is an area where the language is needed.

According to Vygotsky, almost all of the learning process are guided or mediated by the teacher and several tools supplied by environment, and mostly the guidance is through language [5].

With this importance of language, Vygotsky classifies language-mastering ability to be four stages based on the class levels.

Four levels presented by Vygotsky are class 2 (second grade of elementary school), class 3- 5 (third grade till fifth grade of elementary school), class 6-8 (last grade of elementary school till second grade of junior high / secondary school), and class 9-12 (last grade of seondary school till the last grade of high school).

This research focusses on teaching and learning process on class 8 which is in third levels based on Vygotsky's language masterng theory. Those who ar in third level are characterized as follow:

1. Mastering about 50.000 words
2. Having higher focus on academic discipline terminologies
3. Rarely confused in using several conjunctions, such as "however", "although", "besides" and "moreover"
4. Understanding complex sentences, such as declarative sentences
5. Strating to get to know more than literal interpretation, understand simple proverbs, increase sarcasm ability
6. Starting to interest abstract topics
7. Having more consciousness of significant meta linguistic

Several teaching and learning method recommended by Vygotsky for students with the characteristics above are:

1. Teach the students more vocabularies through reading task
2. Introduce the students to academic discipline terminologies, such as "figurative" for linguistic, and "molecule" for nature science
3. Challenge the students through debate to explore their thinking about hot issues
4. Ask the students to think about the certain proverb meaning
5. Explore the essence of the certain words as entity

2. Methodology

This is descriptive qualitative research implemented in one of branded islamic school in Malang, Madrasah Tsanawiyah Negeri (MTs N) malang 1.

Descriptive research is a method trying to interprete the object. This research is called as non-experiment research, because of the researcher does not add any controls and manipulate variable of the research [6].

Object of the research is the students on second grade of MTs N Malang 1 taken randomly for each teacher of Fiqh (one of Islamic studies) learning.

Datas of the reserach are collected through three techniques. Firsly, observation in teaching and learning process. Secondly, interview of each Fiqh teacher and several students taken randomly. Thirdly, documentation for teaching and learning, and interview.

3. Findings

After collecting datas of the research, here are the process of teaching and learning on fiqh. Utilizing technology becomes an option in teaching and learning process as implemented by MTs N Malang 1. Based on the observation, here are some utilizations of technology.

1. Teaching and learning through auto play and interesting contents within, such as not only textual lesson, but also video and pictures related to the lesson content to support the existing of interesting class. This media contained some Islamic songs used as ice breaking subject to help the students' getting more attention and re-concentration for learning.
2. Question and answer through quiz creator to increase the students' interest. There are about nine models of questions could be challenged tp the students. These various types of questions were implemented as small evaluation.
3. Utilizing edmodo to collect the assignments. Edmodo is one of educational technologies used to share informations to the students, colleguous and parents. In MTs N Malang 1 the teacher gave individual and group assignments. Individual assignment was giving the students' written question, and group assignment was asking the students' to analyze the environment around them based on discussed lesson content, and then collecting the result of the assignment by fulfilling form that has been up loaded in edmodo.

Another process of teaching and learning on Fiqh used the presentation skills of the students implemented through several steps as follows:

1. Teacher divided the students to be some groups and learning topics. Then let the students to construct knowledge independently, based on each topic, through several sources available.
2. Teacher obligated every student to make a mind map of related topic and add the points of each topic into power point.
3. Students Presented each topic into class seminar set. Each member of the group toke participation in presentation as moderator, speaker 1, speaker 2 and so on.
4. Discussing and giving question and answer session to the other students related to the certain topic.
5. Teacher gave additional reinforcement for discussed topic and reviewed the way of presentation process.
6. Teacher asked the questions for each group to see how far the presenters understand the topic. In other way, teacher could see it though the way presenters answer the questions of the other students. These ways are used as additional evaluation besides tested one.

The result of teaching and learning considering cognitive development is showed through evaluation resuld and several opinions of the students.

Evaluation result, as explained before, was taken from two ways. Firsly as additional score of evaluation, it is through individual and group assighment reported in edmodo, and the ability of presenting and answer the question of presented topic. Secondly as main score of evaluation, it is through written test included the topic has discussed. Almost all of the students got higher score with the average between 84 and 88 for each different class. It means, the students could achieve one of the goal in learning by understanding all related topics.

Several students, randomly asked, shows different resposes about the way of how the teachers educate them in teaching and learning process as follows:

1. Some students refer to gain the knowledge thorugh presentation and discussion set. It could improve the students skill in organizing and speaking in front of others.
2. Numbers of students interest in fiqh lesson from the start, with a lot of practical contents include Arabic, therefore any kinds of learning methods would be accepted.
3. A lot of students interest in learning methods utilizing media of technology and stimulating more than one of their senses.
4. Some students be more interest in lesson when the teacher obligated them not to come to the class with empty head. It means that numbers of students agree that they need to learn the topic before class in order teaching and learning process be more interesting.

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