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TEACHERS' SELF-EFFICACY AND READINESS TOWARDS THE TEACHING OF HIGHER ORDER THINKING SKILLS AT PONDOK PESANTREN AL-IHSAN IKADI, RIAU, INDONESIA

BY

ASROFI

A dissertation submitted in fulfilment of the requirement for the degree of Master of Education in Curriculum and Instruction

Institute of Education
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ABSTRACT

The study investigated the teachers' self-efficacy and readiness towards the teaching of higher order thinking at *PondokPesantren Al-Ihsan IKADI* Riau, Indonesia. Specifically, it attempted to examine the teachers' level of self-efficacy as well as to gauge their readiness in teaching higher order thinking skills across the curriculum. It also examined the potential factors that may have affectedthe teachers' self-efficacy and readiness as well as to ascertain the relationship between their self-efficacy and readiness in the teaching of higher order thinking skills. The research was conducted using a modification survey adapted from *The New Millennium in Mind* designed by James Tebbs (2000). The respondents were 66 teachers from *PondokPesantren Al-Ihsan IKADI* Riau. The findings indicated that majority of the teachers were not highly confident with their ability and ready to teach higher order thinking skills to the students. Their level of self-efficacy and readiness were average. Moreover, this study also suggested that most of the teachers had insufficient knowledge and understanding of higher order thinking skills as well as the strategies to teach these skills due to inadequate trainings. Hence, investments in house seminars, trainings, or workshops on higher order thinking skills were strongly recommended to improve teachers' capability in teaching higher order thinking skills at *PondokPesantren.*

ملخص البحث

هذا البحث يقيس مستوى الثقة من المعلمين مع قدراتهم (الكفاءة الذاتية) واستعدادهم لتعليم مهارات التفكير المستوى الأعلى(Higher Order Thinking Skills) في معهد الإحسانIKADIرياو إندونيسيا. وبنسبة هذا البحث لمعرفة وقياس العوامل المحتملة التي تؤثر بين مستوى ثقة المعلمين ومهاراتهم، وأيضا نظر استعدادهم لتعليم مهارات التفكير المستوى الأعلى.وكذلك لمعرفة ما العلاقة بين ثقة المعلمين يمستوىقدراتهم واستعدادهم لتعليم مهارات التفكير المستوى الأعلى. أجريت هذه الدراسة باستخدام منهج المراقبة. والأدوات المستخدمة مقتبسة من الألفية الجديدة في الاعتبار صممه جيمس طيب 2000 . ومجموع هذه العينة الدراسة 66 شخصا من معلمي معهد الإحسانIKADIرياو إندونيسيا. نتائج هذه الدراسة أن غالبية المعلمين ليس لديهم ثقة عالية بقدراتهم في التعليم وغير مستعدة بشكل جيد لتعليم مهارات التفكير الأعلى لدي الطلاب. وبالإضافة، وجدت هذه البحث أن معظم المعلمين ما لديهم المعرفة والفهم الكافية في تدريس الأعلى في التفكيرنظرا لعدم وجود التدريبات التي لحصول مهارات التفكير المستوى الأعلى. وبالتالي، يوصي الباحث على توفير الدورات التدريبية والحلقات الدراسية التي يمكن أن تزيد التفكير المستوى الأعلى.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate in scope and quality, as a thesis for the degree of Master of Education in Curriculum and Instruction.

…….....……
Siti Rafiah Abd Hamid
Supervisor

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…….....……
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Head, Department of Curriculum
and Instruction

This thesiswas submitted to the Institute of Education and is accepted as a fulfilment of the requirementfor the degree of Master of Education in Curriculum and Instruction.

…….....……...
RosnaniHashim

Dean, Institute of Education

DECLARATION

I here declare that this thesisis the results of my own investigation, except where otherwise stated. I also declare that ithas not been previously or concurrently submitted as a whole for my other degree at IIUM or other institutions.

Asrofi

Signature…… Date……..

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TEACHERS' SELF-EFFICACY AND READINESS TOWARDS THE TEACHING OF HIGHER ORDER THINKING SKILLS AT PONDOK PESANTREN AL-IHSAN IKADI, RIAU, INDONESIA

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	: Analysis of Variance
BCA	: Bivariate Correlation Analysis
CoRT	: Cognitive Research Trust
HOTS	: Higher Order Thinking Skills
IKADI	: Ikatan Da'i Indonesia
LOTS	: Lower Order Thinking Skills
MRA	: Multiple Regression Analysis
P4C	: Philosophy for Children
SPSS	: Statistical Package for Social Science

CHAPTER ONE

INTRODUCTION

BACKGROUND OF THE STUDY

Thinking has a profound status in both Western and Islamic tradition (Rosnani, 2003). In the Islamic worldview, thinking plays a vital function as an important faculty that God has created. In the holy Qur'an, approximately 750 verses exhort the readers to study nature, history, the Qur'an itself, and humanity at large which employs a range of expressions in its appeal to those who use their thinking or *'aql* (Kamali, 2006:2).

Due to its importance, today's education is aimed attraining the individuals' intellectual and moral through which their potentialities are developed, the traits of the creator inculcated in them, and the culture of the people is transmitted to the coming generations (Ibn Khaldun cited in Khalid, 1975:83).Thus, teaching also is aimed at the achievement of learning and practiced in such manner as to respect the students' intellectual integrity and capacity for independent judgement (Iqbal, 1996:62). Therefore, teachers need to equip students with the thinking skills which may enable them to tackle their future's challenges systematically and properly.

The issue about higher order of thinking skills has been discussed widely by many experts. One of the famous experts who introduced the concept of higherorder thinking skills is Benjamin Bloom. He developed six different levels of cognitive processwhich provide a complexity hierarchy that orders cognitive processes progressing from simple to complexin the cognitive domain. The progressive levels Bloom's Revised Taxonomy include remembering, understanding, applying,

analyzing, evaluating, and creating(Limbach &Waugh, 2010:3).The last three of these progressive levels deal with higher order thinking skills (Zohar & Dori, 2003).

Many studies have shown that the higher order thinking skills should not be taught in the classroom in isolation. The best way to transfer these important skills is through a holistic and integrated component of the classroom curriculum (McGuinness, 2000; Wegerif, 2002&Roush, 2008), with the intention that students are not only becoming more proficient in making decisions and solving problems in the classroom, but also preparing them to acquire the ability to know and understand and the ability to make wise judgments (Rosnani & Suhailah, 2002).

In teaching higher orderthinking skills, teachers' self-efficacy as well as teachers' readiness to teach those skills are important. High level of teachers' self-efficacy and readiness will determine the attainment of students' thinking skills. According to Caprara, Barbaranelli, Steca and Malone (2006), Senemeglu, Demirel, Yagci, and Ustundag (2009) and Bitto and Butler (2010), teacher's self-efficacy beliefs contributed significantly to teachers' effectiveness and student's achievement as well.

In Indonesia, teaching thinking has become a great concern in consonance with the goals of national education which are aimed to produce creative, critical and knowledgeable people who possess a strong faith to the God as well as good moral and ethical (National Educational System Act, 2003:3). The efforts to cultivate students' thinking skills have been implemented through our CBSA (Students' Active Learning or Cara Belajar Siswa Aktif) curriculum in 1984, improvement of CBSA curriculum in 1994 and mainly through KBK (Kurikulum Berbasis Kompetensi or Competence Based-Curriculum) curriculum in 2004. Nevertheless, the goal is not exactly achievable until today. It is seen from students' low ability to deal with

complex analysis which requires higher level of thinking such as critical and creative thinking (Mahmudi, 2009).

As the biggest Muslim country in the world, alongside with the secular schools, Indonesia has a lot of Islamic Boarding Schools or *Pondok Pesantren* which are private and unique in nature compared to non- religious schools. *Pondok Pesantren* is the oldest Islamic educational institution and the center of Islamic preaching that has emerged for hundreds of years concurrently with the coming of Islam in Indonesia (Rahim, 2001). Further, he stated that many of *Pondok Pesantren* give more emphasis on Islamic subjects rather than secular subjects, and they have their own independent curriculum which is determined by the *kyai* or school's master. Therefore, the curriculum of*Pondok Pesantren* may vary from one to another.

According to Nurcholish (1997), many of *Pondok Pesantren* provide secular sciences only to fulfill the basic requirements of globalization era and to avoid of being called as the conservative group. Accordingly, Abdul, Fatah, and Muhammad (2006) state that many of *Pondok Pesantren* grow exclusively in their own capacity and capability and accommodate only little to the challenge of globalization era. Abdul et al. further explain thatthese*Pondok Pesantren* have not considered the importance of teaching methodologiesin teaching and learning process. Conversely, traditional methods such as *sorogan* (repeatation and memorization) and *bendongan*or *wetonan*(scrutinization and memorization) are still being used widely (Dhofier, 1985; Wahid, 1998& Khoiriyah, 2007). In fact,these methods of repeatation, memorization,and scrutinization are classified as lower level ofcognitive process.

It is also a common expectation that students in *Pondok Pesantren* need to have great respect *(ta'dhim*) for their teachers. Students are not allowed to critique, argue, or debate their teachers, or they might be considered as being disrespectful

(su'ul adab) of their teachers (Faisol, 2012). Besides, the teaching and learning process conducted in *Pondok Pesantren* is concentrated more on teacher as a source of information. Clearly, this teacher-centered approaches make sudents become passive in the classroom.

However, alongside the history of Indonesia, *Pondok Pesantren* gives a significant contribution in realizing one of the national goal to educate the people due to its large number within the country (Sonia, 2012). Thus, in order to produce qualified alumni, *Pondok Pesantren* should create a scientific and an intellectual environment of learning which encourage students' mind to be creative, critical as well as to make wise judgment. By providing a thoughtful environment of learning, *Pondok Pesantren* may develop their intellectual capacitythat bring more benefits for themselves, society and nation as well.

STATEMENT OF THE PROBLEM

Generally, students in *Pondok Pesantren* learn more on Islamic sciences rather than secular sciences, and huge emphasis is given on memorization, scrutinization and recitation which are classified as lower order thinking process. These traditional teaching methodologies that applied in many *Pondok Pesantren* provide very little on analytical skill, critical skill, and creative skill. Even, students are not allowed to critique, argue, or debate their teacherseither inside or outside the classroom as part of their *adab* to teachers.

According to Sternberg (2003), educational institutions that emphasize rote learningonly promote recital and repetition rather than thinking skills which require skillful analysis, evaluation, and interpretation.Furthermore, Westwood (2004) states that rote learning encouragesstudentsto commit to memory information which is not

understood and have no functional value, where informationstored is not easily retrieved and is also easily forgotten. On the other hand, meaningful learning connects new information and new concepts withthe learner's prior knowledge. This meaningful learning contributes the development of intellectual skills and cognitive strategies that permit the operation of higherorder cognitive process.Therefore, to some people, the rote learning system that are widely practiced in *Pondok Pesantren* is believed to be one of the factors that make students of *Pondok Pesantren*possess low ability of thinking skills compared to secular schools' students.

In a review of 60 studies on *PondokPesantren*(see appendix 1), it was found that many studies have been carried out by researchers on the historical development of *Pondok Pesantren,* its educational systems, its modernization as well as the challenges, its curriculum, the discourse of radicalism and terrorism on *Pondok Pesantren,* and the role of *Pondok Pesantrens* and its leaders. Others were on the topic of teaching Arabic and gender equality in *Pondok Pesantren*.

There was no exact study found related to the teacher's self-efficacy and readiness towards teaching higher orderthinking skills. Hence, this researchwas intended to explore to whichextent teachers acknowledge their confidence to approach such task and how well they are ready to teach the skills at *Pondok Pesantren Al-Ihsan IKADI* Riau, Indonesia. This research would be very useful to gauge whether teachers at *Pondok Pesantren* are aware and ready to teachhigher order thinking skills to their students in the classroom.

OBJECTIVE OF THE STUDY

The study wasaimed to examine teachers' self-efficacy as well as teachers' readiness towards higher order of teaching thinking skills at *Pondok Pesantren Al-Ihsan IKADI* Riau, Indonesia. The success of teaching and learning process in improving students' academic performance and developing their higher orderthinking skills are very instrumental for students' future in their work place and the social environment as well. Thus, it is the aims of the study to assess teachers' self-efficacy leveland to gauge their readiness in conducting higher orderthinking skills across the curriculum at *Pondok Pesantren Al-Ihsan IKADI* Riau. It also examinedthe potential factors that may have affected and contributedto the teachers' self-efficacy and readiness in theteaching of higher orderthinking skills in *Pondok Pesantren*. Furthermore, It also ascertainedthe possible relationship between teachers' self-efficacy and teachers' readiness to teach higher order thinking skills.

RESEARCH QUESTIONS

This study wasaimed to identify teachers's belief on their competency in teaching higher order thinking skills and their level of readiness to conduct higher order thinking skills. This study will also examine demographic factors that may have influenced the teachers' self-perception about teaching thinking. As such, this research intends to address the following questions:

1. What are the teachers' self-efficacy levels towards higher orderteaching of thinking skills at *Pondok Pesantren*?
2. What are the predictors of the teacher's self-efficacy in teaching higher orderthinking skills at *Pondok Pesantren?*
3. What are the teachers' readiness levels with respect to the followings:
    a) Knowledge of higher orderthinking skills
    b) Training or workshops on higher orderthinking skills
    c) Interest and motivation in teaching higher orderthinking skills
    d) Methods in teaching higher orderthinking skills
4. What are the predictors of the teachers' readiness with respect to the teaching of higher orderthinking skills at *Pondok Pesantren*?
5. Is there any relationship between teachers' self-efficacy and teachers' readiness towards higher orderteaching of thinking skills at *Pondok Pesantren?*

THE SIGNIFICANCE OF THE STUDY

Results from this study hopefully couldhelp the *Pondok Pesantren's* teachers by examining their self-perceptions and readiness to teach higher order thinking skills as well as identifying the suitable methods of teaching high orderthinking skills in the classroom. The study will further benefit the school-system, the educational policy makers, and national curriculum developers in designing a relevant and a proper of school curriculum to promote higher order of thinking skills. Finally, finding of this study couldenlarge the current body of knowledge related the issues of high order thinking skills in schools, particularly in *Pondok Pesantren*.

LIMITATION OF THE STUDY

This study will be limited to the self-perceptions of teachers' efficacy and readiness towards teaching higher order thinking skills in the classroom experiences at *Pondok Pesantren Al-IhsanIKADI Riau*, Indonesia. Thus, findings of this study are not generalizeable to other settings and respondents since it was only conducted at one particular school.

DEFINITION OF THE TERMS

The definitions of the terms below are usedin this study:

Bloom's Taxonomy

Bloom's Taxonomyis defined asa multi-tiered model of classifying thinking according to six cognitive levels of complexity (Kristin, Rajesh, Sawako, Daniel, Christina, Jensen, & Richard, 2012:6).The six major categories of the cognitive process dimension are believed to differ in their complexity which includes: remember, understand,apply, analyze, evaluate, and create(Krathwol, 2002: 215). Bloom's Taxonomy in this study refers to the hierarchy of higher orderthinking skills established by Bloom in accordance with students' thinking performance.

Higher Order of Thinking (HOT)

Higher Order of Thinking (HOT)is defined asthe skills that enable students to interpret, analyze, and manipulate information. Students explain their ideas and thoughts, ratherthan merely recount, memorized facts and details (Larson & Keiper, 2002:46).It occurs when a person takes new information or information stored in memory and interrelates as well as extends this information to achieve a purpose or

find possible answers in perplexing situations (Lewis & Smith, 1993:136). Higher order of thinking in this study refers to the thinking skillsthat are incorporated by teachers to students in classrooms.

Self-Efficacy

Self-Efficacyrefers to the beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations(Bandura, 1995:2). In this study, self-efficacy will come into account as the scored obtained by teachers on the five likert scale. The number they chose is indicative of their perceived self-efficacy towards higher order of teaching thinking skills.

Teachers' Self-Efficacy

Teachers' Self-Efficacyis defined as the teachers' belief in his or her capabilities toorganize and execute courses of action required to successfully accomplish a specific teaching task in a particular context(Tschannen, Woolfolk Hoy,& Wayne,1998:233). In this study, teacher's self-efficacy refers to their belief of the ability to inculcate higher orderthinking skills into classroom activities which is assessed using a modification survey of *The New Millenium in Mind*, developed by James Tebbs (2000).

Teachers' Readiness

Teachers' Readinesshas to do with attuning oneself willingly to series of training aimed at making oneself well prepared to undertake a given task.Thus, teaching readiness involves teachers exposing themselves to series of training with a view to imbuing themselves with the necessary skills and knowledge for effective functioning

in a teaching job (Akuegwu, Edet, Uchendu, & Ekpoh, 2011: 96). Therefore, teachers readinessin this researchrefers to teachers' preparedness in terms of their knowledge, motivation, pedagogy to teach higher order thinking as well as their preparedness in terms of trainings receivedto complete the task. In assessing teachers' readiness, a self-developed survey have been used to be distributed to teachers.

CHAPTER TWO

REVIEW OF LITERATURE

INTRODUCTION

The literature review of this research is designed in accordance with the following sections**:** (1) a section on the concept of higher orderthinking skills which includes subsectionson the necessity of teaching higher orderthinking skills and teachers' higher orderthinking skills, (2) a section on self-efficacy which includes subsections on self-efficacy and teaching, and self-efficacy and higher order thinking skills, and (3) a section on teachers' readiness in teaching higher orderthinking skills which includes subsections on knowledge of higher order thinking skills, training on higher orderthinking skills, motivationin teaching higher orderthinking skills, and methods in teaching higher order thinking skills.

THE CONCEPT OF HIGHER ORDER THINKING SKILLS

The lack of consensus on how to define higher orderthinking skills exists among educators, whereby definitions of higher orderthinking skills are vague and misleading (Min Bae, 2006). Bloom, Engelhart, Furst, Hill, and Krathwohl (1956) identified cognitive processinto six levels which is widely known as Bloom's Taxonomy. This classificationinidentifyingcognitiveprocessdescribedthemfrom the lower levelof thinking to the higherlevel of thinking, whereeach level of process was designed to serve as a prerequisite and a basis for the next higher level (Bloom et al., 1956; Newcomb & Trafez, 1987; Whittington, Stup, Bish, & Allen ,1997; & Krathwohl, 2002).

Brown (2004) states that the term of higher orderthinking skills generally refers to the skills coming directly from the Bloom's Taxonomy which is an attempt to make thinking skills ready for monday. Similarly, McLoughlin and Mynard (2009) point out that the term of higher orderthinking skills refers to the cognitive skills mentioned in Bloom's Taxonomywhich involve the ability to manipulate information, and these skills also requires ability to go beyond the information given, to foster a logical, critical and creative attitude, to have meta-cognition intelligence, and to solve problems and make decisions (McLoughlin & Luca, 2000). In other words, higher orderthinking skills require one's deepinterpretation ofthe information or previous knowledge rather than just remembering or reciting things.

The taxonomy developed byBenjamin Bloomcategorized the students' intended behavior, where the way they act, think and feel are the consequent of their participation in a part of instruction from the simplest behavior till the most complex behavior of learning (Bloom et al., 1956). The higher classifications of cognitive processinvolve extra thinking skills while the lower classifications ofcognition process need less thinking skills (Duron, Limbach, & Waugh, 2006). These skillsmay enable individuals to make reasonable judgments not only in the classroom but also in everyday life (Beaumont, 2010). Besides, higher order thinking skillsalso require students to combine the facts and ideasbefore arriving at the final conclusions or interpretations (QueenslandDepartment of Education, 2002).

King, Goodson, & Rohani(2005) state that high orderthinking skills requires a lot of cognitive processes which can be applied into complex situations. Individual's ability in applying, reorganizing, and embellishing knowledge in the context of the thinking situation is important to ensure the successful use of higher order thinking. Furthermore, it occurs when one takes new information and interrelates the

information to achieve a purpose. Through higher order thinking, this purpose can be achieved by deciding what should beconsidered, deciding what should beperformed, creating a novel thing, making a judgement, and solving a unusual problemas well (Lopez&Whittington, 2001)

Whiteley (2006) states that higher orderthinking skillsare much more difficult tobe achieved than the lower-order of thinking skills, since these skills reflect the critical thinking which requires one to go beyond just with the basic facts to face an existing situation. In addition, Ivie (1998:2) mentioned three criterion of higher orderthinking skills which are: (1) the utilization of abstract structures for thinking, (2) the organization of information into an integrated system, and (3) the application of passing opinion rules of logic and judgment.

Concerning the thinking behaviors, Krathwol (2002: 215) described six major categories of the cognitive process dimensionthat are believed to differ in their complexity, from (1) remembering which involves retrieving relevant knowledge from long term memory, (2) understanding which demonstrates the meaning of instructional messages, including oral, written, and graphic communication, (3) applying which involves carrying out a procedure in a givensituation, (4) analyzing which breaks material into its constituent parts and detecting how the parts relate to one another and to an overall structure, (5) evaluating which makes judgments based on criteria and standards, and (6) creating which involves putting elements together to form a novel, coherent whole or make an original product. This structure of the cognitive process are often referred as Revised Bloom’s Taxonomy.

The approach which aims to describe thethinking behaviors delineated cognition fromlower to higher orderthinking skills which is categorized in an orderly manner (Bloom et al., 1956; Newcomb & Trafez, 1987). Bloom's lower cognitive