CRITICAL MULTILITERATION MODEL BASED ON *APPROACH PROJECT BASED LEARNING* IN DEVELOPING SKILLS THINKING METACOGNITION OF BASIC SCHOOL STUDENTS

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Abstract: The problem in this study is the low multiliteration ability of students, and the low development orientation of students' thinking skills in learning, especially metacognition thinking skills which is one of 21st century thinking skills. This is caused by several factors, one of the main factors is learning that is still oriented to the achievement of partial-textual knowledge and not to an integrative-contextual understanding of the knowledge learned. Therefore, there needs to be an effort that can be used as a solution to solve these problems through effective and up-to-date effective models that are oriented towards efforts to improve students' metacognition thinking skills, one of which is through the application of a critical militarized model based on aapproach *project based learning.* The critical multiliteration model is a learning model that is developed based on awareness and recognition of the diversity and complexity of the perspective of student culture and the diversity of learning styles it has. In addition, a critical multiliteration model is a model oriented towards efforts to build students' thinking skills through a multicontext, multicultural, and multimedia approach. In this context, a critical multiliteration model is developed specifically with a project-based approach as a dynamic learning approach, where students actively explore problems in the real world, provide challenges, and gain deeper knowledge. This is based on the purpose of developing a model that is oriented towards the development of metacognition thinking skills.

Keywords: multiliteration, *project based learning approach,* metacognition.

1. Introduction

The 21st century is a time of changing times marked by the advancement of science and technology which has implications for increasingly complex life changes. This also affects the establishment of an increasingly competitive life order, so that there is a need to develop the quality of human resources as a whole, both the abilities or skills possessed, in order to enhance strong and superior competitiveness to compete in a world without borders. This is in accordance with the opinion of Freire (Purwanto, 2011) which reveals that an era is always characterized by the complexity of the problem, ideas, concepts, hopes, and challenges in dialectical interaction to formulate the solution.

In connection with the above, efforts to increase human resources can be made in the education sector as an effort to build a new civilization in the dynamics of life that is progressing. This is because the education process is part of social change (Tilaar, 2012, p. 92). Education must be able to improve the quality of humans who have critical, creative, metacognitive power in order to be able to compete in following global competition, and not give birth to dumb humans without critical power and tend to be passive-receptive. Therefore Education should be able to build a responsible, not critical, dogmatic-ideological critical attitude (Risakotta in Azzet, 2011). Based on this, it can be understood that qualified human resources can only be achieved through quality education (Tilaar, 2009).

Based on this view, education should be oriented towards competency debriefing efforts that can fully prepare a superior generation of value with various abilities and skills of the 21st century without neglecting the moral aspects and sensitivity to socio-cultural realities. Morocco, et al. (2008) argues that in the minimum 21st century there are four learning competencies that must be mastered namely *Conceptual understanding, creative thinking, critical thinking and collaboration and communication*. Likewise, Trilling & Fadel (2009, p. 48) revealed that in the 21st century learning must be oriented to 21st century competency training efforts which include *life and career skills, learning and innovation skills, and information, media and technology skills*. Apart from the opinion of Trilling & Fadell, further Binkley, et al. (2012, pp. 18-19) suggests that there are ten skills that must be possessed in the 21st century which are classified into four competencies. These skills are: creative thinking skills, critical thinking, metacognition thinking, communication, collaboration, information literacy, ICT literacy, citizenship, work and career, and individual and social responsibility skills. These ten skills are an essential basis for someone to be able to exist in the life of this century. Based on this, to foster students' abilities and skills optimally, it is better if learning must always be charged with critical literacy development in a variety of subject matter. This is in line with the opinion of Greenleaf, et al. (2010) which states that "*We must think strategically about the integration of literacy development across subject matter domains if we expect to develop students' multiple capacities*".

Based on the explanation above, Indonesian education has not been oriented towards efforts to produce educational people who have 21st century skills and skills. This was evidenced by the fact that the low ability of Indonesian students to multiliterate as evidenced by the Program for International Student Assessment (PISA) in 2000 to 2012, which showed that Indonesian students had low multiliteration skills (reading literacy, scientific literacy and mathematical literacy). . (OECD, 2003; OECD, 2004; OECD, 2007; OECD, 2010; OECD, 2013). In addition, the results of a study conducted by Progress in International Reading Literacy Study (PIRLS) in 2011 showed that Indonesian students have lower multiliteration abilities with students of several other Asean countries. This condition is the basis for systemic improvement efforts in the context of education, both in the aspects of school, teacher, curriculum, KBM and in relation to other supporting aspects.

In an effort to build superior education personnel, it can be done through several learning approaches, one of which is theapproach *Project Based Learning* or project based learning. Project-based learning is a dynamic learning approach, where students actively explore problems in the real world, provide challenges, and gain deeper knowledge (Lucas, 2015). In a different view Johnson & Lamb (2007) stated that "*project based learning focuses on creating a product or artifact by using problem-based and inquiry based learning depending on the depth of the driving question*". Besides Johnson & Lamb (2007), Markam et. al (2003, p.4) defines that project-based learning is "*Systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process of structured around complex, authentic questions and carefully designed products and tasks*".

Based on the above opinion, it can be understood that project-based learning is a systematic teaching approach that involves students in learning to gain knowledge and skills through a structured and complex process of inquiry, through authentic questions and designed products and tasks. Therefore project-based learning can improve the quality of student learning. This was confirmed by the opinion of Doppelt, (2005) based on the research he had done, which revealed that project-based learning was able to improve the quality of student learning in certain materials and make students able to apply a particular knowledge in a particular context. Based on this fact, efforts to improve the quality of education that can give birth to Indonesian people with 21st century competence, should be carried out as early as possible by revitalizing education, so that education is able to carry out its role to produce educational people who have 21st century competence this, one of them is metacognition thinking skills.

2. Discussion

a. The Concept of Multiliteration Model based on *Project Based Learning Approach*

Multiliteration terminology can be understood as a process of integrating the application of language skills and skills using information and communication technology. Apart from that these skills will relate to various disciplines and various cultures (Abidin, 2015). Furthermore Abidin (2015) argues that multiliteration is learning that optimizes multiliteration skills in realizing better learning situations. This learning is oriented towards the development and use of the four 21st century competencies, namely critical thinking competencies, conceptual understanding competencies, collaborative and communicative competencies, and creative thinking competencies. In addition, multiliteration is a learning approach that is developed based on awareness and recognition of the diversity and complexity of the perspective of student culture and the diversity of learning styles it has.

Based on the description above, practically it can be concluded that the multiliteration model is a concept of interdisciplinary learning that needs to be substantially applied so that students can obtain and be able to build knowledge optimally and deeply through the use of media information and technology and in the cultural background of students. This is based on the assumption that students will gain meaningful knowledge if learning is based on a material that is cross-disciplinary (interdisciplinary) and contextual in accordance with the cultural setting of the student's life, in order to build the concept of students' knowledge as a whole. This is confirmed by the opinion of Ivanic (2009) which states that multiliteration education is a process of giving challenges to students to study and apply practical literacy which serves as a mediation tool to learn various concepts across curriculum.

Based on the explanation above, in relation, the Multiliteration Model is defined as an educational model that builds contextually knowledge with the cultural background of life and the development of technology and information media, as an effort to train in developing students' thinking skills to respond to life phenomena and problems in multiperspective. In other words, the Multiliteration Model emphasizes the meaningful experience of students as a basis for constructing science effectively and efficiently. This is in line with the opinion, Cope and Kalantzis (2005) argue that the multiliteration model presents an effective and efficient learning experience. In addition, the critical multiliteration model can also be said as an educational model based on the use of information media and real life situations through interdisciplinary learning as an effort to optimize the potential of students.

Iyer & Luke, (2010) which revealed that through the Multiliteration approach students will gain high understanding. In addition, Abidin (2015) argues that multiliteration is also believed to be able to develop high-level creativity as the most important skill for students. This was confirmed by Concannon-Gibney and McCarthy (2012) based on his research, concluding that "*Multiliteracies education plays a key role in science achievement*". In other words, multiliteration education is the main key in the achievement of science.

The New London Group (2005) states that the multiliteration model is built by four components namely practical situation, clear learning, critical frame, and critical transformation. Furthermore, Cope and Kalantzis (2005) stated that the four components are a whole unit that strengthens each other. A practical situation allows the teacher to understand the socio-cultural

background of students and provide a range of learning that is important for the formation of self-identity. Clear learning from the teacher is an explanation or theoretical provided to help students build insight and deep understanding. Critical frames are used as a tool for students so that they are able to work innovatively through the development of their creative critical capabilities. Transformative practice is a way of proving the performative tasks that have been done. This practice deals with critical feedback on teachers and students regarding the usefulness and creativity of the task (Abidin, 2015). Based on these four components, it can be understood that the multiliteration model is built based on a constructivist and contextual approach and is oriented towards the development of student character, because it emphasizes more on the process than the results. This is in line with the opinion of Lickona (2004, p. 121) which reveals that "process-oriented learning will be able to develop students 'character while developing students' academic abilities".

Based on the opinions of the experts above, the Multiliteration Model can be viewed as an educational model that is not only oriented towards achieving the results of knowledge alone, but more than that in the process or activity that is able to develop the potential and all aspects of the student that includes high thinking skills (critical , creative and metacognition) and other abilities and develop students' character through multimedia, multicultural and multicultural approaches.

b. Concept of Metacognition Thinking Skills Metacognition

Skills are understood as general abilities and are seen as unique as skills that depend on certain disciplines to be studied (Abidin, 2016). In relation to this conception, Bransford et. Al (Zohar & Dori, 2012, p. 1) states that metacognitive knowledge is needed in studying each discipline that in its application will vary according to the structure of knowledge and content of the discipline. Woolfolk (2009) argues that metacognition involves knowledge and awareness of a person about his own cognitive activities or anything related to his cognitive activities. Correspondingly, Metcalfe & Shimamura (1994) revealed that metacognition knowledge is a high level of cognition (knowledge) used to monitor and regulate cognitive processes such as reasoning, comprehension (understanding) overcoming learning problems, and so on. In other words, metacognition knowledge is used to regulate thinking and learning (Brown, & Nelson (in Anderson & Krathwohl, 2009)). This view is similar to Flavel's view (in Wells, 2001, p. 6) which reveals that metacognition is a cognitive knowledge or process about assessment and monitoring or controlling cognition.

Based on the explanation above, metacognition ability is a high-level thinking ability in reflecting on what has been thought. This was confirmed by Wells (2009, p. 1) which revealed that "*Metacognition is cognition applied to cognition*" metacognition is a mind that is applied to the mind. Based on the above opinion, it can be interpreted that metacognition is about thinking.

This is in line with, Vandergrift & Goh (2012, p. 83) states that the concept of metacognition can be interpreted as our ability to think about our own thoughts. In other words, metacognition is a process of reflection on the thoughts that we have and keep our mind's path in order to remain focused on the goals to be achieved (Flavell in Larkin, 2010). Understanding further, Quirk (2006) argues that "*The reason for thinking about one's thinking and feeling and predicting others is thinking.*" Metacognition is understood as an ability that a person has to think about his own thoughts and feelings and to predict what others think. In line with Quirk (2006), Schneider (2010, p. 55) reveals "*of their own information-processing skills, as well as to knowledge about the nature of cognitive tasks, and about strategies for coping with such tasks.* Based on the above, Schneider understands that metacognition is a person's knowledge of their own ability to process information, as well as knowledge about thinking tasks, and about strategies for copying similar tasks. In other words, metacognition includes knowledge of learning strategies, tasks, and person variables or knowledge about oneself. (Flavell, 1979).

Metacognition ability is an ability that is important for everyone. This is because the ability of metacognition as the ability to construct knowledge significantly, so that metacognition skills are closely related to the constructivism approach. This is in line with Joyce, Weil & Calhoun (2011) who revealed that metacognition is related to constructivism in the case that many effective learners are more aware of how they learn; they develop the device and observe progress. In line with the above opinion, Anderson & Krathwohl (2014) argue that the meaningful focus of learning is consistent with the view that learning is constructing knowledge. in relation to this conception, Bransford et al (in

Abidin 2016, p. 188) state that metacognition knowledge is needed in studying each discipline, but its application will vary according to the structure of knowledge and content of the discipline. Based on these opinions, it can be understood that metacognition thinking skills can help students to achieve independence as superior and reliable students (Abidin 2015).

Schunk, (2004) metacognition is the application of declarative, procedural, and conditional knowledge strategies to achieve goals, and overcome problems. In line with Schunk (2004), Bruning, et al, (2004) argue that metacognition involves three knowledge, namely (1) declarative knowledge; (2) procedural knowledge; and (3) conditional knowledge. Essentially a declarative knowledge strategy is an understanding constructed from the integration of new ideas with existing knowledge. In addition, further knowledge is procedural knowledge (how to carry out various cognitive activities), and conditional knowledge (knowing when and why to apply what they know). In line with Bruning (2004), Abidin, 2014) revealed that metacognition thinking skills enable students to understand the strategies needed to understand what is seen, heard and felt. Based on the explanation of some experts above, it can be concluded that metacognition is not just limited to cognition or thinking, but rather thinking about the thinking process itself. This means that someone needs to rethink what he has thought. Metacognition is a person's awareness or knowledge of the process and results of his cognition (thinking) and the ability to control and evaluate the cognitive processes.

Based on the explanation above, the application of a multiliteration-based pedagogic model of *Project based learning approach* is one of the strategies in an effort to improve students' metacognition thinking skills. Implementatively, this model is a model that is able to direct students to meaningful activities in learning to obtain complete competence and be able to reflect meaningfully the knowledge they have in the context of their lives. In addition, the application of this model aims to build students' analytical-reflective abilities towards the results of thinking that they have done during the learning process, so that students are able to make effective and strategic steps towards the problems they face next.

3. Conclusion

Based on the above explanation, the low ability of students 'multiliteration, and the low orientation of developing students' thinking skills in current learning, needs to be a serious concern for all elements, especially for those involved in the world of education. This is because students as educational products are the future generation that must be prepared to accept the leadership relay in fighting for the life of the Indonesian nation. Therefore, education must actually be able to make Indonesian education people as the nation's thinker generation who have complete competence to be able to live and live in an era of cultural dynamics that have global formatting. Education must be oriented towards efforts to build critical awareness and competence in the 21st century through understanding integrative-contextual, and not oriented towards the achievement of partial-textual knowledge.

Based on this, there needs to be an effort that can be used as a solution to solve these problems through effective and up-to-date effective models and oriented towards efforts to improve students' metacognition thinking skills, one of which is through the application of a critical mutiliteration model based on *project based learning approach*. A critical multiliteration model based on *project based learning approach* is a model that is oriented towards efforts to build students 'metacognition thinking skills through a multicontext, multicultural, and multimedia approach, where students actively explore problems in the real world, provide challenges, and gain deeper knowledge, as well as building students' analytical-reflective abilities towards the problems he faced through his thinking strategy.

Suggestions

In today's era of life, the development of science and technology is a necessity. This has implications, not only in aspects of the constellation of life, but also in the quality demands of Indonesian human resources that must be multicompetent. The effort can be made through an educational revitalization that is oriented towards efforts to produce educational people who must have high-level thinking skills, one of which is metacognition thinking skills. This needs to be supported by the development of holistic educational praxis, meaning that education must be developed comprehensively based on multiple approaches. A critical multiliteration model based on a *project based learning approach* is one of the latest learning models that can answer these conditions.

Therefore, a critical multiliteration model based on a *project based learning approach* is one of the highly recommended models for achieving the expected educational goals, namely giving birth to education people who have multicompetence, one of which is having metacognitive thinking skills as 21st century thinking skills.

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