CRITICAL THINKING RATIONALISM IN THE THEMATIC LEARNING OF ELEMENTARY SCHOOL STUDENTS

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Abstract

The purpose of this discussion is to refer to how to explain how data about critical thinking rationalists in thematic learning of elementary school students. Rationalism teaches that knowledge is obtained by way of thinking. This study uses a descriptive qualitative method, where the approach used is a phenomenological approach, involves existing methods such as interviews, observation, utilization and documentation. The analysis technique is in the form of reducing data, presenting data and drawing conclusions along with explanations. Analyzing critical thinking levels, namely analyzing problems, exploring, setting strategies, solving problems, evaluating. The learning outcomes obtained in the fourt grade thematic learning with the theme of always saving energy indicate that the level of critical thinking carried out by the teacher is still relatively low, there are still many students experiencing difficulties when solving problems. Students are able to evaluate with tests with less than optimal results, namely there are 50% of the number of students whose scores are still below the KKM

Keywords: *critical thinking rationalism, thematic learning, elementary school students*

1. INTRODUCTION

Life skills (life skills) is something that needs to be developed through the educational process is thinking skills. A person's ability to succeed in life is determined by his thinking skills, especially in an effort to solve life problems faced by him. Critical thinking is an ability that is essential to life and functions effectively in all aspects of life. Various educational research results show that critical thinking is able to prepare learners to think in various disciplines, and can be used to prepare learners to live their careers and real lives. Beyer (1995) offers the simplest definition: "Critical thinking means making reasonable judgments". Beyer views critical thinking as using criteria to assess the quality of something, from the simplest activities such as normal daily activities to drawing conclusions from a piece of writing that a person uses to evaluate the validity of something (statements, ideas, arguments, research, etc.).

Facione (2006) states that critical thinking as self-regulation in deciding something that results in interpretation, analysis, evaluation, and inference, as well as exposure using a

proof, concept, methodology, criteria, or contextual consideration on which to make decisions. Critical thinking is important as an inquiry tool. Critical thinking is a power and source of energy in a person's community and personal life. Critical thinking is, first and foremost, a variety of good thoughts. Thus, any adequate explanation of it should explain its good meaning. Start by emphasizing the normative character of critical thinking. This emphasis is from psychological conception, which is essentially descriptive – describing psychological processes, procedures, and/or skills that are considered central to critical thinking. The term indicating thinking (e.g., classifying, observing, hypothesizing) refers not to operations or mental processes but to different tasks that require thinking (Bailin, 1998). It generally appears that critical thinking is an active intellectual process and full of skills in making understandings or concepts, applying, analyzing, making cystesis, and evaluating. All these activities are based on observations, experiences, thoughts, considerations, and communication, which will guide in determining attitudes and actions. Critical thinking which is an active intellectual process and full of these skills fits perfectly with the concept of rationalism. Rationalism is a philosophical understanding that states that reason is the most important tool for acquiring knowledge and dripping knowledge.

Rationalism teaches that knowledge is gained by thinking. The tools in thinking are logical rules or rules of logic. Rationalism does not deny the usefulness of the senses in acquiring knowledge. Thales (624-546 BC) applied rationalism to his philosophy. According to Descarters in thinking rationally there are four things that must be considered, namely: 1) Not accepting anything as truth, unless I see that it is really clear and firm, so that there is no doubt whatsoever that it can knock it down; 2) Solve any difficulties or problems or as many parts as possible, so that there is no doubt whatsoever is capable of knocking them down; 3) Worry about the mind regularly, and starts from the simple and easy to know, then gradually to the most difficult and complex; 4) In the process of searching and examining difficult things, there must forever be perfect calculations and thorough consideration of consideration, so that we are sure that nothing is ignored in the exploration.

Issues that are often raised in discussions about critical thinking concern the relationship between critical thinking and creative thinking. Assumptions are generally made that they are two different types of thinking. Critical thinking is viewed as rigorous analytical and evaluative, an algorithmic process that consists of achieving the correct evaluation of an idea, argument, or product. It is regarded as certainly uncreative because it involves a process mechanical enough to follow the rules to come up with new ideas (Nigel Blake, et al,2002).

Based on the data of pre-observation results conducted at SDN Kampung Dalem 1 located in Tulungagung Regency, East Java, at the time of the implementation of learning in grade IV students in semester 1 on theme 2, namely always energy efficient still seen in accordance with RPP and Guru Book. The implementation of learning that should be based on the student center approach still seems to be the teacher who dominates when the learning process takes place. While in the RPP that has been made by teachers arranged in detail how the implementation of the 2013 curriculum, especially on how to think critically of students. How students are able to directly engage in critical thinking on the language that will be presented is the theme 2 is always energy efficient. How teachers are able to direct so that each student is able to do critical thinking according to indicators of critical thinking activities.

According to Ennis in Sutarno (2013), there are several indicators of critical thinking that are used as references for the study of critical thinking in learning, consisting of (a) digging

into the clarity of problems based on theories and questions; (b) explore objective reasons; (c) present the most actual facts; (d) present an authentic and trustworthy source; (e) Describe/explain the condition thoroughly; (f) consistency and relevant to the main mind; (g) consistency with fundamental and trustworthy thoughts/ideas; (h) find other alternatives; (i) free to think and open; (j) allow for conformity based on strong evidence and opinions; (k) carefully search for reliable documents; (l) systematic and structured towards something complex; (m) and sensitive to the environment (feelings), knowledge and intellect of others (Sutarno, 2013). The purpose of this discussion is to refer to how to expose data on rationalists critical thinking on thematic learning theme 2 Always Energy Efficient (study in students grade IV SDN Kampung Dalem 1 Tulungagung Regency)

2. LITERATURE REVIEW

1.1. Critical Thinking Rationalism

Critical thinking (and so rationality) is often, and in our view rightly, regarded as afundamental aim, and overriding ideal, of education. To so regard it is to hold thateducational activities ought to be designed and conducted in such a way that theconstruction and evaluation of reasons (in accordance with relevant criteria) is paramount, throughout the curriculum. As Israel Scheffler puts the point: "Critical thinking is of the first importance in the conception and organization of educational activities

Rationality is a matter of reasons, and to take it as a fundamental educational ideal is to make as pervasive as possible the free and critical questfor reasons, in all realms of study). To the take it is to regard the fostering of the abilities and dispositions of critical thinking in students as the prime educational directive, of central importance to the design and implementation of curriculum and educational policy (Nigel Blake, et al, 2002).

A reason for regarding critical thinking as a fundamental educational ideal involves education's generally recognized task of preparing students for adulthood. Such preparation cannot properly be conceived in terms of preparing students for preconceived roles; rather, it must be understood to involve student self-sufficiency and self-direction. In this the place of critical thinking is manifest. A third reason for regarding the fostering of critical thinking as a central aim of education is the role it plays in the rational traditions that have always been at the center of educational activities and efforts – mathematics, science, literature, art, history, and so forth. All these traditions incorporate and rely upon critical thinking; mastering or becoming initiated into the former both requires, and is basic to the fostering and enhancement of, the latter. (Nigel Blake, et al, 2002)

Critical thinking is only one mode of understanding – that of the dominant groups in society – but it has been privileged as the only legitimate mode of understanding. Such privileging, it is alleged, is biased in excluding the modes of understanding of those groups traditionally lacking in power and status (women and minorities, for example). Critical thinking is seen, then, as one ideology among others. Its principles and criteria are seen as arbitrary, and the promotion of critical thinking is seen as an act of cultural hegemony. Andrea Nye, for example, argues that logic (which includes critical thinking) is an invention of men that structure speech situations that occur between men and thus excludes many voices, while it falsely presents itself as universal (Nye, 1990)

Critical thinking skills will be achieved if the 2013 curriculum is implemented well. In fact, in schools, the 2013 curriculum has not been implemented optimally. Teachers in the learning process still use the lecture method so that students' activeness has not been seen. The learning process is also not supported by learning resources that can train students to think critically. Students' critical thinking skills in learning will have an impact on student learning outcomes. Critical thinking skills in learning can be developed with several critical thinking indicators, including interpretation, analysis, evaluation, inference, explanation, and self-regulation. Interpretation is a skill in understanding and expressing the meaning of the problem. The analysis is a skill in identifying and inferring relationships between statements, questions, concepts, descriptions, or other forms. Evaluation is a skill in

accessing the credibility of a statement or representation and logically accessing the relationship between statements, descriptions, questions, and concepts. The inference is a skill in identifying and obtaining the elements needed to conclude. Explanation is a skill in establishing and providing logical reasons based on the results obtained. At the same time, self-regulation is a skill to monitor one's cognitive activity (Intan Purnama, 2021)

2.2 Thematic Leraning

Min et al (2012) suggested that "The thematic learning will bring benefi to teachers and students. Thematic approach is an effort to integrate knowledge, skills and values learning and creative thinking using the theme. Teachers should encourage pupils to participate actively and physically in the process as a form of natural learning. Teachers should try to provide meaningful learning experience to the students so that they do not only have fun but also show and display an interest in searching further from their own information. Students should also be given an opportunity to be independent, explore and experience learning themselves. Thematic learning process will help students to think creatively and critically. Thematic approach is the meaningful learning for students because they learn to do

Thematic learning is commonly applied in elementary school because the characteristics of learners who still see something holistically, they have not been able to sort out the concepts from various disciplines. This illustrates the deductive way of thinking of the child from general to part-by-side. There fore integrative thematic learning becomes the learning that matches the characteristics of learners in elementary school (Reza Rachmadtullah, 2019).

Thematic learning (often synonym with thematic instruction) is an instructional method of teaching in which emphasis is given on choosing a specific theme for teaching one or many concepts. It is based on integrating various information and use it to demonstrate the topic. Pedagogy of thematic learning is based on its exploration of broad areas in one theme. Thematic learning is based on the idea that knowledge acquisition is efficient among students when they learn in the context of a coherent and holistic way and when they can associate whatever they learn to their surrounding and reallife examples. Thematic instruction seeks to put the cognitive skills such as reading, thinking, memorizing, and writing in the context of a reallife situation under the broad aim to allow creative exploration independently.

3. RESEARCH METHODS/METHODOLOGY

This research uses descriptive qualitative methods, where the approach used is a phenomenological approach, because in this study leads to a detailed description and in-depth of what actually happens based on facts in the field as a form of direct observation. This method is to explain phenomena that occur and is done in a certain way, involving existing methods such as interviews, observations, utilization and documentation. The analysis technique is in the form of reducing data, presenting data and drawing conclusions and explanations.

Table 1. Instrument Indicator (Krulik and Rudnick, (1980))

Focus of study	Indicators	Instumen
Analyze the level of critical thinking	Analyzing problems	Formulating the subject matter
	Explore	Determine the theorem used, liveliness, motivation
	Establish a strategy	Formulate strategies with observation

		reports and information searches
	Solve problems	Have group discussions, make reports and make conclusions
	Evaluate	Evaluation of the results of observation of changes adjusted to the reading book and observations, namely exploration of abilities, reflections ands

In most of its philosophical explanations, critical thinking involves two aspects or dimensions that are related, but differ conceptually: the ability to reason well and disposition.

4. RESULTS AND DISCUSSION

Observations were made on the learning results of students of grade IV SDN Kampung Dalem 1 Tulungagung Regency. Learning results obtained in thematic learning of class IV with the theme always energy efficient shows that the level of critical thinking carried out by teachers is still relatively low, there are still many students who have difficulty when solving problems. For more details see table 2.

Table 2. Results of Student Critical Thinking Analysis on Thematic Learning

Ability to think critically	**Details of activities**	**Observation results**
Analyzing problems	Observing the energy around, observing images, reading texts, and discussing energy sources used to manage natural resources	Students are active in learning, students are able to formulate the points In problem, students are able to To uncover the facts, there is collaboration between teachers and students.
Explore	Identify various energy sources, changes in energy forms, and alternative energy sources (wind, water, solar, geothermal, organic fuels, and nuclear) in everyday life	Students are motivated to learn, students actively ask questions,
Establish a strategy	Contextual and PBL is presenting reports of observations and tracing information about various changes in energy forms	Students begin to get confused about setting problem-solving strategies
Solve problems	Have group discussions, make reports and make conclusions	Underprivileged students Reveals that argument Clearly, students also still lack identifying or formulating criteria to determine possible answers and make conclusions.
Evaluate	Evaluation of the results of observations of energy changes, adjusted to reading books and observations	Students are able to evaluate with tests with less than maximum results, namely there are 50% of the number of students whose grades are still below KKM.

The American Association of Colleges of Nursing (2008) defines critical thinking as "all or part of the process of asking, analysis, synthesis, interpretation, inference, inductive and deductive reasoning, intuition, application, and creativity. Critical thinking can train students' habits to solve problems when faced with hands-on learning. Critical thinking also provides benefits for teachers and students, namely making students more active and creative in finding problem solutions. Critical thinking skills according to Krulik and Rudnick, (1980) are:

1. **Analyzing problems**
   The activeness of students in analyzing problems is to give an initial response to a problem. Critical thinking skills are testing, connecting, and evaluating aspects that focus on the problem, collecting and organizing information, validating and analyzing information, remembering and associating previously learned information, determining rational answers, drawing valid conclusions, and conducting analysis and reflection. Students will be faced with a variety of problems in learning to find their own problem solving. The aim of the teacher doing the analytical step is to promote the student's thinking which will ultimately lead to good clinical assessment that will result in safe clinical decisions. Teachers should choose teaching strategies that support students' critical thinking, clinical judgment, and care decisions to help our students not only pass exams, but also to provide quality education in the present.
2. **Explore issues**
   Students explore the problems that teachers provide with the aim of identifying the things associated with ongoing learning. All students have the opportunity to develop critical thinking skills and demonstrate them effectively in accordance with teacher expectations, critical thinking directed at general assumptions based on cultural affiliation. At this stage it may require the support of mastery of professional communication and skills to discuss effectively in the team (Chicca & Shellenbarger, 2018b; Hampton & Keys, 2017; Seemiller & Grace, 2017; Twenge, 2016) Engaging in critical thinking learning can improve communication and team behavior through small group dynamics and collaboration during activities as well as facilitator feedback (here is the teacher)
3. **Set strtategi**
   Solving the right strategy is the main point of the student's mind to solve the problems faced where students will solve the problem independently. Wolters and Hussain's research (2015) identified that perseverance is a predictor of learning. They found that students who had improved perseverance showed greater *self-efficacy* with learning, improved ability to choose effective learning strategies, and had better time management skills. In addition, students with greater diligence in Wolter and Hussain's studies also value learning, and thus are more motivated to learn. The study supports that educators need to encourage (motivate) students to be persistent in providing clear efforts to achieve goals, as well as, encouraging learning through exposing students to effective learning strategies and time management strategies. Furthermore, educators should plan opportunities for students to practice such strategies. In another study, Olson (2017) found that fortitude, tenacity, and perseverance can be developed in college through deliberate tasks and identifying confidence and tenacity as the keys to effective perseverance.
4. **Solving problems**
   Students in solving problems need support with critical thinking skills and opportunities to increase perseverance (Twenge, 2016). The learning needs of myang students are justified by the fulfillment of critical thinking through the PBL model is students asking, analyzing, synthesizing, interpreting, inferring, reasoning, applying, and using intuition and creativity. PBL can also involve clarifying concepts, prioritizing problems, and identifying what is known and what is unknown, testing assumptions, assessing different viewpoints, identifying possible interventions, examining alternatives, and reflecting on processes. In problem solving activities teachers can add another element of good decision making by encouraging students to identify resources that will help in data collection and decision making.
5. **Evaluate**

Evaluation is the final activity for critical thinking of students where the teacher will test the ability in accordance with the practice faced by the student and able to complete it. This provision can also include reflection on how knowledge gained and skills in activities help prepare them for success. The process of each individual is different, because the individual's thinking and results are directly related to intellectual capacity and as a result of improving the quality of cognitive and creative abilities, intelligence grows and develops. That is, the development of thinking means the growth and increase of intelligence at once. The concept of critical thinking uses constructivist principles to encourage the application of prior knowledge, collaborative learning, and active engagement. In the evaluation of teachers as facilitators, namely reflecting on group processes and group results. Facilitators can also be considered coaches or guides who provide feedback and encouragement (Salari, Roozbehi, Zarifi & Tarmizi, 2018)

Psychology studies "thinking" as a mental process, whereas pedagogy studies an individual's ability to understand, learn, and focus directly on its formation. Pedagogical research analysis of the formation and development of thought (essentially developed by FA Disterveg, IG Pestalotstsi, JJ Russo, and then further developed through problem-based learning theory) is studied as a solution method, means and means that developed the formation and development of professionally oriented thinking in students in a divisive specialist training process. In Pedagogy, special attention is paid to improving the level of social adaptation, assessment of various phenomena, problem and task solving, acquisition of new knowledge, composition and development of various forms of thought. In modern pedagogy, "thinking" is often described as "an indirect reflection of the outside world based on the impression of reality" and a process that allows a person to use the necessary information, building their own ethical programs and plans based on their knowledge, skills andabilities.

Critical thinking in elementary school students should be done since grade 1 so that students will get used to solving their own problems. Critical thinking is the student's first step to creative thinking. Not only do students have to think critically, teachers also need to be more creative in every learning that takes place. Critical thinking skills, have long been a major goal in education. Critical thinking skills are critical competencies that must be applied. Because critical thinking skills are needed in life and can create quality resources if knowledge is gained from the application of critical thinking culture, namely using modules, intaractive media, contextual to improve students' critical thinking skills in school. Some factors that can affect the results of this analyst, including differences in the ability of each student to complete the work given by the teacher, lack of emphasis, there is only an analytical aspect. Thematic learning that takes place today for elementary school students is a student-centered learning that is a skill and value that allows students to actively discover scientific concepts and principles holistically, meaningfully and authentically. Thisstudy involves some basic competencies, learning outcomes and indicators of a subject, or even some subjects. Through thematic learning, students are expected to learn and play with high creativity. Because, in thematic learning, learning not only encourages students to know (learning to know), but also to do (learning to do), to be (learning to be), and to live together (learning to live together).

5. CONCLUSION

From the exposure of critical thinking it can be concluded that the concept of critical thinking uses constructivist principles to encourage the application of prior knowledge, collaborative learning, and active engagement. To begin critical thinking concept activities, a small group of students analyze problems, identify relevant facts, and apply existing knowledge and experience to solve problems. Problems in the concept of critical thinking must be situations or problems related to everyday life that include information or answers that have not been found. In this case the teacher takes on the role of facilitator, the facilitator helps the group build understanding and connect concepts by providing information, directing exploration, strengthening understanding difficult concepts, and introducing resources. Preferably in learning and learning activities teachers and students

there is good collaboration, teachers must be creative for now because to improve 21st century thinking, one of which there is an aspect of critical thinking in every learning activity.

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