

Primary School Teachers' Understanding of Critical Thinking in KSSR Classroom and Its Importance to Students

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Abstract

Critical thinking is one of the 21st century skills that should be equipped to students to prepare them with the challenges ahead. Teachers should be prepared to teach them these skills and their understanding of the concept itself should be explored. Thus, the objectives of the study are to investigate teachers' understanding of critical thinking in KSSR (Kurikulum Baru Sekolah Rendah: New Primary School Curriculum) classroom and to explore their perception on the importance of the skills to student. Six primary school teachers were interviewed and transcriptions were made. The data was analyzed through colour coding and themes were emerged from the analysis. The findings found that teachers view critical thinking as the ability to gather information, express thoughts, solve problems and analyze. They were found the skills are important for students as it helps them apply knowledge and make decisions. It is hoped that in future research, the definition of critical thinking could be collected quantitatively from teachers. The study will be benefited to teachers to improve teaching method by understanding the concept itself.

Keywords: *Critical thinking, KSSR, Primary school teachers, Express thought, Apply knowledge, Qualitative research.*

1. Introduction

Teaching and learning is a dynamic process that requires adaptation to the changing world. Globalization of the economy, increasingly diverse and interconnected populations, and rapid technological change are posing new and demanding challenges to individuals and societies alike. The technology forces change and change is uncomfortable as it pushes people out of their comfort zone. McCain and Jukes¹ believed that the future success does not lie within the technology but rather on the mind-set of people who use the technology. Due to those, school systems need to change to adapt to such mind-set development. McCain and Jukes¹ also added that educators should teach students higher order thinking skills – the skills such as analysis, synthesis and evaluation that are important to effective problem solving. Thus, teachers, as the mechanism of skills, need to be equipped with the necessary skills before they could convey the skills to students.

One of the higher order thinking skills is the critical thinking skills. The importance of critical thinking skills is in fact beyond the educational and professional context. According to Ennis (1996, as cited in 2, p.xiii), critical thinking is “critical to the survival of a democratic way of life” since people make their decisions in the voting process.

This was supported by Brookfield (1987, as cited 2) who states that critical thinking

* Authors to whom correspondence should be addressed. helps people to develop in a democratic society.

Thus, this indicates that critical thinking is essential in maintaining the democratic society.

Teachers are the agent of critical thinking development among students. Teachers must be prepared to have the skills before they can teach student the skills. According to Boonjeam, Tesaputa and Sri-Ampai,³ primary school teachers' critical thinking consist of the ability to make clarification, to consider when judging a data and to make inferences. The dispositions of critical thinking were also found in teachers, such as they are open-minded persons, they are able to make analysis, are truth-seeking persons,

are systematic thinkers, and are those who have self-confidence³.

The findings were found to be in disputable to Aliakbaria and Sadeghdaghighib⁴ who stated that teachers' lack of self-efficacy and knowledge of critical thinking hinder them to teach critical thinking skills in classroom. They also suggested the need for teachers to improve their understanding of the concept of critical thinking to enable them to effectively teach student to think critically.

Furthermore, it was found that teachers' belief about his or her intelligence and critical thinking ability influences their use of critical thinking activities in classroom⁵. This signifies that the belief teachers have about critical thinking will motivate them to create exercises and activities that are relevant to developing critical thinking skills among students.

2. Research Article

In the 21st century where information is easily accessible, critical thinking is needed to select important and appropriate information or knowledge to be practiced. Halpern⁶ emphasizes that the Internet has democratized knowledge, whereby imperative and valuable stuff is no longer only accessible to privileged few and only be found in dusty library shelves, but now everything can be found only by few clicks of finger. Being a critical thinker enables a person to be selective on what to believe and how to use the massive amount of information to make informed decisions⁶. This is supported by Carlgren⁷ who states that, in this century, the concept of possession is less essential than access to information that could be obtained at a click of fingertips, thus, people need to own the skills to communicate, think critically and solve problems on many different levels⁷. As a result, it is vital for teachers to encourage students to apply knowledge, analyze knowledge in multiple ways, continuously evaluate that knowledge and create new knowledge⁸. To simplify, critical thinking helps students to understand knowledge, to analyze knowledge in various ways, such as to interpret to make decision and to solve problems, and to evaluate that knowledge whether it is appropriate to be applied, and from the new knowledge can be created.

However, Aliakbaria and Sadeghdaghighib⁴ found that teachers often experience challenges and barriers in implementing critical thinking in classroom. It was found that students' characteristics such as lack of chance to practice thinking skills, mostly due to the overloaded curriculum and their own attitude towards thinking are the most difficult barriers to teaching critical thinking skills in classes. Besides, students relatively prefer activities and assignments with simple answers and are not tolerant with the difficulty of thinking⁴.

In view of critical thinking as one of the skills that are being emphasised in the 21st century skills, it is vital to equip the generation today with the skills. Darling-Hammond and McCloskey⁹ in their research suggested that in developing curriculum guidelines, the authorities, government and schools, should focus on what they called 21st century skills, those are "the ability to find and organize information to solve problems, frame and

conduct investigation, analyse and synthesise data, apply learning new situation, self-monitor and improve one's own learning and performance, communicate well in multiple forms, work in teams and learn independently". The need for critical thinking skills has driven schools and universities to amend the content of their curriculum and instructions. The importance of critical thinking skills is in fact beyond the educational and professional context.

It was also found that critical thinking helps students learn to think clearer, to ask questions in classroom and in community at large, and to become better students, indivisible, and members of society¹⁰. Critical thinking skills also help students to become better citizens in a Democratic Society.

Furthermore, Sternberg¹¹ suggested that judicial thinking styles which was found to be closely related to critical thinking skills, and it can be a predictor students' academic achievement.

Zhang¹² further elaborated that judicial style contributed more to students' achievement in chemistry, mathematics and physics.

This finding supports Grigorenko and Sternberg¹³ who also suggest that judicial style of thinking has the highest predictive power of students' achievement as compared to legislative and executive thinking styles¹³. They added that a few types of assessment such as short-answer/multiple choice items and

examination format as compared to projects based were beneficial to evaluate critical thinking skills of judicial thinking styles students¹³.

Nonetheless, that finding is contradictory to Attri¹⁴ who suggested that students with judicial thinking style are successful in a variety of academic tasks and not only specifically to examination format as proposed before. Attri¹⁴ who also studied the thinking styles of teachers suggested that high and average achieving teachers have preferences to use judicial thinking style in their instructions¹⁴. Not only teachers, Park, Park and Choe¹⁵ also suggest that Korean gifted students also prefer judicial thinking style as they like to deal with more complex learning and deep-learning approach¹⁵. Likewise, Zhang and Sternberg¹⁶ similarly found that the academic performance of students in Hong Kong University was significantly associated with specific thinking styles especially judicial thinking style. A similar finding was found by Bernardo, Zhang and Calleng¹⁷ who supported that judicial style was positively related to academic achievement among Filipino students.

Nevertheless, critical thinking is beyond a predictive measure to academic performance. As it suggests open-mindedness, critical thinkers allow themselves to take risks and venture themselves in various options. Critical thinkers make evaluations on options before making decisions. In every situation, critical thinking plays an important role in day-to-day functioning. For example, critical thinking enhances language and presentation skills as critical thinking improves comprehension abilities and one may think clearly and systematically on how to improve ways to express their ideas, and analyse structure of texts².

In Malaysia, the change from the New Primary School Curriculum (Kurikulum Baru Sekolah Rendah) or KBSR

to the new Primary School Standard Curriculum (Kurikulum Standard Sekolah Rendah) or KSSR in 2011 beginning with the Year One students no longer emphasized the importance of knowledge only, but also on developing higher order thinking skills (18 p.E-4). This seems to be a move in the right direction for teaching critical thinking skills. KSSR was introduced as an effort to restructure and improve the existing curriculum to ensure students are provided with the knowledge, skills and values that are relevant to meet current needs and challenges of the 21st century¹⁹. The previous primary school curriculum, KBSR emphasized three skills; reading, writing and arithmetic, whereas with the current curriculum, KSSR, another skill is added to; that is reasoning (menaakul). Reasoning is thinking, specifically, critical thinking.

Moreover, the KSSR is developed to produce a balanced and holistic student who is able to think creatively, critically, and to be innovative through six strands; i) communication, ii) science and technology iii) physical and esthetical development, iv) self-exposure, v) humanity, and vi) spirituality, attitudes and values¹⁸. It was established as an effort to prepare students for relevant knowledge, skills and values to face challenges of the 21st century. The new national curriculum also adopts the four pillars of education established by UNESCO, namely learning to know, learning to do, learning to live together and learning to¹⁸.

KSSR still sustains all principles of the KBSR which are believed to be relevant and appropriate in order to produce balanced and holistic individuals. Those principles are i) integrated approach; ii) individual development as a whole; iii) fair education for all students; and iv) education for life. The integrated approach is KSSR combined the elements of knowledge, skills and values in order to create unity in terms of emotional, spiritual, physical, intellectual, and social aspects of each student.

3. Research Article

One of the aspirations introduced in the KSSR is thinking skills, which emphasizes that every student will be instilled with the love for inquiry and life-long learning and to be able to connect different pieces of knowledge (18, p.E-4). Every student will need to master a range of cognitive skills that include critical thinking, reasoning, creative and innovation skills. Hence, this curriculum is expected to promote critical thinking skills among students.

Given that critical thinking skills are crucial for students' cognitive development, and it was introduced in the new curriculum for primary students, it is important to prepare teachers with the knowledge, competency, and good attitude towards learning management with emphasis on critical thinking as well as self-development.

Thus, teachers themselves should understand what critical thinking is and be equipped with the skills before they are able to teach students. Due to this development, various studies were found to suggest that critical thinking should be taught in classroom^{20, 21, 22, 23}. But none were found

to study the understanding of teachers on critical thinking skills and its importance to students.

Research Objectives

Therefore, the purpose of the study is to

1. Investigate the primary school teachers' understanding of critical thinking skills in KSSR classroom
2. Explore teachers' perception on the importance of critical thinking to students

4. Methodology

The study employed qualitative research design, specifically the interview method in order to explore teachers' critical thinking skills and to obtain their understanding on the importance of critical thinking skills among students. Six teachers with diverse academic background from a primary school in Gombak, Selangor were purposely selected for the study. The interview was done and probing questions were asked until saturation level was met. The data was recorded and transcribed. Data analysis was done through coding method and themes were emerged from data transcribed.

5. Findings and Discussion

Teachers' Understanding of Critical Thinking Skills in KSSR Classroom

Informants were asked on their definition of critical thinking skills. A few themes were identified from the data as discussed in the following sections.

a) Gather Information

The first theme that emerged from the data is to gather information. According to the teachers as informants, the ability to gather information through inquiry skills enable them to be able to think critically. Furthermore, teachers believed that the ability to seek information is another skill in critical thinking.

This idea is consistent with Paul and Elder²⁴ who state that critical thinking required students to gather and assess information. Facione²⁵ also deems that being inquisitive and curious affects someone to value being well-informed and he or she advocates learning, and understand how to achieve something. It is also crucial to note that when students are capable of gathering information on their own through inquiry skills, they will become independent learners and self-reliant. These two attributes determine survival ability in the Democratic way of life²⁶.

b) Express Thoughts

Another view of critical thinking skills according to most of the teachers was the ability to express thoughts. Expressing thoughts can be in the form of giving suggestions as well as presenting ideas as mentioned by the informants. Teachers also postulated that in the KSSR classrooms, students have the opportunity to speak and communicate their ideas through group discussions and group presentations.

Other than that, the ability to communicate is also found to be associated to critical thinking according to the informants. An informant who compared KSSR to the previous curriculum stated that even though the previous

and the current curriculum are similar in terms of the formal teaching approach where teachers talk and write on the board. KSSR has more than that, it requires students to go to the front of the class and present their ideas.

In addition, it was also discovered from the teachers that the ability to express thoughts among students was also considered as a critical thinking skills. In the classrooms, students were given chances to share their ideas and opinions with the rest of the class group discussions of class presentations. This point of view corresponds to Paul and Elder²⁴ who expound that critical thinkers are the ones who are able to communicate problems solutions effectively to others. The ability to gather information and communication also signifies a kind of critical thinking skill.

c) Problem Solving.

The data also revealed that most of the teachers viewed one of the critical thinking skills is problem-solving skill. According to the teacher, through experiment, when students created hypotheses, they need to solve the problem in the experiment to prove whether or not their hypothesis was true.

This is congruent with Halpern⁶ who defines critical thinking as a kind of thinking that involves problem solving. She found problem solving to be a 'hot' topic recently since the world is facing a lot of issues and problems. Thus it is crucial to equip students with problem solving skills and this is provided in KSSR.

In many subjects taught in KSSR classrooms, teachers had to indulge students with problems that require them to find solutions.

Through these activities, opportunities will be laid open to students to build the skills. Teachers' belief that problem solving is a critical thinking skill is also in agreement with Moon² who declares that the apprehension of problems and how to evaluate it in various situations is considered as critical thinking. Facione²⁵ on the other hand interconnect problem solving skills with self-confidence where he explains that individuals with critical thinking self-confidence trust their abilities to reason and for that, others will delve for their assistance and guidance in solving problems.

d) Analysis

Analysis is another critical thinking skill in the view of most of the informants. They believe that when a student is able to analyze a situation, or topic at hand, it shows that the student is thinking critically. This is evident when teachers reported that they need to analyze questions given by teachers in classroom, and then they need to solve the problems from the questions.

Moreover, teachers expressed that analysis was also understood as a critical thinking skill, though not every informant had the same insight, half of them believed so. This is compatible to Paul and Elder²⁴, p.13) who revealed that critical thinking is "the art of analysing and evaluating with the view to improve it".

Facione²⁵ states that, people who are analytical tend to be ready to proceed with difficulties, and always seek for solutions. Nevertheless, teachers were not able to further elaborate on the understanding of analysis that was also linked to the ability to interpret and make assumptions

based on facts and evidence, and to be able to come to a conclusion as proposed by Moon².

Teachers' Perception of the Importance of Critical Thinking Skills to Students

a) Application of Knowledge

Most of the informants reported that by having critical thinking skills, it enables students to apply their knowledge to their everyday life situations as well as in future academic endeavors. Teachers also admitted that the skill of critical thinking can be applicable to university life as well as working lives of students. They need this skill to function well in the future whether in studying or in workplace.

Teachers also mentioned that students would find it rewarding to be competent in critical thinking especially in terms of problem solving, when they are at university level, and they will benefit from the problem solving skills when they are in working life later too. All the informants were found to share the similar view that it is practical to be able to think critically because in university or working life later.

Teachers also understood that the ability to apply was also a critical thinking skill, and this skill is pertinent to students' daily life. According to a teacher, unlike in previous curriculum where students were drilled to answer questions, in the new curriculum students were trained to apply knowledge outside the classroom or texts.

According to Bloom (27, p.15) application involves "using information to solve problems; transferring abstracts or theoretical ideas to practical solutions; identifying connections and relationships; and how they apply".

Thus, it is not peculiar to note that teachers affirmed application skill as a critical thinking skill which is essential to students. Considering that thinking is a process of finding and making connections in view of that the world is made up of complexes, such as people and ideas, the ability to relate and apply is necessary to secure survival in the world²⁸.

Likewise, Costa and Kallick²⁹ suggest that applying past knowledge to new situation is one of the Habits of Mind that influences the success or failure in the mastery of knowledge.

The competency of students in critical thinking also empowered them to make decisions. The ability to make decision is also a kind of critical thinking skills when the thinker is using thoughtful and effective thinking for a particular context Halpern⁶.

This skill is necessary in learning as well as in day-to-day life seeing that there are a lot of problems, issues and dilemmas in the society that require students to choose and decide because bad decision making will lead to bad consequences, such as involve in drugs or alcohol²⁶

b) Able to Make Decision

Besides the student's ability to apply knowledge to new situations, by promoting critical thinking skills in the curriculum, KSSR also helps students to be able to make decisions. Teachers believed when they have to create appropriate activities in classrooms that enables students to think and decide.

Students are exposed heavily on the technology, thus, being able to think critically will help them to be selective and decide on what is good and bad from the internet. The responses from the teachers indicate that being critical is indispensable to students in learning and future lives since the skill will assist students to be independent.

In KSSR classrooms students are trained to make decisions such as on how to do their homework, who to be chosen to present from group members in front of the class, and what content should be selected as answers. As a result, students should be able to determine the best for them in the future.

The process of making decisions involve constructing assumptions and comparison⁴ and in view of that, students will reach to a decision on what to view or read from the internet that serves a relevant purpose as instructed by their teachers. Nonetheless, it is also salient to highlight that only sound decision made is considered as critical thinking skill and not merely any decision-making²¹.

6. Conclusion

Previous research indicated that critical thinking should be taught in classroom. Teachers are the ones whom should be well-versed about critical thinking and its importance to students. Teachers should also be equipped with the skills in order for them to effectively teach those skills to students. However, there is no study found to explore teachers' understanding of the skills and its importance to students, especially with regards to the new curriculum for primary school students in Malaysia.

Thus, the objectives of the study were to explore teachers' understanding of critical thinking in KSSR classrooms and to investigate their perceptions on the importance of the skills to students. Qualitative study was used to gather the information.

The informants of the study were six primary school teachers and they were interviewed and data was analyzed using coding and emerging themes.

Findings suggested that teachers understand that critical thinking among students in KSSR classrooms involved the ability to gather information, to express thought, to solve problems, and to analyze. They also were found to view critical thinking skills as important since it enable student to apply knowledge and to make decision. Nevertheless the findings signify limited knowledge of teachers on critical thinking skills. Although they seem to have some ideas about the skills, the responses collected indicated that lack of exposure to the skills itself and they need to be trained well in order to define the concept better and to be able to relate to students' ability and achievement.

Since the study is done qualitatively, it is unknown whether teachers from other schools and other parts of Malaysia have the same view. Thus, for future study, it is recommended to collect the data quantitatively as to determine whether or not teachers in Malaysia as a whole really understand the skills of critical thinking so that proper improvement and training can be conducted to expand teachers' teaching pedagogy.

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