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Bumpy Moments: A Potential Method to Uncover Teachers' Beliefs in the Context of Indonesia Education

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ABSTRACT

Teachers' belief is an element that influences teachers' decisions in their activities in the classroom. Researchers have formulated theories to conceptualize teachers' knowledge and a fundamental belief in their teaching and developed methods to unpack them. 'Bumpy moments' has been indicated as a potential method to uncover teachers' belief in their natural setting. This study aims at developing an understanding of primary school teachers' beliefs which underlie their decision in their classroom setting. The research used bumpy moments as a method. One primary school teacher who participated in this research were videotaped while she was teaching. The researchers and teacher watched their recorded teaching and the teacher was interviewed by using unstructured interview protocol. The research question was answered by running qualitative research to the primary school teacher. The research demonstrated that there are teacher beliefs held by the teacher. This can be seen in 1) beliefs in experience and ability in using media and methods in teaching, 2) beliefs in good teaching skills because understanding the students' emotional dynamics in class and understanding the students' thought processes in learning, 3) beliefs in experiences in learning pedagogical knowledge in teaching. Bumpy moments methods were a potential method to be developed in Indonesian contexts.

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1. Introduction

Education is a planned and gradual process to achieve the goals that have been set, and that goal can be achieved if all components related to education itself are met properly. The components are teacher, students, learning tools, and a supportive environment. The teacher is the main component because it has a very strategic role as the spearhead of educational success. The main thing that must be had for success to be achieved is competence. As written in Law No. 14 regarding Teachers and Lecturers (2005) that "competence is defined as a set of behavior, skills, and knowledge which should be mastered as well as possessed by the teacher or lecturer in carrying out their professional tasks". It is stated that "a professional teacher must have four teacher competencies, namely pedagogical, personality, social, and professional competencies" (Sutiarso, 2017).

Pedagogical competence is the ability in the management of students which includes understanding insight/foundation of education, students, curriculum/syllabus, learning, evaluation of learning outcomes. Personality competence is the ability of personality which includes adult, stable, wise and wise, authoritative, noble, and self-confident. Social competence is the ability of educators as a part of the community to communicate verbally and in writing, using communication and information technology functionally, and to interact effectively with students, fellow educators, education personnel, parents/guardians of students. Professional competence is the ability to master extensive and in-depth learning material which includes concepts, structures, scientific/ technological/artistic methods that overshadow/coherent with teaching material, teaching material available in school curricula, as well as professional competence in a global context while preserving national values and culture. Until now, the important part of the competency of personality competencies that is of concern to teachers in classroom learning is teachers' belief (Sutiarso, 2017). "Belief is a mental state which has a proposition and accepted as truth by an individual who holds it, although the individual also recognizes that the alternative beliefs may be held

by others. Beliefs may have two main characteristics: they can be conscious or unconscious and have an important impact on the way teachers behave" (Borg, 2001; Larenas & Hernandez, Paola Alarcon Navarrete, 2015). It is common that teachers have a fundamental belief on learning and teaching that there is an interaction between a learning material and a teaching method implemented to the learning process in the classroom (Borko et al., 1992; Calderhead & Robson, 1991; Kagan, 1992).

The beliefs of teachers have a significant influence on teaching and learning process; Pope and Scott (Prawat, 1992) highlight the importance of the view of teachers' knowledge and views in the teaching and learning process. They suggest that "educators, teachers, and developers need to pay attention on the epistemology of the teachers and how it is linked to other people and construct it in their professional repertoire". The researchers found that the beliefs of teachers were deep-rooted and resistant to change and highlighted the variety of research methodologies used by researchers to evoke the beliefs and awareness of teachers, including repertory grid and idea mapping. Teachers' beliefs became more explicit. The methodology also encouraged teachers' reflection on practice. The researchers found, however, that "accepting responsibility for one's thoughts and behavior may be difficult, particularly in stressful circumstances, as much for teachers as well as for anyone" (Winter & Reed, 2015). In order to show their value, it is important that teachers or educators who want to promote constructivist learning in classrooms use such techniques in pre-service courses. It is now normal to experience alternate interpretations of particular aspects of the curriculum by learners and teachers. Notions such as principles, beliefs, and ethical stance that teachers use in their everyday practice in the classroom are less attention granted.

Teachers' beliefs, practices, and attitudes are important for the researchers to understand and study educational processes. They are closely related to the methods owned by the teachers to deal with difficulties in their everyday professional lives and to their general well-being. In addition, they shape the learning environment of students and influence the students' motivation and achievement. "Many studies have described aspects of teaching practice which are related to effective classroom learning and student outcomes" (Brophy & Good, 1986; Wang et al., 1993).

One of the methods to reveal teacher beliefs is bumpy moments. "Bumpy moments are the moments that could in hindsight, convey several legitimate and competing courses of action with regard to classroom interactions with the pupils" (Romano, 2006). This situation perceives that mini dilemmas are having an inherent moral significance (van Kan et al., 2010). It can be said that "a bumpy moment is a time when the teachers may have been able to practice agency, in the sense that agency is the capability to behave otherwise than one did".

Many attempts have been tried to transform the methods used by teachers in their classrooms for more than 10 years. The situation has not changed. The teaching activity was still dominated by teacher-centered with a low level of thinking order. The low teaching quality has been identified as the root of Indonesian students' low performance in several international assessments. This research was trying to reveal teachers' beliefs underlying their daily classroom activities. The understanding of teachers' beliefs would help teacher trainers and policymakers to design suitable teacher professional development in an attempt to improve teachers' competency including their skills and beliefs.

The objective of this study is to know what are the dominant primary school teachers beliefs underlying their decision in their classroom. By doing observation and interpreting teachers' behavior and attitudes when bumpy moments got involved the researchers were able to determine primary school teachers' beliefs. The researchers assumed that the theme of this study is different from other research, so the authenticity of this research can be justified.

1.1 Teacher Beliefs

Teachers' activities in the classroom are influenced by their knowledge and beliefs. Shulman (1987) introduces the concept of Pedagogical Content Knowledge (PCK) in order to identify knowledge held by teachers that help them to transform their understanding of subject discipline into teaching. Teachers' belief is essential and decisive for the implementation of the educational process in the classroom. A lot of research has figured out that "teaching practices by teachers are related to effective classroom learning and students' outcomes" (Brophy & Good, 1986; Wang et al., 1993). According to Kagan in Fauziati (2015) in (Hidayat, 2017), teacher beliefs are teacher's unconscious beliefs which are assumptions about students, classrooms, and academic material to be taught. It was also stated that teacher beliefs are the ability of teachers to interact with students, classrooms, and academic material that originates. The interaction comes from their experience.

Teacher beliefs can be increased in several ways. Richardson (Chong et al., 2004) states that "teacher beliefs can originate or can be improved through 3 things, namely (1) personal experience, (2)

experience with schooling and instruction (experience through schooling and learning), and (3) experience with formal knowledge –both school subjects and pedagogical knowledge (experience with formal knowledge - both school material and pedagogical knowledge)". Kukari (Chong et al., 2004) states that teacher beliefs have a mutual relationship with culture and religion. Based on these two opinions, it can be concluded that the level of teacher beliefs can be increased through a number of ways, such as improvement through personal experience, the learning process in schools or other formal institutions, cultural interaction, and the application of religious values.

1.2 Bumpy Moments

Bumpy moments are moments that could be retrospective; "they convey several legitimate and competing courses of action in relation to student interactions in the classroom" (Romano, 2006). These moments are viewed as dichotomous situations: "The term bumpy moments did not refer to a situation in which teachers did not know what to do (incapacity to act) but to a situation that could, with hindsight, convey several legitimate and competing courses of action with regard to classroom interactions." These mini dilemmas have been assumed to be having an inherent moral significance (van Kan et al., 2010). It can be said that "a bumpy moment is a time when the teachers may have been able to practice agency, in the sense that agency is the capability to behave otherwise than one did".

2. Methods

It is necessary for the writer to explain the approach, methods (methods of data collection including instrument used), subjects, objects, population, samples, and other things that are relevant to this section. The research approach was qualitative by (Creswell, 1994). The approach was defined as research that focuses on involvement in the research. Thus, this research could not be restricted. This approach was used in an attempt to explore comprehensively teacher beliefs with meticulous care. As exploring the issues, the researchers were not restricted by any instrument to collect the complete data on teacher beliefs.

A qualitative approach is also considered as an interpretative approach, which copes a systematic analysis of social phenomena emerging from the original social background into the research (Djamba & Neuman, 2002) In the research, the researchers understood and interpreted all of the social phenomena which came out in the research in accordance with the original and natural settings that happened, where teachers taught in a classroom.

The type of this research was descriptive research. Creswell (1994) defines that the researcher must be absorbed in process, interpretation, and understanding and then clarify it into the explanation and illustration. The researchers chose descriptive research for the reason of researchers' willingness to describe and interpret meticulously the data and phenomena collected in the research. In other words, the researchers were able to describe the data and phenomenon collected in accordance with the objective of the research, which is to know the dominant beliefs of primary school teacher underlying their decision in their classroom.

According to the time dimension, the research was cross-sectional. Ruane (2005) states that cross-sectional research is a research that is conducted to collect information in one time derived from an identical group of respondents, not from the different respondent groups. The research was conducted from November to February 2020. It was not done out of the scheduled period, so the research would not be compared to others in different periods. Otherwise, the research was only obtained to the exactly same respondents, those primary school teachers.

2.1 Population and Instruments

The population of this research was 1 primary school teacher in the 3rd grade. The instruments that the researchers used were videotape and field notes (observation guidelines and interview in data collection).

2.2 Data Analysis

The data for the analysis were gathered from the videotape and field notes. First of all, the researchers videotaped the learning process in every teacher's classroom. Next, the researchers and teachers watched the video. After that, the teachers determined the bumpy moments that had happened and tried to define the reason for choosing the chosen bumpy moments in the classroom.

After catching teachers' explanations via interviewing and collecting observation data, the researchers analyzed all data collected. It was done in order to answer the research question: to know what the dominant beliefs of primary school teachers are underlying their decision in their classroom.

The teacher is involved to identify the meanings that are contained during a teaching in class. Teachers' teaching practice is the most basic research data. Researchers record daily learning. We assume that recording the way teachers teach can reflect their learning activities normally. Then, the teacher watches the recording together with the researcher. In this case, according to empirical studies conducted by (Seidel et al., 2011) about teacher learning can be analyzed through recorded classroom situations. This study found that teachers who analyze their own teaching experience a higher understanding of knowledge, indicated by the depth of experience that will be seen and the motivation to analyze learning done by other teachers.

When watching video recordings of their own lessons, teachers are asked to show meaningful teacher-student interactions. The researcher asks the teacher: "Can the teacher show the situation when the teacher acts in a certain way and with the feeling that the teacher can actually act in another way?"

In this situation, the researcher adopts the term 'bumpy moments' (Romano, 2006) to mark situations that have the behavior of this dilemma. The term bumpy moments do not refer to situations where the teacher does not know what to do (inability to act) but to situations that can actually be done in terms of interactions with students in the class.

The behavior of this dilemma has inherent moral values. This is evident in every act of teaching able to convey moral meaning, so that every behavior dilemma that arises in learning, can be considered a moral dilemma. This is in accordance with the opinion of (Blatt, 1969; Blatt & Kohlberg, 1975); (Lind, 2006) in (van Kan et al., 2010) that there is a link between moral dilemmas and individual perspectives.

The researcher plays back the learning video conducted by the teacher, then the teacher examines and identifies the moments that arise. The researcher helps the teacher by giving video breaks, recalling the learning situation, and letting the teacher tell about the situation that occurred and the reasons why a behavior was ultimately chosen.

3. Findings and Discussion

The bumpy moments recorded in the video will be done editing process so that it can be used as data that can be reflected. In reflection, the teacher is asked to tell stories and show the beliefs recorded in the video. Through interviews, researchers explore authentic belief indicators that emerge from teacher behavior in videos.

The bumpy moments behavior in the video recording will be transferred to the images that are displayed sequentially to be able to show the interaction and context that occurs in the classroom. The image generated from the video recording will be shown below.



Figure 1. Students show the objects

In Figure 1, it shows that the teacher is teaching with teaching aids, then asks one of the students to come forward. The student is asked to name the objects on the table. In this learning process, the bumpy moment behavior that arises is the teacher invites students to conduct experiments and find answers to problems. Based on interviews, this situation is a dilemma activity. In a lesson, sometimes the teacher is not ready and teaching without preparation or the media. Knowing the situation in this dilemma, the teacher said that the teacher always tried to prepare the media in teaching and make preparations beforehand. In learning, students are invited to conduct experiments and find their own problems.

This process by the teacher shows that the teacher has beliefs in the experience in pedagogical knowledge and the ability to use media in teaching. This behavior is the implementation of the first teacher beliefs indicator, which is having personal experience in building self-organization when teaching. In addition, this emerging situation is the implementation of the third indicator of teacher beliefs, namely experience with formal knowledge. This is indicated by the experience of teachers during formal education. The teacher learns about pedagogical knowledge, it appears from the belief that students can

understand learning with a real object and use practice in class together. The thing that is practiced by the teacher is in accordance with the theory from Piaget (Carolyn et al., 2013) which states that elementary school children (aged 7-11 years) are at a concrete operational stage so that naturally the best way of learning for children is actually by seeing, feeling, and do it directly.

Figure 2, shows a child asking the teacher about an object that can not be identified by the child. Then, the teacher does not immediately answer but asks the child to ask friends in class (Shown in Figure 3). In Figure 4 shows that the child smiles and has an embarrassing expression to ask, then the teacher motivates by saying "Come on". Figures 2, 3, and 4 can be seen below:



Figure 2. Students ask



Figure 3. The teacher invites the students to have a discussion with their friends



Figure 4. The teacher motivates the students

Based on Figure 2, 3, and 4, the bumpy moments' behavior that arises is the teacher does not directly give answers to students about objects that cannot be identified. However, the teacher asks students to try to answer, try to discuss with other friends, and find the answers. Based on interviews, the teacher considers this situation to be a bumpy moment situation. If at that time the teacher wants to finish learning immediately, the teacher can immediately give a conclusion. However, the teacher said that he wanted to give opportunities for students to have a thought process and try independently to find answers. The teacher accompanies students by giving ideas to discuss with other friends.

This process by the teacher shows that the teacher has beliefs in the experience in pedagogical knowledge in teaching. In addition, the teacher understands the learning method used and can practice it. This behavior is the implementation of the third indicator of teacher beliefs, which have academic experience in learning about pedagogical knowledge and can practice it in class. The teacher positions students as the center of learning. The teacher as a mentor is in accordance with Montessori's opinion which states that a child is a master of the actions and exercises he does. Teachers only act as much as observers of work and child development, administrators of workspaces and equipment, and facilitators only (Gettman, 2016; Montessori, 2004).

Figure 5, shows a child asking a friend about objects that cannot be identified. Then, the teacher helps repeat and confirm the student's question to another friend (Figure 6), after the message conveyed by students and the teacher is captured by another friend, then another friend answers it (Figure 7). Figures 5, 6, and 7 can be seen below:



Figure 5. Students ask each other



Figure 6. The teacher repeats the question



Figure 7. Students answer

Based on Figures 5, 6, and 7, the bumpy moment behavior that arises is the teacher allows students to discuss with other friends and help students by giving emphasis questions. Based on interviews, the teacher said this situation was a dilemma situation. Actually, the teacher really wants to answer right away, because according to the teacher, the answer is very easy. However, the teacher chooses to provide guidance by emphasizing questions to students. This is done so students are motivated to answer. The

motivation given by the teacher is an invitation to answer. This process by the teacher shows that the teacher has good teaching abilities because he understands the emotional dynamics of students in the classroom. This behavior is the implementation of the second teacher belief indicator, which is to have experience and practice teaching in the classroom. The attitude shown by the teacher is in accordance with Vygotsky's theory, that teachers, adults or peers who are more competent need to help in various ways such as giving examples, giving feedback, drawing conclusions, discussions, and so on in order to develop their abilities (Saomah, 2011).

In Figure 8, it shows the teacher approves the student's answer by confirming that the answer is correct. Then, the teacher draws conclusions based on experiments conducted by students and teachers in the class and writes them on the blackboard so students can observe them clearly (Figure 9). Figures 8 and 9 can be seen below:



Figure 8: Teacher writes the answer on the board



Figure 9 and 10: Teacher concludes students' answer



Based on interviews, the bumpy moment behavior that arises is the teacher confirms the answers given by the child that the answers are correct, then writes the conclusion of the learning on the board. Based on interviews, the teacher said this situation was a bumpy moment situation. This situation requires the teacher to be patient and slowly confirm the correct answer to the child so that the child knows the thought process is correct, besides, the teacher writes the conclusions on the board to help the child concretize a conclusion. Writing activities on the board are also used by the teacher to give examples of good and correct writing.

The process by this teacher shows that teachers have beliefs in good teaching abilities because they understand students' thought processes in learning. This behavior is the implementation of the second teacher belief indicator, which has the experience and practice of teaching in the classroom. The teacher repeats as an alternative way to overcome forgetfulness. By repeating or reviewing and re-learning what has been learned allows students to remember greater learning material (Sardiman, 2010).

As stated in the methodology process, this research records the learning process and makes it into a video and then cuts it in parts into images to simplify the analysis process. Learning is recorded and made into pictures, then reflected together with the teacher. This makes the teacher better understand the interactions that occur in their class. When the teacher sees the video or picture, the teacher responds that the teacher becomes increasingly understanding the authentic side of students and the dilemma faced by the teacher himself. This teacher's response shows that video and pictures can recall memories that occur and make sense of the bumpy moment events that occur. The process of using video and making images is original data and can show interactions and expressions that occur in the classroom. The picture that the researcher chose was based on the teacher's personal choice which considers that the situation shows a dilemma or what is called bumpy moments.

This research shows that in him, the teacher has beliefs as a teacher, this is evident from the events of bumpy moments that are in the choices of dilemma, the teacher shows her beliefs. The belief shown by the teacher is first about personal experience. What is apparent from the teacher is the experience of the beliefs in pedagogical knowledge and the ability to use media in teaching. The teacher has personal experience in establishing self-orderliness when teaching. This teacher's experience was gained from the teacher's education as a prospective teacher.

Second, namely experience with schooling and instruction. This is evident from the belief in good teaching abilities because understanding the emotional dynamics of students in the classroom and understanding students' thought processes in learning. The teacher has experience and practices teaching in class. This experience is gained because the teacher has worked for 14 years. In the process, the teacher can improve teaching skills and sensitivity to students. Third, namely, experience with formal knowledge –both school subjects and pedagogical knowledge. This is evident from the belief that students can understand a lesson with a real object and use practice in class together. In addition, teachers also have

beliefs in the experience of pedagogical knowledge in teaching. This experience gained from the values received during the process of becoming a teacher to date.

Behavior in this bumpy moment situation sometimes appears in the learning process and has a different response from each teacher. This is caused by the experience of being morally closely related to the habits they have received long ago. Processing in a behavior dilemma can encourage teachers to reconsider or think about the behavior they choose in relation to interactions during learning with students (van Kan et al., 2010). In this study, teacher beliefs was formed so that they could reflect on the knowledge they had about education, their teaching abilities, and their methods of dealing with students.

4. Conclusion

The research question was answered by running qualitative research to the primary school teachers. The research demonstrated that there are teacher beliefs held by the teacher. This can be seen in 1) beliefs in experience and ability in using media and methods in teaching, 2) beliefs in good teaching skills because understanding students' emotional dynamics in class and understanding students' thought processes in learning, 3) beliefs in experiences in learning pedagogical knowledge in teaching.

Bumpy moments methods were a potential method to be developed in Indonesian contexts. More research has been carried out in order to obtain a more comprehensive landscape of teachers' beliefs, to identify the extent of social and cultural aspects that influence teacher beliefs, and to identify the source of the teachers' beliefs.

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