

The Continuous Professional Development for Early Childhood Teachers through Lesson Study in Implementing Play Based Curriculum (Case Study in Jakarta, Indonesia)

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The continuing professional development of the teacher profession for early childhood teachers has focussed on developing the mastery of the concepts and application of STEAM, a content-based learning in play-based curriculum. Play-based curriculum is part of international issues in the development of the profession of early childhood teachers that occur in various countries. Of all the efforts to develop the early childhood teacher profession, Indonesia has become one of the interesting cases in implementing STEAM content-based learning in the play-based curriculum in early childhood education institutions. This effort was made to help teachers develop and develop STEAM (Science, Technology, Engineering, Art, and Math) content-based learning plans in the play-based curriculum. The study was conducted using action research methods through lesson study. Data collection is done by using observation, interviews and document analysis. The study participants consisted of 7 Kindergarten teachers in Tahfidz Kindergarten, East Jakarta, DKI Jakarta Indonesia. The results of the study found that Lesson Study became one of the alternative choices to assist teachers in making improvements to professional performance on an ongoing basis. Lesson Study becomes a locus for changes in teacher knowledge and pedagogical skills. Lesson Study has helped teachers to gain changes in pedagogical knowledge and skills, especially in implementing a play-based curriculum. Lesson through the preparation of play activities based on SLAMETS content (Science, Literacy, Art, Math, Engineering, Technology and Social Study) as part of developing

STEAM content in an integrated, meaningful and contextual manner. Lesson Study is also a vehicle for teachers to carry out transformative learning about various pedagogical knowledge and skills.

Key words: *early childhood teachers, STEAM, Indonesia*

Introduction

Development of concepts and application of play-based curriculum is an international issue in the implementation of early childhood education in various countries (Faas, Wu, Geiger, & Faas, 2017). Play-based curriculum becomes a central and fundamental part in the provision of education services to early childhood which has been agreed at various international forums (Daubert, Ramani, & Rubin, 2018; The Real Play Coalition, 2018). This international issue is of concern to various countries in developing and implementing play-based curriculum in various early childhood education institutions.

Studies conducted in the Czechia country have given special attention to the development of play-based curriculum in the implementation of early childhood education (Hornychova & Veseal, 2009). Play-based curriculum or play-based learning is also an important issue in the development of early childhood education in countries such as Chile, Denmark, Estonia, Italy, Poland, Russia and America (Bertram & Pascal, 2016). Play-based curriculum becomes the main reference and quality standard in the implementation of STEAM content-based learning (Science, Technology, Engineering, Art and Math) in early childhood.

In the case of Indonesia, the play-based curriculum is still a dilemma because in its implementation it uses a learning design analysis approach. The instructional design approach in the early childhood education curriculum places more emphasis on analysing development or competence as a foothold to develop learning or play activities. The play-based curriculum approach emphasises the development of play activities that can have an impact on multi aspects of child development (Hujala, 2015). The use of the instructional design analysis approach gives an impact on the occurrence of a learning atmosphere that is rigid, mechanistic and less enjoyable. Many teachers who use this approach are trapped in linear learning, coercive exercises and many use paper and pencil.

To overcome these issues and problems, it is necessary to develop training programs and Lesson Study workshops to develop sustainable professional performance for early childhood teachers in implementing play-based curriculum. The application of this play-based curriculum can be used as a platform to compile and implement STEAM content-based learning. Lesson study is a professional effort to improve the performance of the teaching profession (Cerbin & Kopp, 2006; Rock, Wilson, Rock, Wilson, & Wilson, 2005), especially in developing and developing STEAM content-based learning plans in a holistic and integrated manner. Lesson

study is expected to help teachers gain reflective experience on the learning process that has been, is being and will be done. This reflective experience will help teachers improve the quality of education on an ongoing basis (Doig & Groves, 2011; Hägglund & Samuelsson, 2009).

This study is directed at efforts to provide opportunities for teachers to gain reflective experience about the learning process that has been carried out as an early childhood teacher. Based on this reflective experience, the teacher also obtained guidance to develop concepts and practices of STEAM content-based learning in the play-based curriculum. At the end of the study, the teacher is expected to be able to compile and develop learning plans and practices that are in accordance with the philosophy, concepts and approach of the curriculum based on play.

Research Design

This research was conducted through the use of action research methods with the Lesson Study model as the main focus that was developed in training and workshops on an ongoing basis. The action research was conducted on 7 participants from Tahfidz Kindergarten teachers, East Jakarta, DKI Jakarta, Indonesia. Of all of the study participants 5 people had an early childhood teacher background and 2 people had not majored in early childhood. 6 teachers have a background of less than 5 years teaching experience and only 1 who has teaching experience of more than 5 years. A total of 6 teachers did not have a certificate as a teacher and only 1 person with a teacher certificate who also doubles as a school principal.

This research is based on the needs of Tahfidz Kindergarten who have the desire to improve the quality of learning in Early Childhood Institutions. This activity is also intended to assist teachers in obtaining improved pedagogical knowledge and skills through the application of a play-based curriculum. The teachers also have never gained an understanding of knowledge and skills applying STEAM content-based learning in the play-based curriculum. The process of acquiring research data is done through participatory observation, interviews, focus group discussions and document analysis.

Findings and Discussion

Lesson Study as a Locus of Changing Pedagogical Knowledge

As an initial reflection material, the Lesson Study Activity was conducted by researchers by presenting traditional video games that are usually done by young children in Indonesia by taking samples of traditional video games from Lombok. Participant subjects were asked to reflect on: "Did the child in his childhood ever play the game?". This reflection process is part

of the beginning of Lesson Study activities conducted through training and workshops on teachers (Ganesha, n.d. ; Rock et al., 2005). Most of the participants responded, "ever and often". Then the subject was asked again: "Has the play like that only lasted 1 hour or 2 hours" and most subjects answered no, we usually play until the afternoon or at least half a day ". The researcher invited the participants' subjects to come together to conclude that naturally playing in early childhood lasts for a long time, it can be a half day or a full day.

Playing naturally like that usually makes young children disappear into their own imaginary world, forgetting to drink, to eat lunch, or to rest or sleep. Playing like this is what is called an exciting play (the immersion play). This knowledge is the most fundamental pedagogies knowledge in building understanding of learning concepts and practices in early childhood. The development of curriculum concepts and practices as well as learning in early childhood prioritises the play-based curriculum paradigm (Daubert et al., 2018; The Real Play Coalition, 2018).

This paradigm provides an understanding that the development of play activities that are programmed, genuine and caring for children (immersion) are the starting point for the development of early childhood teacher professional skills, especially in pedagogical skills. This skill is related to the ability of teachers and early childhood teacher candidates to develop their play activities and play scenarios which are expected to make children have fun. Development of play activities like this requires the skill to present a wide variety of activities (density) and length of play time (intensity). Understanding and using such a play-based curriculum paradigm will help overcome the instructional design analysis approach that starts learning development from the aspect of objectives (aspects and indicators of development or competencies and indicators of the development field). This approach has long been implemented in Indonesia, which makes learning in early childhood rigid, less enjoyable, tends to use a density of play and a short play time.

The learning process through Lesson Study can be illustrated through the following table:

Table 1: The learning process through Lesson Study

Stages of Lesson Study	Description of Stages	Acquiring Pedagogical Knowledge & Skills
Goal Setting and Plan	<p>Identify the objectives and problems in implementing the tasks of the early childhood teacher profession.</p> <p>Describe concepts and practices that fit the theory.</p> <p>Perform reflective actions about the learning process that has been done (Media: Video)</p> <p>Make a plan to change the quality of the learning process according to the needs, characteristics and stages of child development (portfolio: plan of activities that fit the needs of the profession).</p>	<p>The teacher discovers forms of malpractice in learning in early childhood.</p> <p>The teacher makes a theoretical note about correct learning practices in early childhood.</p> <p>The teacher discovers forms of learning actions that are correct and which are still wrong in the practice of learning in children.</p> <p>The teacher makes a plan to improve and develop the quality of learning</p>
Research Lesson	<p>Develop learning plans in accordance with the rules of play-based curriculum, both from developing themes to preparing lesson plans.</p> <p>Carry out micro and peer teaching in accordance with the lesson plan</p>	<p>The teacher develops a network of themes and play activities.</p> <p>The teacher sets up a play scenario that contains STEAM and SLAMETS content.</p> <p>The teacher shows pedagogical skills in teaching practice</p>
Lesson Discussion	<p>Analysing micro video shows and peer teaching conducted by each teacher.</p> <p>Conduct a Focus Group Discussion about the display of learning done by peers</p>	<p>The teacher identifies the findings of problems and deficiencies in teaching practices by his friend.</p> <p>The teacher arranges the flow of thought and practical actions in conducting learning.</p>
Consolidation of Learning	<p>Reviewing the results of Lesson Study activities</p> <p>Conduct further planning in applying the results of Lesson Study</p>	<p>The teacher displays the results of the Lesson Study has done.</p> <p>The teacher makes plans for further development of pedagogical skills.</p>

Play-based curriculum paradigms bring the participant subject's thinking and understanding to change the way of thinking that aspects and indicators of development are impacts (consequences) of play or learning activities carried out by early childhood (Daubert et al., 2018; McLaughlin & Cherrington, 2018). Therefore, development is not used as a basis for developing learning or playing activities in early childhood but it becomes a material for analysing the impact of play activities and play scenarios designed by teachers or prospective teachers. Stages and characteristics of development in early childhood can be used as a basis for estimating the needs of the type of play (density) and the time required (intensity) in the design of play that will be presented to early childhood.

Play that is developed in early childhood refers to contextual play activities, namely play that is developed from existing themes and lives around the child. This thematic game is a mirror of integrated learning that can integrate learning in a variety of early childhood content such as STEAM (Science, Technology, Engineering, Art and Math) and also SLAMETS (Science, Literacy, Art, Math, Engineering, Technology and Social Study), including religious and cultural content. Teachers' educational skills in the development of such play activities must include integrated and meaningful use and development of learning content in early childhood.

Lesson Study as a Form of Community-Based Transformational Learning

Learning is a process of transforming knowledge, values, attitudes and behaviours that are built by students through an interactional atmosphere (Leal Filho et al., 2018; Romano, 2018). The transformation process can be carried out through Lesson Study activities that provide opportunities for students (kindergarten teachers) to do the reflection process and act directly in making improvements to the professional performance in providing educational services. Lesson Study provides an atmosphere of learning that enables teachers to transform pedagogical knowledge and skills in developing professional performance on an ongoing basis. The transformation process through Lesson Study can occur directly, meaningfully and pleasantly as well as internalized in the change of teacher's pedagogies knowledge and skills. This change occurs through reflective experience, direct experience and various experiences between teachers of the learning practices they have done.

The transformative learning process between teachers in improving the performance of their profession is carried out through a series of Lesson Study processes. First, teachers are given the opportunity to take reflective action through power point media shows and videos about how early childhood learning and how early childhood teachers teach. This process will provide space for teachers to gain pedagogical knowledge about how young children learn and how learning should be done for them. Second, the teacher makes a plan for changing performance according to the problem that needs to be fixed. Planning changes to the performance of this profession is directly carried out through direct assistance in developing

and developing themes and play activities, making weekly and daily planning. In this activity, the teacher is able to arrange play identity, play scenarios that contain STEAM and SLAMETS contents that can be estimated to have an impact on a number of standard indicators of early childhood development. Third, the teacher practices learning through micro and peer teaching as well as observing and making reflective notes on the practice being carried out. The transformative learning process that occurs is that teachers find wrong or inappropriate practice performance from their peers and become an improvement for their practice. Fourth, the teacher conducts discussions between them to arrange and develop knowledge and other pedagogical skills in order to develop professional performance in a sustainable manner.

Conclusion

Lesson Study is one of the solutions that can be used as a choice to help teachers improve and develop professional performance on an ongoing basis, especially for early childhood teachers in implementing a play-based curriculum. Lesson study helps teachers find the right and wrong educational practices so they can make plans to make improvements and develop learning practices in early childhood in accordance with a play-based curriculum. Play-based curriculum mastery is a fundamental part of continuing professional development for teachers and prospective early childhood teachers (Daubert et al., 2018; Wasmuth & Nitecki, 2017), particularly in mastering pedagogical skills to develop play activities that educate early childhood.

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