

Improving Children's Understanding of Early Sex Education through Modified Puppet

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Abstract

Educators have increasingly provided teaching and learning practices to teach children's understanding of early sex education. In accordance with the inappropriateness of the teaching practices, the current study examined the effectiveness of utilization modified puppet within play-based learning approach. A quasi-experimental research design was employed with two classes in a private kindergarten in Galis subdistrict. This study involved 61 children, aged 5-6 years. During four weeks, the experimental class received modified puppet in their learning activity and the control class condition received conventional learning. Before, and after, the four weeks modified puppet intervention, measures of children's understanding of early sex education were administered to all groups. The findings showed that the children's understanding of early sex education who taught by the modified puppet outperformed children who received conventional method. However, the findings need to be explored with an extended to different learning outcomes that involve larger groups of participants.

Keywords: *modified puppet; play-based learning; educational game tools; sex education; early childhood.*

Abstrak

Praktik pembelajaran di sekolah dalam mengajarkan anak tentang pendidikan seks dini semakin meningkat. Sejalan dengan ketidaksesuaian praktik pembelajaran tersebut, penelitian ini bertujuan untuk menilai efektivitas pemanfaatan boneka yang dimodifikasi dan pendekatan pembelajaran berbasis bermain. Rancangan desain penelitian kuasi-eksperimen digunakan dengan dua kelas di taman kanak-kanak swasta di Kecamatan Galis. Studi ini melibatkan 61 anak, berumur 5-6 tahun. Selama empat minggu, kelas eksperimen menerima aktivitas pembelajaran dengan memanfaatkan boneka yang termodifikasi dan kelas kontrol menerima aktivitas pembelajaran dengan metode konvensional. Sebelum dan sesudah empat minggu menerima intervensi, pengukuran tentang pemahaman anak terhadap pendidikan seks awal diberikan kepada semua kelompok. Temuan ini menunjukkan bahwa pemahaman anak tentang pendidikan seks dini yang diajarkan dengan memanfaatkan boneka yang dimodifikasi mengungguli anak yang menerima pembelajaran dengan metode konvensional. Meski demikian, temuan ini perlu dieksplorasi dengan jenis hasil belajar yang lain dengan melibatkan jumlah kelas peserta yang lebih besar.

Kata Kunci: *boneka yang dimodifikasi; pembelajaran berbasis bermain; alat permainan edukatif; pendidikan seks; anak usia dini.*

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Introduction

Sex education has been widely recognized as having an important impact on people's lives. In the context of children, early sex education must be a part of the paramount consideration by parents and teachers for preparing the child's future. While expert said the important of teaching early sex education starts from the childhood period (Lovegrove & Sherwin, 2013). research showed that sex education program which provide individual with age-appropriate and scientifically accurate information contribute to the prevention of sexual abuse, improvement of quality of life, health and well-being in general (UNESCO, 2009). In fact, many cases of sexual abuse happen both in big cities and in rural areas against early childhood. The Indonesian Children Protection Commission (KPAI) found that the increasing number of children in the last four years who become victims of a sexual abuse. In details, KPAI noted that there were 116 cases in 2017, 206 cases in 2018, and 78 cases in 2019 (Chairilisyah, 2019) as well as revealed by *databoks.katadata.co.id*, KPAI noted there were 419 cases in 2020 (Jayani, 2021).

One of the main factors that related to the increasing number of sexual violence is lack of understanding toward early sex education due to direct instruction is developmentally inappropriate. Previous study examines sex education carried out by parents and teachers. For example, Kakavoulis (2001) showed that family did not have and did not provide sex education in accordance with the need of children. Meanwhile, in schools' context, Simorangkir (2020) showed that the method of teaching early sex education was lecture with aided by pictures as the instructional media. Another studied also showed that teachers used lecture as an instructional method with aided by instructional media such as books and visuals (Rimawati & Nugraheni, 2019). In line with this, study by Hasni & Suparno (2019) revealed that in Islamic kindergarten teachers used lecture and talking to children aided by pictures. Therefore, this has led to increased focus on teacher-directed instruction with children talking on the role of passive recipient of knowledge.

Summarizing, the studies described above suggest that teachers required to develop innovative direct instructional and media that appropriate with the children's development. Thus, this study proposes teaching children early sex education with the fundamental principles of play-based learning. Play-based learning well known as learning while at play. Study defined play-based learning is child-centered and focus on children's academic, social, and emotional development as well as their interests and abilities through engaging and developmentally appropriate learning experiences (Pyle & DeLuca, 2017). As found by Pyle & Danniels (2017) in their case study in play-based learning, they found that play-based learning could provide the effectiveness of learning experiences for a child than conventional method. Study by Taylor & Boyer (2020) showed that play-based learning could be used not only to promote equal access to learning but also facilitate children's abilities and backgrounds through utilization of objects like flower, bottle caps, and play dog to build a story.

The current study focuses on providing instructional media that support learning experiences in play-based learning. There are several reasons why this study focuses on utilization instructional media as educational game tools. First, previous study said that children aged between 5-6 years old are on the stage of concrete operational, thus, they ideally learn best with concrete objects (Diningrat et al., 2019). Secondly, research found that play with some degree of guidance can heighten engagement, direct exploration and facilitate "sense-making" as well as support each child to construct new knowledge with meaningful learning activity (Fisher et al., 2013; Taylor & Boyer, 2020). In addition, study by Tsuda et al. (2017) found that due to the lack of materials and tools for early sex education teachers should develop these tools in accordance with children's needs. Therefore, the current study aims to provide an instructional media as an educational game tool to engage and support children's meaningful learning experiences about early sex education through modified puppet.

The modification of puppet as an educational game tool is supported by the instructional theory of constructivism, this theory focuses on the active learner to construct knowledge through their interaction with the learning environment either singly or with others. In this case, a child interacts with educational game tools. Huang et al. (2019) characterizes that from the constructivism, learning activity should be emphasized in the following ways such as knowledge is constructed by children, learning is the process by which children conduct an exploration as representative of active learner, the role of previous knowledge and experiences in supporting the meaningful construction of new knowledge, and the role of providing learning resources in accordance with the learner's needs in order to support meaningful construction of new knowledge. Huang's point of views guide teachers to design their learning activity in supporting not only meaningful learning by utilization of the educational game tools but also provide meaningful knowledge construction with the play-based learning approach.

Modified puppet refers to as educational game tools in which they are designed and developed specifically for the instructional goal and the development of a child (Depdiknas, 2007). Diningrat et al. (2019) said that teachers should emphasize several characteristics of educational game tools such as designed and developed for supporting kindergarten learners to play, in accordance with their needs, and fit with the instructional goals as well as to support children's playing activities. Therefore, the modified puppet is designed and developed to support children's understanding of early sex education through play-based learning activities in order to engage a child in meaningful learning experiences.

Previous studies examined the effect of educational game tools on learning outcome in different fields. For example, study by Zhonggen (2018) carried out an experiment in English vocabulary class between two groups in which one was tough by educational game tools and another without educational game tools, the study found that children in group which was tough by educational game tools outperform children in group which was tough without educational game tools. An experiment study in early mathematics have conducted by Diningrat et al. (2019), the study showed that mathematics' learning outcome improved significantly when they used modified bottle cap as an educational game tools. In line with this, the study of systematic literature review found that various educational game tools not only could lead to significantly higher learning outcomes but also increased children's engagement and motivation (Yu et al., 2021).

There are several previous studies that defined sex education. For example, European Expert Group on Sexuality Education (2016) stated that sex education is learning about the cognitive, emotional, social, interactive and physical aspects of sexuality. It aims at supporting and protecting sexual development through empowering children with information to understand their sexuality. Nawati (2013) stated that sex education is an effort to give information about the function of reproductive organs and moral value as well as religious commitment. In addition, Chairilisyah (2019) stated that the kind of information includes the introduction of limbs, understanding gender differences, the elaboration of sexual behavior, and the introduction of value and norm that exist in society that related to gender. Therefore, this study focuses on children's understanding of early sex education includes gender different, organs that could not be touched, and introduction of value and norm that exist in accordance with the religious.

Against this backdrop, the study aimed to examine the effect of modified puppet and also play-based learning approach on children's understanding of early sex education. For this purpose, answer was sought to the research question: does modified puppet as an educational game tool and play-based learning approach increase children's understanding of early sex education? to answer this question, this study employed the quasi-experimental research design.

Methodology

The current study was employed the quasi-experimental research design (Creswell & Guetterman, 2019). This design of research method was used to collect data before and after the intervention process. The experimental designs known as group comparison studies. In this study, there are two classes that designed as control class and experimental class. In the control class, children received their regular classroom learning activities. Meanwhile, in the experimental class, the children received the modified puppet as educational game tools to engage students in play-based learning activities. Additionally, both control and experiment class were taught by the same courses.

This study took place in private Kindergarten schools in Galis, Madura. The average age of children were 5-6 years. In addition, this study also evolved 70 children, where 35 children selected as an experimental group while another 35 children selected to be comparison group or control group.

In this study, instrument was developed and validated by one expert from psychology degree. The instrument was used to determine whether children were understood the early sex education includes gender different, organs that could not be touched, and introduction of value and norm that exist in accordance with the religious. A rubric also was developed to measures the children's understanding of early sex education by using 4-point scale (see the table 1). Therefore, this early sex education measures were used for control and experimental class both in the pretest and posttest stages.

Table 1. Scoring Rubric for Early Sex Education

Task topics	0 point	1 point	2 points	3 points	4 points
My body	A child could answer 0 question	A child could answer one question correctly	A child could answer two questions correctly	A child could answer three questions correctly	A child could answer four questions correctly
Sexual abuse behavior	A child could answer 0 question	A child could answer one question correctly	A child could answer two questions correctly	A child could answer three questions correctly	A child could answer four questions correctly

The SPSS 21 program was used to analyze the data. There are nine of the 70 children did not complete the all stages of study. Thus, only 61 children who completed all stages. In addition, the normal distribution of the data and the homogeneity of the variances were tested. The results indicated that the data both on the pretest and posttest were homogeny but did not fulfill with the assumption of normality data. Therefore, Mann-Whitney U test was performed to analyze the data.

Result and Discussion

The average scores of children's understanding of early sex education

Before and after the learning intervention, the mean scores and standard deviation for both experimental and control classes are presented in table 2. These results indicated that the overall scores of the participants in control and experimental class at pretest were below the mid-scale value of 4. Meanwhile, at posttest were moderate. In addition, at pretest stage, the mean scores of early sex education did not vary between conditions where the control class gained average score 3.74 and 3.42 for the experimental class. It means that both groups have a similarity of previous knowledge in early sex education. In contrast, at posttest stage, there was a difference of mean scores on children's understanding of early sex education where the control class gained average score 4.31 and 5.73 for the experimental class. It means that both groups have not a similarity of knowledge after through the intervention stage.

Table 2. Mean Scores for Early Sex Education

Conditions	Pretest: Mean (SD)	Posttest: Mean (SD)
Control group (n=35)	3.74 (1.31)	4.31 (1.30)
Experimental group (n=26)	3.42 (1.10)	5.73 (1.15)
Total (n=61)		

The results of Mann-Whitney test at Pretest.

As revealed by table 3, the results of the test of normality data, the Sig. value of Kolmogorov-Smirnov test on control group was gained $0.00 < 0.05$. Thus, it can be said that the distribution data in the control class was not normal. Accordingly, the distribution data in the experimental group was not normal due to the Sig. value of Kolmogorov-Smirnov test was $0.01 < 0.05$.

Table 3. Results on Test of Normality Data

		Kolmogorov-Smirnov		
		Statistic	df	Sig.
Understanding of Early sex education	Control group	.200	35	.001
	Experimental group	.188	26	.019

As revealed by table 4, the results of homogeneity test of variances, the Sig. value of mean score was gained $0.21 > 0.05$. it can be said that variances of data for the control and experimental group at pretest stage was homogeny.

Table 4. Result on Homogeneity Test of Variances

	Lavane statistic	df1	df2	Sig.
Based on Mean	1.591	1	59	.212

As indicated by the table 5, the value of Mann-Whitney test was gained $0.38 > 0.05$. summarizing, there was no statistically significant difference between experimental and control class on children's understanding of early sex education at pretest.

Table 5. Results on Mann-Whitney Test

Early sex education	
Mann-Whitney U	396.500
Asym. Sig. (2-tailed)	.380

The results of Mann-Whitney test at Posttest.

As revealed by table 6, the results of the test of normality data, the Sig. value of Kolmogorov-Smirnov test on control group was gained $0.02 < 0.05$. thus, it can be said that the distribution data in the control group was not normal. Accordingly, the distribution data in experimental group was not normal. It supported by the Sig. value of Kolmogorov-Smirnov was $0.03 < 0.05$.

Table 6 Results on Test of Normality Data

		Kolmogorov-Smirnov		
		Statistic	df	Sig.
Understanding of Early sex education	Control group	.158	35	.027
	Experimental group	.177	26	.036

As revealed by table 7, the results of homogeneity test of variances, the Sig. value of mean score was gained $0.37 < 0.05$. It indicated that the variances of data for the control and experimental group at pretest stage was homogeneity.

Table 7. Result on Homogeneity Test of Variances

	Lavane statistic	df1	df2	Sig.
Based on Mean	.807	1	59	.373

As indicated by the table 8, the value of Mann-Whitney test was gained $0.00 < 0.05$. Summarizing, there was statistically significant difference between experimental and control class on children's understanding of early sex education at posttest.

Table 8. Results on Mann-Whitney Test

	Early sex education
Mann-Whitney U	200.500
Asym. Sig. (2-tailed)	.000

Discussion

Increased attention to the sexual abuse in a child has been accompany by providing programs and teaching and learning into the children. However, these practices have been criticized as not in accordance with the fundamental principle of children's development. The current study examined the effect of modified puppet on children's understanding of early sex education. The measures used assessed the children's understanding of early sex education through the use of the rubric to avoid subjectivity in the measurement process.

The administration of a pretest indicated that there was no difference in the knowledge of early sex education in condition at the pretest assessments. Whereas, a posttest indicated that there was a statistically significant difference on the understanding of early sex education in condition at the posttest assessments. Interestingly, this study found that while children in the control class had little improvement, children in the experimental class had significant improvement on understanding of early sex education. The differences may have been affected by the used of modified puppet as an educational game tool. Therefore, findings suggested that the modified puppet with the play-based learning could enhance children's understanding of early sex education.

This findings in accordance with the several previous studies. For example, Diningrat et al (2019) indicated that the educational game tools could facilitate children's learning at their development stages, they also stated that children would learn best when they construct knowledge supported by the learning object as an educational game tool. Currently, the study of the literature review by Yu et al. (2021) also indicated that educational gam tools not only could enhance learning outcome but also children's engagement and satisfaction. In other word, the modified puppet as an educational game tool could facilitate children's engagement in learning activities because when they are more engage they tend to gain more understanding.

Another interesting finding indicated that play-based learning approach could promote learning in accordance with the children's development. In line with this, previous study stated that play-based learning could be used to promote equal access to learning of children's abilities and backgrounds through the utilization of learning objects (Taylor & Boyer, 2020). This study indicated that play-based learning could support children' learning and children's developmentally appropriate learning experiences.

Therefore, the findings showed that the effect of modified puppet with play-based learning activities on children's understanding of early sex education were promising. Thus, this study offers several pedagogical implications for teaching and learning of early sex education: 1) The utilization of modified puppet for acquisition of new knowledge about early sex education should be considered. 2) Play-based learning as a learning strategy would have a scaffolding effect on supporting children's developmentally appropriate practices. However, due to the current study only used a small participant it is recommended that future studies consider bigger participant size.

Conclusions

Overall, the current study indicated that the utilization of modified puppet in a play-based learning approach is promising approach for enhancing children's understanding of early sex education. Nevertheless, to explore the novelty effectiveness of modified puppet as an educational game tool with play-based learning approach, future studies might consider designing educational game tools digitally and examines the effect to another kind of learning outcomes such as children's engagement, their self-regulated and thinking skills.

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