

Multi-Sensory Activity in Early Childhood Education: The Barriers to Implementation of Activities by Teachers

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ABSTRACT

The purpose of this study was to survey the barriers to implementation of multi-sensory activities by teachers. Perception among early childhood education teachers is seen based on teachers' responds toward the barriers in implementing multi-sensory activities in their teaching and learning process. This study is a survey study using a questionnaire and the questions were evaluated based on frequency, percentage, one-way Anova and T-Test. The respondents involved in this study are teachers of early childhood education in Muallim District, Perak. The total number of respondents involved is 30 teachers. The findings of the study found that the greatest barrier for teacher in the implementation of multi-sensory activities in early childhood education is lack of equipment while the least barrier faced by teacher is in term of parent opposition. Other than that, even there are not significant, but by mean score, a teacher with Bachelor Degree and Master Degree more likely facing a barriers to implementation of Multi-sensory activities. The findings also found that teachers who did not attend any courses related to multi-sensory activities faced more barrier with (M=20.85) compared to teachers who have attended related courses with (M=18.90).

Keywords: Multi-sensory, activity, early childhood education, teacher, barrier and implementation.

INTRODUCTION

Early childhood is a crucial and important stage in preparation for children in terms of experience and knowledge that will equip children in the future (UNICEF, 2012). When an individual is in childhood, they are going through a process of development from physical, mental and social aspect where it is an important process that occurs in their lives and does not happen equally for every child. The developmental process depends entirely on the child's own early educational experience. Accordingly, early childhood education is so important in determining the process that will take place in the next stage of a child's life. Development that occurs in children is one of the goals of early childhood education, UNICEF (2012).

Education involves the process of teaching and learning a specific expertise. It is something that cannot be seen but will have a very profound effect on the individual such as imparting knowledge, judgment and also most importantly wisdom. This should all start as early as possible. Due to that, early childhood education is very important for each child. According to Denham et al., (2012), the context of early learning requires children to move, follow instructions, play and learn. As stated by Muhammad Fadzil & Fadhil (2016) in attracting children to learn, the learning that is implemented should be meaningful by emphasizing the children's learning environment.

According to Ducusin & Dy (2106), early childhood education is a stage where the child's brain develops and a process of parenting or teaching from birth to the age of eight years. It is an informal program that will begin to provide education easily and casually before they entering school. Early childhood education plays an important role in the development and development of a child. If a child gets a quality basic education, then it is believed that the child will continue to succeed in the education that will be passed at a higher level.

In this regard, based on Murrilo et al., (2020), children's experiences of interacting with the environment contribute to development and learning especially in the early stages of their development. The experience received during early childhood through early childhood education have a major impact on children itself. The main thing to look at is the implementation of the activity and performed by children and its impact on their development. The importance of implementing activities that have a positive impact on children should be emphasized so that children do not experience the futile experience of early childhood education but receive the great benefits that contribute to their life. Teachers are among those who closest to children in experiencing early childhood education. Experience in performing multi-sensory activities provides foundation for children's skills such as knowledge, thinking and creativity (Gascoyne, 2016).

Conceptual framework

According to Koenig & Rudney (2010), there are 35 studies on the work performance of children who have symptoms of sensory processing problems will cause problems to their play activities, daily life and social involvement. It is supported by Parham & Mailloux who state that when children improve their sensory skills with exposure to sensory activity. A multi-sensory environment filled with activities or tools that encourage the implementation of multi-sensory activities is an area that provides visual, auditory, olfactory, tactile and kinesthetics stimuli (Pagliano, 2017).

Learning that involves the use of multi-sensory is a method that requires children to activate and connect all their senses by seeing, smelling, tasting, moving, touching, thinking in a variety of situations, Baines (2008). The environment and activities produced based on multi-sensory methods aim to stimulate and encourage children by increasing their excitement to perform interesting activities while stimulating the use of the variety of sensors available to them, Davies (2019).

Yaswinda (2018) states that multi-sensory activities are activities that involve the process of stimulating the environment through sensory or open multi-sensory activities where there are no right, and wrong terms will contribute to the overall learning potential in terms of problem solving and creativity of children.

Based on the importance of the implementation of multi-sensory activities, teachers should be sensitive and aware of the importance of the implementation of such activities in children. However according to Legget (2017) teachers who engage in early childhood education are not sensitive to the importance of using materials that stimulate sensory development in the classroom as for them, teaching materials that lead to sensory activities are seen as rubbish, require a long time and are not productive . According to him, teachers who are in early childhood education need to be sensitive to the environment that has a positive impact on children.

If teachers are having real knowledge about the importance of multi-sensory activities in early childhood education, they should not see barriers as a factor in not performing such activities. According to Abdul Halim (2014), knowledge of the content of the activities to be implemented includes the teacher's knowledge of the basics or content that is the child's needs based on knowledge, skills and values.

Research objectives

This study was conducted to determine the teachers' perceptions on the barriers in the implementation of multi-sensory activities in early childhood education.

The questions research for this study are:

1. What is the barriers faced by teachers in performing multi-sensory activities in early childhood education?
2. Is there a significant effect of educational level among teachers to the barriers in implementing multi-sensory activities?
3. Is there a significant effect of sensory courses attend by teacher to the barriers in implementing multi-sensory activities?

Methodology

Research design

This study was conducted for the purpose of looking at barriers in the implementation of multi-sensory activities by teachers in early childhood education. Therefore, a quantitative study was conducted to answer the questions research in this study. The study was conducted on 30 respondents who are early childhood education teachers in Muallim District, Perak.

Respondents of the study

A total of 30 early childhood education teachers participated in this study based on the population of 30 teachers who teach kindergarten in Proton City Area, Muallim District, Perak. They were 26 (86.7%) females and 4 (13.3%) males with the range age 30 to 40 years. The researcher chooses to use purposeful sampling i.e. purposeful selection based on elements of knowledge and information that will be received by the researcher through the sample to focus on specific characteristics and in accordance with the research focus, Holloway & Wheeler (2013).

Instrumentation

The research instrument conducted consists of two main parts that are seen to fulfil the purpose of the study and to answer research questions. The questionnaire formed consists of two main parts and the study instrument was formed based on the nominal scale, yes or no. scale were chosen to distinguish clear quality, experience, or opinion of respondents. This section is analyzed using frequency, percentage, one-way Anova and T-Test to obtain the following information:

1. Background of teachers such as age, gender, marital status, educational status, teacher experience, current age class, number of adults in the class as well as experience in attending any course related to sensory.
2. Teachers' perceptions on the importance of multi-sensory activities in early childhood education.
3. Barriers in implementing multi-sensory Activities by teachers in early childhood education.

Validation and reliability

The questionnaire used and provided was adapted and replicated from the research about *Sensory Experiences in The Early Childhood Classroom: Teachers' Use Of Activities, Perceptions Of The Importance Of Activities, And Barriers To Implementation*. There are 4 sections stated on the questionnaire which are social-demographic, the implementation of multi-sensory activities, the perceptions on importance of multi-sensory activities and the barriers in implementing multi-sensory activities.

The reliability statistic shown on the table 1 below.

Table 1.1

Cronbach's Alpha	No. of Items
$\alpha = .957$	55

Data analysis

The gathered data were analyzed using frequency and percentage statistic in preparation for responding to the research questions. The Microsoft Excel 2017 and SPSS v. 20 (Statistical Package for the Social Sciences) are used for statistical analyses. The results of the data became the basis of the researcher to propose a research and development of module.

Findings and discussion

Feedback from the research questions found a variety information used to answer the research question.

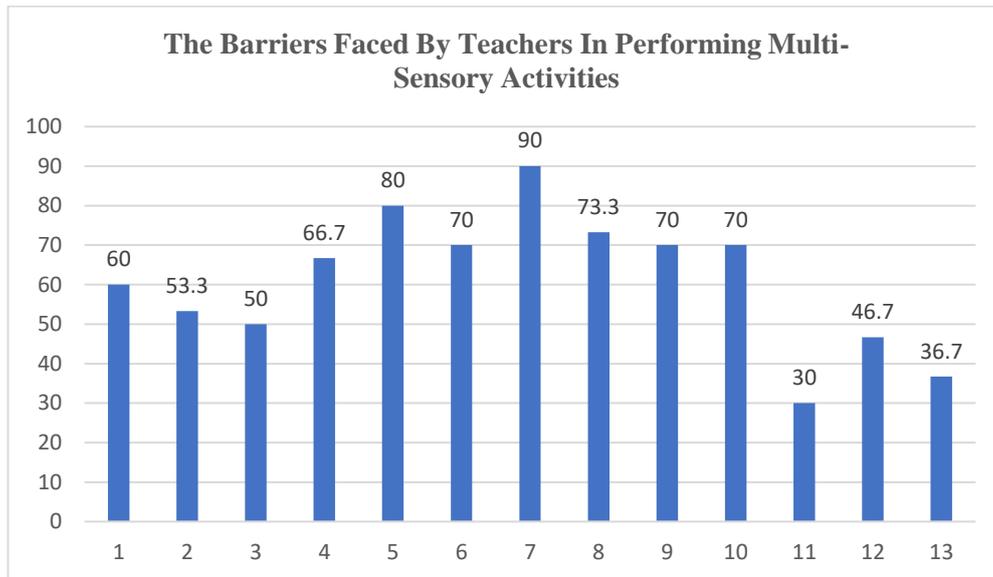
1. **The barriers faced by teachers in performing multi-sensory activities.** What is the barriers faced by teachers in performing multi-sensory activities in early childhood education?
2. **The effect of educational level among teachers to the barriers in implementing multi-sensory activities.** Is there a significant effect of educational level among teachers to the barriers in implementing multi-sensory activities?
3. **The effect of sensory courses attend by teacher to the barriers in implementing multi-sensory activities.** Is there a significant effect of sensory courses attend by teacher to the barriers in implementing multi-sensory activities?

Table 2. The Barriers Faced by Teachers In Performing Multi-Sensory Activities

Aspect	Frequency / Percentage			
	Yes		No	
Knowledge and experience	18	60%	12	40%
Administrator	16	53.3%	14	46.7%
School Policy	15	50%	15	50%
Cleanliness	20	66.7%	10	33.3%
Financial	24	80%	6	20%
Material maintenance	21	70%	9	30%
Lack of equipment	27	90%	3	10%
Time constraint	22	73.3%	8	26.7%
Space Constraint	21	70%	9	30%
Health and safety	21	70%	9	30%

continued

Parents opposition	9	30%	21	70%
Cultural beliefs	14	46.7%	16	53.3%
Individual beliefs	11	36.7%	19	63.3%



1. Knowledge and experience
2. Administrator
3. School Policy
4. Cleanliness
5. Financial
6. Material maintenance
7. Lack of equipment
8. Time constraint
9. Space Constraint
10. Health and safety
11. Parents opposition
12. Cultural beliefs
13. Individual beliefs

Chart 1: The Barriers Faced by Teachers in Performing Multi-Sensory Activities

Based on the result showing on table 1 and chart 1, it shows that the teachers face various types of barriers in the implementation of multi-sensory activities in early childhood education. The highest perceived barrier is in terms of lack of equipment with the result (N=30), n=3, 10%, n=27, 90%. A total of 27 participant give an answer Yes meanwhile 3 participant give an answer No with percentage 90% of Yes and 10% of No. then followed by the next barrier which financial (N=30), n=6, 20%, n=24, 80%. The next barrier is Time constraint with the result (N=30), n=8, 26.7%, n=22, 73.7%. After that, followed by the barriers of materials maintenance, space constraint and health and safety with the result (N=30), n=9, 30%, n=21, 70%. The next barrier is seen from the aspect of cleanliness (N=30), n=10, 33.3%, n=20,

66.7%, knowledge and experience (N=30), n=12, 40%, n=18, 60%, administrator (N=30), n=14, 46.7%, n=16, 53.3%, school policy (N=30), n=15, 50%, n=15, 50%, cultural belief (N=30), n=19, 53.3%, n=11, 46.7%, individual belief (N=30), n=11, 66.3%, n=19, 36.7%. the last barrier is the least visible barriers faced by teachers in terms of parents opposition with the lowest percentage result (N=30), n=21, 70%, n=9, 30%.

By aspect of Educational Level

Table 3 Means and Standard Deviation on the Educational Level with Barriers in Implementing Multi-Sensory activities

<i>Educational Level</i>	<i>n</i>	<i>Self-directed learning inventory score</i>	
		<i>M</i>	<i>SD</i>
Diploma	13	18.5385	4.71903
Bachelor Degree	13	21.4615	3.47887
Master Degree	4	21.5000	3.78594
Total	30	20.2000	4.22962

Table 3.1 One Way Analysis of Variance of Types of Education level with Barrier in Implementing Multi-Sensory Activities

<i>Source</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	2	63.338	31.669	1.877	.172
Within Groups	27	455.462	16.869		
Total	29	518.800			

Based on the result tested with one way Analysis of Variance (ANOVA) on the types of the educational level with barrier in implementing multi-sensory activities in early childhood education, result shown there is not statically significant $F(2,27)=1.877$ $p>0.05= .172$. but when compare to the mean score, teacher with educational level of Bachelor Degree n=13 and Master Degree n=4 is at highest level with $M=21.4615$ and $M=21.5000$ followed by teacher with Diploma, n=13, $M=18.5385$.

By aspect of attending any course related to multi-sensory activities

Table 4. T-Test of between Attending Course with Barrier in Implementing Multi-Sensory Activities

<i>Course Attended</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Yes	10	18.9000	4.70106	1.339	29	.281
No	20	20.8500	3.93734			

Table shown above is a T-Test to see if there are any significant effects of attending a course related to Multi-sensory with barriers in implementing multi-sensory in early childhood education. The result shows that $t(29) = 1.339$, $p > 0.05 = 0.281$. Out of 10 respondents, $n=10$ come out with Yes which means they attended a course related to multi-sensory compared to respondents who answered No with a mean score of 20.8500.

Discussion

Based on the findings obtained is to respond to the research questions in this study about the barriers faced by teachers in performing multi-sensory activities. By referring to that, barriers that are seen as a major obstacle factor in the implementation of multi-sensory activities is lack of equipment. This factor becomes the biggest factor with the possibility that teachers' perceptions of the type of activity implementation are not appropriate for the equipment available. To solve this barrier factor, teachers need to be more creative to find the best equipment or change the implementation of activities based on available equipment. Based on Libau and Ling (2020), learning equipment is seen as an important component in the teaching and learning process where learning equipment is needed to improve students' understanding of learning.

Other than that, financial factors become one of the obstacles in the implementation of multi-sensory activities. If teachers have in-depth knowledge of multi-sensory activities, they should be sensitive and aware of the existence of various materials that are often used in the daily learning process can also be adapted for use in the implementation of multi-sensory activities.

Furthermore, barriers in terms of time and space can be overcome by adjusting the time based on the implementation of activities and the use of various existing spaces can overcome barriers that are seen as obstacles in performing activities. The fact is, if teachers have a clear knowledge and understanding in implementing multi-sensory activities, those things will not be a barrier factor in carrying out such activities.

Moreover, the findings from the study found that teachers with master's and bachelor's degrees have high mean scores in looking at the barriers to the implementation of multi-sensory activities in early childhood education. This factor may be due to the lack of exposure to practical training on the activity. In fact, the background of teacher education can contribute to the improvement of education in an institution, Vanan M.M. (2020).

Besides, teachers who have never attended training or related courses have high mean scores in the barriers to the implementation of multi-sensory activities on the factor of no clear and detailed exposure and knowledge of the activity. Training is a very significant activity for teachers in an educational organization to deal with current changes and demands that exist today (Hamdan Salleh et al., 2017).

CONCLUSION

As a whole, most teachers look at several factors in the implementation of multi-sensory activities in early childhood education. To overcome the barriers seen by teachers, the readiness of teachers needs to be enhanced in terms of knowledge of such multi-sensory activities. According to Masnan et al., (2018). knowledge of the content of learning activities

is an important aspect of educating children. Teacher who have less knowledge and understanding will cause the learning content that children go through not to be achieved well as well as ineffective. Teachers need to be aware and sensitive to pedagogical needs by preparing themselves with knowledge and skills appropriate to the needs of students (Malaysia Ministry of Education, 2012).

In addition, to equip every teacher in early childhood education with deeper knowledge and skills about multi-sensory activities, the implementation of courses or training or developmental appropriate practices is seen as very important to ensure that every other barrier faced by teachers can be overcome and the implementation of multi-sensory activities can be implemented in early childhood education to have a positive impact on good children for every development they need. As mentioned by Hassan & Zaini (2021), the role and encouragement of teachers can affect the improvement of children's skills

Through developmental appropriate practices, NAEYC has explained how beliefs in children's learning, how to ensure children develop as they should and how to formulate early education programs are best suited to meet the needs of children aged up to eight years. Therefore, developmental appropriate practices is considered as a professional competency required by teachers to improve quality in learning thus building professionalism in the teaching profession (Muhammad Haziq, 2019) by referring to the need for training for teachers to provide real knowledge and skills as stated in the implementation of this multi-sensory activity.

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