

THE MOTIVATIONAL VALUE OF KIDDIE INSTRUMENTAL MUSIC ON THE COGNITIVE AND SOCIO-EMOTIONAL DEVELOPMENT OF KINDERGARTEN PUPILS

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Abstract

Background: A positive, child-friendly learning environment is a requisite for providing quality education in the early childhood, the fundamental challenge that educators must hurdle. The early years of life are the most critical stage in a person's development. Shonkoff (2009), believes that the first stage of life are important because what happens in early childhood affects a person in his lifetime.

Methods: applied kiddie instrumental music in a K-12 kindergarten set-up and conducted activities listed in Philippine Early Childhood Development (ECD) Checklist to determine the effect of instrumental music on the development of cognitive and socio-emotional domains of five-year-old Filipino children.

Result: Results also show that kindergarten teachers find instrumental music highly effective in developing cognitive and socio-emotional domain of kindergarten pupils.

Recommendation: Based on the data presented, it is broadly applied that adolescent mothers surveyed tend to have specific demographic and obstetric profiles. From the findings of the study, the researcher recommends that instrumental music be played in kindergarten classrooms which is highly effective during working periods, recess and quiet time. Teachers can also use music starting routine tasks since instrumental music is known to boost enthusiasm and attention in individual task.

Keywords: Kiddie Instrumental Music, Cognitive, Socio Emotional Development, Kindergarten Pupils.

Introduction

One of the challenges faced by 21st century teachers and school administrators pertains to the creation of a conducive learning environment to enhance the cognitive and socio-emotional learning of pupils. It is not an easy task; many factors must be measured in creating and sustaining a child-friendly school environment. Establishing an invigorating environment especially in kindergarten classrooms is a complex task. The learning environment must be carefully designed and structured in order to provide children with meaningful and enjoyable experiences. The task of building a child-friendly environment for pupils is shared by pupils, parents and other stakeholders.

But, despite the efforts of teachers in creating a positive learning environment, pupils display misbehavior and poor academic performance. For example, in 2012-2013, DepEd reports that 80% (1,165 out of 1,456 of child abuse cases) involved bullying. Among the psychological and verbal acts of violence experienced in elementary and high schools reported in 2009, ridiculing, cursing and humiliating were the most rampant incidences (Cardona, 2015). This deplorable state of affairs must not continue.

A positive, child-friendly learning environment is a requisite for providing quality education in the early childhood, the fundamental challenge that educators must hurdle. The early years of life are the most critical stage in a person's development. Shonkoff (2009), believes that the first stage of life are important because what happens in early childhood affects a person in his lifetime. Therefore, teachers and parents must be guided to ensure that young learners are provided with meaningful activities incorporated in a child-centered curriculum that is developmentally appropriate.

In this regard, the Department of Education (DepEd) has set standards and competencies for five-year-old Filipino children. As stipulated in DepEd Order no. 47 series of 2015, or the Omnibus Policy on Kindergarten Education for School Year 2016-2017, there are seven aspects of growth in children called developmental domains that must be nurtured in early education, namely: 1) language, literacy, and communication (*wika, kaalaman sa pagbasa at*

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pagsulat); 2) socio-emotional development (*pagpapaunlad ng sosyo-emosyunal at kakayahang makipamuhay*); 3) values development (*kagandahang asal*); 4) physical health and motor development (*kalusugang pisikal at pagpapaunlad sa kakayahang motor*); 5) aesthetic/creative development (*sining*); 6) mathematics (*matematika*), and; 7) understanding of the physical and natural environment (*pag-unawa sa pisikal at natural na kapaligiran*).

Methods

Research Design

The researcher used quasi-experimental method of research. In this method, course of action is actually carried out and its effects observed and measured objectively and differently from the effects of other extraneous variables.

Respondents of the Study

Two hundred fifty six kindergarten pupils were enrolled at Parada Elementary School for School Year 2017-2018. Out of 256 kindergarten pupils, 40 pupils met the criterion of having difficulties in performing cognitive and socio-emotional tasks. There was a total of four kindergarten teachers in Parada Elementary School handling two sections each. All of them served as respondents and applied kiddie instrumental music in their group.

Instruments of the Study

The first instrument used was the Early Childhood Development Checklist to describe and assess the development of cognitive and socio-emotional skills of kindergarten pupils. Second was a validated survey questionnaire answered by all the kindergarten teachers of Parada Elementary School where the teachers based their assessment on Early Childhood Care and Development (ECCD) Checklist. Then they rated the level of effectiveness of kiddie instrumental background music in developing the domains.

Results

Kindergarten teachers describe both cognitive and socio-emotional domains of kindergarten pupils as “developing” based on the Philippine Early Childhood Care and Development (ECCD) Checklist.

The pretest mean scores of both groups showed significant delay in cognitive and socio-emotional domains. In posttest, however, the group exposed to kiddie instrumental music performed better compared to the group who were not given such musical exposure.

For the control group, the computed value in cognitive domain is greater than the tabular value and in socio-emotional domain the computed value is likewise greater than the tabular value. It shows a

significant difference between the pretest and protest of control group in both domains.

For the experimental group, kiddie instrumental music was proven to have a significant impact in developing the cognitive and socio-emotional skills of kindergarten pupils. In cognitive domain the computed value is greater than the tabular value, showing a significant difference between the pretest and posttest. The posttest mean is greater than the pretest mean.

Regarding socio-emotional domain, the computed value is greater than the tabular value, showing a significant difference between pretest and posttest of the experimental group. The posttest mean is greater than the pretest mean.

To determine which group performed better, the posttest results of the two groups were compared using T-test. In cognitive domain, the posttest mean of the experimental is greater than the mean of the posttest mean of the control group. It also shows that the computed value is greater than the tabular value. As a result, null hypothesis is rejected, for it is clearly shown that there is a significant difference between the posttest mean scores of the two groups in cognitive domain. In socio-emotional domain, the posttest mean score of the experimental group is greater than posttest mean score of control group. It also shows that the computed value is greater than the tabular value. Because of this, the null hypothesis is rejected, for it is clearly and conclusively shown that there is significant difference between the posttest mean scores of the two groups in socio-emotional domain.

Based on the kindergarten teachers’ perceptions kiddie instrumental music is highly effective in increasing pupils’ scores in performance tasks, increasing their attention and enthusiasm in doing individual tasks, boosting their creativity, creating and sustaining positive mood and emotion inside the classroom and developing the spirit of cooperation manifested during group activity. Further, kiddie instrumental is best applied and highly effective during working periods, recess and quiet time.

Cognitive and Socio-emotional Domains of Kindergarten Pupils

The frequency distribution and descriptive measures of the cognitive and socio-emotional domains of kindergarten pupils based on the Early Childhood Development (ECCD) checklist are presented on Table 1 and Table 2.

Table 1 shows the respondents’ description of the level of performance of pupils in cognitive domain as *developing* with a mean value of 2.14 applicable to all the descriptors in the domain.

Table 1: Level of Performance of Kindergarten Pupils in Cognitive Domain Based on Philippine Early Childhood Care and Development (ECCD) Checklist

Items		Responses			
		3	2	1	Descriptive Interpretation
1	The children look in the direction of fallen object	3	1	0	Consistent
2	The children look for a partially hidden object	4	0	0	Consistent
3	The children imitate behavior just seen a few minutes earlier	0	3	1	Developing
4	The children offer an object but will not release it	1	2	1	Developing
5	The children look for a completely hidden object	1	2	1	Developing
6	The children exhibit simple “pretend” play (feeds or put doll to sleep)	0	3	1	Developing
7	The children match objects	1	3	0	Developing
8	The children match two to three colors	1	3	0	Developing
9	The children match pictures	1	2	1	Developing
10	The children sort objects based shapes	0	3	1	Developing
11	The children sort objects based on two attributes	0	3	1	Developing
12	The children arrange objects according to size from smallest to biggest	1	3	0	Developing
13	The children name four to six colors	0	3	1	Developing
14	The children copy shapes	1	3	0	Developing
15	The children name 3 animals or vegetables when asked	1	3	0	Developing
16	The children state what common household items are used	1	3	0	Developing
17	The children can assemble simple puzzle	0	3	1	Developing
18	The children demonstrate an understanding of opposites by completing a statement	0	3	1	Developing
19	The children point to left and right of the body	1	2	1	Developing
20	The children can state what is silly or wrong with pictures	1	2	1	Developing
21	The children match upper case letters and lower case letters	1	3	0	Developing
Mean				2.14	Developing

2.6-3.0 Consistent 1.6-2.5 Developing 1.0-1.5 Beginning

Table 2: Level of Performance of Kindergarten Pupils in Socio-Emotional Domain Based on Philippine Early Childhood Care and Development (ECCD) Checklist

Items		Responses				
		3	2	1	Mean	Descriptive Interpretation
1	The children enjoy watching activities of nearby people or animals	3	1	0	2.75	Consistent
2	The children are friendly with strangers but initially may show slight anxiety or shyness	1	3	0	2.25	Developing
3	The children play alone but like to be near familiar adults or siblings	1	3	0	2.25	Developing
4	The children laugh or squeal aloud in play	1	3	0	2.25	Developing
5	The children play peek-a-boo	4	0	0	3.00	Consistent
6	The children can roll ball interactively with caregiver/examiner	4	0	0	3.00	Consistent
7	The children hug or cuddle toys	3	1	0	2.75	Consistent

8	The children demonstrate respect for elders using like terms “po” and “opo.”	1	3	0	2.25	Developing
9	The children share toys with others	1	3	0	2.25	Developing
10	The children imitate adult activities	1	3	0	2.25	Developing
11	The children are able to identify feelings	1	2	1	2.00	Developing
12	The children can appropriately use cultural gestures of greeting without much prompting	1	2	1	2.00	Developing
13	The children comfort playmates/siblings in distress	1	3	0	2.25	Developing
14	The children persist when faced with a problem or obstacle	1	2	1	2.00	Developing
15	The children help with family chores	1	3	0	2.25	Developing
16	The children are curious about environment but know when to stop asking questions	1	3	0	2.25	Developing
17	The children wait for their turn	1	3	0	2.25	Developing
18	The children ask permission to play with toy being used by another child	1	2	1	2.00	Developing
19	The children defend possessions with determination	1	2	1	2.00	Developing
20	The children play organized group games fairly	1	2	1	2.00	Developing
21	The children can talk about complex feelings they experience	0	3	1	1.75	Developing
22	The children honor a simple bargain with caregiver	1	3	0	2.25	Developing
23	The children watch responsibly over younger siblings/family members	1	3	0	2.25	Developing
24	The children cooperate with adults and peers in group situations to minimize quarrels and conflicts	1	3	0	2.25	Developing
	Mean				2.27	Developing

2.6-3.0 Consistent 1.6-2.5 Developing 1.0-1.5 Beginning

Pretest and Posttest Scores of Pupils in the Control group (without kiddie instrumental music exposure) and the Scores of Pupils in the

Experimental Group (with kiddie instrumental music exposure).

Table 3: Pretest Scores in Cognitive Domain of the Control Group and Experimental Group

Pupils	Control Group	Descriptive Interpretation	Experimental Group	Descriptive Interpretation
1	3	Significant Delay	3	Significant Delay
2	2	Significant Delay	3	Significant Delay
3	3	Significant Delay	3	Significant Delay
4	3	Significant Delay	3	Significant Delay
5	3	Significant Delay	1	Significant Delay
6	3	Significant Delay	1	Significant Delay
7	3	Significant Delay	2	Significant Delay
8	3	Significant Delay	3	Significant Delay
9	2	Significant Delay	1	Significant Delay
10	2	Significant Delay	1	Significant Delay
11	3	Significant Delay	2	Significant Delay
12	2	Significant Delay	2	Significant Delay
13	2	Significant Delay	3	Significant Delay
14	3	Significant Delay	3	Significant Delay

15	3	Significant Delay	2	Significant Delay
16	3	Significant Delay	3	Significant Delay
17	3	Significant Delay	3	Significant Delay
18	2	Significant Delay	2	Significant Delay
18	2	Significant Delay	2	Significant Delay
20	3	Significant Delay	3	Significant Delay
Mean	2.65	Significant Delay	2.30	Significant Delay
N	20		20	

1-3 Significant delayed in development 4-6 Slight delayed in development 7-13 Average development

Table 4: Pretest Scores in Socio-Emotional Domain of the Control Group and Experimental Group

Pupils	Control Group	Descriptive Interpretation	Experimental Group	Descriptive Interpretation
1	2	Significant Delay	2	Significant Delay
2	2	Significant Delay	2	Significant Delay
3	3	Significant Delay	2	Significant Delay
4	3	Significant Delay	2	Significant Delay
5	2	Significant Delay	2	Significant Delay
6	2	Significant Delay	2	Significant Delay
7	1	Significant Delay	3	Significant Delay
8	3	Significant Delay	3	Significant Delay
9	2	Significant Delay	1	Significant Delay
10	2	Significant Delay	1	Significant Delay
11	3	Significant Delay	2	Significant Delay
12	2	Significant Delay	2	Significant Delay
13	2	Significant Delay	3	Significant Delay
14	3	Significant Delay	1	Significant Delay
15	3	Significant Delay	1	Significant Delay
16	3	Significant Delay	3	Significant Delay
17	3	Significant Delay	3	Significant Delay
18	2	Significant Delay	2	Significant Delay
18	2	Significant Delay	2	Significant Delay
20	3	Significant Delay	3	Significant Delay
Mean	2.40	Significant Delay	2.20	Significant Delay
N	20		20	

1-3 Significant delayed in development 4-6 Slight delayed in development 7-13 Average development

Based on Table 4, the control group obtained a higher pretest score in socio-emotional domain with a mean score of 2.40 with descriptive interpretation of *significant delay* than the experimental group which obtained a mean score of 2.20 likewise with descriptive interpretation of *significant delay*.

Both Table 3 and Table 4 show that all the 40 subjects in the study before the intervention treatment was applied were found to be significantly delayed in both cognitive and socio-emotional domains.

Table 5: Posttest Scores in Cognitive Domain of Control Group and Experimental Group

Pupils	Control Group	Descriptive Interpretation	Experimental Group	Descriptive Interpretation
1	4	Slight Delay	5	Slight Delay
2	8	Average Development	10	Average Development
3	3	Significant Delay	6	Slight Delay
4	3	Significant Delay	9	Average Development
5	4	Slight Delay	5	Slight Delay
6	3	Significant Delay	5	Slight Delay
7	4	Slight Delay	5	Slight Delay
8	3	Significant Delay	5	Slight Delay
9	3	Significant Delay	4	Slight Delay
10	2	Significant Delay	2	Significant Delay
11	3	Significant Delay	4	Slight Delay
12	5	Slight Delay	4	Slight Delay
13	5	Slight Delay	7	Average Development
14	4	Slight Delay	8	Average Development
15	4	Slight Delay	7	Average Development
16	4	Slight Delay	9	Average Development
17	4	Slight Delay	5	Slight Delay
18	3	Significant Delay	3	Significant Delay
19	3	Significant Delay	4	Slight Delay
20	4	Slight Delay	4	Slight Delay
Mean	3.80	Significant Delay	5.30	Slightly Delay
N	20		20	

1-3 Significant delayed in development 4-6 Slight delayed in development 7-13 Average development

As shown on Table 5, the group exposed to kiddie instrumental music showed better development in

cognitive skills compared to the group who were not exposed to such intervention.

Table 6: Posttest Scores in Socio-Emotional Domain of Control Group and Experimental Group

Pupils	Control Group	Descriptive Interpretation	Experimental Group	Descriptive Interpretation
1	2	Slight Delay	10	Average Development
2	9	Average Development	4	Slight Delay
3	3	Significant Delay	10	Average Development
4	3	Significant Delay	5	Slight Delay
5	5	Slight Delay	5	Slight Delay
6	1	Significant Delay	9	Average Development
7	3	Significant Delay	4	Slight Delay
8	5	Slight Delay	4	Slight Delay
9	6	Slight Delay	4	Slight Delay
10	2	Significant Delay	5	Slight Delay
11	6	Slight Delay	5	Slight Delay
12	5	Slight Delay	8	Average Development
13	5	Slight Delay	4	Slight Delay
14	5	Slight Delay	2	Significant Delay
15	4	Slight Delay	8	Average Development
16	4	Slight Delay	9	Average Development
17	6	Slight Delay	2	Significant Delay
18	2	Significant Delay	3	Significant Delay
19	3	Significant Delay	3	Significant Delay
20	4	Slight Delay	6	Slight Delay
Mean	4.15	Significant Delay	5.85	Slight Delay
N	20		20	

1-3 Significant delayed in development 4-6 Slight delayed in development 7-13 Average development

Significant Difference in the Pretest and Posttest Mean Scores of the Control Group and Experimental Group in Cognitive and Socio-emotional Domains.

The pretest and posttest mean scores, computed value, and tabular value in cognitive domain and socio-emotional domain of control group are presented on Table 7.

Table 7: Significant Difference in the Pretest and Posttest Mean Scores in Cognitive and Socio-Emotional Domains of Control Group

Cognitive Domain					Socio-Emotional Domain				
Control Group	Mean	Computed Value	Tabular Value	Description	Control Group	Mean	Computed T-Value	Tabular Value	Description
Pretest	2.65	3.61	2.09	Significant	Pre-test	2.40	4.21	2.09	Significant
Post test	3.80				Post-test	4.15			

As shown on Table 7 (cognitive domain), the T-test result between the pretest and posttest of the control group, who were not exposed kiddie instrumental music, reveals that the mean of the posttest (3.80) is greater than the mean of pretest (2.65). In addition, the control group shows development in cognitive skills in kindergarten since the computed value (3.61) is greater than the tabular value (2.09). This means that in cognitive domain there is a significant difference between the pretest and posttest of the pupils who were not given kiddie instrumental music intervention.

On the other hand, T-test result between the pretest and posttest in socio-emotional domain of the control group revealed that the mean of the posttest (4.15) is greater than the mean of pretest (2.40). In addition, the control group showed development in cognitive skills in kindergarten since the computed value (4.21) is greater than the tabular value (2.09). This means that there is a significant difference between the pretest and posttest of the group that did not receive music intervention.

Table 8: Significant Difference in the Pretest and Posttest Mean Scores in the Cognitive Domain and Socio-Emotional Domain of Experimental Group

Cognitive Domain					Socio-Emotional Domain				
Experimental Group	Mean	Computed Value	Tabular Value	Description	Experimental Group	Mean	Computed Value	Tabular Value	Description
Pretest	2.30	7.09	2.09	Significant	Pretest	2.20	6.04	2.09	Significant
Posttest	5.30				Posttest	5.85			

Table 8 shows the pretest mean scores, computed value and tabular value obtained by experimental group. The Table reveals that the mean of the posttest in cognitive domain (5.30) is greater than the mean of the pretest (2.30). The computed value (7.09) is greater than the tabular value (2.09). Similarly, the mean of the posttest in socio-emotional domain (5.85) is greater than the mean of the pretest (2.20). In terms of the computed and tabular value, the computed value (6.04) is also

greater than the tabular value (2.09). In both domains, there is significant difference between the pretest and posttest of the experimental group.

Significant Difference in the Posttest Mean Scores in Cognitive and Socio-emotional Domains of Control Group and Experimental Group

Table 9: Significant Difference in the Posttest Mean Scores in Cognitive and Socio-Emotional Domain of Control Group and Experimental Group

Control Group and Experimental Group					
Cognitive Domain					
Posttest Result	Mean	Computed Value	Tabular Value	Decision	Description
Control Group	3.8	2.61	2.02	Rejected Ho	Significant
Experimental Group	5.3				
Socio-Emotional Domain					
Posttest Result	Mean	Computed Value	Tabular Value	Decision	Description
Control Group	4.15	2.10	2.02	Rejected Ho	Significant
Experimental Group	5.85				

To find out which group did better, the posttest results of the two groups of subjects were compared using T-test. In cognitive domain, the mean score of experimental group (5.3) is greater than the mean score of the posttest of the group without music exposure (3.8). The computed value (2.61) is greater than the tabular value (2.02). Therefore, the null hypothesis is rejected for there is significant difference between the posttest mean scores of the two groups.

In socio-emotional domain, the mean score of kiddie instrumental music group (5.85) is greater than the mean score of the group without music exposure

(4.15). The computed value (2.10) is greater than the tabular value (2.02). For this reason, the null hypothesis is rejected, for there is significant difference between the posttest mean scores of the two groups.

Level of Effectiveness of Kiddie Instrumental Music in Developing Cognitive and Socio-emotional Skills of Kindergarten Pupils

The frequency distribution and descriptive measures of teacher's rating on the level of effectiveness of kiddie instrumental music in cognitive and socio-emotional development of kindergarten pupils are presented on Table 10.

Table 10: Teachers' Rating the Level of Effectiveness of Kiddie Instrumental Music in Developing Cognitive and Socio-Emotional Skills of Kindergarten Pupils

A. The kiddie background music helps the pupils to:	3	2	1	Verbal Interpretation
1. increase their scores in performance tasks.	4	0	0	Highly Effective
2. increase their attention in doing individual task.	4	0	0	Highly Effective
3. perform task enthusiastically.	4	0	0	Highly Effective
4. boost their creativity.	4	0	0	Highly Effective
5. master new cognitive tasks.	0	3	1	Effective
6. sustain positive mood and emotion inside the classroom.	4	0	0	Highly Effective
7. increase active and fair participation during play	4	0	0	Highly Effective
8. minimize conflicts with their peers.	1	3	0	Effective
9. cooperates during group activity.	4	0	0	Highly Effective
10. helps them in waiting for their turns.	4	0	0	Highly Effective
Mean			2.80	Highly Effective
B. Your perceptions on effectiveness of using kiddie instrumental music in developing cognitive and socio-emotional skills during:	3	2	1	Verbal Interpretation
	4	0	0	Highly Effective

1. working periods				
2. arrival time	0	4	0	Effective
3. indoor Activities	1	3	0	Effective
4. quiet time	4	0	0	Highly Effective
5. recess	4	0	0	Highly Effective
Mean			2.65	Highly Effective

2.6 – 3.0 Highly Effective 1.6 – 2.50 Effective 1.0-1.50 Not Effective

Based on Table 10 figures, kindergarten teachers believe that kiddie instrumental music is *highly effective* in increasing pupils' scores in performance tasks, increasing their attention and enthusiasm in doing individual tasks, boosting their creativity, creating and sustaining positive mood and emotion inside the classroom and developing the spirit of cooperation manifested during group activity. However, other indicators such as *mastering new cognitive tasks* and *minimizing conflict with their peers* were rated by kindergarten teachers as *effective*. The given indicators in Part A of Table 10 got a mean score of (2.80) with descriptive interpretation of *highly effective*. Further, based on teachers' perceptions, kiddie instrumental is best applied and *highly effective* during *working periods*, *recess* and *quiet time*.

In sum, all the kindergarten teachers in Parada Elementary school describe kiddie instrumental music as *highly effective* in developing cognitive and socio-emotional skills of kindergarten pupils.

Recommendations

Based on the findings and conclusions presented in the study, the following recommendations are humble and respectfully offered for consideration of concerned authorities:

1. Kindergarten teachers may apply kiddie instrumental music as intervention mechanism in assisting kindergarten pupils who are significantly delayed in cognitive and socio-emotional domains.
2. Teachers may apply kiddie instrumental music during working periods, recess and quiet time. Kiddie instrumental music has been shown to bring positive result in both cognitive and socio-emotional domains of young children.
3. Teachers and children may search for other kiddie instrumental music and build children's music collections, which will afford varied choices of music to keep children interested as the intervention is applied.
4. Other kindergarten centers in the Division of Valenzuela and other divisions may use instrumental music as intervention mechanism in enhancing cognitive and socio-emotional domains of children as it has been proven effective.
5. Kindergarten teachers may use kiddie instrumental music in developing other developmental domains of young children.

6. Future academic researchers may adapt the concept of this paper and they may study other age groups, settings other than schools, and concerns other than academic performance. The search for better ways of doing things should not stop.

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Conflict of Interest

The author declares that there are no significant competing financial, professional, or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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