

Children's Songs and Brain Gyms Accompanied by Karawitan Music to Increase the Effectiveness of Early Childhood Learning

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Abstract:- Teachers' creativity began to be challenged to create a pleasant classroom ambience. A learning style is needed that is able to stimulate students' preferences so that the subject matter can be enjoyed and absorbed with the right interpretation. The creativity that will be explored is the combination of music and teaching styles. In this study, it will prove that children's songs and brain gyms accompanied by Karawitan music can increase the effectiveness of early childhood learning. To process the questionnaire data, we used the Smart PLS Version 3.2.8 program, with feedback from 100 parents of PAUD students in Purwakata, West Java. The goodness of musical music that has cheerful and soothing characteristics is also certainly believed to be able to answer the challenges of the teachers to create a pleasant classroom atmosphere in early childhood classes. By utilizing local cultural wisdom, the educators are able to present creative classroom management and also preserve the nation's culture.

I. INTRODUCTION

The one-way teaching style often leads to boredom and lack of student interest in the material presented. To make the atmosphere of life feel alive the two-way learning style is used as an alternative to stimulate student interest in a lesson in class. Discussing makes the class more full of dynamics and is considered effective enough to deliver the subject matter. But not all students like or are good at discussing, in this case the teacher must have high creativity to deliver subject matter that is memorable and interesting and able to seize the attention of students. Teachers' creativity began to be challenged to create a pleasant classroom feel. A learning style is needed that is able to stimulate students' preferences so that the subject matter can be enjoyed and absorbed with the right interpretation. The creativity that will be explored is the combination of music and teaching styles. Music is a universal language that can be a good learning medium to support the teaching and learning process in class. Music is believed to be able to create a pleasant mood and class atmosphere filled with fun. Especially for early childhood classes, which are never separated from the songs sung by their teachers as a learning medium that is able to be embedded in each child's memory. In general, young children like songs or music. This approach can be done for young children to stimulate their brain development. No wonder we find classes with learning styles using movements and songs in almost every school of early childhood.

But the problem is, not all early-age schools in the area are familiar with and familiar with the genres of Western cultural music. The type of music that is generally favored in urban early childhood schools may not be enjoyed even enjoyed by students and parents of early childhood education in the area. Meanwhile, regional and even national children's songs have a limited amount. This makes the educators use Western children's songs and Indonesian children's songs that are available with Western music streams. And sad again, modern musical instruments are not so available in certain areas. Then how do the teachers to approach learning using music media to be able to be applied in areas that have limitations or do not even have western instruments at all. If only just to learn a new song is still very easy to do by teachers with intermediaries cyberspace. But there are great difficulties for the procurement of instrument tools in schools, this can be caused by limited funds or limited human resources who are able to play these western musical instruments. Besides the difficulty in getting the instrument, of course the other obstacle mentioned in the previous sentence is the lack of parents' interest in western songs, especially those other than pop and classical. The good side is that more and more often use traditional music media, the music will be sustainable and can be demanded by anyone.

For schools in the area of West Java, especially in PAUD Warung Jeruk, Plered, Purwakarta in this writing selected Sundanese musical music genre as an intervening media between western and national children's songs to increase the effectiveness of learning in the classroom. Karawitan is a traditional musical ensemble of Sundanese gamelan or often called a collection of wadrita instruments which are very in demand by Pasundan people.

Karawitan is still used in several official events and Sundanese traditional wedding to this day. The rhythm and tone of his musical instruments have a feel that can soothe and be able to create a pleasant atmosphere. This is considered very appropriate to be applied in early childhood classes. However, the significance and effectiveness of these early childhood learning needs is unknown.

II. THEORETICAL BASIS

Children's Songs are songs created for the training needs of early childhood maturity. Children's songs are easy to remember, simple and indirectly there are learning to read and count and character lessons in the song. Many Indonesian children's songs are familiar to Indonesian

people, for example the song *Naik Delman, Bangun Tidur, Ambilkan Bulanku, Pelangi, Tik Tik Tik Bunyi Hujan, Baby Sharks, Gummy Bear and Lihat Kebunku*. All adults know the song, even memorize it even though they don't know who the creator of the song is. Mawardi (2013) in his article titled Education and Adab stated "Hundreds of songs have been created in order to deliver educative and Indonesian-Indonesian imaginations to the world of children." sung by children in songs often referred to as lyrics. Song lyrics are defined as the arrangement of words in a song.

According to Djohan (2009) there are several activities that are commonly carried out in music education for children for example as follows:

1. Singing, to help the child's development in practicing articulation in language skills, rhythmic, and breathing control.
2. Playing music, helps train the development and coordination of motor skills. Of course, by studying a piece of music by playing it can help the development of musical skills and build confidence.
3. Rhythmic motion, judged to be able to develop physiological reach, bringing together the ability of dexterity, balance, coordination, consistency, breathing patterns, and muscle relaxation.
4. Listening to music, of course, can develop cognitive skills, such as the ability to remember and concentration power. Music is believed to be able to stimulate the response of relaxation, motivation, imagination, and memory which are then tested and discussed individually or in groups.

Singing has various benefits, according to Solehudin in Masitoh (2009: 11.03), including: singing brings a calming feeling, and also plays a role in overcoming anxiety when children feel uncomfortable, singing can be a tool to express feelings; singing can help the development of a child's memory. When singing a song is usually in accordance with what is experienced or felt by the child, for example when he was watching the rain in the yard, it will be remembered songs with rain-themed themes. The feelings expressed are certainly in accordance with the child's memory memories. By singing the child's memory also becomes better because by reciting a sentence in the lyrics of the song will be easier for the child to memorize. Even if there are words that are not known to the child trying to find out what the words mean. Aunak at an early age is a golden age, at the age of 8 years, the child's brain performance will develop to reach 80% and subsequently will reach 100% at the age of 18 years. Children's songs are songs that are intended for children in accordance with the conditions of the child's level of development.

So it is considered appropriate if you want to instill the education of good values or character education to children through music or children's songs. Pasiak in his book *Intelligence Management* quoted by Chatib (2015: 15) states that "the amygdala grows and reaches its peak of development before the age of 4 years. The amygdala is a center for storing memory related to emotions. While the other part is the hippocampus develops in a long time, the hippocampus is the center of cognitive ratio. The amygdala

is a container of stimulus or information which is then stored in long-term memory. If you have entered long-term memory then the stimulus or information will be difficult to forget for a lifetime ". As a container or memory storage is formed at the maximum when a child is four years old, therefore education with music intermediaries or songs needs to be done early. Music, which is an external environmental factor that can affect children's intelligence. In the process, tones arranged according to certain rhythms (Harms, 2002: 21) can make brain waves calmer compared to irregular noise. These calm brain waves can affect a person's psyche. Several studies strengthen this. Campbell (2001: 220-221) argues that music can relieve stress before exams, help shape thought patterns, influence emotional, spiritual, and cultural development. With the application of songs and music in the process of early childhood education, every good character can be formed from an early age.

The character of the child will be formed from the results of a learning process and absorb our behavior as a companion to both the teacher and parents and the surrounding environment. By playing music and singing will bring good to the child, it will even make it easier for child companions to instill good things in the efforts of character education and academics for early childhood. Memories that are embedded in the subconscious of children, will carry over until they become adults. Values that are embedded through song lyrics or poetry will easily become the principle of children's lives later on. And this is the good news, that children born with good integrity are a great hope for the family even for the nation and country in its generation. Children's songs are a learning representative for young children who have a colorful, fun and kind life.

Brain Gym are movements that practice coordination and brain function. In its movements it demands a concentration in which the child tries to focus the state of mind to follow an instruction through movements that balance the brain. In an effort to activate the sensation of concentration it requires a body and mind in a relaxed state and pleasant atmosphere, because in a tense state a person will not be able to use his brain to the maximum because the mind becomes empty (Denisson, 2008). As said Prihastuti (2009) that pleasant atmosphere in this case means the child is in a very relaxed state, without any tension that threatens him both physically and non-physically. Brain Gym is a popular commercial program which is marketed in more than 80 countries and is believed to provide much needed stimulation for effective learning because it is believed to be able to open parts of the brain that were previously closed or blocked so that learning / work activities take place using the whole brain or whole brain (Ayinosa, 2009). According to research conducted by Ayinosa (2009), exercise and exercise in Brain Gym can have a positive influence on increasing concentration, attention, alertness and effectiveness of Brain Gym in Increasing Concentration of Learning in Children and the ability of brain function to plan, respond and make decisions. Brain Gym can also improve learning abilities without age restrictions (Ayinosa, 2009).

In maximizing the concentration of researchers using focusing dimensions in the Brain Gym movement. Focus is the ability to cross the "midline of participation" that separates the back and front of the body, and also the back (occipital) and front of the brain (frontal lobe). If all is well connected then the child's attention or concentration becomes increased in learning. But if the connection is not connected properly, the child will experience a decrease in concentration. Brain Gym can be done to refresh students' physical and mind after undergoing a learning process that requires high concentration resulting in fatigue in the brain. Concentration. One of the factors that is believed to bring the success of students in achieving their learning goals is good concentration. By concentrating, everything can be recorded as well as possible in the memory of the brain and then it can easily be removed when needed. According to Sugiyanto (Helmi, 1995), concentration is the ability to concentrate thoughts or mental abilities in sorting out unnecessary information and focus only on the information needed. Every Brain Gym movement has its own work system and has different dimensions. As in the research of Paul and Gail E. Dennison which has divided the brain into 3 dimensions, namely the lateral dimension (left-right brain), the focusing dimension (front-back brain), the centering dimension (upper-lower brain). Each dimension has a specific task so that the gymnastic movements performed can vary. The brain is composed of a collection of neurons, where neurons are long nerve cells like wires that deliver electrical messages through the nervous system and brain. Cells in an area of the brain contact other parts of the body continuously and automatically. These neurons transmit signals by planned distribution, jerky electric bursts that form clear sounds (crackles) arising from waves of coordinated neuron activity, where the waves are actually changing the shape of the brain and forming brain circuits into patterns that form over time will cause babies born later to be able to capture sound, touch, and movement (Rizki, 2008). In this study, the movements used are movements that are in the dimensions of laterality, focusing dimensions and concentration dimensions. The movements taken are only a few movements including the Hooks-up, cross movements, brain switches, positive points, Lazy 8, energy evaporation and ear plugs.

Karawitan is a type of Javanese gamelan music or Sundanese music consisting of several musical instruments that are beaten, swiped and blown. Javanese gamelan musicians or performers can never be separated from the concept of pathêt. The word pathêt always appears and accompanies a musical repertoire (hereinafter referred to as gending). For example gending ladrang Clunthang slendro pathêt sanga, gending Playon slendro pathêt manyura, gending Ayak-ayak slendro pathêt nem, and others. Because it is too often heard and always accompanies the name gending in the musical repertoire, this concept seems to be an ordinary concept and is not considered important by artists or observers of musicians. Karawitan artists prefer to feel the pathêt effect rather than discuss it. Previous musical researchers have tried to research and produce the pathetic theory. When the gamelan sounds, the sound space is formed by the technique of instrument playing or known as

the Melodic Forming Instrument which is a gender instrument, xylophone, and a bonang game contained in a gending. Bonang plays a role in forming space, especially when playing games (interlocking). Successor bonang and bonang barung especially when returns produce notes that dominate and form a certain sense of pathêt. For example, when playing gending pathêt manyura, bonang barung plays notes 1 and 3, while bonang continues to play notes 6 and 2 chanting. The combination of sound produces a sound of 6123 or 1632 repeatedly. Thus in that repertoire the sound of 6123 dominates and results in the atmospheric space of manyura pathêt. The notes in the gamelan are formed by the playing of gamelan instruments. Each instrument has a role in forming and building space. When gending in slow bar, the sound space is mainly formed by playing instruments of gender, xylophone, and siter. This is evident from the pattern of play or Cengkok used. On the contrary, in a fast measure the space is formed and maintained by the game of balungan and bonang rewards. The combination of two notes in gamelan as a small part in musical art is closely related to the technique of playing percussion instruments such as gender, bonang, and xylophone in the orientation of aesthetic values in gamelan musicality. The combination of the two tones is classified according to the difference in the distance between the two tones in the gamelan which includes: (a) Gêmbyang, a two-tone fusion pattern which is four tones apart; (b) Pêndhawan, is a pattern of a combination of two tones within three tones; (c) Kêmpyung, is a two-tone fusion pattern spaced two tones away; (d) Gêmbyung, which is a two-tone fusion pattern spaced one note apart; and (e) Siliran, is a combination of two tones in a sequential position so that there is no distance between the two tones.

Gamelan as a medium of tradition will become the main media of the writer in the expression of expression which in its cultivation will develop traditional idioms while combining new idioms to create another nuance of a musical composition work. Prabot worked on the traditional musical convention is imaginary software in the minds of pengrawit artists, whether in the form of ideas or vocabularies that have long been formed by tradition. Rahayu Supanggah called techniques, patterns, rhythms and laya, tunings, pathets, conventions and dynamics as working furniture (Supanggah, 2009: 224). All of these elements of workmanship are the basis for the cultivation of a combination of two tones which at the same time is a reflection of ideas and vocabularies of the writers, both tradition and modern, in an aesthetic presentation of musicality. In listening to the music of gamelan music from one gamelan to another, it can be suspected that there are differences in musical taste that emerge from each gamelan. The masters said that there were gamelan which had a cheerful feeling, there were also gamelan which had a rumbling or calm feeling. The difference in taste between gamelan characters is said to be caused by their differences in temper.

Although they differ in character and taste of the gamelangan gamelan tuning, it is still felt as an appropriate tuning. The emergence of certain characteristics of a

gamelan, hereinafter called Êmbat, is sourced from its alignment, namely the physical process of aligning high-low-pitch-each blade or pêncon as the source of the tone of a barrel or raras. Each barrel has a certain number of tones with a high pitch in sequence from high notes to low notes or vice versa from low to high notes. How high and low the pitch internationally is measured by the number of vibrations per second abbreviated cps - cycles per second - in English, and in German it is called hertz. The second term is more popularly used in Indonesia. This paper also uses the term hertz which is abbreviated as 'hz'. So we can say for example the first tone frequency of an alignment is 450 hz, the second tone 575 hz, the third tone 658 hz and so on. Between notes one and the sequence have a distance called steps - the pitch of the note. In Western music it is called interval. But in this paper we will not use the word interval because that word in western music already has a connotation that is closely related to the concept of harmony. So in this paper the term 'step' is used.

Of course the pitch of the pitch cannot be measured with vibrations like the frequency of the pitch. Internationally for pitches it was agreed to use cent units which were Indonesianized to be "cents" as used by Alexander John Ellis when publishing non-western musical pitches for the first time (Ellis, 1885). According to the gamelan tunners the gamelan tunners are formed by arranging certain structures of the steps in a barrel. These practitioners' statements form the main foothold in this study. This "study" is one example of "study of art" not "study of art" as is often done where art is positioned as an "object". Musical characteristics can also be seen from the structure of the music. When applied to concepts contained in Sundanese music, the musical character and at the same time the musical superiority of the gedé song cannot be doubted. The complexity of music is contained in the musical structure of the song and is composed of elements of music and literature that come together. The elements of music include: tones, tunings, drafts, wilts, kenongan and goongan patterns, wirahma along with the naékeun-nurunkeun principle, as well as the working relationship between sindén, alok, rebab, xylophone, drums, or dalang.

The literature in question is the stylization of language by considering aspects of murwakanti poetry (sound poetry), rineka discourse (diction), rinéka literature (style of language), and basic grip (idiom). Although many people often refer to it as a product of Javanese culture which is super-luhung (see: Sunarto, 1995), as a part of cultural heritage that must be preserved. But certainly the characteristics of musical instruments can be used to bridge early childhood learning through movements and songs in early childhood classes.

Learning Effectiveness is the positive impact of a teaching process that is received and understood by students. Steers (1985: 176) states "an organization that is truly effective is one who is able to create a work environment where workers not only carry out the work that has been charged but also create an atmosphere so that workers are more responsible, act creatively for the sake of improvement efficiency in achieving the goal. "The dimensions of learning effectiveness in this study include two things, namely teacher characteristics and student characteristics. a) Characteristics of effective teachers in the learning process are teachers who have the ability to develop curriculum and technology applications. Indicators of teacher characteristics include: organizing learning materials, choosing appropriate learning methods, being positive towards students, continuous and comprehensive assessment, creative in the application of learning technology, emphasizing the empowerment of students b) Characteristics of effective students in the learning process are flexible students and be active in utilizing different strategies and approaches for different contexts and goals. Indicators of student characteristics include: Active in Learning (Active learning), Being able to learn in collaboration (Collaborative Learning), Learning Responsible (Learner responsibility), Learning from what has been learned (Learning about learning). According to Slamet in Hasanah (2007), learning is a complex activity, because its success can be influenced by several factors. Factors that influence learning success include physiological, psychological, learning environments and instructional systems.

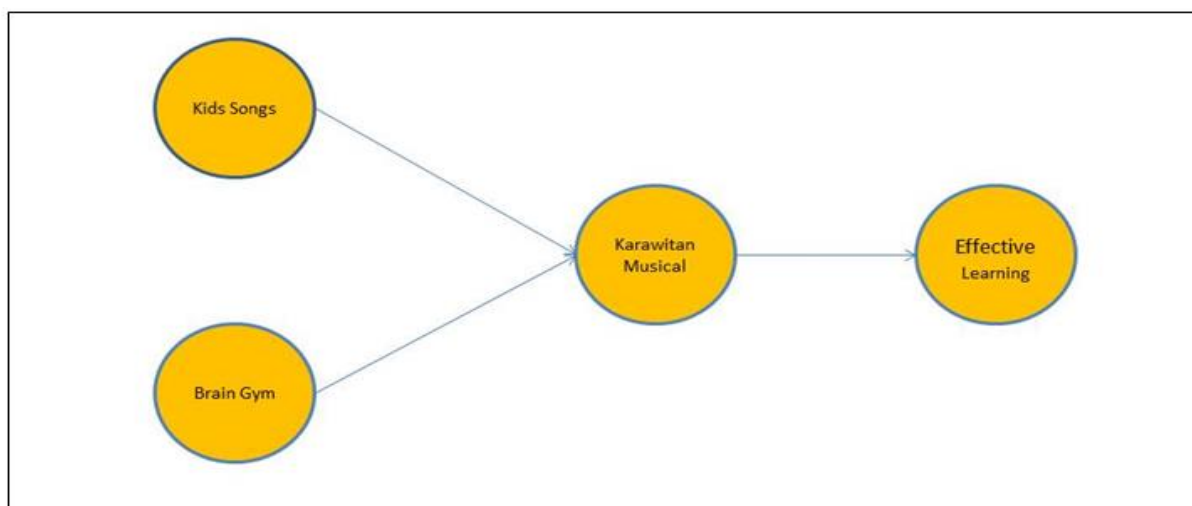


Fig 1

From the above framework, the following is the research hypothesis where Indonesian children's songs have a positive influence on the effectiveness of learning through intervening musical music. Western children's songs have a positive influence on learning effectiveness and musical music has a large positive influence on learning effectiveness.

The following are indicators of the independent variables in the distribution of this research questionnaire.

➤ *Children's song*

- Understanding children understand songs
- Teacher's understanding of interpreting songs
- song mastery
- Easy to memorize
- It's hard to find the version of the song that suits your needs

➤ *Brain Gym*

- Understanding the coordination of movements and the right and left brain
- Rough motoric maturity
- Fine motor maturity
- Balance
- Ability Center for brain control

➤ *Karawitan*

- Rhythm quickly gives a cheerful feel
- Slow rhythm gives a loving feel
- Distilled tone for peaceful and calm atmosphere
- Bonang for the festive atmosphere
- Kendang to give a cheerful and happy atmosphere
- Harp for accompaniment of happy or sad melodies

➤ *Effectiveness of Learning Slavin, 2000*

- Quality of learning
- Appropriate level of learning
- Teacher incentives or efforts to motivate students
- Specific time in completing lessons
- Student activeness in lessons (matoalliing, 2015)

III. METHODOLOGY

From the hypotheses of the above framework, it is hoped that through mediating musical music, the effectiveness of local children's learning will increase. This study uses the Smart PLS statistical tool version 3.2.8 by distributing questionnaires and also direct interviews with 100 respondents of PAUD Warung Jeruk Purwakarta teachers. This time we will look for how much correlation arising from the influence of using musical music mediation in early childhood. The following are the results of Smart PLS data processing that appears in the following diagram:

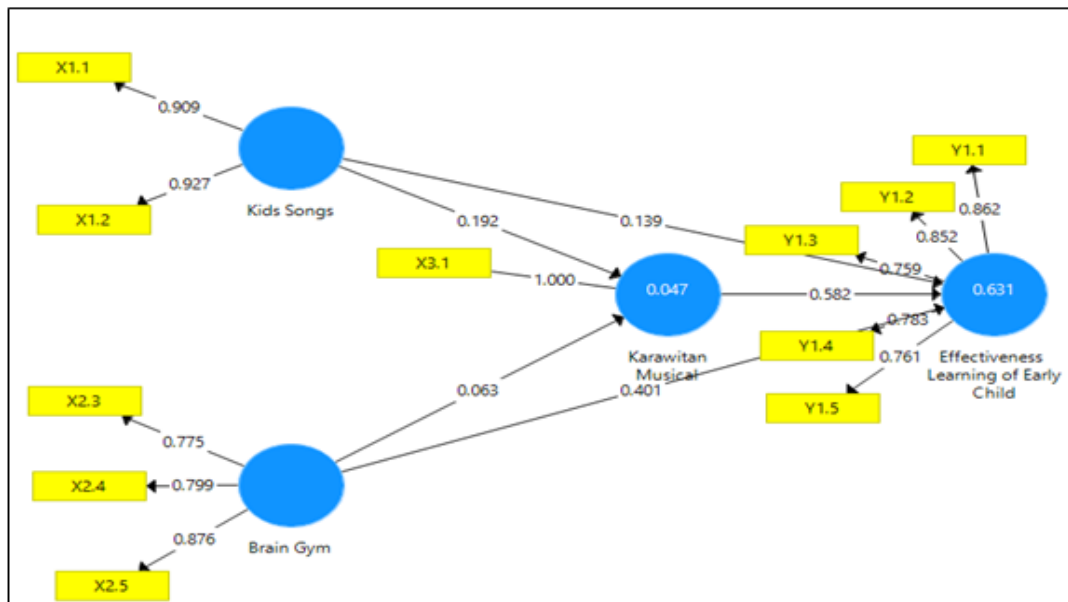


Fig 2

From the various PLS above, it is found that the lowest Indonesian children's song indicator is X1.2 of 0.908 while the top indicator is X1.1 of 0.928 and then each Early Childhood Song indicator has an influence of 0.246 which will be mediated by musical variables. While the lowest Brain Gym indicator is X2.3 of 0.725 and the highest is X2.5 of 0.865 then each indicator of an international

children's song has an influence of 0.195 which will be mediated by musical instruments. Through musical intervening, both of these variables affect 0.660 on the effectiveness of early childhood learning. The values obtained from the variables above 0.005, which means valid to continue this research.

IV. DISCUSSION

In this study found a strong relationship between musical music with learning effectiveness. In this writing musical music as an intermediary container to bridge learning through children's songs and brain gym movements. By using children's songs, an early childhood learning will be more effective this because each of the values contained in the song lyrics can be stored in the memories of early childhood. Whatever lessons will be delivered can be absorbed by the ability of early childhood. From the results of the study showed that the role of children's songs through musical music media has a significant and positive influence on the effectiveness of early childhood learning. The characteristics of the gamelan played to accompany children's songs bring a more cheerful class atmosphere and full of pleasant taste. A harmonious blend of gamelan instruments and also song lyrics of children that are laden with good educated values are considered to be able to improve the learning abilities of young children in understanding a subject matter in class. The music that is cheerful to the ear heard makes young children interested in activities in class, then equipped with the costumes of the teachers who have unique cultural

elements that add to the passion and enthusiasm of young students in class. An atmosphere that has positive energy is certainly very much needed by young children. This excitement is determined by the existence of musical rhythm that is sung to accompany children's songs. Collaboration between children's songs and musical music as a supporting factor for teaching and learning activities that are considered capable of increasing the effectiveness of learning, needs to be done repeatedly in every teaching and learning activities in the classroom. From the results of data processing shows that the understanding of children in understanding the meaning of educational material through songs as the first indicator with the percentage value of 0.909 shows that children's songs have influenced and have a major impact on the effectiveness of learning in early childhood classes through musical intermediaries. While the second indicator with children's songs that make early childhood easy to memorize has the acquisition value of 0.927 shows that each child song accompanied by musical music has a significant and positive relationship to the effectiveness of learning in early childhood classes. This of course makes musical music intervening variable able to be a good mediator for children's songs to improve the effectiveness of early childhood learning.

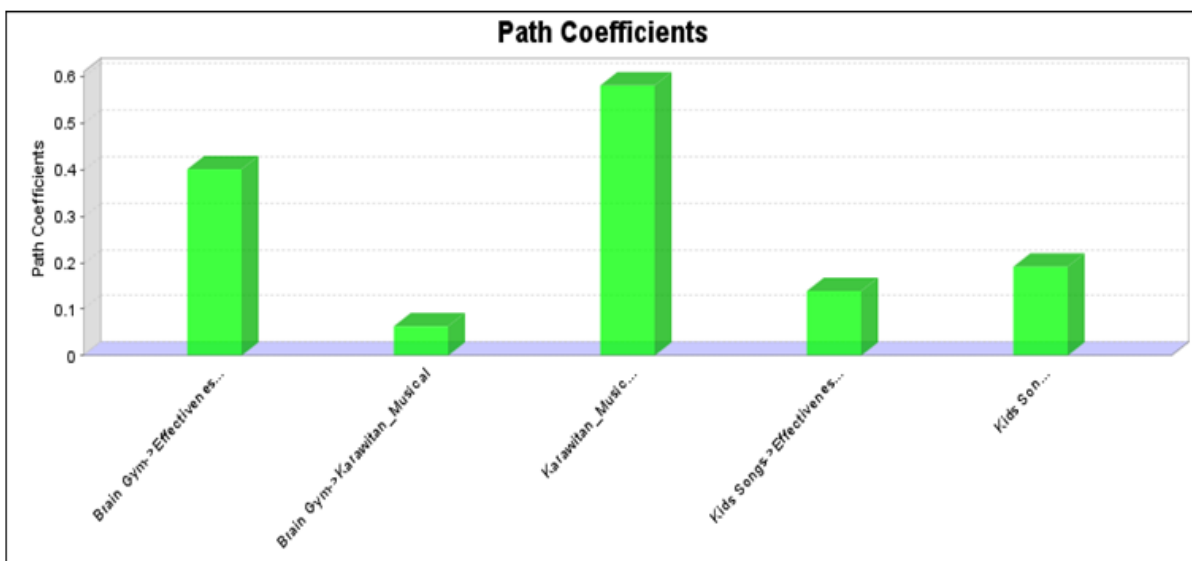


Fig 3

In early childhood classes it turns out that not only children's songs are able to support learning in class, a song will usually be followed by movements that appear as an expression of the song. In this study, the movement in question is not only limited to natural choreography that follows the song's liri. Movements that follow the brain gym theory are movements that are integrated to look for effective learning in early childhood classes. Brain gym is believed to be able to train the balance of the brain right and left early childhood, which aims to stimulate the optimal growth and development of children's intelligence, of course. If we see from the results of research that shows three brain gym indicators that affect the effectiveness of early childhood learning through musical intermediaries. The third indicator of Brain Gym that is fine and gross motor maturity can increase through musical intermediaries

has a value of 0.775 with the meaning of a significant and positive correlation to the effectiveness of learning in early childhood classes. The next indicator is the ability of balance that can be interpreted by early childhood towards effective learning outcomes found to be 0.799 this value has a large, significant and positive relationship that is able to influence the effectiveness of early childhood learning. Meanwhile, another indicator of brain gym that has a value of 0.876 is the ability of the brain control center of each of the early children produced that is able to influence the effectiveness of early childhood learning through musical intermediaries. From the three indicative results above reflect that learning activities using the gym barin can influence the effectiveness of degrees in early childhood classes both directly and through intermediaries or intervening musical music.

	Brain Gym	Effectiveness ...	Karawitan_Mu...	Kids Songs
Brain Gym		0.401	0.063	
Effectiveness L...				
Karawitan_Mus...		0.582		
Kids Songs		0.139	0.192	

Fig 4

Karawitan music here serves as a bridge of teaching and learning activities that are delivered with songs and movements. In the results of the study showed that children's songs have a value of 0.192 to musical music, this value is greater when compared with the direct relationship between children's songs with learning effectiveness which is valued at 0.139. While the brain gym has a significant and positive correlation to musical music by 0.06, this value is smaller than the relationship between the brain gym and the effectiveness of learning obtained with a value of 0.401. However, if both the children's song and the brain gym are done together through musical intermediaries, the effect on learning effectiveness is generated in a percentage value of 0.582. This value is much greater able to influence the effectiveness of learning in early childhood classes compared to the direct development of the child song between variables and brain gym on the effectiveness of early childhood learning. This phenomenon can be created due to the characteristics of musical music that is able to present a pleasant atmosphere of learning and learning activities. Musical music indicators that are combined to produce a value of 1,000 which have characteristics: fast rhythm that gives a cheerful rhythm, slow rhythm that gives a loving feel, a distilled tone for an atmosphere of peace and quiet, a bonang sound for a festive atmosphere, a beat of a drum to give a cheerful and joyful feel and excerpts of the lute boom for the accompaniment of happy or sad melodies.

children's songs and brain gym activities by creating a fun and joyful atmosphere so that teaching and learning activities in early childhood classes are more effective and targeted. This good relationship can be seen from the indications of effective learning, such as the quality of learning with a value of 0.862, the suitability of the learning level of 0.852, incentives or efforts of teachers to motivate students by 0.759, a certain time in completing lessons by 0.783 and the activeness of students in lessons by 0.761.

V. CONCLUSION

This research aims to improve the comfort and success of teaching and learning process, especially in early childhood classes in West Java. In several theories it has been found that through children's songs and movements will accelerate and facilitate the process of early childhood learning. With the creativity of teachers based on local wisdom, musical music media was chosen as a substitute for modern music that is believed to be able to increase the effectiveness of learning in the classroom for young children.

Children's songs have a great influence to increase the effectiveness of learning in early childhood classes through musical accompaniment. Songs that are sung to the accompaniment of gamelan music to create a unique and pleasant classroom atmosphere. This atmosphere is not only enjoyed by young students, but also by the teachers and parents of students. Besides being able to create an atmosphere filled with joy, the sounds produced by the gamelan musical instrument are able to increase the concentration of early childhood so that teaching and learning activities in the classroom become more effective both in academic subject matter such as reading, writing and counting and learning spiritual and character. This is further complemented by movements adapted from brain gym movements that make early children more focused and able to train their brain balance. The goodness gained from this brain gym certainly adds to the effectiveness of learning in early childhood classes, teachers' efforts to stimulate student brain development can be supported by a combination of children's songs and brain gym accompanied by musical music. While musical music as an intermediary from early childhood learning media is considered good for creating a

	R Square	R Square Adjusted
Effectiveness L...	0.631	0.619
Karawitan_Mus...	0.047	0.027

Fig 5

As already mentioned earlier that musical music as an intervening variable has a direct relationship that has a positive and significant impact on learning effectiveness worth 0.582. Overall musical music is able to support

joyful and pleasant atmosphere in the classroom. The obstacle is the availability of human resources capable of playing gamelan music instruments in this era of sophisticated technology. Music player is predicted to have a number of rare and limited, so if applied in every early childhood school in urban areas will be a big difficulty. However, technological development can instead be utilized to find a solution, the musical instrument music that plays a role as accompanist will be recorded for every child song that will be sung in class. The result is not much different from musical music performed in live performance. So the procurement of music instruments and musicians that are rare and limited are no longer a big problem.

Indonesian local wisdom, full of abundant resources both natural and human. Traditional Karawitan art does not have to be always displayed only during traditional parties or certain traditional activities. Karawitan music can be a tool for teachers in the process of teaching and learning activities. The difficulties encountered in playing the instrument becomes a big challenge for educators to learn more about the art of musical music. Instead, musical artists who are experts in their fields are used as resource persons for the process of deepening this musical music. In this research, it is clear that the goodness of musical music is to support the learning process in early childhood classes. Indeed, it is still rare for educators to be moved to use the art of musical music as one of the supporters of the teaching and learning process. We hope that with the good results of this study, millennials and later generations will be able to use musical music as a learning method in schools everywhere. Because, the good impact caused by musical music makes teaching and learning activities more effective. Especially, students have a happy heart and a high enthusiasm to learn in class.

REFERENCES

- [1]. Akademi, D., & Notokusumo, K. (2016). Pengaruh Senam Otak (Brain Gym). *Pengaruh Senam Otak (Brain Gym) Terhadap Tingkat Demensia Pada Lansia*.
- [2]. Alimuddin, J. (2015). Lagu Anak Sebagai Salah Satu Sarana Mendidik Anak. *Jurnal Ilmiah "Pendidikan Dasar."*
- [3]. Amtonis, I., & Fata, U. H. (2014). The Effect of Brain Gym to the Improvement of Cognitive Function. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*. <https://doi.org/10.26699/jnk.v1i2.art.p087-092>
- [4]. Amtonis, I., & Fata, U. H. (2014). The Effect of Brain Gym to the Improvement of Cognitive Function. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*. <https://doi.org/10.26699/jnk.v1i2.art.p087-092>
- [5]. Badriyah. (2015). Efektifitas Proses Pembelajaran Dengan Pemanfaatan. *Jurnal Lentera Komunikasi*.
- [6]. Bakar, Z. (2016). Pemamfaatan Lagu Sebagai Implementasi Model Pakem Pada Jenjang Pendidikan Anak Usia Dini Dan Sekolah Dasar. *EduHumaniora / Jurnal Pendidikan Dasar Kampus Cibiru*. <https://doi.org/10.17509/eh.v3i2.2812>
- [7]. Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving Students' Learning With Effective Learning Techniques. *Psychological Science in the Public Interest*. <https://doi.org/10.1177/1529100612453266>
- [8]. Elisabeth Tri Kurnianti Sudjono, E. K. (2017). Proses Pembelajaran Gerak Dan lagu yang Kreatif Berdasarkan Kurikulum 2013 di Tk Miryam Semarang. *Jurnal Seni Tari*.
- [9]. Erwinsyah, A. (2017). Manajemen kelas dalam meningkatkan efektifitas proses belajar mengajar. *Manajemen Pendidikan Islam*.
- [10]. Eysenck, M. W., & Eysenck, M. W. (2018). Effective learning. In *Simply Psychology*. <https://doi.org/10.4324/9781315517933-29>
- [11]. Guney, A., & Al, S. (2012). Effective Learning Environments in Relation to Different Learning Theories. *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2012.05.480>
- [12]. Irawan, E., Soedarsono, R. M., & L. Simatupang, G. R. L. (2014). Karakter Musikal Lagu Gedé Kepesindenan Karawitan Sunda. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v15i1.797>
- [13]. Kartomi, M. (1988). Karawitan: Source Readings in Javanese Gamelan and Vocal Music. Vol. 2. Edited by Judith Becker assisted by Alan H. Feinstein. Michigan Papers on South and Southeast Asia 30. Ann Arbor: University of Michigan, Center for South and Southeast Asian Studies, 1987. xx, 401 pp. \$36.50. *The Journal of Asian Studies*. <https://doi.org/10.2307/2057071>
- [14]. Lestari, W. (2016). Efektifitas Strategi Pembelajaran Dan Motivasi Belajar Terhadap Hasil Belajar Matematika. *Jurnal Formatif*.
- [15]. Lestari, W. (2012). Efektifitas strategi pembelajaran dan motivasi. *Formatif*.
- [16]. Makmur, A. (2015). Efektifitas Penggunaan Metode Base Method dalam Meningkatkan Kreatifitas dan Motivasi Belajar Matematika Siswa SMP Negeri 10 Padangsidempuan. *EduTech: Jurnal Ilmu Pendidikan Dan Ilmu Sosial*.
- [17]. Marpaung, M. G., Sareharto, T. P., Purwanti, A., & Hermawati, D. (2017). Brain Gym to Increase Academic Performance of Children Aged 10-12 Years Old (Experimental Study in Tembalang Elementary School and Pedalangan Elementary School Semarang). *IOP Conference Series: Earth and Environmental Science*. <https://doi.org/10.1088/1755-1315/55/1/012017>
- [18]. Marpaung, M. G., Sareharto, T. P., Purwanti, A., & Hermawati, D. (2017). Brain Gym to Increase Academic Performance of Children Aged 10-12 Years Old (Experimental Study in Tembalang Elementary School and Pedalangan Elementary School Semarang). *IOP Conference Series: Earth and Environmental*

- Science*. <https://doi.org/10.1088/1755-1315/55/1/012017>
- [19]. Nagarkar, M. R., Rokade, P., Malwade, M., & Abdul, D. A. P. J. (2018). Effectiveness of brain gym activity on quality of life in autism spectrum disorder. *International J. of Healthcare and Biomedical Research*.
- [20]. Nagarkar, M. R., Rokade, P., Malwade, M., & Abdul, D. A. P. J. (2018). Effectiveness of brain gym activity on quality of life in autism spectrum disorder. *International J. of Healthcare and Biomedical Research*.
- [21]. Neville, C. (2007). Effective Learning Service: Introduction to Research and Research Methods. *Bradford University School of Management*.
- [22]. Nugraha Christianto, W., Haryono, T., Lono L. Simatupang, G. R., & -, S. (2013). Pathê: di Atas Kertas dan di Atas Panggung Wayang Kulit dalam Perspektif Teori Praktik. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v10i2.486>
- [23]. Nugroho, A. S. (2019). Iringan Karawitan Pergelaran Wayang Golek Menak Yogyakarta Versi Ki Sukarno. *Wayang Nusantara: Journal of Puppetry*. <https://doi.org/10.24821/wayang.v3i2.3151>
- [24]. Nurseto, T. (2012). Membuat Media Pembelajaran yang Menarik. *Jurnal Ekonomi Dan Pendidikan*. <https://doi.org/10.21831/jep.v8i1.706>
- [25]. Nuryanti, & Purwanto, S. (2010). Efektivitas Brain Gym dalam Menurunkan Kecemasan Siswa Menghadapi Ujian Sekolah. *Jurnal Kesehatan*.
- [26]. Nuryanti, & Purwanto, S. (2010). Efektivitas Brain Gym dalam Menurunkan Kecemasan Siswa Menghadapi Ujian Sekolah. *Jurnal Kesehatan*.
- [27]. Oakley, B., Felder, R., Brent, R., & Elhajj, I. (2004). Turning student groups into effective teams. *Journal of Student Centered Learning*.
- [28]. Prasanti, F. D. (2015). PENGARUH BRAIN GYM TERHADAP KONSENTRASI BELAJAR PADA SISWA KELAS VIII SMP NEGERI 16 SURAKARTA. *Bimbingan Dan Konseling*.
- [29]. Prasanti, F. D. (2015). PENGARUH BRAIN GYM TERHADAP KONSENTRASI BELAJAR PADA SISWA KELAS VIII SMP NEGERI 16 SURAKARTA. *Bimbingan Dan Konseling*.
- [30]. Probosini, A. R., & Nugroh, A. W. A. (2019). Pembelajaran Karawitan Liturgi Pada Kelompok Karawitan Remaja Gita Rarya Di Yogyakarta. *PROMUSIKA*. <https://doi.org/10.24821/promusika.v6i1.3155>
- [31]. Purwanto, S., Widyaswati, R., & Nuryati. (2009). Manfaat Senam Otak (Brain Gym) Dalam Mengatasi Kecemasan Dan Stes Pada Anak. *Jurnal Kesehatan*.
- [32]. Rahmawati ES, Y., & Harta, I. (2014). KEEFEKTIFAN PENDEKATAN OPEN-ENDED DAN CTL DITINJAU DARI HASIL BELAJAR KOGNITIF DAN AFEKTIF. *Jurnal Riset Pendidikan Matematika*. <https://doi.org/10.21831/jrpm.v1i1.2669>
- [33]. Rosmiati, A. (2014). Teknik Stimulasi dalam Pendidikan Karakter Anak Usia Dini melalui Lirik Lagu Dolanan. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v15i1.801>
- [34]. Ruswandi, T. (2016). Kreativitas Mang Koko dalam Karawitan Sunda. *Panggung*. <https://doi.org/10.26742/panggung.v26i1.165>
- [35]. S, N. S. (2010). The effects of “brain gym” as a general education intervention: Improving academic performance and behaviors.
- [36]. Seriati, N. N., & Hayati, N. (2010). Permainan Tradisional Jawa Gerak dan Lagu Untuk Menstimulasi Keterampilan Sosial Anak Usia Dini.
- [37]. Setyosari, P. (2017). MENCIPTAKAN PEMBELAJARAN YANG EFEKTIF DAN BERKUALITAS. *JINOTEP (Jurnal Inovasi Dan Teknologi Pembelajaran) Kajian Dan Riset Dalam Teknologi Pembelajaran*. <https://doi.org/10.17977/um031v1i12014p020>
- [38]. Sinaga, S. (2010). PEMANFAATAN DAN PENGEMBANGAN LAGU ANAK-ANAK DALAM PEMBELAJARAN TEMATIK PADA PENDIDIKAN ANAK USIA DINI / TK. *Harmonia - Journal of Arts Research and Education*. <https://doi.org/10.15294/harmonia.v10i1.55>
- [39]. Sugiarto, A. (2013). Karawitan Pakeliran Gaya Jawa Timuran. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v10i2.480>
- [40]. Suhardjono, S., & Trikoyo, T. (2013). Karawitan Pakeliran Gaya Kedu Bagelen. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v12i1.464>
- [41]. Sukri, A., & Purwanti, E. (2016). MENINGKATKAN HASIL BELAJAR SISWA MELALUI BRAIN GYM. *Jurnal Edukasi Matematika Dan Sains*. <https://doi.org/10.25273/jems.v1i1.778>
- [42]. Suneki, S., Ambarini, R., & Destriani, D. (2012). BRAIN-GYM (SENAM OTAK) UNTUK MENGATASI PROBLEM BELAJAR ANAK. *E-DIMAS*. <https://doi.org/10.26877/e-dimas.v3i1.247>
- [43]. Suneki, S., Ambarini, R., & Destriani, D. (2012). BRAIN-GYM (SENAM OTAK) UNTUK MENGATASI PROBLEM BELAJAR ANAK. *E-DIMAS*. <https://doi.org/10.26877/e-dimas.v3i1.247>
- [44]. Suparno, T. S. (2015). BEBERAPA PENDEKATAN SOSIOLOGIS DALAM PENELITIAN KARAWITAN. *Imaji*. <https://doi.org/10.21831/imaji.v4i2.6709>
- [45]. Supriyanti, S., & Suharto, D. (2015). Penciptaan Tari Manggala Kridha sebagai Media Pembentukan Karakter bagi Anak. *Journal of Urban Society's Arts*. <https://doi.org/10.24821/jousa.v2i1.1266>
- [46]. Susanto, R. (2017). Keterampilan Manajemen Kelas Melalui Gerakan Sederhana Senam Otak (Brain Gym) Di Sd Pelita 2 , Jakarta. *Jurnal Abdimas*.
- [47]. Susanto, R. (2017). Keterampilan Manajemen Kelas Melalui Gerakan Sederhana Senam Otak (Brain Gym) Di Sd Pelita 2 , Jakarta. *Jurnal Abdimas*.
- [48]. Szczasny, A. L. (2017). A study of the effect of the “Brain Gym” intervention on the math and reading achievement scores of fourth grade students.
- [49]. Szczasny, A. L. (2017). A study of the effect of the “Brain Gym” intervention on the math and reading achievement scores of fourth grade students.

- [50]. Tyasrinestu, F. (2014). Lirik Musikal pada Lagu Anak Berbahasa Indonesia. *Resital: Jurnal Seni Pertunjukan*. <https://doi.org/10.24821/resital.v15i2.850>
- [51]. Uno, H. H. B. (2010). Model pembelajaran: menciptakan proses belajar mengajar yang kreatif dan efektif. In *Jakarta: Bumi Aksara*. <https://doi.org/10.1038/cddis.2011.1>
- [52]. Vetter, R., Becker, J., & Feinstein, A. (1985). Karawitan: Source Readings in Javanese Gamelan and Vocal Music, Vol. 1. *Asian Music*. <https://doi.org/10.2307/833776>
- [53]. Wardani, I. K., Djohan, & Sittiprapaporn, P. (2018). The difference of brain activities of musical listeners. *1st International ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering, ECTI-NCON 2018*. <https://doi.org/10.1109/ECTI-NCON.2018.8378307>
- [54]. Wicaksono, R. Y., & Utomo, U. (2017). Daya Tarik Lagu Bagi Anak Usia Dini : Studi Kasus di TK Pertiwi I Singodutan, Wonogiri. *Jurnal Seni Musik*.
- [55]. Widhianawati, N. (2011). Pengaruh pembelajaran gerak dan lagu dalam meningkatkan kecerdasan musikal dan kecerdasan kinestetika anak usia dini. *Academia.Edu*.
- [56]. Wimpy, J. E. (2011). The effects of Brain Gym on student behavior. *Dissertation Abstracts International Section A: Humanities and Social Sciences*.
- [57]. Wimpy, J. E. (2011). The effects of Brain Gym on student behavior. *Dissertation Abstracts International Section A: Humanities and Social Sciences*.
- [58]. Wiyoso, J., Florentinus, T. S., Rohidi, T. R., & Sayuti, S. A. (2019). *The Value of Tolerance in Javanese Karawitan*. <https://doi.org/10.2991/iconarc-18.2019.66>