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The influence of deep learning model on musicality and character through *Dolanan* songs

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ABSTRACT: Deep learning is a learning model that provides experiences for students to master the subject matter in depth by examining problems up to the level of value. The researcher developed a deep learning model with the subject matter of *dolanan anak* (children's games) songs. This needs to be done because learning,, has only reached the level of knowing and understanding without reaching the level of living experience. The research method is quasi-experimental . The study was conducted at the Elementary School Kranggan Temanggung, Central Java, Indonesia. Data analysis used MANOVA and the results of the analysis obtained Wilks' Lamda values in sig 0.00 (below 0.05) which showed a positive and significant difference between musicality and character abilities in the pretest and posttest. Thus, it can be said that deep learning with *dolanan anak* material can improve the musicality and character of students.

1 INTRODUCTION

1.1 *Background of the study*

The function of music is not only as a medium of entertainment. Since a long time ago music was used as a medium for religious rituals and customs. In nearly all religious ritual activities and traditional ceremonies music is a medium of accompaniment and also functions as a medium of education. Ki Hadjar Dewantara, the father of Education in Indonesia has used music to refine student character since the beginning of the 20th century. Dewantara (1977) revealed that the work of Rabindrnath Tagore, an Indian education figure, served as a model for what was implemented at the Taman Siswa School, founded by Ki Hadjar Dewantara, after visiting the Rabindranath school in 1936, and established a school called *Kerti Niketan*. Within its curriculum there is material called *gendhing-gendhing Jawa* (Javanese gamelan music) that is used to refine the character of Indian students.

Music as a medium of education not only involves musical elements such as rhythm, tone and harmony that are believed to control emotions but includes lyrics contained in the song. In folk songs and traditional songs in general, song lyrics contain life values upheld by the local community such that instilling noble values is very effective by using regional songsIndonesia is comprised of 18,307 islands and 1,128 tribes with at least as many traditional arts as there are tribes. In Central Java and the DIY (Special Region of Yogyakarta), there are more than 600 types of *dolanan anak* (children's games) songs. Wang (2015) revealed that in Indonesia, especially in the Special Region of Yogyakarta and Central Java, *dolanan anak* songs were found and that these songs have been around since ancient times. In 1930, Hans Overbeck identified at least 690 *dolanan anak* songs.In the Indonesian territories outside Java, there are also many folk music that are used by the community for hereditary character education. In Riau, there is a *Batimang* tradition which is the art of lulling children to sleep with certain tones and free lyrics but the contents give advice and prayers. Adeliani (2014) states that the tradition of lulling children with singing

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is also found in the Banjar community, Kalimantan. Likewise, Afandi (2015) revealed that the art of lulling children to sleep by singing is also a tradition of the Kaili people in the Donggala district, Central Sulawesi.Indonesia's geographical location in the middle of the traffic of Western and Eastern countries makes Indonesia a multi-cultural country. Hindu, Buddhist, Christian and Islamic religious values greatly influence the life values embraced by the Indonesian people in addition to the cultural values of the local community which are manifested in the arts. Yousof (2010: 84) suggests that the manifestation of religious values in art is spread by imported performance through music.The cultivation of values through songs was also expressed by Desyandri (2015) who revealed that Minangkabau songs (West Sumatra) contained education or moral values. Basandi Syarak custom - Syarak Basandi Kitabullah (ABS-SBK) and Alam Takambang are for those who become Teachers. The basic values found in ABS-SBK show that in Minangkabau tradition ABS-SBK was formed based on Shari'a, and Shari'a based on the Kitabullah (Al-Qur'an). Karomah (2016) also found that the Rejang Lebong folk songs also contain the noble values of the Rejang people.Thus, traditional songs have been used by people in Indonesia as a medium to instill adopted values. Until the end of the 20th century, Indonesian children who are now in their 50s are very familiar with *dolanan anak* songs, because they were always available during every play activity both at school and outside of school.The rapid flow of globalisation and technological progress today has an influence on the lives of people including children. Gadgets and mobile phones are more attractive to children than traditional games including games with *dolanan anak* songs.

Thus, it can be said that the children's song is outdated and it is possible that at this time it is very rare for the younger generation to know songs. In the children's song there are values f character education. Thus, it is necessary to strive to maintain *dolanan anak* songs so that these songs again become a favourite game of children.

Schools are very effective education channels and therefore *dolanan anak* songs can be introduced to students through formal education. Astuti et al. (2018) found that in the Dutch conservatory, music was used as a medium for character building. Many folk songs are used for the learning process by feeling the presence of musical elements in depth. Learning something in depth involving knowledge, skills and feelings will also produce long-lasting learning outcomes and students are able to interpret their learning outcomes. Mursell (2003) mentions that such results are called authentic learning outcomes, to wit, long-lasting learning outcomes that are useful and that students use in life.The development of communication and information technology has rapidly changed the criteria for learning success. Greenstein (2012: 50) suggests that the abilities needed in the 21st century are different from those of the 20th century. These differences among others include: the 20th century ability of "knowledge recall information", while in the 21st century the ability needed is "mastery of core content"; in the 20th century, "understanding making sense of content" while for the 21st century, the ability of communication and collaboration is needed to express ideas and working with others; next, ability related to analysis in the 20th century was about thoughtfully considering the information, "whereas in the 21st century it was meta cognition (learning and self-aware thinking); and if in the 20th century the expected ability is the creation and production of original works through innovation, in the 21st century, the capabilities needed are "creativity and applied purposes at work and in life".Changes in these needs require that the learning process in the classroom must also change in accordance with the demands of the times. In this 21st century, students are required to be better able to recognize their potential, express themselves to understand and accept others. Bengio (2014) proposed a deep learning model to teach students to be able to achieve authentic learning outcomes because students are able to interpret something that is learned and expressed in collaboration with other students to achieve learning goals.Referring to the 21st century learning criteria above, the purpose of learning music at school is not only to develop musicality but also for students to be able to express themselves and to be able to with other students. Considering that music education in schools in Indonesia is a medium for developing personality, teaching music must also be able to simultaneously shape the personality of students.

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1.2 *Formulation of the problem*

Based on the background description above, the following problem statement is proposed: How do deep learning models implemented through *dolanan anak* songs, help students to develop musicality and express themselves, and how effective is the deep learning model for increasing the musicality of students and in the formation of student character?

2 LITERATURE REVIEW

2.1 *Dolanan anak (children's games songs)*

Dolanan anak songs is basically one of the Indonesian folk songs. Mireskandari & Sharbatian (2015) argue that folklore or popular culture is one of the components of culture and that folklore is the body of expressive culture itself that is related to literary artistic and cultural issues. Thus, children's songs are also an aesthetic expression of language and culture.*Dolanan anak* songs are used to accompany children's games. However, according to revelation (2013) sometimes this children's song accompanies dance, for example, a new dance creation called *Jarog* which is a combination of *Jaranan* dance and *Reog* dance. Nonetheless, according to children's songwriters, *Dolanan anak* songs are typically used for games.According to the name *dolanan* which comes from the Javanese language, these songs come from the Special Region of Yogyakarta, Central Java and East Java that use Javanese language in their daily lives. Examples of *dolanan anak* songs are, "Jamuran", "Tak Petik-petik Kembang Melati" and "Cublak-cublak Suweng". These songs can be used by children to accompany guessing games and to express aesthetic feelings and togetherness.

2.2 *Moral values*

Moral values are values about goodness and must be followed and owned by each person to achieve the quality of life expected by themselves, society and God. Every human being has a conscience that can distinguish between good and bad. Many experts identify good values. There are many values that must be followed and owned by human beings. identifies 14 values that the Indonesian government through *Menko Kesra* (Coordinating Minister of the people's welfare sector), summarises the 14 values into four basic components which are the basic foundation for other values. The four basic values are honesty, intelligence, toughness and caring.

2.3 *Moral values in dolanan anak songs*

Many moral values are contained in *dolanan anak* songs. The song "Cublak-cublak Suweng" teaches children to understand others. "Tak Petik-petik Kembang Melati" can teach aesthetic taste and love for the natural environment. Wang (2014) revealed that the *dolanan anak* song "Jamuran" can help children practice vocabulary and that if studied, the *dolanan anak* songs contain educational values.

As stated earlier that there are more than 600 *dolanan anak* songs and there may be just as many values contained in *dolanan anak* songs. Among dolanan songs that are popular among children today, examples include "Cublak-cublak Suweng", "Gundul-gundul Pacul", "Jamuran", "Buto Galak" and "Padang Bulan". The value of education is contained in the game accompanied by the song "*Cublak-cublak Suweng*" and is used to develop the intelligence to read the thoughts and hearts of others. Games that demand the ability to find friends who hide things through facial gestures that are displayed are exercises to read the thoughts and feelings of others. The song "Gundul-gundul Pacul" has the same meaning as the song "Buto Galak" which describes the arrogant, haughty and trivial nature of losing what has been obtained. The song "Padang Bulan" can increase students' awareness of the majesty of God who has created such a beautiful universe.

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2.4 *Deep learning model*

The Deep Learning model was initially used in the classroom. However, Bengio (2014) also developed the model in the cultural context, while Sigrun Kertesvåg (2017) proved that deep learning can improve the quality of learning in literary learning. Cherkowski (2017) also found that deep learning improves teacher understanding.

The eep learning model provides experiences for students to know, understand and appreciate a material, work or problem so that students enter the world of science, social phenomena and art in depth. With a learning model like this, students not only know a phenomenon, but can also live and feel so that they can judge. Ertesvag (2017) provides an illustration in the literature, that by using a deep learning model, students not only know the names of characters, but are also able to judge whether a character can be imitated or not. To answer that, students must read a book until it's finished and not just reading in passing.

Astuti (2010) found that in general, in learning music in the Netherlands there were student activities made experimentally, produced by working in groups and then the students presented their works in front of the class. These activities show that deep learning has also been carried out in music learning.

2.5 *Development of the deep learning model in learning music*

Music is composed of musical elements including rhythm, tone and harmony. The other elements of music include melodies, scales and musical styles. Generally, in music learning teachers usually only emphasise knowledge that is cognitive or intellectual. However, in deep learning students are given experiences that allow them to feel the rhythm, melody, modulation, dynamics and so forth. With the deep learning model by using *dolanan anak* songs, students are invited to sing and play with *dolanan anak* songs. In the Netherlands, to develop musicality Dutch students are invited to sing children's songs with modulation, changes from major to minor scales or vice versa and feel music as a reflection of natural phenomena, social life and individual feelings. With the implementation of *dolanan anak* songs, the teacher provides experiences for students to understand, appreciate and feel the musical aspects and meanings of *dolanan anak* songs with variations.

2.6 *Learning theory*

David Kolb's Experiential Learning Cycle Theory (Paulina Pannen et al., 2001: 111) states that the learning process starts from a concrete impression experienced by the student. The experience is reflected individually and in the process of reflection the individual will try to understand what happened and/or what was experienced. This reflection is the basis for the process of conceptualising principles and predicting possibilities in new situations and contexts.

Based on this learning theory, it can be said that to achieve progress, learning does not move linearly but can move like a spiral, from a concrete direction to an abstract, from simple to complex and from easy to difficult, however not always hierarchical. To understand the meaning of a song one does not only rely on singing the song repeatedly, but that in each repetition there will be a process of deepening the meaning. The process of deepening the meaning can run slowly or quickly depending on each individual's process of exploring songs and music. The teacher can be a facilitator for students to be able to understand the meaning of a musical work.

Based on this researcher's observations of music learning in several schools and colleges in the Netherlands in 2008 until 2018, methods for providing the ability to understand and appreciate music are carried out by analogizing musical elements with natural phenomena and environment.

For example, to show the dynamic crescendo and decrescendo, the teacher invites students to imagine the mouth of a crocodile opening and closing. Melody stepped and jumped up was described as a mountain climbing trip. Songs with major scales describe excitement, while minor tone songs describe sadness. The interesting thing is that the emphasis on learning is not only on musical aspects, but more on feeling. Students feel their feelings by asking the

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opinions and feelings of students after listening to or playing music. To reinforce this, sometimes teachers in the Netherlands take advantage of the space atmosphere such as turning off lights to provide a dark and calm atmosphere.

2.7 *Framework of thinking*

Deep learning is a method that provides an atmosphere for students to learn naturally in accordance with the characteristics of the 21st century. In this century, new innovations are discovered every minute such that science does not progress linearly but develops in all directions. Repetitive exercises in playing music not only facilitate the achievement of proficiency levels, but is also a process of appreciation to reach the depth of understanding meaning. Considering that at the core of the process of learning music is the expression of feeling. Learning music with the method of deep learning can provide opportunities for students to be able to understand the beauty of the meaning of life in depth. The ability to enjoy beauty will make students more able to appreciate life and achieve happiness. Happy feelings will foster gratitude for the gifts of nature and life and will have a positive influence on students so that they always think positively and provide positive energy for other students. Such conditions will develop an attitude of empathy and cooperation between students. This attitude will be strengthened by the values contained in the children's song lyrics by: planting attitudes of not behaving arrogantly and not underestimating other people; increasing gratitude by instilling awareness of the beauty of the universe created by God; and improving tolerance and cooperation.

Thus, it can be said that in music learning there is a process of developing taste in this case, affective, which can increase feelings of sensitivity comprehensively. Learning music with the method of deep learning can improve musicality and positive attitudes of students.

2.8 *Hypothesis*

Based on the preceding description, the proposed hypothesis is as follows:

a) The development of deep learning models by introducing elements of music through *dolanan anak* songs can improve the musicality of students.
b) The development of a deep learning model through *dolanan anak* songs can improve student character.

3 METHODOLOGY

3.1 *Research design*

This research uses a quantitative approach. This approach was used to collect, interpret and analyse the data using quantitative analysis. However, good quantitative data must be supported by qualitative data so that researchers also collected relevant qualitative data.

The collected data includes information on the development of musicality and changes in students' behaviours to find out the effect of the deep learning model used as part of the research's experimental method. The data analysis uses MANOVA analysis which was intended to determine the change in character of students after receiving the treatment to be applied. The research stages were: first, compiling a deep learning model based on *dolanan anak* songs; secondly, compose research instruments followed by; the third trial of the fourth research instrument, giving deep learning treatment; and the fifth stage involved determining the effectiveness of the implementation of deep learning models based on changes in musicality and changes in students' behaviours.

3.2 *Site of research*

This research was conducted at the Elementary School, Temanggung Regency, Central Java Province. The sampling was performed using cluster random sampling.

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3.3 *Development of research instruments*

The research instrument was developed in the form of questionnaires and observation sheets. Observations were used to collect data related to musicality and the moral values of character education possessed by students before and after treatment. The instrument was then tested to determine its validity and reliability with Pearson correlation and interrater reliability.

The research instrument that was used to develop musicality was adopted from the research of Astuti (2008) for Nasyid learning (Islamic music). Musical aspects consist of indicators of rhythm, melody and harmony. Musical instruments consist of rhythm, melody and harmony components. The research instrument was analyzed by confirmatory analysis with the LISREL 8.51 program. The analysis shows that the validity of the rhythm indicator was 0.78 and its reliability was 0.56. The melodic indicator of validity was 0.95 and its reliability 0.9. The validity of the harmony indicator was 0.85 and the reliability was 0.73.

As for the aspects and indicators of the research instrument used to measure students' moral values or character, the method was developed from the Instrument research instrument based on the archipelago-based character education measurement instrument Astuti (2011). Difference with the instrument, if on the initial instrument, the measured aspect is toughness, in this study the aspect is specified as an aspect of nationalism. The following is the measurement rubric of character.

No.	Aspect	Indicator
	(1)	**(2)**
1	Honesty (in speaking and acting)	According to reality Rational Objective Authentic Transparency
2	Intelligence	Speed of receiving stimulus Accuracy of Capturing Stimulus Organize stimulus
3	Nationalism	Physical endurance Mental Resilience Consistency Symphathy Empathy Assist Other Cooperation

Validity and reliability

were analysed by Pearson correlation analysis techniques and interrater reliability. The results of the instrument trial produced the following data.

Correlations			
		character rater 1	character rater 2
character rater 1	Pearson Correlation	1	.553**
	Sig. (2-tailed)		.002
	N	30	30
character rater 2	Pearson Correlation	.553**	1
	Sig. (2-tailed)	.002	
	N	30	30

** Correlation is significant at the 0.01 level (2-tailed).

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Based on the analysis, it is known that the items of the instrument have a correlation at the significance level of 1%. Thus, the instrument is by construct, valid.

Reliability Statistics	
Cronbach's Alpha	N of Items
.709	2

Based on Cronbach's Alfa analysis, it is known that the instrument has a reliability of 0.709 which means that the reliability of the instrument is high. Thus, the instrument can be used because it has validity and reliability that meet the requirements, namely the validity in the criteria is sufficient (0.553) at a significance level of 1% and that the reliability is in the high criteria.

3.4 *Treatment*

The study was conducted for two months. The first meeting was used to measure the musicality and character of students using interview and observation methods. Interviews were used to determine the cognitive knowledge of students about music and the values contained in *dolanan anak* songs, while the observation method was used to determine the level of musicality of students by asking students to sing *dolanan anak* songs.

At the next meeting, the treatment was carried out by giving materials in the form of *dolanan anak* songs. At the beginning of the meeting, the subject matter included *dolanan anak* songs known to students and towards the end of the lesson *dolanan anak* songs that are less well known by students were taught. During the last meeting which was the eighth meeting, a posttest was conducted to measure improvement in the musicality and character of the students. For the posttest, the same method was used as in the pretest, interviews and observation.

3.5 *Data analysis*

To determine the effects of deep learning using the material of *dolanan anak* songs, on musicality and character the MANOVA analysis was used. For the significance level which is the criterion rejected or not hypothesized, the significance level is 5%.

4 DISCUSSION AND FINDINGS

In this section, we describe the data from research results, both quantitative and qualitative data with discussion.

4.1 *Use of deep learning development model*

The Deep Learning Model was developed based on the new musical learning model that was created by Astuti (2017). Based on the model, the research team redeveloped the model by emphasising the meaning of learning material by students with question and answer and contemplation methods. The following shows this deep learning model for music learning.

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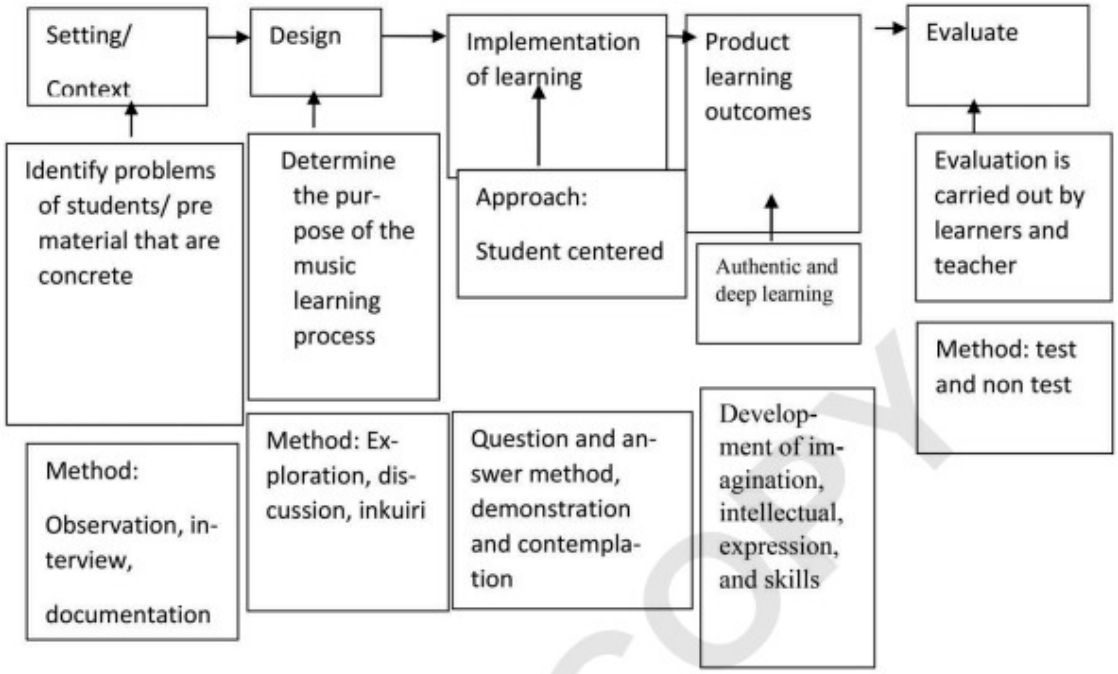

4.1.1 *Qualitative data of musicality*

The study was conducted in SD Negeri 1 Kranggan for two months, to wit, in class V involving 18 students. The research team worked with the students by giving lessons on *dolanan anak* songs, starting with songs that were known to the students. It turns out that the students already knew a number of Javanese songs such as "Buto-buto galak", "Jamuran", "Gundul Pacul", "Cublak-cublak Suweng", "Gambang Suling" (this is not *dolanan anak*), "Pucung" (the children also understood that "Pucung" was a kind of *macapat* that is not *dolanan anak*), in the middle of the month. Following this, songs such as "Jaranan" and "Tak Petik-petik Kembang Melati" were prepared by the research team. The existence of *dolanan anak* songs were known to be used by children to play games, based on interviews with children. However, *dolanan anak* songs are now often used for competitions.

During the research the process of learning music was taught by singing songs without musical accompaniment. In this research activity, researchers used musical instruments to accompany singing activities. It turns out that for elementary students, singing accompanied by music increases enthusiasm and helps them sing with the right intonation. When not accompanied, each student sings in a changing and different basic tone. With the accompaniment, together they can sing with a stable basic tone.

The development of musicality is carried out by introducing students to and training them in musical aspects such as modulation, changes in scales, dynamic changes and changes in tempo. For example, the learning began with singing a song according to the original scales. After that the song is changed to the opposite tone ladder. The "Buto-buto Galak" song is in a minor tone and was changed to a major scale. Likewise, children's songs in a minor tone are changed to major scales.

At the beginning of the learning process, the deep learning method was carried out by giving students the freedom to explore. When students sang *dolanan anak* songs with intonation, rhythm or articulation that is not right, the learning method that was used is imitation. The teacher demonstrated an example that was imitated by students. At the same time, the teacher explored students' understanding of the meaning of each song.

The results of the study show that in general, the fifth-grade students at the elementary school were able to distinguish major and minor scales and distinguish false and not. The problem with 30% of students was that they still had difficulty in singing organs so they could not sing with the right intonation.

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4.1.2 *Qualitative data on character*

Based on observations before treatment, the students possessed good character, discipline, courtesy and order. But in general, they were still embarrassed to express their opinions so that these students' understanding of the values of education could not yet be explored optimally.

In subsequent meetings, the students began to express their opinions that revealed their understanding of the values of moral values while the researcher observed the behavior of students during the learning process.

Based on interviews in class, students had understood the importance of mastering national songs, regional songs and *dolanan anak* songs to instill nationalism values. In addition, by singing the songs students could better understand the values that must be embraced and upheld so that in the future they will be successful and useful people for the nation and for their religion.

The results of the study showed that the fifth-grade class students already possessed good character, that they were able to distinguish good and bad characters and that they already held a sense of love for the homeland. This was shown in the students' opinions during discussions about *dolanan anak* songs compared to foreign songs. The following are the kinds of student responses to *dolanan anak* songs: 1) can get to know Indonesia more deeply; 2) preserving Indonesian cultural arts; 2) not forgetting the ancestors; 3) remembering culture; 4) remembering the history of ancestors; 5) get to know culture well and be able to improve culture; 6) can love culture; and 7) love folk songs that have been entrusted to them from ancestors. The students also explained that they must respect Indonesian culture so that the country remains united and not divided, with appreciation for diversity.

4.1.3 *Quantitative data on musicality and students' abilities before and after treatment*

Table 1. Scores of students' musicality and character skills before and after treatment are as follows.

Respondent	Before treatment		After treatment	
	Musicality	Character	Musicality	Character
1	4	36	5	40
2	5	38	5	43
3	5	35	6	41
4	10	40	10	46
5	10	37	10	44
6	6.25	35	10	41
7	2.25	35	3	40
8	1.75	30	2	38
9	2.75	33	3	39
10	6.75	35	7	41
11	7	36	8	43
12	6	35	7	40
13	9	35	7	40
14	9	36	9	46
15	4	33	5	37
16	2	35	3	40
17	7	36	7	43
18	6	35	6.75	41

As for the mean and standard deviation of musicality and character abilities before and after treatment, the results are as follows:

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Descriptive Statistics				
	pretest and post test	Mean	Std. Deviation	N
musicality	Pretest	5.5417	2.53831	18
	Posttest	6.0417	2.40748	18
	Total	5.7917	2.45131	36
character	Pretest	35.2778	2.08088	18
	Posttest	41.2778	2.46876	18
	Total	38.2778	3.78426	36

Based on the table above, the mean variable for musicality and character are increasing. This was seen in the increase in pretest on musicality from 5.54 to 6.04. The pretest mean result of 35 for character, rose to 41.28. To find out whether the difference is really an effect of treatment, an analysis test was performed using MANOVA.

The assumption of the MANOVA test is that the distribution must be normal, linear and have equality of variance. Normality was tested with the SPPS program to calculate the Mahalonobis distance (pallant, 278). The following are the results of the normality test based on the Mahalonobis numbers:

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.7196	2.2801	1.5000	.45086	36
Std. Predicted Value	-1.731	1.730	.000	1.000	36
Standard Error of Predicted Value	.042	.100	.067	.017	36
Adjusted Predicted Value	.6605	2.3290	1.5015	.45707	36
Residual	-.53453	.51238	.00000	.23209	36
Std. Residual	-2.236	2.144	.000	.971	36
Stud. Residual	-2.272	2.191	-.003	1.009	36
Deleted Residual	-.55171	.53548	-.00151	.25071	36
Stud. Deleted Residual	-2.436	2.335	-.007	1.038	36
Mahal. Distance	.118	5.120	1.944	1.449	36
Cook's Distance	.000	.117	.027	.036	36
Centered Leverage Value	.003	.146	.056	.041	36

[a]Dependent Variable:pretest and posttest

The score of Mahalanobis maximum is 5.120, and for the critical value for evaluating Mahalonobis, the distance value for the two dependent variables is 13.82. (Pallant, 2007: 280). Thus, the distribution does not violate the normality requirements because it is within the range of critical values.

Linearity was tested by a matrix of scatter plots between each pair. The following shows the linearity test.

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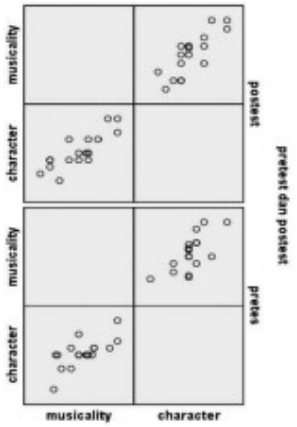

Based on the image above, the distribution is linear because the relationship of each variable forms a straight line.

Equality of variance was tested with Levene's Test of Equality of error variance. Based on calculations with SPSS, the following data was obtained.

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
musicality	.031	1	34	.861
character	1.346	1	34	.254

The test shows sig. above 0.05 is good for musicality and character, so the data does not violate the assumption of equality of error variance.

This distribution fulfills the requirements of the MANOVA test assumption. Thus, it was continued with MANOVA analysis. The MANOVA test used the SPSS program and the results were calculated as follows:

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.998	9213.770[b]	2.000	33.000	.000	.998
	Wilks' Lambda	.002	9213.770[b]	2.000	33.000	.000	.998
	Hotelling's Trace	558.410	9213.770[b]	2.000	33.000	.000	.998
	Roy's Largest Root	558.410	9213.770[b]	2.000	33.000	.000	.998
group	Pillai's Trace	.791	62.267[b]	2.000	33.000	.000	.791
	Wilks' Lambda	.209	62.267[b]	2.000	33.000	.000	.791
	Hotelling's Trace	3.774	62.267[b]	2.000	33.000	.000	.791
	Roy's Largest Root	3.774	62.267[b]	2.000	33.000	.000	.791

[a]Design: Intercept + group
[b]Exact statistic

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To find out the effects of deep learning on musicality and character the researchers looked at the significance of the Wilks' Lamda table because the distribution meets the requirements of normality, linearity and equality of variance errors. In the Wilks' Lamda column there is a significance of 0.00 (below 0.05) so that the mean difference between the pretest and posttest is significant. Therefore, it can be said that deep learning by using *dolanan anak* songs has a significant influence on the musicality and character of students.

5 CONCLUSIONS AND RECOMMENDATIONS

The Deep Learning Model provides experiences to students to master the subject matter in depth up to the level of assessment. The Deep Learning Model which was originally used in the field of expression and was developed by researchers in the field of music to develop musicality and the character of students through *dolanan anak* songs.

Based on the results of the MANOVA analysis it is known that there is a significant difference between the ability of musicality and mindfulness of students before and after treatment. Thus, it can be said that the learning of *dolanan anak* songs with deep learning models can improve the musicality and character of students.

With the Deep Learning Model, learning objectives can be achieved effectively. In the future learning objectives need to be developed by applying deep learning models in the music and in various subject matters.

REFERENCES

Adeliani, N. (2015). Lagu Menidurkan Anak pada Masyarakat Banjar: Kajian Bentuk, Makna, dan Fungsi. (lullaby song at Banjar Community: studi of form, meaning, and function) *Al-Banjari: Jurnal Ilmiah Ilmu-Ilmu Keislaman*, *13*(2), 265–284.

Al-Afandi, A. A. FUNGSI DAN NILAI NYANYIAN BUAIAN DALAM SASTRA LISAN KAILI.(a function and values of lulally congs in oral literacy Kaili) *BAHASANTODEA*, *3*(4). 81–92.

Astuti, K. S. (2008). Pengembangan model evaluasi pembelajaran dalam perspektif penciptaan makna baru pada grup nasyid DIY(Developing of teaching evaluation model in new meaning creativity perspective at Nsheed Group).

Astuti, K. S., Zuchdi, D., Sudiyono, T. W., & Hoogeveen, K. (2010). Developing Model for Teaching and Learning Music in Public School Based on Comparative Study between Indonesia and the Netherlands. *Laporan Penelitian. Yogyakarta*: Lemlit UNY.

Astuti, K.S. (2011, November) Developing an evaluation model for character education in Music Learning. In Character Education for Integrity and Justice toward Sustainable Future: Proceedings of the 1st International Conference on Character Education (ICCE 2011) November, 8–9. 2011, Yogyakarta Indonesia. International Office Yogyakarta State University.

Astuti, K. S., & Widyantoro, A. (2018, September). The teaching of morality through musical elements based on learning models of the Netherlands and Indonesia. In *Character Education for 21st Century Global Citizens: Proceedings of the 2nd International Conference on Teacher Education and Professional Development (INCOTEPD 2017), October* 21–22,2017,*Yogyakarta, Indonesia* (p. 389). Routledge.

Cherkowski,Sabre (2017) ICSEI: Flourishing in Adaptive Community: Balancing Structures and Flexibilities for Innovation and Inquiry in Schools. Singapore: NTU.

Dewantara, K.H. (1977). *Pendidikan (Education)*. Yogyakarta, Indonesia: Majelis luhur Persatuan Taman Siswa.

Desyandri, D. (2016). Nilai-nilai edukatif lagu-lagu minang untuk membangun karakter peserta didik (Education Values of Minang's Song to shaping character of students.). *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, *3*(2), 126–141.

LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. *nature*, *521*(7553), 436.

Greenstein, L. M. (2012). *Assessing 21st century skills: A guide to evaluating mastery and authentic learning*. Corwin Press.

Ertesvåg,Sigrun K. (2017). ICSEI: Teachers' improvement in instructional support < Singapore: NTU.

Megawangi, R. (2004). Pendidikan Karakter, Solusi yang Tepat untuk Membangun Bangsa(Character Education. A solution to shaping character of nation) . Jakarta: Indonesia Heritage Foundation.

Printing is for personal, private use only. No part of this book may be reproduced or transmitted without publisher's prior permission. Violators will be prosecuted.

Mireskandari, F., & Sharbatian, Y. (2015). An Anthropological Study of Folklore in Gilan Province with a focus on Lullabies. *IAU International Journal of Social Sciences*, *5*(4), 75–85.

Mursell, J. L. (2007). *Successful teaching*. Littlefield Press.

Pallant, J. (2007). SPSS survival manual, 3rd. *Edition. McGrath Hill*.

Pannen, P. (2001). Penulisan Bahan Ajar. *Jakarta: PAU PPAI. Ditjen Dikti. Depdiknas*.

Wahyu, E. (2013). JAROG DANCE FOR CHILDREN WITH SPECIAL Needs: Case Study in The Celebration of The International Dance Day in Surakarta. *Harmonia: Journal of Arts Research and Education*, *13*(2).

Wang, J. C. (2015). Games unplugged! Dolanan Anak, Traditional Javanese children's singing games in the 21st-Century General Music Classroom. *General Music Today*, *28*(2), 5–12.

Yousof, G. S. (2010). ISLAMIC ELEMENTS IN TRADITIONAL INDONESIAN AND MALAY THEATRE. *Kajian Malaysia: Journal of Malaysian Studies*, *28*(1).97–101.

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