Differences in developing musical competencies in Indonesia, The Netherlands, and France

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ABSTRACT: The study was aimed at revealing the differences in the development of students' musical competencies in the Netherlands, Indonesia, and France. The study adopted a mixed methods research design. Data were collected through observation of 30 music classes in the Netherlands, 30 in Indonesia, and seven in France. Observational data were supplemented by interviews with teachers, principals, students, parents, and other stakeholders. This research was conducted using a sequence of qualitative and quantitative methods. The qualitative data were analysed descriptively, while the quantitative data were analysed using descriptive statistic. The results showed that the students in the Netherlands had higher levels of musical competency than Indonesian and French counterparts. Music education in the Netherlands places more emphasis on the affective domain, while in Indonesia and France it focuses more on the cognitive and psychomotor domains.

1 INTRODUCTION

1.1 Background

Over recent decades, research in various parts of the world has led to increasing awareness of the importance of the art of music. In the 1980s and 1990s, scientific journals published studies showing that music literally changes the structure of the developing brain in the fetus and which identified a range of benefits for children in learning music. For instance, children who receive music training regularly have increased IQ scores; music therapy for half an hour a day can improve children's immune function; and music can relieve tension, encourage social interaction, stimulate language development, and improve motor skills among children (Campbell, 2001: 4).

Music also has a considerable influence on affective development. Siswa (1977) cites two examples. First, Ki Hadjar Dewantara (cited in Siswa, 1977: 303) argued that music can help to refine hearing to produce feelings of calmness. The exercise he developed involves a combination of language and music training. Second, Rudolf Steiner's theory of *Antroposofisch onderwijs* holds that music (in this case, rhythm) can facilitate physical work, support mental flexibility, develop character, and reinvigorate the human soul. Khan and Timur (2002: 121) have proposed that sound has a certain psychological value, unique to; each voice, and that a sensitive person can grasp another's personality from the sound of their voice alone. Others, like Mudjilah (cited in Imaji, 2003: 147) argued that the poems found in vocal

music play a role in influencing a person's psychological condition, even one's morality. Perkins, Yorke, and Fancourt (2018) found that music can be an effective therapy for mothers with symptoms of postnatal depression: the mothers in their arts-in-health program reported that this was the only time they did not feel the need to be getting on with some other activity.

These studies suggest that music, apart from its intrinsic value, can also have an impact in other fields, including intelligence, morals, psychology, and health. School is the most effective learning environment for the transmission of knowledge of science and the arts. Schools and colleges, therefore, are ideal sites in which to investigate the process of music development and learning. Hence this study explored musical development and learning in schools in three different countries, Indonesia, the Netherlands, and France.

Indonesia has a population of more than 250 million dispersed over 18,307 islands. Its 1,128 tribes maintain as much of their traditional arts and languages. For this reason, Indonesia can be used as a model for different countries with varies cultures. Several recent research studies (Astuti et.al, 2010) and (Astuti et.al, 2017) found that learning in the Netherlands pays more attention to the needs of students, especially many psychological needs. Teachers are able to develop and adapt teaching strategies to the needs of individual students, and the curriculum is flexible. These findings indicate that the Netherlands represents best practice in current music education and can be used as a benchmark. France is a country with a long artistic history and reputation and can also be used as a benchmark for achievement in music teaching.

The findings are expected to contribute to music educators' understanding of best practice in the field. Bloom, Simpson, Krathwohl and Anderson classified learning outcomes into three domains: cognitive, psychomotor, and affective. This study compared the development of musical competency in three countries using this framework.

1.2 Research aim

The aim of the present study was to describe the development of and differences in musical competencies in Indonesia, the Netherlands, and France in order to identify best practice in music teaching and learning that can be used to guide music educators in developing their students' musical competencies.

2 LITERATURE REVIEW

2.1 Musical intelligence

Decades before Gardner (1993) proposed the concept of musical intelligence, Sheasore (1938: 8) identified musical ability as part of intelligence in general:

> Intelligence is musical when its background is a storehouse of musical knowledge, a dynamo of musical interests, an outlet in a musical task, and a worth of musical experiences and responses. Here, as in the case of imagination, the type and degree of intelligence may characterize or set limits to the musical achievement.

Musical intelligence refers to tone sensitivity (Gardner, 1993: 37), that is, one's ability to distinguish pitch (high and low tone) and sing the tone appropriately. The development of musical intelligence, according to Gordon, is the result of innate processing that depends on the interaction of genetic and early environmental factors. Gordon's research results (cited in Pherson, 1997: 69) indicated that the environment has a significant influence on musical talent among nine-year-old children:

> Gordon believes that music aptitude results from both nature and nurture, because of genetic and early environmental influences (including those before birth), interact.... There is also evidence that the age of nine represents an important step in the process of developmental. This statement means that up until age nine the quality of the

environment exerts a "push and pull upon younger children's innate potential at rates that vary among children". If this view is correct, then a baby with a high level of music aptitude at birth whose environment is musically impoverished will lose much of this potential forever. Alternatively, quality musical experiences will enhance children's music aptitude and impact on their future musical development in a variety of ways.

This idea is consistent with Suzuki's philosophy, which states that talent does not arise by itself. Suzuki and Nagata (2014) said that talent is not inborn. Suppose Mozart had been given to me to care for soon after his birth instead of having the influence of his wonderful musician father.

Therefore, musical abilities can develop rapidly if a child is in the right environment. Thus, a child who, from the beginning, experiences a rich musical environment will have more opportunity to reach a high standard of musical ability. Similarly, Djohan (2005: 194) asserted that the failure of students who have the talent to achieve success is not the result of inadequate study and practice but lack of support and encouragement from parents or teachers.

In summary, the environment plays a key role in the development of musical competence. This is in accordance with the behaviourist learning theory, which states that learning outcomes are the result of habituation.

2.2 *Musical competence*

The main aim of the learning process is to acquire knowledge and skills that are useful throughout life. The basic elements of music are rhythm, melody, and harmony. The essence of rhythm is a recurring pattern of tension and release, and time (Kamien 1988, 2). Dewantara (1977) recommends that early learning among young - children should be in the form of a game. In Piaget's (2013) conceptual framework, children aged 8-12 years are in the pre-operational stage, while teenagers (aged 12-18) are in the operational stage. In this framework, the development of the musical competence of children 1st to 3rd-grade should be based on knowing, feeling, and practising the basic elements of music and that of 4th to 6th graders on understanding and practising basic rules of music. As for 7th to 9th grade students should be able to display artistry in accordance with the techniques and procedures, while 10th to 12th graders should be able to implement art as part of social life at local, national, and inter-national Levels.

2.3 *Bloom's taxonomy*

In 1956, Bloom, Simpson, and Gagne proposed a taxonomy of the cognitive domain that had six levels: *knowledge, comprehension, application, analysis, synthesis and evaluation*. In 1964, Krathwohl categorised the affective domain into *characterising, organising, valuing, respond-ing, and receiving*. Between 1964 and 1967, Simpson (1971: 25) and others divided the psycho-motor domain into seven levels: *perception, set, guided response, mechanism, complex overt response, adaptation, and origination*. These taxonomies have been used extensively in the field of education. Almost all learning outcomes, from planning to evaluation, use them as refer-ence points in assessing the success of learning.

The learning outcome taxonomy theory was well established for half a century. In 2004, however, it was revised by Anderson, who re-ordered the cognitive domain by replacing 'evaluation' as the highest ability with 'creativity'.

In Indonesia, Anderson's revision of the theory had a considerable impact. Previously, the ability to critique was valued most highly, whereas now the ability to produce a new form or product was ranked higher. This trend seems logical since someone who is good at evaluating is not necessarily able to create something, while someone who is able to make something will find it easier to evaluate because they already have experience in making things.

Greenstein (2012: 13) built on Bloom's taxonomy to identify the skills that must be devel-oped and applied by 21st-century students. For example, Greenstein relates the lowest level of

Bloom's taxonomy, knowing/remembering, to the development of the skill of "embedding learning in memory" and its application the ability to label a diagram, draw a picture of it, search for and bookmark it. The highest level of Bloom's taxonomy, creating, is translated into skills in relation to "generating something new, putting elements into a coherent whole, and reorganising ideas into new patterns". The implementation level of this skill refers to the ability to "create a new ending; design another way to convey the message of the story; come up with a new way to do, prepare, fix something, and create digital products like movies, simulation, games, and podcasts" (Anderson et al., 2001: 32).

2.4 Learning theory

In the middle of the 20th century, two different conceptualisations of learning were proposed —the empirical and the rational—each grounded in different learning theory. The former derived from behaviourism, which emphasises learning through habituation, and cognitive learning theory, which prioritises the discovery of meaning. In the behaviourists' empirical approach, learning occurs from a series of events or ideas, while rationalists see common sense as the main source of learning.

Behavioural psychologists focus on observed behaviours and behavioural changes and neglect discussion of unobserved thoughts and emotions. Cognitive psychologists, in contrast, argue that learning involves a change in one's ability to respond to a situation. Visible changes are a reflection of changes that occur within a person. It can state the nature of the environment, such as social attitudes towards music, can support or hinder the development of musicality.

The difference between these two views is bridged by the neo behaviourists, who claim that learning is not just a visible change in behaviour but also a process of change in a person. Considering all three views, in this research, learning is defined as "the formation of internal changes or new responses" (Hoy, 1980: 161).

In the mid-20th century, a new humanist stream of learning psychology emerged, followed more recently by cybernetics. Ausubel, a seminal figure in the humanistic school of cognitive learning psychology, suggested that students will learn well if "advance organisers" are appropriately defined and presented to students (Uno et al., 2004: 18).

The humanistic approach argues that the learning process must reflect the nature of human beings themselves (Uno et al., 2004: 20). The theory is eclectic, meaning that any theory can be used as long as it aims to "humanise humans" (Uno, 2004: 21). Humanistic theory provided the foundation for the work of Ausubel, Bloom and Krathwohl, Kolb, and Habermas. Ausubel (cited in Canas & Novak, 2010) described an approach to "meaningful learning". Bloom and Krathwohl (Anderson, 2001) developed a taxonomy of learning. In his theory of the experiential learning cycle, Kolb (cited in Sugarman, 1985) identified four stages of learning: concrete experience, active and reflective experience, conceptualisation, and active experimentation. Habermas argued that the highest level of learning is achieving understanding and awareness of cultural transformation. Mursell (2007) developed the approaches of Ausubel and Kolb into a more concrete learning theory using the principles of context, focus, socialisation, individualisation, sequence, and evaluation to achieve authentic learning outcomes.

2.5 Environment

As previously discussed, the environment has a significant influence on the development of musicality. Broadly speaking, there are three types of educational environments; informal or family education; non-formal education; and formal education. These environments are responsible for developing the students' potential, including musical development. The government, which is responsible for the implementation of formal education, needs to provide an atmosphere that is conducive to the development of all forms of intelligence, including optimal musical intelligence. France and the Netherlands provide education for music-talented students from childhood. It expects music lecturers in its universities to be able to help music-gifted children to become professional artists. In Indonesia, however, guidance for

music-gifted children is still managed by private institutions which present courses that are not formally accredited. As a result, the development of musically gifted children is left to these institutions and lacks government monitoring and control.

2.6 Expected competencies

Each country has different social values and goals, so it is not surprising that learning objectives vary. Education is the most effective vehicle for instilling these values and developing relevant competencies among its young people, and educational curricula are structured accordingly. The goals in each subject are described in relation to the competency that must be achieved by each student at a certain level.

In Indonesia, the learning objectives in arts subjects focus on the development of aesthetic sensibilities through which traditional arts can be preserved and non-traditional arts can be nurtured. In addition, art is widely used as a medium for moral development. By contrast, in the Netherlands, the purpose of learning the art of music is for learners to be able to express themselves through the creation of a musical composition, and in France, mastery of the art of classical Western music is emphasised.

2.7 Conceptual framework

Indonesia, France and the Netherlands have different learning objectives in music education and different approaches to achieving these goals. The Netherlands is concerned with freedom of self-expression and provides educators with flexibility in the learning process. In Indonesia, the curriculum requires teachers to use a scientific approach in all areas, since learning is seen to be related to the acquisition of other skills and characteristics, such as moral development. France continues to teach the traditional arts in the same way it always has.

These different objectives impact on the development of musicality and the competence of learners, as well as on the art forms that result. The Netherlands is a country that is quick to respond to the new approaches, while Indonesia lags somewhat behind changing times, and France maintains its traditions. Hence this study addresses the following research question: What is the effect of these differences on the outcomes of music education in Indonesia, France and the Netherlands?

3 METHOD

3.1 Research design

The study adopted a mixed methods approach involving the sequenced collection of qualitative and quantitative data (Day, 2008). In the first stage, qualitative data were collected using the methods of observation and interview. In each country, music lessons were observed and interviews were conducted with teachers, principals, students, parents, and education experts.

In both Indonesia and the Netherlands, 30 lessons were observed. Observations were made in classes from the elementary school to university level. In Indonesia, the research was conducted in the Special Region of Yogyakarta (DIY) and Central Java provinces. In the Netherlands, data were collected in the provinces of Utrecht and Den Haag. In France, however, access was more limited. Observations were conducted on seven music lessons at the conservatory in Poitiers with middle school, high school and University of Poitiers students.

Interviews were conducted with teachers, principals, students, parents, and other stakeholders. The interviews to reveal their perspectives on the implementation of learning as observed in the classrooms.

Quantitative data were collected by identifying the level of student's musical competency in the three countries. The researcher observed the musical competency displayed by students and classified their abilities according to Bloom', Simpson, Krathwohl, Anderson's taxonomy,

and Greenstein's development theory. Based on this researcher develop research instrument to collect the level of musical competency. There are six levels cognitive domain, level 1st, C1 (cognitive 1) is knowledge; level 2nd, C2 (Cognitive 2) is comprehension; level 3rd, C3 (Cognitive 3) is apply level 4th, C4 (Cognitive 4) is analyse; level 5th, C5 (Cognitive 5) is evaluation, and level 6th, C6 (cognitive 6) is creativity. Meanwhile psychomotor domain have eight levels. Level 1st, P1 (psychomotor 1) is perception; level 2nd, P2 (Psychomotor 2) is setting; level 3rd, P3 (psychomotor 3) is imitation; level 4th, P4 (psychomotor 4) is guide response; level 5th, P5 (Psychomotor 5) is Mechanism; Level 6th, P6 (psychomotor 6) is complex response; level 7th, P7(psychomotor 7) is adaptation; and level 8th, P8 (psychomotor 8) is originality. There are 4 level in Affective domain. Level 1st, A1(affective 1) is receiving; level 2nd, A2 (affective 2) is responding; level 3rd, A3 (affective 3 is valuing); and level 4th, A4 (affecktive 4 is organization.

3.2 Research data

In this analysis, there were three independent variables: country, domain, and school level. The dependent variable was the level of musical competency in relation to the cognitive, psychomotor, and affective domains. The results are presented in the form of distributions of competencies in the cognitive, psychomotor, and affective domains.

3.3 Data analysis technique

The qualitative data were analysed descriptively to categorise the observed musical competencies in relation to the cognitive, psychomotor, and affective domains. The qualitative data were used to supplement the quantitative data in terms of categorising each domain of the taxonomy. Quantitative analyse by using descriptive statistic of tendency central.

4 FINDINGS AND DISCUSSION

4.1 Goal lines of the music lesson

In Indonesia, the Central Body for the National Curriculum states that the aim of arts education is to develop aesthetic sensibilities in relation to expressing, exploring, creating and appreciating all forms of the arts, including literature and the performing and visual arts. Therefore, the objective of music teaching at schools is not to turn students into artists but to enhance their aesthetic sensibilities. Since the objective of music teaching is to provide an aesthetic experience, the teaching processes are organised in such a way that students enjoy the teaching/learning process.

Interviews with the music educator from Utrecht University, Barensend Mitchel, and the head of the Music Department of Hogeschool Voor de Kunstent Utrecht, Christian Boel, indicated that the Netherlands government gives teachers the freedom to develop their teaching methods as long as the curriculum goal is achieved. In the Netherlands, education has experienced a great deal of change. The overall mission and vision most of the schools in the Netherlands, however, are fully supported by the teaching staff. In Indonesia, by contrast, educators are required to adopt the scientific approach to teaching. The Dutch government's policy means that teachers can be creative in developing their learning strategies, and the country has produced a rich variety of teaching methods. In 'regular' music lessons, children are taught to simultaneously read notes and play them, individually or in groups. They start by playing simple tunes with a straightforward rhythm and gradually progress to more complex pieces. However, many schools have introduced variations. For example, the Royal Conservatoire, The Hague, has developed a program for pre-school children in which they learn music in the same way as they learn a language. In language learning, children's development goes through the stages of listening, babbling, speaking words, speaking short phrases, and, finally, speaking entire sentences. For example, a child only learns to write the word 'tree' at around the age of six, when he or she can speak properly and can recognise

different trees, such as a chestnut tree, an oak tree, a Christmas tree, an apple tree. When shown a tree, the child can then make the logical connection: that is a 'tree'.

France, however, still adheres to traditional values to which music learning objectives are directed. The repertoire of the baroque, classical and romantic eras still dominates music education in France.

In Indonesian curriculum, music learning is generally associated with moral development. Similarly, in the Netherlands, the music teacher seeks to generate positive emotions around the relations between self and other. According to the interview with a lecturer in France, music learning is only focused on mastering music, not on morals.

4.2 Teaching and learning process

In Indonesia, observations were made of more than 30 music learning classes in Public Elementary School 1 (Kranggan, Temanggung Regency, Central Java), IT Lukmanul Hakim Elementary School (Kota Gede, Yogyakarta), Muhammadiyah Middle School (Wonosari, Gunung Kidul, Yogyakarta), State Middle School 2 (Temanggung), and Middle School (Depok, Sleman, Yogyakarta). In general, the process of music learning begins with theory and moves on to practice. Although the approach recommended by the government is student-centred, its implementation remains teacher-centred.

In the Netherlands, observations were made of 30 classes at 1) Dacosta basis school Hoograven, Utrecht, 2) Cals College Nieuwegein, 3) Junior School, Keesboeken, Bilthoven, 4) Montessori Lyceum Herman Jordan, zeist 5) Hogeschool Voor De Kunstent Utrecht, and 6). The Royal Conservatoire, The Hague. Here, theory and practice are taught in an integrated way.

In France, observations are made on seven music classes in the Conservatoire de Poitiers and the University of Poitiers. Here, the process of music learning was observed to be similar to that in Indonesia, that is, theory and practice were separated, and the instructional approach was teacher-centred. However, the difference between the Indonesian and French systems is that the Indonesian instructional system uses the "fixed-do", while the French instructional system uses the "movable-do".

A comparison of the learning process in the three countries is shown in Table 1.

4.3 Musical competency development

As stated earlier, Bloom et al. classified learning outcomes into three domains and related levels: cognitive (six levels), psychomotor (seven levels), and affective (four levels). Greenstein developed Bloom's taxonomy to incorporate 21st-century skill needs. Table 2 shows the descriptive data of the type of musical competency development in each results of analysis of the musical competencies observed in the three countries based on this classification.

Based on factorial design in Table 2 shows that both in Indonesia and the Netherlands we have 90 data. This data base on 30 observation in Indonesia, dan 30 observation in the Netherlands. Each observation have cognitif, psichomotor, and affective data, that means for one observation have 3 type of data that is cognitive, psichomotor, and affective of musical competency.Mean while we have 21 data of cognitive, pyschomotor, and affective of musical competency base on 7 observations in France.

Regarding the level of domain competency and duration in each countries depected on Table 3, as follows:

These results show that, on average, the Netherlands has a higher level of competencies compare to both Indonesia and France. However, the proportion of musical development duration of cognitive, psychomotor, and affective domains among the three countries is similar.

Table 1. Comparison of music teaching and learning models in Indonesia, the Netherlands and France.

No	Component	The Netherlands	Indonesia	France
1.	Curriculum	Curricula at different educational levels are closely integrated. A curriculum is established by Parliament based on input from experts and other stake holders i.e. a bottom-up approach.	Curricula at different educational levels are less well integrated. Each educational level has its own authority and the curriculum is set in a top-down approach.	Learning music in primary and secondary education is coordinated by the Director of Provincial Music Education and the curriculum is supervised by the directorate.
2	Learning materials	Learning materials are organised thematically and integrated. More time is devoted to practice than theory.	Learning materials are subject-t specific and separate. More time is devoted to theory than practice.	Theory and practice are studied separately, similar to the approach in Indonesia.
3.	Connecting music material with other fields	Music learning is expected to be associated with other fields, especially moral education.	Learning music is linked to other fields in accordance with the nature of the subject matter.	Learning music is not associated with any other field.
4.	Learning approaches	Learning approach is student-centered and well-implemented.	Learning approach is student-centered in theory but it is not yet implemented optimally.	Teacher-centre at the level of implementation, similar to Indonesia.
5.	Learning method	Many methods are used to encourage students' participation e.g discussion, presentation, demonstration, etc.	Previously the lecturing method dominated, but since 2013, learning is oriented towards the scientific method.	Mainly lecturing, with some demonstration and drills.
6.	Learning procedures	The learning process is similar at all education levels: 1) Teacher sets assignment; 2) Teacher gives students the opportunity to work in groups; 3) Students work in groups to produce a work; 4) Each group presents their work; 5) Teacher and students evaluate the work presented.	Learning process is as follows. 1) Teacher sets assignment; 2) Teacher presents learning materials through lecture or demonstration; 3) Teacher conducts evaluation without involving students.	Similar to the procedure in Indonesia.
7.	Culture	The relation between teachers and students is close, informal, and open.	The relation between teachers and students is very formal, which is reflected in the teaching and learning process.	Like Indonesia, the relationship between teacher and student is formal.

5 CONCLUSION

The results of the study show that there are significant differences in the development of students' musical abilities in the Netherlands, Indonesia, and France. The differences lie in the depth or the competency level of the learning. From the perspective of Bloom's taxonomy, the Netherlands achieves higher levels of development in students' musical potential in the cognitive, psychomotor, and affective domains. Analysis of the qualitative data indicates that music education in the Netherlands places greater emphasis on the affective dimension, while Indonesia and France focus more on the cognitive and psychomotor domains.

Table 2. Descriptive data of the type of musical competency development.

		Factorial	N
Country	1	Indonesia	90
	2	The Netherlands	90
	3	France	21
Domain	1	Cognitive	66
	2	Psychomotoric	68
	3	Affective	67
level of School	1	Elementary	30
	2	Junior school	96
	3	Senior High School	36
	4	University	39

Table 3. Statistical description.

Descriptive Statistics

	Country	Mean	Std. Deviation	N
Level of domin competency	Indonesia	3.29	1.359	90
	The netherlands	4.26	1.107	90
	France	2.90	1.300	21
	Total	3.68	1.348	201
Durasi (%)	Indonesia	33.56	23.202	90
	The netherlands	33.56	22.389	90
	France	33.33	56.426	21
	Total	33.53	23.075	201

It can be argued that the affective domain plays a fundamental role in human learning by motivating students to engage with an activity (or not). In this way, affective development can impact on other domains. The results of this study, then, indicate that music learning should emphasise affective development, followed by cognitive and psychomotor development.

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