Students' Cognitive Development Through Improvisations in a Theater Game-Based Approach

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This study aims to examine students' cognitive development during the teaching and learning of the topic of Mixed-media Paintings using a theater game-based approach. This study is based on a qualitative approach which involving 8 Form Five students who were selected as the study sample. Data were collected through observations where the researchers examined the learning process which involving five sessions, namely induction, perceptions of art, applications of art, expressions of art, and art in life. Teachers were provided with the modules of theater games and a teaching plan as a guideline for the theater game-based approach in teaching the subject matter based on Bloom's taxonomic levels of mastery. Data was analyzed using Nvivo software to reveal students' level of cognitive development based on the twenty-first century learning skills as they performed selected theater games during the learning of Fine Art Specialization. The finding shows that students made several spontaneous improvisations in performing the games in terms of voice intonations, gestures, movements, and emotional expressions. In performing in such games, the students demonstrated various levels of Bloom's taxonomic skills in the cognitive, psychomotor, and affective domains, namely synthesis and analysis.

Key words: *Bloom's Taxonomy, cognitive development, fine art, theater games, twenty-first century learning skills.*

Introduction

The *Sustainable Development Goals* (SDG4) 2030 and Malaysia's Education 2013-2030 emphasize on the quality and equality of education for all the citizens. As a part of efforts to attain the above aim, Malaysia's Ministry of Education has established *Sekolah Seni Malaysia* (SSeM) or Malaysian Art Schools to provide opportunities for Malaysian students to learn art, including visual art, theater, dance, and musical art. This type of schools was built based on the concept of residential schools, which are equipped with facilities to support the learning of art (KPM, 2020). To date, several art subjects, such as Fine Art Specialization, are taught in such schools to help students become knowledgeable and skilled in fine art that focuses on virtuous and aesthetical values by exposing them to various sources, medias, techniques, and processes that enable them to create and appreciate arts (KPM, 2019). However, according to Norzuraina (2021), many students have found that Art Education to be a difficult subject to learn as it has many abstract terms to grasp with. Such a contention is echoed by Zahuri and Mohd Sayuti (2019) who assert that most students are unable to learn such a concept that eventually impedes the process of art creation. To help overcome such a predicament, visual images can be used by art teachers as concrete materials to explain about the abstract learning concepts (Ridzuan, 2019). Thus, it is important to develop and use an approach that creatively uses visual images and concrete materials to help students improve their cognition and skills in learning Fine Art Specialization.

Surely, educational transformations are entailed to make the teaching and learning processes more creative, innovative, and meaningful, which may rely on the use of suitable approaches to improve the delivery of learning (Letchumie & Nadarajan, 2020). According to Zahuri and Mohd Sayuti (2019), the learning of art subjects requires a diverse learning approach that is both creative and innovative by focusing on the theoretical and practical aspects, which need to be learned concurrently. In this regard, learning process needs to occur smoothly to ensure effective developments of students' cognitive, psychomotor, and affective skills. Essentially, learning must not be confined to the "four walls of the classroom" for it to be efficacious and meaningful (KPM, 2019). In essence, the concept of lifelong learning entails one that is relevant transcending time and place. As such, changes in learning approaches must focus on methods that can help students to think creatively so that they can face the challenges of learning in twenty-first century.

Theater games as a learning approach

Essentially, education is concerned with not only 'what' is being delivered' but also on 'how' it is being delivered (KPM, 2019). Arguably, delivery aspects are closely related to specific approaches used by teachers to ensure students can receive learning materials and contents effectively. To deal with the learning challenges of twenty-first century, appropriate learning settings are needed to help students learn efficaciously without being encumbered by

environmental factors. This entails teachers to be knowledgeable in choosing a particular approach that is deemed suitable for specific teaching and learning (Uria-Iriarte & Galarreta, 2020). As such, teachers need to rely on innovative approaches, such as theater-based learning method, to make learning more dynamic because rigidly structured and formalized learning can make students feel bored and less motivated (Ani Omar et al., 2020). In addition, fun elements should be embedded in the learning process to motivate students to learn. For example, according to Zahuri and Mohd Sayuti (2019), game-based learning approaches that rely on storytelling and role play can help to improve students' learning motivation. Likewise, Wong and Kamisah (2018) assert that such learning approaches, which are student-centered, are vital in helping students to gain the learning skills of twenty-first century. Arguably, game-based learning can help engender learning environments in which students can engage in diverse activities through discussions, problem-solving, and idea generations.

Specifically, theater-based learning approaches can make learning more appealing and engaging (Zahuri & Mohd Sayuti, 2019), as they can help to stimulate active learning among students. Furthermore, learning environments that integrate games can help facilitate collaboration among students, allowing them to restructure the knowledge that they have learned in the learning process (Wong & Kamisah, 2018). Despite having the learning characteristics deemed relevant to twenty-first century, theater-based learning approaches must not be applied in haste, given the constraints of existing educational systems that imposes specific rules and regulations. In particular, the use of such learning approaches have to take into account of the specific requirements of a particular subject and student diversity. As such, the learning of Fine Art Specialization entails careful planning to ensure the effective use of theater game-based learning approaches in helping students to learn concepts, medias, techniques, and processes of art creation.

Improvisations of theater the game-based learning approach for students' cognitive development in the learning of Fine Art Specialization

According to Piaget (1952), the cognitive development of children involves a number of stages, the first of which is the most important and critical. In the first stage, children will seek information, analyze their experiences, and make decisions, which are more important than learning facts (Hasnah et al., 2014). Thus, children's early experiences that are gained from primary schooling will continue to expand as they enter secondary schooling. From the learning perspective, the cognitive development in the learning of Fine Art is concerned with how the process of learning art will take place. Specifically, it emphasizes on how a specific learning method interacts with students' mental activities (Ridzuan, 2019). Also, the cognitive process in learning is an intellectual process involving the mastery of language and learning of a specific knowledge, which can be realized through improvisations of learning approaches, such as theater games. For example, an improvised learning approach using theater games can enhance the intellectual process as students make diversify their

presentations of the learning contents. Thus, it is important to have a firm grasp of the learning contents, the lack of which can complicate the use of an improvised learning approach using games. Equally important, improvisations can occur at any time during the theater activities in which learning contents are not pre-planned, allowing related characters, stories, dialogues, and play movements to take place spontaneously (Lakshmi & Mohd Kipli, 2018; Rice-Bailey, 2021).

In learning fine art, students will be exposed to theater games as an improvised technique to relate learning with the activities that were being carried out. According to Ridzuan (2019), cognition involves reasoning, concept development, perception, assessment, and problem-solving. As such, students can effectively make improvisation to learning contents with their creativity through sound thinking. Essentially, the learning of Fine Art Specialization involves four main modules, namely Perceptions of Art, Applications of Art, Expressions of Art, and Art in Life, the teaching of which starts with an induction set and terminates with a closure. This art subject has been developed based on *Kurikulum Standard Sekolah Menengah* (Secondary School Standard Curriculum) that places strong emphasis on students' cognitive, psychomotor, and affective developments. Learning this subject will expose students to relevant techniques, medias, and processes in art creation. According to Ridzuan (2019), cognitivists believe that certain media can help to stimulate the development of students' mental model in learning by providing them with short and long-term memory to help them memorize learning contents. Based on the concept of game-based learning, relevant media for such a learning approach are theater games.

Research Methodology

This study is based on a qualitative approach involving a case study in which 20 Form Five students from a SSeM school in Kuala Lumpur were selected as the study sample. Data was collected through observations where the researchers examined the learning process which involving five sessions, namely induction, perceptions of art, applications of art, expressions of art, and art in life. Teachers were provided with a module of theater games and a teaching plan as a guideline for the theater game-based approach in teaching Fine Art Specialization subject to help students develop their cognitive skills at various levels of mastery based on Bloom's taxonomy. The data was analyzed using Nvivo software to reveal students' level of cognitive development of such skills as they performed selected theater games during the learning of Fine Art Specialization. The following are the activities of the theater game-based learning which were carried out by the students.

Activity 1: Induction Set

Procedure:

a) A group of students will be given a novel and illustrative sketches that they have to play an act (PAK21: PT3 - Nationhood/Creativity)

b) Students have to relate information and tell a story based the novel, sketches or illustrations (see Figure 1), and the learning topic given.

Figure 1 **An example of theater game illustrations**

Type of a theater game(TG) based on TG3: Role Playing

A novel and illustrations or sketches were given to several students which they were required to play the roles of relevant characters based on their understanding of the illustrated visuals. The novel was needed to help improve students' understanding on the cultural background of the society which has been narrated in it. Students used the improvised methods to explain such a culture by performing delicate movements and spontaneous dialogues. They had also interacted with their friends who were watching the theater games to help the latter to make sense of the information being conveyed. At the end of this session, students tried to relate their acts with the learning topic, namely mixed-media painting .

In this activity, students used the improvised acting techniques using dialogues, styles, spaces, and spontaneous vocalizations to effectively help to deliver the intended message. Hence, they were able to relate their experiences with the information that contained in the novel and illustrations given by their teacher. This finding is consistent with Ridzuan's

(2019) assertion that the creation of a coding system, as postulated in Bruner and Simon's Cognitive Development Theory, can help to improve information transfer, memory enhancement, problem-solving, and motivation. As such, stimulations deriving from the novel and visuals which were used in the theater games functioned as an effective means to enhance students' cognition in solving problems when they involved in such games. In addition, improvised vocalizations helped intensify students' emotions and imaginations, which allowing them to effectively synthesize the learning contents.

Activity 2: Perceptions of Art Session

Procedure:

a) The teacher will show several slides by using an instructional multimedia kit to attract students' attention (which meant focuses on materials).
b) The teacher will show the slides by using images of art works based on mixed painting media created by Malaysian and international artists (which focuses on the deductive approach).
c) Students will state the languages of visual art used in the art works (PAK21: PT4 - Critical Thinking).

Type of a theater game(TG) based on TG4: Puppet Play

This game entailed students to use relevant tools, such as gloves, stockings, fingers, and puppets. Relevant characters were created based on a learning topic given by their teacher. Students will tell a story through such characters that had helped them to deliver the intended messages related to the learning contents, namely visual art languages used in the art work.

Improvisations:

Students inserted their fingers into the stockings to create puppets which they used to explain through dialogues regarding the visual art languages in terms of art elements and design principles, which they had seen based on the art works shown by their teachers. The following are some of the dialogues that students performed through the puppets by explaining the visual art languages:

Puppet 1: Friends, what kind of lines do you see in Haslin Ismail's art work?
Puppet 2: Oh! I can see thick and thin lines were used to create water paint media. Am I right, Sarip?
Puppet 3: Correct! Correct! Correct! (Mimicking the characters of *Upin Ipin*). Are there any other types of line?

In this game, diverse communication was carried out among students (who played the game), their teacher, and other students (who were the audience). Improvisations occurred in their play in terms of voice intonation, emotional expression, movement, and gestures. They were able to express their experiences through the theater game-based activities, demonstrating their abilities at various levels of skills based on Bloom's Taxonomy, namely Synthesis (Level Five in the cognitive domain), Analysis (Level Four in the Psychomotor domain), and Analysis (Level Four in the affective domain). Such finding was hardly surprising because given that the students would be able to encode their experiences that they had acquired and stored them in their long-term memory (Ridzuan, 2019). Effectively, such experiences caused some changes in their behaviors, which helped to improve their thinking skills. Overall, the finding showed that the students were able to relate the theater games with the learning topic, namely visual art languages which was expressed through mixed-media paintings.

Applications of Art Session

Procedure:

a) The teacher will show a video that highlights the various new, digital, and hybrid techniques used in the creation of mixed-media paintings (PAK21: Communication).

b) The teacher will use PT8 to test students' cognition level of application, namely Assessment.

Type of a theater game(TG) based on TG8: Reversal of Roles

The students played this game in pairs, each being assigned with a specific character, location, and a learning topic. For each pair, the character played by a student was opposite to his or her partner's character. For example, the first student's character was kind and gentle while the second student's character was temperamental and domineering. While the students were engaging in several dialogues, an instructor had intervened and asked each pair of students to switch roles without stopping the game. They were required to diversify their vocalizations (by increasing and reducing the volume of their voices) and emotions by applying contrast characteristics in their dialogues according to highlighted learning contents concerning the medias, techniques, and processes of creating mixed-media paintings that had been taught in the subject of Fine Art Specialization.

Improvisations:

Two students were selected to play the characters of Salmah and Isnin, who were fierce and graceful, respectively. They had played these characters in the first session and switched such roles in the second session. The narration of the game revolved around the medias, techniques, and processes of creating mixed-media paintings. Active interactions took place

as they conveyed their story that touched the learning topic. Their friends were also allowed to intervene and give input to enrich their dialogues. The following are some of the dialogues that students performed in this game:

Session 1:

Salmah: Hey Isnin! Do you think I do not know that you had stolen Haslin Ismail's painting yesterday? Don't you realize that how expensive it is? The painting is expensive because it was painted using water paint media and collages. Don't you realize how difficult it was to do such a painting?

Isnin: No Salmah! I did not steal the painting. I will never steal a painting which is difficult to do. I know it is extremely difficult to paste pieces of papers on a canvas and to use appropriate colour sprays. I did not steal it, Salmah.

Salmah: Ah! Don't pretend to be innocent! Zamir told me that you are an ardent fan of collage technique. Isn't that right? Isn't such a pasting technique is your obsession? Have you not been caught peeping Zarimah while she was using the technique?

Instructor: Let's change the roles.

Session 2:

Isnin: Hey Salmah! you are an ungrateful lady. How dare you said that I had stolen the painting just because I like the collage technique. You are so bold, aren't you?

Salmah: I am sorry, Isnin, but Zamir was the one who told me about it (*Sobbing*). He said that you adore the painting because of the usage of various media and techniques. The art elements grabbed your attention. Lines! Weaves! Forgive me, Isnin.

Isnin: You are really heartless and mean. I will hit you, Salmah. You have a cold heart, making false accusations without any feelings of guilt. Don't you know that the process of making the painting used the gums which were systematically pasted on a canvas ? Do you want me to do the same to you?

Nizam: Be patient, Isnin. We need to discuss this patiently.

(An additional student)

This game facilitated active dialogues among various parties, and game roles were interchanged under the instructor's direction, who instructed the game to proceed with various techniques in mixed-media paintings. Improvisation occurred in the game which

involving the storyline, movements, voice intonation, emotion, and vocal. By performing in this game, the students demonstrated various levels of Bloom's taxonomic skills, namely synthesis (Level 5 of the cognitive domain), analysis (Level 4 of the psychomotor domain), and analysis (Level 4 of the affective domain). In terms of learning outcomes, they were able to relate the theater game with the contents of the chosen learning topic of the Fine Art Specialization subject, namely medias, techniques, and processes that needed in the creation of mixed-media paintings.

The theater game which was used in learning the above topic emphasized six (6) levels of mastery based on Bloom's Taxonomy, namely understanding, knowledge, application, analysis, synthesis, and evaluation, encompassing the cognitive, psychomotor, and affective domains. The development of skills in these domains occurred simultaneously as the students learned the subject matter using the theater game-based approach. This improvised approach helped students to think creatively, perform delicate movements, and interpret the learning contents efficaciously. As they engaged in the game, students were able to intellectually digest the learning contents using the multimedia kit as mentioned above. They were able to synthesize the underlying concepts through the learning process together with their teacher by changing the communication medium to theater game involving various story backgrounds, movements, voice intonation, emotions, and vocals. By varying the above aspects in the game, the development of students' skills in the above three domains took place concurrently.

Lakshmi and Mohd Kipli (2018) assert that the aim of improvisation is to intensify an individuals' auditory and visual sensitivity as a precursor to establish emotional relationships with other persons. It also helps to intensify affective elements that can help students to search appropriate expressions to reflect their feelings (Nadarajan, 2014). As demonstrated in this study, the use of the theater game-based approach helped the students to improve their cognitive, psychomotor, and affective skills at higher levels of Bloom's Taxonomy, as evidenced by the ability to synthesize and evaluate information, which later they conveyed with strong interpersonal skills. Given this promising finding, the use of an improvised approach using theater games can help teachers to produce creative, innovative, and competent students who are able to solve problems effectively (Ridzuan, 2019). As such, teachers need to place strong emphasis on the learning process rather than on students' final assignments to ensure the latter can engage in meaningful learning experiences, thus effectively enhancing students' cognitive development.

According to Berk and Trieber (2009), making statements is important for improvisers to help them understand the reality that their partner is creating. Effectively, this process helps facilitate the development of students' critical thinking as they spontaneously perform dialogues, movements, and emotional expressions, making communication more meaningful and insightful (Rice-Bailey, 2021). Typically, performers respond to a suggestion from the audience and build a scene or story using that initial suggestion as a prompt. This represents a form of external stimulations, which refers to additional information sources provided by

teachers, friends, tools, dialogues, or other related sources. As shown in this study, such external stimulations can help to improve students' cognitive development as they become articulate in improving the storytelling of a theater game.

As emphasized by Wong and Kamisah (2018), learning through games can help improve students' mastery of learning contents, intensify their interest, motivate them to learn, and change their attitudes towards learning. Such a contention concurs with that of Mohd Amir et al. (2020), who argued that students directly engaging in theater activities can remember 90% of the learning contents that they have learned, as they have directly gone through such experiences. This is to be expected as students will be excited and happy to engage in the exploration, discovery, and construction of new, direct experiences in learning (Zahuri & Mohd Sayuti, 2019).

Conclusion

Previous studies have shown that game-based learning is an effective teaching strategy. However, empirical studies that focus on theater game-based learning in Malaysia have been scarce. Arguably, theater is not only an important art discipline but also an unique teaching tool for students' learning process. Hence, learning approaches can be improvised by using theater games to help improve students' cognitive, psychomotor, affective, and interpersonal skills. What makes such approaches highly efficaciously is that the elements of theater games which can be spontaneously improvised in terms of movements, gestures, vocalizations, and emotional expressions to engender active, creative, and innovative learning, which are important traits in the twenty-first century learning. In particular, theater game-based approaches can be highly efficacious when applied in the learning of certain subjects that emphasize on the mastery of '6C' skills, namely character, communication, creativity, collaboration, country, and critical thinking. Given the importance of these traits, it becomes imperative for teaching practitioners, such as Fine Art Specialization lecturers, to apply theater game-based approaches in their teaching practices, which enable students to synthesize learning contents more effectively. Surely, more studies are needed to examine the full impact of such novel approaches on the learning of a wide spectrum of school subjects in Malaysia.

Acknowledgments

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