Advances in Social Science, Education and Humanities Research, volume 665
Proceedings of the 4th International Conference on Arts and Design Education (ICADE 2021)

Integrated Learning between Dance Art and Biology Education at SMAN 2 Cibarusah

Juniar Nurpratama Putri[1,*] Juju Masunah[1]

[1] *Program Studi Pendidikan Seni, Universitas Pendidikan Indonesia, Bandung, Indonesia*
[*]*Corresponding author. Email: putri25pra@gmail.com*

ABSTRACT
This study aims to describe the integration of learning between art and biology. The focus is on: (1) describing the learning strategies of integrated learning in dance learning with Biology (2) explaining the results of integrated learning in art learning on basic movements with movement system biology lessons. The research method used classroom action research (CAR). The research was conducted in two cycles in 6 meetings: planning, implementing actions, observing, and reflecting. The sample used was 30 students at SMAN 2 Cibarusah, Bekasi Regency, West Java. Data was collected through the application Google Classroom based on experiences, attitudes, student skills tests, and documentation. This study concludes that learning the integration of dance and biology better understands the body optimally, namely, basic dance movements and body movement systems. This is evidenced by the learning achievement at the beginning (25%) and at the end (75%) which means an increase of 50% in understanding the movement system in the body used for dancing.

Keywords: *Basic movement, Movement system, Integrated model, Integrated learning.*

1. INTRODUCTION

Nowadays, in the industrial era "4.0" learning is expected to provide more opportunities for students to be creative, solve problems, optimize literacy and numeracy skills, collaborate, and think critically. The various approaches, strategies, and methods used by educators must allow students to have their own choices adapted to students' creativity. Moreover, in High school (SMA) education, the problem of learning Arts and Culture, wildly dance with primary motion material, is often inappropriate because of a lack of understanding of the functions of body parts.

While in Biology learning, there is material about the motion system consisting of muscles, joints, bones, and the skeleton is called a passive locomotion tool, and the muscles that move the skeleton are called active locomotion. Some joints have a specific function: swivel joint, ball joints, art saddle, and hinge joints.

In practice, the two materials can be combined so that students in high school, especially for class XI, can define the movement system in the body and how to apply it through dance lessons, namely basic dance movements that use the body such as the head, hands to feet so that it does not happen injury. Moreover, in art lessons, each movement has a function. Examples of basic dance movements are the *ukel* which moves the wrist, and in the motion system for biology lessons, the use of rotating joints due to rotational or rotating movements. When students apply it, they do not experience errors and can avoid injury to their hands.

Thus, the purpose of this research article is to describe the results of classroom action research on the use of integration strategies for learning dance and biology at the high school level. This learning has the characteristics of Integrated Learning. Hilda and Margaretha [1] suggest specific characteristics of integrated learning, as follows: 1). Holistic, an event that becomes the center of attention in integrated learning, is studied from several fields of study at the same time to understand a phenomenon from all sides. 2). Meaning, the relationship between other concepts will add to the meaning of the concepts learned, and it is expected that children will be able to apply their learning acquisitions to solve real problems in their lives. 3). Active, integrated learning is developed through a discovery-inquiry approach. Students are actively involved in the learning process, which can indirectly motivate children to learn.

The problem's background raises the following questions: (1) How is the learning process of *integrated* learning between art and biology lessons with motion system material? (2) How is the level of students' knowledge about the motion system through integrated learning between art learning Biology lessons on the material system of motion? This study aims to (1) describe an integrated learning strategy between art and biology; (2) analyze the results of integrated learning in art learning in basic motion with biology lessons in motion systems.

According to Trianto [2], in this model, the *integrated model* combines several different topics or teaching materials, but the essence is the same in a particular theme. This model departs from the overlapping concepts of experience, skills, and attitudes that require multidisciplinary integration. It is necessary to have a theme viewed from various disciplines in solving problem topics. This model requires a form of curriculum organization.

This model is integrated learning that uses an interdisciplinary approach. This model is attempted by combining fields of study by setting curricular priorities and finding overlapping skills, concepts, and attitudes in several fields of study. In this model, related and overlapping themes are the last thing educators want to find and choose in the program planning stage. The first time educators select the concepts, skills, and attitudes taught in one semester from the field of study, then select several concepts, skills, and attitudes that have close and overlapping relationships among various fields of study. According to Jhoni Dimyati [3], Briefly, *integrated learning* is a method that fosters students to work together in material or learning quickly by using cooperation or social interaction with students' activeness. Students work together to build the same understanding and concepts during collaboration to solve each part of the problem or task. The teacher's role in the collaborative learning model is as a mediator. The teacher relates new information to students' experiences with learning in other areas, helps students determine what to do if students have difficulty, and helps them learn how to learn.

As written by Istiana [4], the effect of the integrated science learning model type *Integrated learning* on improving the learning outcomes of junior high school students where learning outcomes have increased cognitive, affective, and psychomotor learning outcomes

2. METHODS

This study used qualitative data analysis to explain the phenomena that occur in the research results. It was used to determine the collaborative learning process of learning art and biology. This research was included in the type of classroom action research (CAR). PTK means design used the model developed by Altrichter et al. [5] namely: (1) planning, (2) action (3) observation (4) reflection.

The participants in this study were students of class XI MIPA at SMAN 2 Cibarusah. 30 students. Data collection was done by class action and skill test through *Google Classroom*. Students fill in according to the learning that has been done during the lesson, namely collaboration. Furthermore, the instrument in the study was an interview, namely the field of the school curriculum.

The independent variable in this study was the model *integrated learning*, and the dependent variable was the collaborative learning of art, culture, and biology. Moreover, the indicators in Biology learning are motion systems and cultural arts learning, especially dance, namely the basic movements of the dance.

The data analysis in this research was to describe the students' skills before implementing the action. Qualitative analysis is used for qualitative data in the form of observations and student skills test results. Data in the form of test scores were analyzed by finding the average and percentage so that the improvement of students' skills can be seen.

3. RESULTS AND DISCUSSION

3.1. Integration of Art Learning with Biology in Cycle I

3.1.1. Planning

This study purpose, planning action research that will be carried out to improve the skills of basic dance movements by the movement system, namely muscles and joints. By product, the indicator of student success will be seen from the score of the assessment results in the individual assessment guidelines.

The following is the action plan that is carried out in the implementation of the action.

- Researchers and teachers as collaborators equate perceptions and plan to learn designs after identifying problems that arise
- Researchers and teachers plan an integrated model *of learning*
- Determining the theme for students, namely the basic movements of dance with a motion system
- Determine the steps for implementing learning with media *google classroom*
- Determine the time for conducting research, which is 6 x 45 minutes (3 meetings)

3.1.2. Implementation

The implementation of the action with the learning model is integrated learning expected to improve aspects that are still lacking based on the results of the action test. The implementation of the action was carried out for 3 x meetings. The description of the implementation is as follows.

3.1.2.1. Meeting 1

At meeting 1 the teacher explained the art material, namely traditional basic movements, by explaining the model *integrated learning*. The teacher also explains the steps and allows students to ask questions about the model. The details of the activities at this first meeting are as follows:

- The teacher gives a code *google classroom* with traditional basic motion material
- The teacher provides the material with video learning media for male and female basic dance movements
- The teacher gives a review of the basic movements of the head, hands, and feet
- Students discuss the basic movements of dance using body parts of the material on *Google Classroom*
- Students present the results of the discussion in a large class

3.1.2.2. Meeting 2

At meeting 2 the teacher explained biology, namely the movement system, by explaining the names of traditional basic movements. The teacher explains the steps and allows students to ask questions about the model. The details of the activities at this first meeting are as follows:

- The teacher continues by using *Google Classroom* with material on the body's motion system
- The teacher gives names to the movements, namely *ukel, godeg and adeg-adeg*.
- Students try to the movements *ukel, godeg and adeg-adeg*. by using the muscles and joints in the body
- The teacher gives the task of combining dance movements with the motion system

3.1.2.3. Meeting 3

At meeting 3, students analyze the basic movements of dance with a motion system. Students discuss motion using the functions of joints and muscles in their bodies with exercises. Furthermore, the teacher gives assignments with LKPD (student worksheets) on the *Google Classroom* with individual assignments.

3.2. Result of Learning Classroom Action with Integrated Learning Cycle I

3.2.1. Meeting 1

At meeting 1 the teacher explained the art material, namely traditional basic movements, by explaining the model *integrated learning*. First, the teacher explains traditional dances in Indonesia with students being asked to name traditional dances in Indonesia (Figure 1).

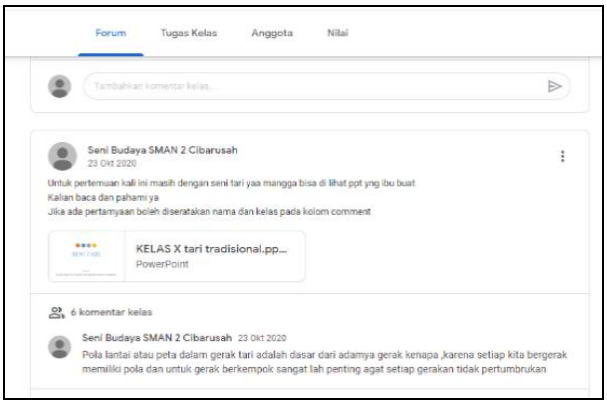

Figure 1 Learning material the basic movements of traditional dances.

At the first meeting, students were given cultural arts material in the *google classroom* with basic dance motion materials by providing videos of the dance moves of the girls and boys in the poses or movements. Students are asked to analyze motion by moving their body with exercises to move the motion. When students did move the motion, they are still very stiff and do not know the motion's name.

3.2.2. Meeting 2

At meeting 2 the teacher was given a movement that uses the head, feet and hands. Students are asked to describe and direct the motion they are analyzing. When students did, the teacher provides corrections by asking students to move by feeling the muscles and joints in the body. After the students move it, the teacher reviews the names of the basic movements they move, namely *godeg* on the head, *ukel* on the hands and *adeg-adeg* attitude on the feet (Figure 2).

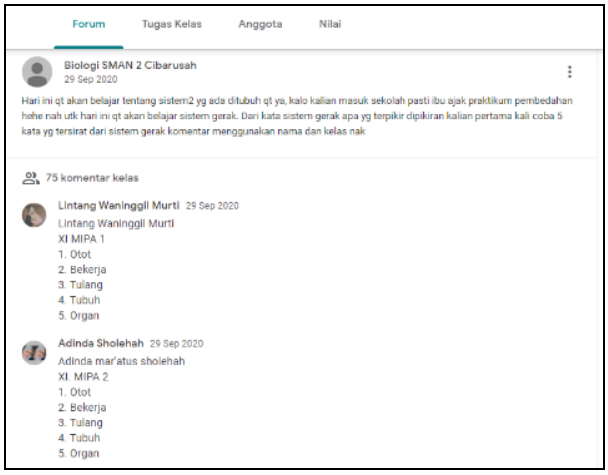

Figure 2 *Integrated learning* of motion system material namely joints and muscles with basic body movements.

After students move well, there was no forcing pain when moving their bodies, the teacher gives reflection, and the results of student observations show that students are not mistaken by moving the muscles and joints in their bodies.

3.2.3. Meeting 3

Students describe the movement of muscles and joints with the names of the movements, namely *ukel, godeg and adeg-adeg in google classroom* (Figure 3-5).

Figure 3 Godeg head movement (motion *synarthrosis*).

Figure 4 Footwork *adeg-adeg* (hinge joint with thigh muscles).

Figure 5 Hand movement *ukel* (ball joint and swivel joint)

3.2.4. Reflection

At the final stage in cycle I, meeting 1 to 3. Reflections on research conducted by collaborator reflection after the observation are based on achieving success indicator of study.

first cycle, students are already moving their body with the function of joints and muscles during exercise movement; move male and female. It can be seen from students' enthusiasm to move appropriately and correctly in the joints and muscles.

3.3. Result of Learning Classroom Action with Integrated Learning Cycle II

3.3.1. Meeting 1

Students were given material about the movement system at the first meeting, namely the function of muscles and joints in the body. Moreover, students are asked to move the head, hands and feet freely or widely. Then when the student did, the student analyzes which body parts can be moved and not or active and passive motion.

3.3.2. Meeting 2

At the second meeting, students were given a video about the basic movements of male and female dances, and then students analyzed the movements of the head, hands and feet, and students trained the body with muscle and joint functions at the first meeting

3.3.3. Meeting 3

Students describe the movement of muscles and joints with the names of the movements, namely *ukel, godeg and adeg-adeg in google classroom* (Figure 6).

Figure 6 Integrated learning education art dance and biology education.

3.4. Limitations of the Study

From the results of the study, the following can be drawn. Solutions for collaborative learning between Art and Biology learning in class XI students (1) theme/topic, holistic, meaningful, authentic, active (2) student mastery in learning dance moves in art (25%), learning motion systems (75 %). that is, students of class XI in Biology learning have mastery in learning the motion system.

Art learning 25% does the movement incorrectly because every hand, head and foot movement the position is not good and eventually causes injury to the muscles or bones. In addition, 75% of Biology learning was obtained in students for mastery of the movement system in muscles, joints, and bones. Thus, students can apply it to the body so that it will be moved in art learning.

In the results of collaborative learning with the model, *integrated learning* 95% of students are able to apply motion well and there is no injury to the body. The obstacle for students is flexibility which is still lacking in every move.

4. CONCLUSION

From the results of the study, it can be concluded that the results of collaborative learning with the method *Integrated learning* can solve learning problems effectively and are interrelated from each lesson. In addition, for the material from Biology and Art studied, students will use their limbs well and will not cause injury to the limbs when dancing. The convenience of collaborative learning is to use the suitable theme and the relevance of each lesson.

REFERENCES

[1] K. Hilda and S.Y. Margaretha, Implementasi Kurikulum Berbasis Kompetensi. Bandung: Bina Media Informasi, 2002.

[2] T. Trianto, Model pembelajaran terpadu. Jakarta: Bumi Aksara, 2010.

[3] J. Dimyati, Metodologi Penelitian Pendidikan dan Aplikasinya pada PAUD. Jakarta: Kencana Cipta, 2013.

[4] A. Istiana, “Pengaruh Model Pembelajaran IPA Terpadu Tipe Integrated Terhadap Peningkatan Hasil Belajar Siswa SMP,” Universitas Negeri Semarang, 2016.

[5] H. Altrichter, S. Kemmis, R. McTaggart, and O. Zuber - Skerritt, “The Concept of Action Research,” Learn. Organ., 2002.