

# Improving the Quality of Adaptive Health Education Services for Disabled Students

(Influence of media in the use of volleyball games on courage and the results of down passing learning of deaf students)

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**Abstract**—The aim the present study is to investigate the use of media in volleyball match on deaf students' courage and learning output in underarm pass in Sekolah Luar Biasa Citeureup Cimahi. The method used is experimental research. The present study involved 12 students consisting 6 students in the experimental group and 6 students in the control group. To measure students' courage observation sheet was used while learning output is measured by a volleyball underarm pass test. Analysis data using paired test or t test. Furthermore, an independent sample test was tested to see the difference between the use of media and without the use of media. The results of data analysis using hypothesis testing on the courage variable in the experimental group  $H_0$  is rejected. Furthermore, the learning output passing variable in the experimental group  $H_0$  is rejected. The data analysis then uses a different test on the courage variable then  $H_0$  is rejected. Then in the learning output under passing variable  $H_0$  is rejected. The conclusion of this study is that there is an influence in the use of parachute as learning media towards courage and learning output of volleyball under passing of deaf students. Furthermore, the use of parachute learning media is also better than without using parachute learning media on the courage and learning output of volleyball under passing of deaf students.

**Keywords**—*quality of service; adaptive care; disable student*

## I. INTRODUCTION

Physical education is a type of education. Physical education is an education process through physical activities, game or sports desirable to fulfil educational goals [1]. Additionally, Physical education is an education process which utilize physical activities planned systematically with the purpose of developing and organically improving individuals,' neo-muscular, perceptual, cognitive, and emotional aspects as a part of national education system [2].

Similar with the physical education typically implemented to other normal students, adaptive physical education is implemented to facilitate students in comprehending how humans move and how to move safely, efficient, and effective. This is because a movement is humans' basic needs, and without movement humans will not be able to survive in either

aspects of health, physical, mental or intellectual development. The goals of adaptive physical and health education for the disables is similarly holistic as that of the physical education for normal students [3]. It is aimed to improve physical growth and development, movement skills, social skills and intelligence. There are some categories of disable students (ABK) based on their disabilities. Has categorized the types of disability especially distinguished from the physical aspect, in this case, impaired sight, hearing, speaking, mental disorder, physical handicap, emotional disorder, epilepsy and obesity [3].

Tunarungu is a general term referring to difficulties in hearing from the lowest to the highest level, categorized into deaf and impaired hearing [4]. Someone who has impaired hearing will experience a decrease in hearing ability. It could be partial or complete, which has a complex effect in their life. Impaired hearing will disturb activities. Because of this, they get social problems in their personal and interpersonal life.

A deaf student is an individual who is hampered when accessing information through sense of hearing so that it affects their ability to use language. Disabilities in language, speech and communication disorders are the most common types of disabilities in early childhood. This is not surprising given that language, speech and communication delays are often comorbid with other disabilities [5].

A learner with hearing disability can still actually do activities like normal people, because it is not a disability to learn. However, their hearing disability, significantly affects their spoken expression and hearing process both in interaction and learning process. As a result, a learner with hearing disability will feel isolated from their group which causes passiveness in interaction.

Basically teaching and learning activity is a communication process. This process of conveying message must be created through delivering and trading messages between teacher and learner. Through communication process, message or information can be delivered and received. To avoid misunderstanding in communication process, there should be a

supporting aid to facilitate communication process which is called teaching media.

Teaching media is an aid in teaching and learning process inside the class and outside the class. Teacher needs media to help their task in conveying message about the materials to the learners. Teaching media include materials, people, tools or phenomena which are able to create a certain condition by which learners can develop knowledge, skills, and attitude [6]. Teaching media contains information which will be sent by the to the receiver of the message.

Teaching media is reliable in teaching and learning because when it is used in the classroom, the students are active and enthusiastic in learning process, thus producing and improving students' learning output effectively [7]. In line with this, the use of appropriate media increases learning output, otherwise, if the media is not suitable with the learner's level of ability, it will become one of the causes of mistakes on basic movement being taught.

Teaching media in the present study is defined more specifically as a media in a form of parachute. Parachute as teaching media is used to create a fun and interesting game which is available for all ages. The game should not have an element of competition or harm on the learners, but packaged as interesting as possible. The aim of this game is to explore the learner, in this case, deaf students to more courageous and actively participate in the learning activities.

Parachute games are an exciting way to develop cooperation skills, self-confidence, empathy, communication skill and emotional literacy. In addition, they are incredibly fun [8]. It was explained that the parachute game is an interesting way to develop cooperation, confidence, empathy, communication and emotion. The advantages of parachute game can motivate students to socialize, develop communication, and facilitate learning necessary life skills, such as sharing, building friendship, solving problems, waiting, turn-taking, and so on [9].

The game of parachute play was chosen because of its fun gameplay and its ability to involve all students in groups with their respective colourful parachutes. Parachute play provides students with the opportunity to develop social, motoric, and sensory skills. Moreover, parachute play also gives deaf students chances to explore themselves, and be more courageous to play with their peers. In making students to be more confident should involves many aspects such as giving students chance to explore the desired activities, choose what they want, explore their feeling, and gives moral support to be more courageous to participate in the activities and play with their peers [10].

Several studies about the influence of teaching media conducted by Emma J. Larson and Joshua D. Guggenheimer entitled "The Effects of Scaling Tennis Equipment on the Forehand Groundstroke Performance of Children", dealt with elementary school students aged 7-9 years old in learning tennis. The tennis equipment was modified from the actual tennis equipment size. This includes racket weight, racket size, field size, and ball type. The result showed that "Of the minimal research available pertaining to tennis modifications,

results show modest evidence that LC tennis balls, scaled courts, and scaled equipment influence how children progress, perform, and learn the game of tennis". It means that decreasing the size of the tennis equipment influences student's performance in a tennis match [11].

A similar study was conducted by José L. Arias entitled "Influence of Ball Weight on Shot Accuracy and Efficacy Among 9-11 Years Old Male Basketball Players" [12]. The study involved 54 students aged 10 - 13 years old. They are divided into three groups. The first group learned shooting in a basketball game using a ball which weighs 485 gr, the second group used heavier ball which was 540 gr, and the third group used a modified ball lighter which is 440 gr [12]. The findings showed that the ball was used as a modified media in such a way that the lighter ball influences students' accuracy in shooting a ball

## II. METHOD

### A. Research Design and Participants

This study, the research design used in the present study is experimental research. This design is used to investigate whether the proposed treatment has any influence on deaf students' courage and learning output in volleyball underarm pass. Participants involved in the present study are deaf students in Sekolah Luar Biasa Citeureup Cimahi. The present study employed saturation sampling. The number of samples is 12 students. An experimental group is formed, consisting 6 students while a control group consists of 6 students. The experimental group was given a treatment in a form of parachute as media in teaching volleyball underarm pass, while the control group was given the conventional treatment.

### B. Instrument

Researchers designed the design of audio-based to measure students' courage, a courage observation test was employed. The test was adapted from Meirani [13]. Meanwhile learning output was measured by an assessment of movement in volleyball underarm pass adapted from Nurhasan [7].

### C. Treatment

Experimental group was treated by the use of a game with parachute, while the control group was told to do a regular exercise without parachute. These treatments were given three times a week on the experimental group and the control group.

### D. Data Analysis

Data used in the present study are primary data, which is obtained or collected directly from the source of the data. Data were collected from the field by conducting a test, in this case, the test of courage and basic movement skill of underarm pass. Data were tested by a paired test to calculate the influence of the use of media on deaf students' courage and learning output. Meanwhile the independent sample test is conducted to see the difference between the effect of the game with parachute and without parachute on courage and learning output.

### III. RESULTS AND DISCUSSION

#### A. Results

The analysis computation using hypothesis on the courage variable in experimental group, there is a value of  $t = 5,071$  and value of  $\text{sig} = 0,004 < 0,05$  therefore  $H_0$  is rejected, then it can be concluded that there is an influence of teaching media with parachute on students' courage in volleyball underarm pass. Hypothesis testing is done further on the learning output in volleyball underarm pass variable. There is a value of  $t = 17,676$  and value of  $\text{sig} = 0,000 < 0,05$  therefore  $H_0$  is rejected, then it can be concluded that there is an influence of teaching media with parachute on learning output in volleyball underarm pass.

The analysis of calculation further involves the testing of difference in independent sample test on courage variable, there is a value of  $t = 3,308$  and  $\text{sig} = 0,008 < 0,05$  therefore  $H_0$  is rejected, then it can be concluded that there is a difference in the influence of teaching media with parachute and the conventional learning on students' courage in volleyball underarm pass. Furthermore on the learning output in volleyball underarm pass variable there is a value of  $t = 9,774$  and  $\text{sig} = 0,000 < 0,05$  therefore  $H_0$  is rejected, then it can be concluded that there is a difference influence teaching media with parachute and conventional learning on learning output in volleyball underarm pass.

#### B. Discussion

The findings referring to data, data processing and data analysis have been presented in the previous section. It shows that overall it was concluded that there is a difference in influence on the sample group with parachute as media and the group without parachute as media on courage and learning output in volleyball underarm pass. Present study revealed that the use of parachute as media in volleyball match can improve deaf students' courage.

Teaching children to be more mature while accompanying things such as giving students opportunity to explore, gives option to choose, gives moral support to be more courageous to join activities and play with their peers [10].

In the present study, a certain parachute was used as the teaching media in learning. The modified parachute was positioned to be close to the students' heart which is modified into various colours. It was intended to make the students think that it was supposed to be a regular game. Regarding the parachute play which can improve students' courage, according to According to Mosley J & Sonnet H. explained that "Parachute games are an exciting way to develop cooperation skills, self-confidence, empathy, communication skill and emotional literacy. In addition, they are incredible fun" [8]. It was explained that parachute game is an interesting way to develop cooperation, confidence, empathy, communication skill and emotional skill. Besides, parachute game is extraordinarily fun.

In the second hypothesis testing, it was revealed that there is an influence of the use of parachute as media in volleyball match on deaf students' learning output in underarm pass. Sudjana argued that the use of the appropriate media can

improve learning output, otherwise if the use of media is not appropriate with the students' level of ability, it will be one of the causes of mistakes in basic movement being taught [14]. In line with this, according to Stewart & David Alan "Involvement in sport activities has a prominent place in the deaf communication, with participant experiencing benefits not only in the physical sense but in other personal dimensions" [15]. Stewart argued that involvement of deaf students in sports activities not only result in an advantage in their physical activities but also in other dimension, which is personality [15]. It was also supported by the findings from Tarigan, physical education in coastal area using scientific approach is affecting toward improvement of the creativity and physical fitness of the student [3].

In the third and fourth hypothesis testing, the result of the analysis shows that there is a difference of influence between the use of teaching media and without the use of teaching media on courage and learning output in volleyball underarm pass on deaf students. It can be said that there is a significant difference between the group taught with teaching media and without the teaching media. The difference can be seen from the group with teaching media gained higher increase than the group without teaching media both on courage and learning output in volleyball underarm pass. According to Goldstein, the advantages of playing a game can be categorized into three aspects [16]. They are emotional (playing a game can decrease fear, anxiety, create happiness, openness, tranquillity in facing problems), social (playing a game can improve empathy, non-verbal, attention, and interpersonal relationship), and physical (playing a game can improve the immune system and cardiovascular system, relief stress, and improve movements). Playing a game promotes brain development and exploration, language skills, social skills, physical skills, and creativity as stated by Nespeca [17]. While playing, children learn about their world, acquire skills necessary for critical thinking, discover how to solve problems, and develop self-confidence. Play encourages healthy brain development while fostering exploration skills, language skills, social skills, physical skills and creativity. It was also supported by Tarigan "that physical education done by applying scientific approach in mountainous area effects the creativity and physical fitness" [18]. Therefore, physical education with scientific approach will have effects on creativity and physical fitness.

#### C. Limitation

The main limitation in the present study is the small sample size and the deaf students' limited time to do be involved in the research.

### IV. CONCLUSIONS

The present study revealed that the use of teaching media in a volleyball match influences deaf students' courage and learning output in underarm pass. Furthermore, the use of teaching media yield better results than without the use of media on in improving deaf students' courage and learning output in the volleyball underarm pass.

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