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Research Article

Enhancing Student's Performance in Arnis Using Teachers' Made Instructional Video

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Abstract: This study measured the Effectiveness of Instructional Video in Teaching Arnis among Grade 7 students during the third quarter of the Academic Year 2020-2021 at Gulod National High School. This study aims to help the MAPEH teacher in enhancing their strategies in teaching Arnis. This is also to motivate the learners to learn Arnis and to showcase Filipino martial arts since most of the youth today are engaged in multimedia. This study is a Quasi-experimental design that has two groups, the Experimental Group, and the Comparison Group. The respondents of the study were composed of 36 males and 30 females of grade 7 under the Physical Education class of Gulod National High School, Cabuyao, Laguna.

The respondents were clustered into two groups that consist of 18 males for the experimental group and 18 males for the comparison group, while females were 15 in the experimental group and 15 for the comparison group. Descriptive statistics such as frequency count, percentage, weighted mean, and standard deviation were used in the study.

The analysis has been detected that there is a significant difference in the performance in the pre-test, formative and posttest mean obtained by experimental and comparison groups. It is suggested for further study to determine the effectiveness of flipped classrooms or digital platforms on the academic performance of the students. But in addition, the study on students' critical thinking, learning experiences, motivation, and the likes will not only be in Physical Education subjects but also in other subjects.

Keywords: Instructional Video, Effectiveness, Arnis.

Introduction

Educators are always looking for new ways to improve how students learn. Physical education is one area that has been studied to learn more about how students learn (Taylor, 2012). Many aspects of Physical Education have been studied, with each yielding a variety of positive and negative results that provide educators with information to help them better understand their students.

The Department of Education Implements K-12 curriculum which generally states that it was made relevant for the learners by means of contextualization and enhancement. The lesson must have geared towards proficiency and holistic of development for the 21st century learners.

Arnis/Kali/Eskrima was originally developed for combat and self-defense by the natives of the islands. At times, these weapons have been used as farming tools. Although Arnis/Kali/Eskrima practice was strongly discouraged, it persisted and was kept alive through indigenous ritual dance, performance, and mock battles. As a result, families passed down the arts from successive generations, they honed their expertise, quickness, consistency, and agility.

Arnis, Kali, and Eskrima all of them thought to be variations of the same art, with variations depending on area, language, and type with training provided. Furthermore, any of the requirements listed might focus on a specific element of training.

One perception holds that, Kali is the mother art of Arnis and Eskrima. Arnis specializes in knives, as well as daggers, swords, and other bladed weapons. Eskrima is based on the use of a baston, also known as a stick. It has also grown in popularity in the sport of full-contact stick fighting.

On December 11, 2009, President Gloria Macapagal Arroyo signed Republic Act 9850, designating the indigenous Filipino martial art Arnis as the Philippine National Martial Art and Sport (Lawphil, 2009). This worldwide recognition represents a change in the progression to educate, enhance, and propagate Filipino martial arts not only between Filipinos, and moreover throughout the world. Ethnic Filipino combative arts have become an impactful part of Filipino civilization, and then as a need and to battle invaders and as a culture and heritage and leisure activity. Whereas in other martial arts styles, this same value of history and cultural advancement is strongly reflected among Filipino Martial Arts people taking part (FMA). The heavy emphasis on looking at historical events, classic weapons training procedure is one indication of this. The vast majority of FMA systems begin weapon training immediately.

When separated by level of instruction, the only difference between educators in the Philippines is their teaching styles. Teachers in elementary grades primarily employ the student practitioner professional skills and emphasizes interaction between students and teachers. Furthermore, among other teaching styles, educators in the tertiary grade level demonstrate more formal authority. Educators engage in a wide range of professional activities, including professional development programs Drills and similar activities, studies, technology utilization, teaching and learning advancement, programs, and achievements are examples of such activities. To meet the demands of students, it is also necessary to strengthen values and attitudes and to become more student-centered (Domingo, 2012).

The curriculum of a in terms of in a higher education context, who, which one, as well as how to deliver, a new educational program becomes an issue and difficulty. The teacher holds a strategic position in school systems because he or she is directly involved in the instructional process in the classroom. For one thing, he or she bears the responsibility of transforming the curriculum into a concrete learning experience (Domingo, 2012).

Arnis is a physical education (PE) program, it is regarded as an important component of the educational process because it helps students develop physically, socially, morally, and intellectually. Furthermore, Presently, the Philippines implementing the new K to 12 Basic Education Program mandated by Republic Act No. 10533, with the goal of strengthening the curriculum. Instructional process using to achieve the positive results or outcome in terms of intelligence acquired, new skills, and attitudes changed based on previous studies, teaching styles should be used. As a result, this study is important for being in a stronger starting point corrective indicator or to find a different way to achieve results the circumstance.

Therefore, the researcher would like to improve students' performance in arnis to help them become better and more competitive students and it will also benefit their overall well-being.

Background of the Study

As part of the school curriculum, Gulod National High School offers specific Sports Development programs such as Arnis, Basketball, Badminton, Volleyball, and others, in which student athletes are given opportunities to pursue sports career pathways as players, coaches, or ancillary sports practitioners. In today's 21st century, The Department of Education (DEPED) of the Republic of the Philippines implemented the "K to 12 Basic Education Program." Specifically, the current study

proposed a single set of instructional videos that included historical knowledge. about arnis, the fundamental skills, and striking techniques. This was to assist Mapeh teachers in teaching arnis in such a way that students would be motivated to learn while also developing a strong interest in learning and knowing how to use self-defense. This research will be conducted in Gulod National High School.

According to the Physical Education Curriculum Guide (2013), students must progress in their comprehension of the "why" of movement, which is accomplished by cultivating more mature movement patterns and motor skills in a wide range of exercise, sports, and dance activities in order to specifically improve fitness parameters. Skills in movement, motor control, and activity-specific abilities are all part of physical literacy. Physical literacy is the foundation for levels of physical activity for the rest of one's life, which is essential for preserving and improving outcomes. The guide went on to say that students must learn how to build experience and abilities to plan, set goals, and evaluate their participation in physical activities (exercise, sports, and dance). This entails providing activities that are currently underway as well as appropriate behavior for students will practice, create, apply, and evaluate the knowledge, awareness, and skills order to sustain and improve their own fitness and Regular physical activity helps to improve one's self-fitness and health as well as the fitness and health of others. (Source: DepEd Physical Education Curriculum Guide, 2013).

In the curriculum guide mentioned above, the Physical Education subject for Grade 7, one of the learning strands stated is about sports like badminton, arnis, table tennis etc. These strands assist and optimize the learner's potential health and well-being, as well as contribute to the development of healthy, active communities.

Meanwhile, according to Domingo (2012) that when teaching diverse students, it is sufficient to impart norms and behaviors, equal concern and weight. To adapt to the challenges of curriculum design and instruction, physical education and coaches must be self-reflective about their habits and also their learners' preferred teaching method and pedagogical objectives. Future researchers must conduct research on educators' teaching styles in order to meet student demand and prepare for effective curriculum planning and implementation. One of the primary goals should be to measure and assess requires, patterns, and belief system of teachers' teaching performance.

The importance of martial arts to the youth is that it serves as the opportunity to have their body and mind healthier, creative, and productive (Domingo, 2012).

The study's findings may be useful to different portions of education and the community in terms of intellectual, highly qualified, outdoor recreation, and sporting activities decision making, not to consider physical education classes which are critical for the Filipinos is expected to be an intellectual powerhouse in the world of martial arts.

Theoretical Framework

Theories make internal personality concepts events relation to teaching descriptive. First, the study was anchored on Albert Bandura's (1952) Social Learning Theory, which highlights the importance of the stimulus-response connection, which includes self-instruction. Bandura promotes "Self-Efficacy," which refers to students' ability to complete a task.

Secondly, Dekeyser (2007b) the Skill Acquisition Theory "is that learning of a wide variety of skills shows a remarkable similarity in development from initial representation of knowledge through initial changes in behavior to eventual fluent, spontaneous, largely effortless, and highly skilled behavior, and that this set of phenomena can be accounted for by a set of basic principles common to acquisition of all skills" (p. 97). Utilizing of multimedia can arouse the interest and active participation in class discussion. This theory of Dekeyser served as the guiding principle for the

researcher to think and decide on possible contents of the instructional materials. For Dekeyser believed that the type of learning in which repetition results in enduring changes in an individual's capability to perform a specific task.

Furthermore, this study is also anchored on the Cognitive Development Theory of Jean Piaget (1936), a French-speaking Swiss theorist who stated that children learn by actively building knowledge through hands-on experience. Theories mentioned is relevant to the study since the researcher would like to enhance student's performance in Arnis through utilization of multimedia.

Conceptual Framework

The study used an Independent Variables (IV)-Dependent Variables (DV) model of research paradigm to present the flow of the study's concepts.

Research Paradigm

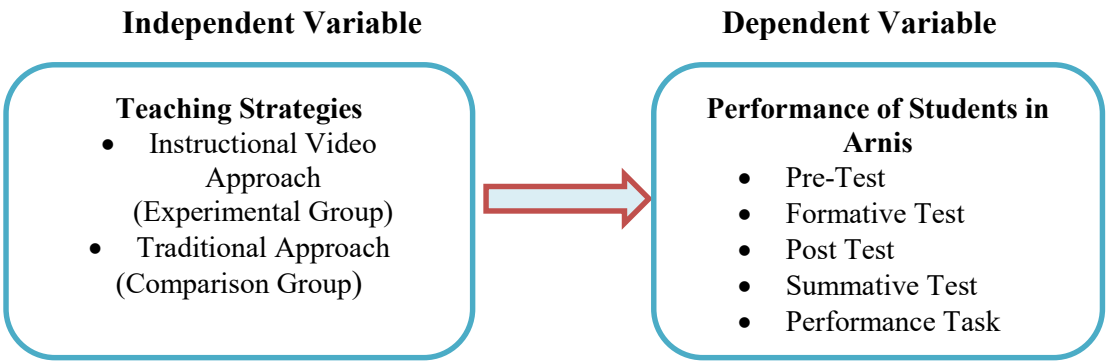

Figure 1. Research Paradigm

The research paradigm shows the independent and dependent variables of the study. The independent variable consists of instructional video approach (experimental group) and the traditional approach (comparison group). While the dependent variables were the performance of students in arnis through pre-test, formative test, posttest, summative test, and their performance task.

Statement of the Problem

The purpose of this study is to determine the effectiveness of teacher-created videos in improving students' performance in Arnis among Grade 7 students at Gulod National High School.

It sought to answer the following questions in particular:

1) What is the mean score of Grade 7 students taught with the aid of instructional video approach and traditional approach in their pretest, formative test, posttest, summative test, and performance task?
2) Is there is a significant difference between the formative test mean scores of the two groups of students?
3) Is there is a significant difference between the posttest mean scores of the two groups of students?
4) Is there is a significant difference between the summative test mean scores of the two groups of students?
5) Is there is a significant difference between the performance task test mean scores of the two groups of students?
6) Is there is a significant difference between pretest and posttest of each group?

Hypothesis

1) There is no significant difference between the formative test mean scores of the two groups of students.

2) There is no significant difference between the posttest mean scores of the two groups of students.
3) There is no significant difference between the summative test mean scores of the two groups of students.
4) There is no significant difference between the performance task mean scores of the two groups of students.
5) There is no significant difference between pretest and posttest of each group.

Significance of the Study

The study is beneficial to the following:

- ✓ It will understand the significance of the MAPEH subject in relation to all other learning areas covered by its curriculum on child development and will enhances traditional methodologies. The students will then reconsider the importance of physical development in relation to National Martial Arts in the Philippines.
- ✓ The study's findings provided MAPEH teachers with the necessary motivation to encourage students to promote their learning and actively participate in class discussions. A School as a home of learning where the student's skill is developed and nurtured, the school will be able to send participants in arnis competition initiated by the Division of Cabuyao.
- ✓ The instructional videos assisted students in developing critical thinking skills, social and interpersonal skills, knowledge of self-defense, and high performance in Physical Education, while also developing their talents and interest in arnis and MAPEH as a whole.
- ✓ This study may also be useful to benefit the researchers who will carry out similar studies or related research particularly in the advancement and use of instructional videos and will help them find them more effective ways in sustaining the interest of the students in arnis.

Scope and Limitation of the Study

The scope of the study focuses on evaluating the teachers' created instructional video in improving the performance of Grade 7 students in arnis.

The Grade 7 students of Gulod National High School were the participants of this study. They are the experimental group and the other one is the comparison group.

Definition of Terms

The following terms are defined conceptually and operationally for the purpose of the study.

Arnis: Kali, also known as Eskrima/Escrima, is a Philippine National Martial art. A combative sport. In this study, it refers to martial arts taught in the Physical Education curriculum in Grade 7 students.

Attitude: It refers to a consistent line of thinking or beginning to feel about somebody else, which would be clearly undertaken in a person's personality. In the study, the act or way students think as arnis as topics in Physical Education.

Comparison Group: The group of the respondents of the study who were not exposed to the instructional video approach in every quasi- experimental research. In the study, this group was not exposed to instructional video approach. It was called comparison group because its performance in the pretest, formative test, summative test, and posttest was compared to the experimental group.

Enhancement: It refers to as an increase or improvement in quality, value, desirability, or attractiveness. In this study, the improving performance of students in arnis and it can describe anything that is an improvement to the quality or value of something.

Formative Test: It refers to a short test given to the learners in every end of the lesson. In the study, the evaluation given after a discussion of a specific topic.

Multimedia Approach: It refers to the teaching and learning process, a variety of media, devices, and techniques are used. In this study, the teaching as applied in Section Hernandez. The use of instructional videos, projectors, computers, and interactive lessons in teaching arnis.

Performance Task: It refers to the ability of the student respondents to comply with their best effort in the activities facilitated by the PE teacher in arnis.

Post-Test: It refers to a test administered after a specific treatment or intervention. In the study, the evaluation given after the teacher has covered all the topics. The effectiveness of specific procedures will be determined here.

Pre-Test: It refers to a test administered prior to a specific treatment or intervention. In the study, it was the assessment of arnis skills given to students prior to the use of instructional videos on the experiment group and regular instructional material for the traditional approach. This will also be used to determine which students will participate in the current study.

Teaching Strategies: These strategies that teacher applied to assist students learning. It refers to method, system, structures, Strategies, practices, and actions undertaken by an educator throughout instruction. During the research, the leader chooses what task the learners will do in order using the targeted strategies to make this same intended learning.

Traditional Approach: It refers with the use of lecture method and using modules in teaching arnis. In the study, it refers to the teaching approach as applied in section Mallari.

Review of Related Literature and Studies

This chapter discusses related studies and literature on the impact of using instructional video in teaching Arnis.

Related Literature

The main objective of establish proper was to develop mental skills in children's capabilities in terms of acquiring discussed in details fields. This goal necessitates a course curriculum where seated knowledge and management is used is encouraged is regarded as suitable and efficient and is thus rewarded. Physical education is really the only way for all student to know about body exertion and engage in physical exercise as part of the curriculum. As previously stated, its main emphasis on educating health related education to children regarding the various forms and advantages of body movement, such as strength and conditioning, has shifted Its purpose as well as role in establish proper. Physical education has progressed into a content area with such a range of instructional objectives that promotes children's holistic development, with the largest volume of content beyond the original nineteenth-century Swedish as well as German scheme (NASPE, 2004).

The United States does not have a syllabus centralized control; rather than the federal Department of Education, National professional organizations, such as the National Association for Sport and Physical Education (NASPE), and/or state education agencies develop educational standards.; In accordance with state law, School systems or local districts make all research network on a community level. This system has an impact on physical education, resulting in a wide range of policies and curricula.

According to Taylor (2012), one of the subjects that must be taught in every school in New Zealand is health and physical education (Ministry of Education, 2007). This is the purpose to help learners develop in the areas of motor and cognitive, intellectual, and affective functioning Health and Physical Education is the primary learning domain in which students have the most opportunities for growth in all three areas. According to Taylor (2012), According to the New Zealand curriculum document for Health and Physical Education, Hauora is among the five fundamental ideas at the

heart of this topic (Ministry of Education, 2007). Hauora is a Maori word that refers to a religious, psychological, emotional, physiological, and cultural well-being of even an individual. As a result, physical education is an essential component of schooling.

Physical education (PE) as defined in the study of Haddad C. (2008) is helps achieve and occupation that tends to focus on the subject with theory and practice of body movements, with a particular Competitions, health and wellness, and recreational activities are highlighted. Haddad also defined Sports refer to four distinct types of exercise: Olympic team sports, playing sports and leisure activities, physical activity and health and wellness, as well as music and movement all are examples of activities. According to her book, "Innovative Practices in Physical Education and Sports in Asia, 2008," A global survey on PE and sports in educational institutions proves the subject's decline.: "Education system, partial replacement, topic status, component parts, physiological and capital funds, ethnic background and having to learn difficulty issues, as well as performance and training program distribution, were all deficient. "A global survey on physical education in schools in schools confirms a decline or of the subject, according to her book, "Innovative Practices in Physical Education and Sports in Asia, 2008": "Curriculum, time allocation, subject social standing, equipment, human and financial resources, ethnicity and disability problems, as well as reliability and training course delivery, all showed inadequacies."

Haddad (2008) also stated that in going to update the a survey conducted in 2000 on the nation and condition of physical activities in schools across the country, "44 percent of the countries, PE lessons are extra probable to be called off, while 77 percent of the countries, its legal basis is comparable to that of other topics, and Its current standing is lesser in 52 percent of cases." It is estimated that 22 percent of teachers in these countries have inadequacy condition."

Taylor (2012) also stated that Physical education is essential in assisting children and adolescents develop lifelong physical activity habits. According to recent research, the number of overweight children in the United States of America has increased. Obesity levels, on the other hand, could be reduced if intervention began at a young age. This provides the opportunity for students to be as healthy as possible because it can have a positive impact on their health later in life. Education is a beacon that points humanity in the correct path. The primary objective of education is to provide students with rationale thinking, knowledge, and self-sufficiency in addition to literacy. There is always hope for advancement in any field when people are willing to change. Creative thinking can be developed, and both teachers and students can benefit from innovation (Garcia, 2011).

Educational institution that offers Arnis programs recommended emphasize a student-centered instruction approach, while also acknowledging the important he art of teaching in the complexities processes. To achieve more effective instruction and curriculum, the learning activities should be connected to the learning styles of the students. Understanding today's diverse learners an even more area to consider nowadays age is innovation that needs to be researched to yield offer different or upper limit results (Antoniou, 2009).

Educators and heads of departments must be aware of taking the lead in conducting research, utilizing modern technology, and engaging in professional engagement and development in the field of education. To make arnis teaching more effective and innovative, teaching staff should be assigned to their corresponding field of knowledge in which they are academically prepared by academic achievement authorities. When teaching diverse students, attitudes and attributes must be provided concern and weight to adapt to the difficulties of curriculum design and instruction. Instructors and teaching staff should be self-reflective own attitude as well as well as their learners' preferred teaching methods and educational priorities.

Future research must focus on the dance educators' teaching styles to meet the needs of arnis education students and to prepare for effective curriculum planning and implementation. One of the

primary goals should be to measure and assess requires, patterns, and opinions of educators' teacher effectiveness.

Physical activity is an important predictor of health outcomes across the lifespan. Inactivity raises the Heart failure, colon cancers, diabetes, hypertension, osteoporosis, depression or anxiety, and other diseases are all risk factors. According to recent research, the global population health burden of inactivity on the physical front is comparable to that of cigarette smoking and obesity in terms of mortality (Lee *et al.,* 2012).

Even so, there is a high prevalence of inactivity on the physical level has been labeled a pandemic, along with the significant associated disease risk (Kohl *et al.,* 2012).

Furthermore, more advanced education attainment and years of education both are makers and indicators of improved health status, owing to education's relationship because of better working and financial circumstances, increased Psychological and social resources, as well as the potential to live a healthy lifestyle, are required.

According to Brubaker (2011), Physical education educators are required for fostering a productive and fulfilling learning environment in their classrooms. A wholesome, healthy environment is possible to create and maintain, especially if an educator provides both positive and constructive feedback. Furthermore, students will usually respond positively to the environment if a physical education teacher is well-prepared, offers excellently tasks, and sets performance directions. Students can benefit from physical education in terms of physical, social, mental, and cognitive development. This is frequent in competitive sports, project-based outdoor adventures, major issue activities, and fitness and strength tasks (Brubaker, 2011).

Arnis/Kali/Escrima practice was forbidden, but it continued and was preserved through native ritual dance, performance, and mock battles. As a result, the arts were passed down from generation to generation in families, honing their skill, speed, accuracy, and agility.

Arnis, Kali, and Escrima are all thought to be branches of the same art, with variations depending on where you live, vernacular, as well as the type of training provided. Furthermore, whichever of the requirements listed could refer to a specific aspect of training. According to one interpretation, Kali is the mother art of Arnis and Escrima. Arnis specializes in knives, as well as daggers, swords, and other bladed weapons. The baston, or stick, is the foundation of escrima. It has also grown in popularity filled stick fighting is a game.

President Arroyo signed Republic Act 9850 on December 11, 2009, designating the traditional Philippine martial art Arnis as the Philippine National Martial Art and Sport (Lawphil, 2009). This public recognition marks a significant shift in the movement to educate, encourage, and expanded Filipino martial arts beyond the borders of the Philippines, but also to the rest of the nation. Native Filipino combative arts were always an essential part of Filipino community, mostly as a concern in order to fight invasions but now as a matter of traditional culture and recreational purposes. Unlike most other types of martial arts, the influence of history and cultural growth is clearly demonstrated to participants in Filipino martial arts (FMA). The huge focus on conventional weapons training methodology based on previous happenings is one indication of this. The large bulk of FMA systems begin weapon training immediately.

The heavy emphasis on historical event-based traditional weapons training methodology is one indication of this. Lapu-lapu is one of the most intriguing and significant historical figures in Philippine martial history. In April 1521, At the Battle of Mactan, He and his men are responsible for assassinating Ferdinand Magellan. A Venetian scholar named Antonio Pigafetta followed Magellan on his voyage of the globe and kept a detailed diary of the battle's events. Although after the initial

journal had also been lost, he decided to write an account of the expedition among 1522 but also 1525.

The Bladed Hand: Global Impact of the Filipino Martial Arts (2012) starts with filmmaker Jay Ignacio having to ask randoms at a festive celebration in the Philippines if they understand anything at all about Kali, Eskrima, and Arnis—all of which have been classified as FMA. Nearly everyone who was asked seemed to have no idea what they're talking about. This is fascinating provided that FMA has been showcased in numerous Hollywood films since the 1970s and has hundreds of practitioners globally, so much so Ignacio referred to it as "our nation's best cultural export. "Furthermore, the national government has been mobilizing FMA for nation-building since the 1970s. The Philippine Republic Act (RA) 9850, has been signed into law at same time Ignacio started working on his documentary. It became known colloquially as the 'Arnis Law. 'The Arnis Law official zed, among other things. PSC and Deped is creating the rules and regulations necessary to carry out Act's regulations. The Arnis symbol was integrated into the Philippine Sports Commission's official seal, and Arnis was recognized as the very first sporting event to be held in the annual international Olympic games recognized as the Palarong Pambansa.

Yaman (2008), explained in his study that the Arnis symbol was incorporated into the Philippine Sports Commission's official seal, and Arnis was honored as the first sports competition. The report demonstrated how technology increased student Learners' confidence and active learning were developed, and the efficacy of teachers and students in the learning setting was improved. He went on to say that many technologies that support educational environments take a natural form simulation of the environment. This allows learners to make connections between their own projects and real-world problems, allowing for authentic learning. Three components led to the increase spread of educational technology: a) preparing learners in response to the growing demand for innovation workers, b) the potential of desktop in student work, and c) this the same conviction that using desktop in the lecture hall will improve productivity.

Johnson *et al.,* (2007), shared that Children use and interact with a lot of Innovation, as per research, could be starting to cause cognitive issues in learners. Most of this research is concerned with the negative symptoms, health benefits, or issues that occur as a result of school physical education. The current research project is significant because it connects our changing society to physical education. Education is something that can be learned in a way that is extra advantageous to the students involved. This potential value may supplement the health benefits gained by students through activity.

Yaman (2008) further added that it was discovered that using the incorporation of technology into educational programs increased student interest in the equipment and acquiring knowledge. Physical education teachers have become more passionate regarding integrating the ability of technology and social media into their classroom teaching. Technology offers an environment in which students can learn autonomously that is, it creates a learners are more actively involved in the learning process in a more inclusive classroom.

Most students find accepting accountability for to make more enthralling to their own studying. In addition to serving as an instrument for learning, effective use of technology in the teaching process will result in improved understanding and skill acquisition. Technology must be viewed as a means of facilitating gaining knowledge and improving interactions with students. In this regard, the use of new technologies in physical education has the potential to be seen as a component in educating relational theoretical and practical knowledge, as well as trying to improve ability to interact and determination.

Panagiotis (2005) stated that Computer-assisted education could help students prepare to enter and succeed in a modern global workforce. As the technological key to future education, multimedia is

defined as a "potent combination of technological advances that reflects an exceptional progress in device capability to aid the education system." Interactive Multimedia (IMM) is a comparatively recent educational advancement in main, secondary, and tertiary level classrooms. Interactive multimedia is a collection of computer hardware, software, and peripheral equipment that provides a good blend of text visuals, audio, visual effects, real time video, information, as well as other information.

The traditional approach, on the other hand, is expressed in terms of the which was before relevance of learning, wherein the educators is the source of information or message, the education system is the information as well as message, as well as the student is the beneficiary of the information.

Furthermore, in a traditional approach of teaching, the classroom is described as the use of chalk and talk results in a “one-way effective communication”. Teachers frequently communicate after an hour without knowing what the students' reactions or feedback. The information brought up is founded on solely on notes from lectures and schoolbooks. The emphasis in pedagogy is on the “plug & play” strategy rather than on practicalities. The fate of the subject is determined by the lecturer's handwriting. In the classroom, there isn't enough communication with learners. There has been a greater emphasis on principle with no practical implementation and real-life situations learning through rather than remembering, comprehending marks (Source: Innovative Methods of Teaching, 2001).

“Multimedia can refer to any type of record or document, such as an audible or video-enhanced words or excel, as well as a multimedia video “Whatever it is, it is, without a doubt, the most promising educational technology.”–XiaodongWeidong (2003).

Related Studies

According to Arvid (2014) the way we live, and work is being transformed by information technology. It is influencing every aspect of our lives and way of life. Technology has advanced an indispensable component all levels of formal education. Today, a multimedia approach to higher development is vital for improving student learning. The process of education as a system has some goals to achieve, which educational technologists have designed and devised a variety of strategies, techniques, and aids to achieve the video helps is one such advancement targeted at improving teaching and learning procedure. According to Arvind (2014), multimedia enables educators to comprise information in many different of ways of variety of media. It can account for various learning styles. Furthermore, Students can take time since they need and use their own path of learning with digital media, making learning more effective and interesting. It also aids in the developing the higher order thinking abilities. Interactive multimedia motivates students and allows them to learn from anywhere, at any time.

In addition, it also helps to develop higher order thinking skills. Students are motivated by interactive multimedia, which allows them to learn from anywhere, at any time. Physical education has numerous and diverse contributions to the children's development, their future lives, and wider community. Many of the ways in which Physical Education can influence students have been investigated (Benedict, 2010). Many aspects of Physical Education research have been completed, including the effects of Physical Education on academic performance or results, the previously managed of educating Physical Education, the impact of exercise on the brain (Jensen, 2008), and the actual success of Physical Education (Morgan & Hansen, 2008). These observations on the impact of Physical Education provide a link to many research projects as well as a foundation for future research (Taylor, 2012).

According to Diaz Larenas *et al.,* (2011), facilitator teaching styles are used by public teachers, whereas formal authority educational systems are used by private high school teachers. The practitioner educational technology is the most effective in secondary level content-based subjects,

according to Aguda *et al.,* (2009). According sto Razak *et al.,* (2007), the predominant teaching styles of high school level teachers were expert, personal model, and delegator. Most high school educators who use these styles, according to Diaz Larenas *et al.,* (2011), are expected to teach in larger classes.

Based on the study of Razak *et al.,* (2007), high school teachers' predominant teaching styles were expert, personal model, and delegator. Most high school teachers who use these styles, according to Diaz Larenas *et al.,* (2011), are expected to teach in larger classes.

In addition, Bhasin (2012), incorporating Information and Communication Technologies (ICT) into the teaching-learning activities is a developing field with a range of perspectives based on one's perspective. Based on the premise that "the integration should enhance student learning," it was essential to describe an interconnected point of view in the implementation of these procedures, as well as to create some actual examples for teachers.

The incorporation message, photos, sound, and multimedia are all examples of digital media into a multisensory an engaging implementation as well as description that expresses presentation to a variety of individuals is known as multimedia. Conventional instructional methods have led to an increase in a misalignment between what students are taught and what the industry requires. As a result, many universities are changing forward into major issue learning as a way of creating graduates who are innovative, problem solvers, and critical thinkers (Damodharan, 2001).

According to Damodhadan (2001), the teacher modifies the material's content with multimedia. It will assist the teacher in representing in a more significant way besides incorporating different media features. For the final presentation, these digital elements can be converted into digital form format, adapted, and customized. Learners learn effectively when features of digital content are incorporated into the project because they employ a variety of sensory modalities, which inspires them to pay more attention to information introduced and maintain it better.

The K to 12 Basic Education Program's Physical Education Curriculum is based on the tenet "Move to Learn, Learn to Move," with the objective of achieving long-term fitness. The framework is constrained by legal and philosophical foundations, as mandated by Article IV Section 19 of the Philippine Constitution, which states: The State shall start encouraging sports programs, league tournaments, and amateur sporting events, which include international tournament training, in order to building up team spirit, and outstanding quality in order to create a citizen who are fit and alert. Every educational institution in the country must engage in regular sports activities in collaboration in collaboration with sports club teams and other sectors. This curriculum will help school-age students develop fitness, health, and wellness through the wealthy and challenging physical activity encounters provided by the program. It shall improve the health of a participatory and productive body; learning to use the body to move quickly and productively in every powerful energy, time, exertion, and assurance of quality movement. The willingness to become physiologically educated can thus assist a person in selecting and actively participating appropriate at various stages of life. Preferential and appropriate facilities are organized in full compliance with the 5 factors of learning, which also include body management, pervasive in today, physical activities, rhythmic patterns and dance, and overall fitness, to ensure the part of a positive lifestyle. The fundamental movements and abilities that form the foundation of all physical activities are referred to as motor skills. Games and sports are made up of Simple, preparatory, and native games that assist in the design of proper sporting strategies in order to prepare for higher or able to compete engagement in specific sports and activities. Fitness and strength testing, observation, and documenting, and also the design and application of quality programs to establish and improve learners' optimal physical fitness, are all type of health fitness. Across grade levels, each strand is developed sequentially. Activities are varied and age-appropriate to satisfy the needs and interests of teaching and learning, and they must provide is on that increase each learner's participation in all fitness activities for life.

Curriculum Guide for Grades K-12, as of January 31, 2012.The interconnected motion helps the designer to connect movement context with motor development as well as the use in a range of activities. The approach could perhaps require the students to implement these ideas in a variety of school-based physical education activities and in their society. This method emphasizes identifying movement potential as a means of gaining knowledge transformation and ability to understand human activity. This curriculum needs to respond to the administration's request for total support and engagement of the overall learning environment by providing supportive feedback (quality instruction), support services (facilities and materials), formal and informal partnerships (collaborative effort), as well as assistance at school and in the workplace (parents and society).

According to Dan Inosanto and Remmy Pressas, as well as Brandon “The Truth” Vera, the Philippines has never been short of martial artists or Filipino Martial Arts Schools. Almost all Filipino Martial Artists' efforts to promote their art to the rest of the globe created an opportunity for martial arts practice in the country.

Placido Yambao wrote a training manual for Arnis in 1957, which was the first book on FMA. Given that FMA claims antique origins, this is a relatively recent development. The book's introduction Arnis' historical background follows the linear history that practitioners commonly tell. Scholars' primary concern with Yambao's heritage is that it appears to lack sources for further investigative process was mainly responsible in directions for Arnis practice. Nonetheless, Yambao's pioneering work served as a model for subsequent books on FMA. This framework consists mainly of a potted history of FMA, a heritage of specific clubs, and FMA training materials, that are typically highlighted or photographed. Several FMA fans have taken up Yambao's effort to publish a background of FMA. Dan Inosanto's Filipino Martial Arts, which follows Yambao's format, is perhaps the most influential. 73 However, most of these authors are not historians. The linear past of FMA reenacted in these books borders on legend, but it is widespread taken as truth. FMA scholar Mark Wiley, including some of the early FMA academics with a formal context in sociology, stated that "...since the copy document of Inosanto's book, no one here has conducted a method of education of both the Filipino martial arts, no one has even attempted to validate several of the book's claims."'74' Nonetheless, all works are important as they provide the scant history of FMA and how it is perceived. Furthermore, because FMA groups are typically reclusive and adversarial towards others, these tends to work offer insight into how an FMA society is envisioned. Edgar Sulite's Masters of Arnis, Kalis, and Escrima is one of the best examples of this type of writing. 75 Sulite's work is mainly a transcript of interview sessions he conducted with various FMA educators across the state. His questioning elicited knowledge such as the teachers' stylistic lineages, personal and individual martial arts perspectives. Above everything else, this line with asking questions (and its responses) tells which concerns most are concerning to FMA practitioners. One limitation of Sulite's work as a historical research is that, like books that provide information about the histories of FMA, it lends credibility to its raw content as a main source. Sulite, caught up in FMA politics, really does not (or has been unable to) challenge or analyze his informants' declarations.

Students are encouraged to collaborate in groups, convey about the information in various ways, give solutions to the problems, do their own work, as well as build meaning through digital media activities. There are numerous benefits to incorporating multimedia into the classroom.

“Innovative Methods of Teaching” stated that traditional approach in teaching also reflects that essentially, the teacher instructs the educational process, delivers the content to the entire class, and emphasizes information. In other words, the teaching content is delivered by the teacher while the students listen. As a result, the learning mode is slow, and the learners play little role in their starting to learn process. Many teachers and students in most universities have discovered that the traditional approach in the classroom has restricted efficiency. In such a teaching, learners play their simple and basic role, as well as their ability to concentrate wanes after about 15-20 minutes.

Research Methodology

This chapter discusses the research design, respondents of the study, sampling techniques, research instrument, research procedures, and statistical data analysis.

Research Design

The researcher employed the quasi-experimental research design method, specifically the pretest-posttest group design.

Experimental design is a method of meticulously planning experiments ahead of time so that the results are both objective and valid. According to Patidar (2013), experimental research design is concerned with the examination of the effect of independent variable on dependent variable where the independent variable is manipulated through treatment and intervention and the effect of those interventions on the dependent variable. Patidar (2013) also added that the true experimental designs are those in which researchers have complete control over the extraneous variable and can confidently predict that the observed effect on the dependent variable is due solely to manipulation of the independent variable.

The Grade 7 sections handled by the researcher are the respondents of the study. The first group of student respondent is exposed to multimedia approach in teaching arnis while the other using the traditional approach.

Respondents of the Study

There were 36 males and 30 females' students of Grade 7 under Physical Education class of Gulod National High School, Cabuyao, Laguna. They were clustered into two groups which consist of eighteen (18) males for experimental group and 18 males for comparison group, while females consist of fifteen (15) in experimental group and 15 for comparison group. They were the students who qualified in match pairing according to sex, and pre-test result. The researcher also considered the sex of the participants on the match pairing process due to categorization in Arnis competition wherein there are male and female categories. In this study, there are blind respondents or those who are not included as respondents in the study.

Sampling Techniques

The respondents are matched paired according to their sex and pretest scores in the Arnis survey questionnaire, a standardized test from K to 12 modules.

Match pairing is a statistical technique used to evaluate a treatment's effectiveness by comparing the treated and untreated outcomes. Each treated unit is paired with a non-treated unit that has the same or similar observable characteristics to test the effect of the treatment without bias.

Research Instrument

The researcher affirmed the need to carry out the research to enhance the performance of the student respondents in Arnis using standardized survey questionnaire from the K to 12 learning modules in Physical Education. Since it is a standardized questionnaire from K to12 Learning Package, it is already validated and tested. The survey questionnaire included the criteria that assess the participation, level of knowledge and interest of students towards Arnis. It was composed of ten (10) activities wherein the respondents responded "always", "seldom" and "never" in every statement in the survey questionnaire.

Research Procedure

A request letter was submitted to the Schools Division Superintendent, through the Division Education Supervisor in secondary, to sought permission to conduct the study. A consultation and assistance of the Physical Education Teachers of the aforementioned school was done. The student-respondents were clustered into two groups using match pairing in terms of sex, age, and pre-test

results. The pretest material was a standardized test by the Department of Education found in the K-12 Learning Material.

The respondents were divided into two groups in which in the first group, the multimedia was employed by the researcher as teaching technique in Arnis while the traditional approach was employed on another group. The group who has the lowest interest in Arnis as reflected in survey questionnaire was the group who experienced multimedia approach. The scores of both group in formative, performance task, periodical test and posttest was recorded and tallied.

Statistical Treatment

The study employed descriptive statistics such as frequency count, percentage, weighted mean, and standard deviation. The performance of the students was determined using the mean value and standard deviation. The descriptive measure of the respondent in Arnis was described using the frequency count and percentage equivalent. The performance of the students was be determined using the mean value and standard deviation.

Independent t-test was used in determining the significant difference between the formative test, posttest, and performance task mean scores of the Grade 7 students in Arnis.

Paired t-test was used in determining the significant difference between the pretest and posttest mean scores of Grade 7 students in Arnis.

Effect size was included since it is simply a way of quantifying the size of the difference between two groups. It is an important tool in reporting and interpreting the effectiveness of the treatment. If the mean difference is significant the effect size will be reported using Cohen's d standard interpretation of the effect size which includes: ".8=large", ".5=moderate", ".2=small".

Presentation, Analysis and Interpretation of Data

This chapter discussed the presentation, analysis and interpretation of the data gathered.

Mean Scores of Grade 7 Students Taught with the Aid of Instructional Video Approach and Traditional Approach in their Pretest, Formative Test, Posttest, Summative Test, and Performance Task

The results of the study on the mean scores, standard deviations, and skewness of the respondents' pretest, formative test, posttest, summative test, and performance task using instructional video and traditional approach are presented in Tables 1-10.

Table 1. Pretest Mean Scores of Experimental and Comparison Groups (Male)

Group	Mean	SD	Skewness
Experimental	5.11	2.37	.208
Comparison	5.11	2.37	.208

Table 1 presents the mean scores, standard deviation, and the skewness of the pretest results of the experimental and comparison groups of male respondents.

It was shown that the result of the given pretest which was also used as basis in match pairing of the two groups of participants. As a result, the pairs of Grade 7male students were included in comparison and experimental groups. Both groups of participants garnered a mean score of 5.11 and standard deviation of 2.37 with .208 skewness.

Table 2 shows the mean scores of the Grade 7 female students in experimental and comparison groups on their pretest tests in Arnis.

Table 2. Pretest Mean Scores of Experimental and Comparison Groups (Female)

Group	Mean	SD	Skewness
Experimental	5.00	1.81	.000
Comparison	5.00	1.81	.000

As presented in Table 2, both group of female respondents posted the same mean scores of 5.0, standard deviation of 1.81, and a skewness of .000 on the results of their pretest tests. These results were also used in match pairing of the two groups of female respondents.

Table 3 presents the mean scores of the male participants in experimental and comparison groups on their formative tests.

Table 3. Male Participants' Formative Test Mean Scores Performance

		Mean	SD	Skewness
Formative Test 1	Experimental	7.72	1.36	-.059
	Comparison	6.56	1.29	.046
Formative Test 2	Experimental	7.72	1.27	-.371
	Comparison	7.39	1.46	.119

The statistical results of formative test 1 show a mean score of 7.72 and a standard deviation of 1.36 for the male experimental group with the highest score of 10 and the lowest of five. Three group members did not meet the 25th% range, another three members for the 50th%, and three more for the 75th%. The comparison group got a mean score of 6.56 and a standard deviation of 1.29, with the highest score of 9 and the lowest score of four. Three group members did not meet the 25th% range, another three for the 75th%, but all members met the 50th%.

The experimental group performance for the formative test 2 shows a mean score of 7.72 and a standard deviation of 1.27, with the highest score of 10 and the lowest score of 5. Three group members did not meet the 25th% range, another two members for the 50th%, and three more members for the 75th%. The comparison group got a mean score of 7.39 and a standard deviation of 1.46, with the highest score of 10 and the lowest score of 5. No one met the 25th% range, one member met the 50th%, and everyone met the 75th%.

The results of the study on both formative tests 1 and 2 imply that the use of multimedia in teaching-learning process can improve the test performance of a student but still, some students perform below a specific range.

Flipped learning approach improves the students' learning experience in Physical Education because of the flexibility of this approach as the students can watch the video as part of the students' learning, able to pause, rewind and play the video as long as it takes and this allows the students to learn at their own pace, thus improved performance (Bakar, 2019).

Table 4 presents the mean scores of the female which participants in experimental and comparison groups on their formative tests.

Table 4. Female Participants' Formative Test Mean Scores Performance

		Mean	SD	Skewness
Formative Test 1	Experimental	6.67	1.35	.504
	Comparison	6.20	1.47	.223
Formative Test 2	Experimental	7.93	1.39	-.420
	Comparison	6.40	1.68	.511

The female experimental group performance for the formative test 1 show a mean score of 6.67 and a standard deviation of 1.35, with the highest score of 9 and the lowest of five. Three group members did not meet the 25th% range, another three members for the 75th%, but everyone met the 50th%. The comparison group got a mean score of 6.20 and a standard deviation of 1.47, with the highest score of 9 and the lowest score of four. Two group members did not meet the 25th% range, only one for the 50th%, and another one for the 50th%. The female experimental group performance for the formative test 2 shows a mean score of 7.93 and a standard deviation of 1.39, with the highest score of 10 and the lowest of 5. Two group members did not meet the 25th% range, only one member for the 50th%, and two more members for the 75th%. The comparison group got a mean score of 6.40 and a standard deviation of 1.68, with the highest score of 9 and the lowest score of four. Only one group member did not meet the 25th% range, two members for the 50th%, and three members for the 75th%.

These results show that experimental group members got higher test results than the comparison group members. However, despite the higher test performance of the experimental group, the test results of some group members still fall below a specific performance range. Therefore, the results imply that the use of video-based instructional materials improves the academic performance of more students but not all.

Table 5 shows the mean scores of male participants from experimental and comparison groups on their posttest.

Table 5. Male Participants' Posttest Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	9.00	1.53	-1.540
Comparison	6.11	1.94	.808

The male experimental group posttest results show a mean score of 9.00, standard deviations of 1.53, the highest score of 10, and the lowest score of five. Two group members did not meet the 25th% range, two more members for the 50th%, but everyone met the higher quartile range. The male comparison group got posttest results of 6.11 mean score, 1.94 standard deviations, the highest score of 10, and the lowest score of four. Four group members did not meet the 25th% range, another four members for the 50th%, and one member for the 75th%.

The statistical results show a high variance between the mean scores of the two groups of respondents in favor of the experimental group. The study argued that the students taught with video-based instructional materials performed better in their posttest tests than students who are taught traditionally despite the lower scores within the range of a few experimental group members. Presented in Table 6 are the results of the study on the posttest mean scores of the female participants in the experimental and comparison group.

Table 6. Female Participants' Posttest Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	8.73	1.10	-.134
Comparison	6.20	1.78	-.084

The female experimental group posttest results show a mean score of 8.73, standard deviations of 1.10, the highest score of 10, and the lowest score of seven. Two group members did not meet the 25th% range, three more members for the 50th%, and another two for the 75th%. The female comparison group got posttest results of 6.20 mean score, 1.78 standard deviations, the highest score of 9, and the lowest score of three. Two group members did not meet the 25th% range, another three members for the 50th%, and two more members for the 75th%.

The findings reveal a positive variance between the posttest means scores of the two groups of respondents in favor of the experimental group. These results indicate that the teacher's made video supplemental teaching materials in Arnis are effective instructional materials to enhance the students' performance in their posttest despite some experimental students whose scores fall below a specific performance range.

Shown in Table 7 are the mean scores of the summative tests of the two groups of male participants.

Table 7. Male Participants' Summative Test Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	9.06	1.51	-1.708
Comparison	6.72	2.05	.697

The statistical results show the summative test mean score of 9.06 with a standard deviation of 1.51 for the male experimental group, with 10 as the highest score and the lowest is 5. Two group members did not meet the lower quartile range, another two members for the median range, but all members meet the 75th%.

The comparison group got a mean score of 6.72 and standard deviations of 2.05, with the highest score of 10 and the lowest score of 4. One group member did not meet the 25th% range, two members for the median range, and three more members for the higher quartile range.

Based on the results, the male experimental group outperformed the comparison group in their summative tests. Therefore, the study suggests the teacher's made video supplemental instructional materials can enhance the academic performance of students in Arnis subject.

Table 8 shows the mean scores on the given summative tests for the two groups of female participants.

Table 8. Female Participants' Summative Test Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	8.60	1.59	-1.063
Comparison	6.87	2.64	-.424

The results of the summative tests for the female experimental group reveal a mean score of 8.60, a standard deviation of 1.59, the highest score of 10, and the lowest score of 5. Three group members did not meet the 25th% range, two members for the median range, and one member for the higher quartile range.

For the comparison group, statistical results show a mean score of 6.87, standard deviations of 2.64, the highest score of 10, and the lowest score of 2. Three group members did not meet the 25th% range, another three members for the 50th%, and two members for the 75th%.

The findings showed that the participants in the experimental groups performed better than the participants in the comparison group despite some members whose scores fall below the specified range. This result implies that the video-based supplemental teaching materials can improve students' performance in their summative tests.

The mean scores, standard deviations, and skewness of the two groups of male participants' performance tasks are presented in Table 9.

Table 9. Male Participants' Performance Task Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	8.39	1.20	-.170
Comparison	6.61	1.14	-.174

The results of the performance tasks of the experimental male participants revealed a mean score of 8.39, a standard deviation of 1.20, the highest score of 10, and the lowest score of 6. The 25th% score is equivalent to 8, and four group members did not meet this range, while all group members met the 50th% and the 75th%. The male comparison group attained a 6.61 mean score, a standard deviation of 1.14, the highest score of 8, and the lowest score of 5. Four group members did not meet the lower quartile range, three more members for the median range, and another three for the higher quartile range.

The statistical results show a high variance between the mean scores of the two groups of respondents in favor of the experimental group. The study argued that the students taught with video-based instructional materials performed better in their performance tasks than students who are taught traditionally despite the lower scores within the range of a few experimental group members. Table 10 shows the results of the performance task of the female participants according to mean scores, standard deviation, and skewness.

Table 10. Female Participants' Performance Task Mean Scores of Experimental and Comparison Groups

Group	Mean	SD	Skewness
Experimental	7.93	1.33	-.486
Comparison	7.13	1.81	.275

The performance tasks of the female experimental group revealed a mean score of 7.93 and a standard deviation of 1.33, with the highest score of 10 and the lowest score of 5. All group members did not meet the 25th% range, but the median range did meet by all of its members. For the 75th%, three group members did not meet the specified score of 8.5. The comparison group attained a mean score of 7.13, a standard deviation of 1.81, the highest score of 10, and the lowest score of 5. No group member within the 25th% range attained the specified score of 5.5, while two group members did not meet the 50th% range and another three members for the 75th%.

The results revealed that the experimental group obtained a higher score than the comparison group despite the lower variance between the mean scores of the two groups of respondents. These results imply that students taught with video supplemental teaching materials performed better than those adopting the traditional approach. Though, some students in the experimental group did not meet the specified range scores.

Parallel to the findings of some scholars who found the effectiveness of using videos as instructional materials in Physical Education. Lucena et al. (2019) concluded that, with video materials as teaching tools, better results were obtained from various academic indicators like the evaluation tests in Physical Education by the elementary and secondary students. Using a video method in teaching Physical Education may improve learning outcomes for students, even though it adds to cognitive load and creates a sense of social presence (Ningthoujam, 2016).

Test of Difference between the Formative Test Mean Score Performance of the Male and Female Experimental and Comparison Groups

Table 11 depicts the test of significant difference between the mean score performance of the experimental and comparison groups on their formative test.

Table 11. Test of Significant Difference of Experimental and Comparison Groups' Between their Formative Test Mean Scores Performance

Male		Mean	Mean Difference	Computed t-value (df=34)	Cohen's d	Effect Size
Formative 1	Experimental	7.72	1.16	2.633*	0.88	Large
	Comparison	6.56				
Formative 2	Experimental	7.72	0.33	0.730	0.24	Small
	Comparison	7.39				
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

The results reveal a significant difference between the mean score performance of the experimental and comparison groups on their formative test 1 with mean difference of 1.16 and computed t-value of 2.633. The mean score performance in formative test 1 of the experimental group is significantly different from the mean score performance of the comparison group. On the contrary, no significant findings were noted between the mean score performance in formative test 2 of the two groups of male respondents.

Table 12 shows the results of the study about the significant difference between the mean score performance of female experimental and comparison groups on their formative tests.

Table 12. Test of Significant Difference of Experimental and Comparison Groups' Between their Formative Test Mean Scores Performance

Female		Mean	Mean Difference	Computed t-value (df=34)	Cohen's d	Effect Size
Formative 1	Experimental	6.67	0.47	0.906	0.33	Small
	Comparison	6.20				
Formative 2	Experimental	7.93	2.53	2.724*	0.99	Large
	Comparison	6.40				
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

As shown in Table 12, the results reveal a significant difference between the mean score performance of the two groups of female respondents in their formative test 2 with a mean difference of 2.53 and a computed t-value of 2.724. However, no significant findings were noted between the mean score performance in formative test 1 of the female respondents, having a computed t-value of 0.906 showing a small effect size. These results indicate that the performance of the female experimental group in formative test 2 is highly different from the performance of the comparison group but not on their performances in formative test 1.

Test of Difference between the Posttest Mean Scores of the Male and Female Experimental and Comparison Groups

Table 13 reveals the test of significant difference between the mean scores' performance of the experimental and comparison male groups in their posttest.

Table 13. Test of Significant Difference between the Posttest Mean Scores of Experimental and Comparison Male Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	9.00	2.89	34	4.961**	1.65	Large
Comparison	6.11					
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

Based on the results of the study, a significant finding was noted. There is a significant difference between the posttest mean scores of male experimental and comparison groups with t-value of 4.961 which is significant at 0.01 level. This means that the mean score of the male experimental group in their posttest is highly different from the mean score of the male comparison group. This result implies better performance of male experimental group in posttest than comparison group.

Presented in Table 14 are the results of the study on the test of difference between the posttest mean scores of female experimental and comparison groups.

Table 14. Test of Significant Difference between the Posttest Mean Scores of Experimental and Comparison Female Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	8.73	2.53	28	4.688**	1.77	Large
Comparison	6.20					
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

As shown in Table 14, it can be noted that there is a significant difference between the mean scores of female experimental and comparison groups in their posttest with t-value of 4.688 which is significant at 0.01 level. This means that the performance of experimental group in posttest is significantly different from the performance of comparison group.

Test of Difference between the Summative Test Mean Scores of the Male and Female Experimental and Comparison Groups

Table 15 shows the statistical results of the significant difference between the summative test mean scores of the male experimental and comparison groups.

Table 15. Test of Significant Difference between the Summative Test Mean Scores of Experimental and Comparison Male Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	9.06	2.34	34	3.882**	1.28	Large
Comparison	6.72					
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

As presented in Table 15, the findings reveal that there is significant difference between the mean scores of the male experimental and comparative groups on their summative tests having a t-value of 3.882 which is significant at a level of 0.01. It is evident from the results of the study that the male experimental group posted a mean score that is significantly different from the mean score posted by the comparison group. Thus, the study suggests a better performance in summative tests by the experimental group compared with the comparison.

Table 16 depicts the results of test of difference between the mean scores of female experimental and comparison groups on their summative tests.

Table 16. Test of Significant Difference between the Summative test Mean Scores of Experimental and Comparison Female Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	8.60	1.73	28	2.175*	0.79	Medium
Comparison	6.87					
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

As depicted in Table 16, the study found a significant difference between the summative mean score of female experimental group and the comparison group having a t-value of 2.175 which is significant at a level of 0.01. The results of the study provide a strong evidence that the female experimental group performs differently from the comparison group in their summative tests.

The results of this study on the significant differences between the mean scores of experimental groups and comparison groups in different aspects of performance evaluations (formative tests, posttest, summative tests, and performance tasks) justify the finding of Ghavifekr and Rosdy, (2015) on the effectiveness of ICT integration in schools. Their study found significant difference between the integration of ICT for students' learning.

Test of Difference between the Performance Tasks Mean Scores of the Male and Female Experimental and Comparison Groups

Table 17 presents that results of the test of difference between the mean scores of male experimental and comparison groups in their performance tasks.

Table 17. Test of Significant Difference between the Performance Task Mean Scores of Experimental and Comparison Male Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	8.39	1.78	34	4.558**	1.59	Large
Comparison	6.61					
Legend: df = Degrees of Freedom; *Significant at .05 level; **Significant at .01 level						

As shown in Table 17, the study found significant difference between the mean scores of the experimental and comparison male groups in their performance tasks posting a t-value of 4.558. This implies that the results of the performance task of the experimental group is highly different from that of the comparison group.

Presented in Table 18 are the results of the test o difference between the performance task mean scores of female experimental and comparison groups.

Table 18. Test of Significant Difference between the Performance Task Mean Scores of Experimental and Comparison Female Groups

Group	Mean	Mean Difference	Df	t-value	Cohen's d	Effect Size
Experimental	7.93	0.80	28	1.379	0.50	Medium
Comparison	7.13					
Legend: df = Degrees of Freedom; Cohen's d: 0.20 (Small); 0.50 (Medium); 0.80; (Large); *Significant at .05 level;** Significant at .01 level						

As presented in Table 18, no significant finding was noted. The mean score on the performance task of the experimental group is found to be not significantly different from the mean score on the performance task of the comparison group. This means that the mean scores on the performance tasks do not vary according to the groups of the respondents.

Test of Difference between the Pretest and Posttest Mean Scores of the Male and Female Groups

Table 19 shows the statistical results about the test of significant difference between the pretest and the posttest mean scores of the male experimental and comparison groups.

Table 19. Test of Significant Difference between the Pretest and Posttest Mean Scores of Each Male Group

Group	Test	Mean	Mean Difference	df	t-value	p-value
Experimental	Pretest	5.11	3.89	17	7.345**	.000
	Posttest	9.00				
Comparison	Pretest	5.11	1.00	17	2.699	.015
	Posttest	6.11				
*Significant at .05 level; **Significant at .01 level						

The result reveals that there are significant differences between the posttest and pretest mean scores of each male groups of participants, for the experimental group with computed t-value of 7.345 while comparison group with 2.699 both with p-values of less than 0.05 level of significance. These results indicate that the performance of both groups of male respondents in their posttests are significantly different from their performance in the pretests.

The result of this study justified the findings of More, (2017) when he looked into the impact of flipped learning when implemented on GCSE PE students in comparison with the traditional method of teaching. The result showed that, students who were enrolled with the flipped learning method of teaching scored higher as opposed to traditional classroom.

Table 20 depicts the statistical results of the test of difference between the pretest and the posttest mean scores of the experimental and comparison female groups.

Table 20. Test of significant Difference between the Pretest and Posttest Mean Scores of Each Female Group

Group	Test	Mean	Mean Difference	df	t-value	p-value
Experimental	Pretest	5.00	3.73	14	6.168**	.000
	Posttest	8.73				
Comparison	Pretest	5.00	1.20	14	3.520	.003
	Posttest	6.20				
*Significant at .05 level; **Significant at .01 level						

Based on the results of the study, significant findings were noted between the mean scores on the pretest and posttest of the experimental group and the comparison group. The experimental group posted a t-value of 8.168 and a p-value of 0.000, while a t-value of 3.520 and a p-value of 0.003 were noted from the comparison group. Both results are found to be significantly different having p-values of lower than the threshold level of 0.05.

The result of this study is parallel to the study of Bakar, (2019) who found significant improvements between the pretest and posttest with large effect of secondary students in Brunei Darussalam in their Physical Education subject.

Summary of Findings, Conclusions and Recommendations

This chapter summarizes the findings of the study, presents the conclusions drawn, and provides recommendations that will answer the problems stated in this study.

Summary of Findings

The results of the study showed that the experimental groups, both male and female, posted higher mean scores compared to comparison groups on their formative tests, posttest, summative tests, and performance tasks.

Significant findings were noted between the mean scores of male experimental and comparison groups in their formative test 1, posttest, summative tests, and performance tasks, while no significant findings were noted between the mean scores of male experimental and comparison groups on their formative tests 2.

Likewise, significant findings were also noted between the mean scores of the female experimental and comparison groups in their formative test 2, posttest, and summative tests. On the contrary, the study found no significant differences between the mean scores of the female experimental and comparison groups in their formative test 1 and performance tasks.

The study also found significant differences between the pretest and posttest mean scores of each group of male respondents. Significant differences were also noted between the pretest and posttest mean scores of the female experimental and comparison groups.

Conclusions

The use of video-based instructional materials is effective in improving the academic performance of the students. The use of digital platforms engaged the students more in the teaching-learning process particularly, the millennial students who are very much aware of and exposed to the digital environment.

Students' performance in different assessment and evaluation tasks varies according to the teaching-learning approach. Students taught with video-based learning materials outperformed those students in the traditional way of the teaching-learning process.

Recommendations

The following recommendations maybe considered to address the problems stated in this study:

1) The Department of Education may intensify promoting the use of flipped classroom or digital platform in teaching learning process particularly in this time of pandemic where social distancing and non-face-to-face classes are required;
2) The school administrators shall equip their teachers with sufficient knowledge and skills on the use of digital platform in teaching and learning process by providing them relevant training and seminars;
3) The school administrators may consider to develop a local school policy that will encourage or require all teachers to develop different technology-driven instructional materials which can be utilized regularly;
4) Further study that will determine the effectiveness of flipped classroom or digital platform not only on the academic performance of the students but on students' critical thinking, learning experiences, motivation, and the likes, not only in Physical Education subjects but also in other subjects.

Conflicts of interest

The authors declare no conflicts of interest.

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APPENDICES

Appendix-A

Republic of the Philippines
Department of Education
REGION IV-A CALABARZON
CITY SCHOOLS DIVISION OF CABUYAO

DIVISION LETTER

To : **YOLLY D. VALIENTE**
Principal II
Gulod National High School

From : SCHOOLS DIVISION SUPERINTENDENT

Date : April 7, 2021

Attached herewith is a letter request from **MADELYN C. VEGA**, student researcher from School of Graduate Studies of Laguna State Polytechnic University-Los Baños, to conduct her study to conduct her study to 80 grade 7 students of Gulod National High School, relative to her research entitled ***"TEACHERS' MADE INSTRUCTIONAL VIDEO IN ENHANCING THE STUDENT'S PERFORMANCE IN TEACHING ARNIS"***.

Permission is hereby granted provided that it adheres with the following conditions:

1. strict observance of DepEd Time-on-Task Policy;
2. it must be in accordance with the Republic Act No. 10173 – Data Privacy Act of 2012;
3. participation of respondents must be via online and voluntary;
4. parents' approval must be secured; and
5. the results of the study will be treated with utmost confidentiality and that this Office will be provided a copy/result of the research.

For your information.

HEREBERTO JOSE D. MIRANDA, CESO VI
Schools Division Superintendent

2021-0407-16 OSDS-ALJA

Address: Osmeña Street, Poblacion II, City of Cabuyao, Laguna
Telephone No.: (049) 545 4597 / (049) 545 4878
Email Address: division.cabuyao@deped.gov.ph
Website: depedcabuyao.ph

LAGUNA STATE POLYTECHNIC UNIVERSITY
LOS BAÑOS CAMPUS
Brgy. Mayondon-Malinta, Los Baños, Laguna Philippines
Graduate Studies and Applied Research

CITY SCHOOLS DIVISION OF CABUYAO
RECORDS UNIT
RECEIVED
Control No. 2021-0407-16
Date APR 7 2021 GTP

April 5, 2021

HEREBERTO JOSE D. MIRANDA, CESO VI
Schools Division Superintendent
City Schools Division of Cabuyao
City of Cabuyao, Laguna

Sir,

Greetings!

The undersigned is a graduating student of Master of Arts in Education major in Physical Education at Laguna State Polytechnic University, Los Baños Campus undertaking a research entitled "**TEACHERS' MADE INSTRUCTIONAL VIDEO IN ENHANCING THE STUDENT'S PERFORMANCE IN TEACHING ARNIS.**"
In connection with this, the researcher would like to request from your good office to allow the researcher to conduct her study to 80 grade 7 students of Gulod National High School. Rest assured that the data gathered will be strictly for research purposes only and will be kept with outmost confidentiality.

I am looking forward for your favorable action on this regard.
Thank you and more power, Sir!

Very respectfully yours,

MADELYN C. VEGA
Researcher

Noted by:

NILDA S. ALFORJA
Adviser

Approved:

HEREBERTO JOSE D. MIRANDA, CESO VI
Schools Division Superintendent

Appendix-B

Questionnaire for Pre-Test

Name: _____ Section: _____
Age: _____ Gender: _____

Multiple Choice: Read the questions carefully. Choose the letter of the correct answer.

1. They are the "life and soul" of Arnis. They are the hinges which other techniques in Arnis revolve.
   A. Striking B. Stance C. Blocking D. Grip

2. This is commonly used for strike deflection and evasion techniques.
   A. Back B. Side C. Forward D. Straddle

3. These are techniques which teach a player how to maintain body balance and the proper manner of distributing his weight on his legs.
   A. Pugay B Stance C. Handa D. Grip

4. Feet are positioned shoulder width apart. Stick is held in front of the body.
   A. Open leg B. Straddle C. Back D. Attention

5. Player must stand with feet at 45 degrees angle, heels closed together, hands at the side and relaxed.
   A. Open leg B. Straddle C. Back D. Attention

6. It is the "soul of all fighting techniques" in Arnis.
   A. Pugay B Stance C. Handa D. Grip

7. A defensive technique that allows a player deflects opponents attack.
   A. Striking B. Stance C. Blocking D. Grip

8. Legs are spread about twice the width of shoulders and bend knees outward, heels firmly planted and toes pointing straight forward.
   A. Back B. Side C. Forward D. Straddle

9. It means "respect for one's opponent and for the cardinal rules and principles of sportsmanship.
   A. Pugay B Stance C. Handa D. Grip

10. One must stand with one foot backward with rear-foot toes pointing forward, so that the two feet form an L-shape.
    A. Open leg B. Straddle C. Back D. Attention

Questionnaire for Post- Test

Name: _____ Section: _____
Age: _____ Gender: _____

Multiple Choice: Choose the letter of the correct answer.

1. It is considered as the "soul of all fighting techniques" in Arnis.
A. Pugay B. Stance C. Handa D. Grip

2. In Arnis this means "respect for one's opponent and for the cardinal rules and principles of sportsmanship.
A. Pugay B. Stance C. Handa D. Grip

3. These are techniques which teach a player how to maintain body balance and the proper manner of distributing his weight on his legs.
A. Pugay B. Stance C. Handa D. Grip

4. In this stance, feet are positioned shoulder width apart. Stick is held in front of the body.
A. Open leg B. Straddle C. Back D. Attention

5. Player must stand with feet at 45 degrees angle, heels closed together, hands at the side and relaxed.
A. Open leg B. Straddle C. Back D. Attention

6. One must stand with one foot backward with rear-foot toes pointing forward, so that the two feet form an L-shape.
A. Open leg B. Straddle C. Back D. Attention

7. This stance is commonly used for strike deflection and evasion techniques.
A. Back B. Side C. Forward D. Straddle

8. In this stance, legs are spread about twice the width of shoulders and bend knees outward, heels firmly planted and toes pointing straight forward.
A. Back B. Side C. Forward D. Straddle

9. A defensive technique that allows a player deflects opponents attack.
A. Striking B. Stance C. Blocking D. Grip

10. They are the "life and soul" of Arnis. They are the hinges which other techniques in Arnis revolve.
A. Striking B. Stance C. Blocking D. Grip

Appendix-C
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Male pretest video	18	1.00	9.00	5.1111	2.37360	.208	.536
Male posttest video	18	5.00	10.00	9.0000	1.53393	-1.540	.536
Male summative test video	18	5.00	10.00	9.0556	1.51356	-1.708	.536
Female pretest video	15	2.00	8.00	5.0000	1.81265	.000	.580
Female posttest video	15	7.00	10.00	8.7333	1.09978	-.134	.580
Female summative test video	15	5.00	10.00	8.6000	1.59463	-1.063	.580
Male pretest traditional	18	1.00	9.00	5.1111	2.37360	.208	.536
Male posttest traditional	18	4.00	10.00	6.1111	1.93691	.808	.536
Male summative test traditional	18	4.00	10.00	6.7222	2.05242	.697	.536
Female pretest traditional	15	2.00	8.00	5.0000	1.81265	.000	.580
Female posttest traditional	15	3.00	9.00	6.2000	1.78085	-.084	.580
Female summative test traditional	15	2.00	10.00	6.8667	2.64215	-.424	.580
Male formtest 1	18	5.00	10.00	7.7222	1.36363	-.059	.536

video							
Male formtest 2 video	18	5.00	10.00	7.7222	1.27443	-.371	.536
Male pertask video	18	6.00	10.00	8.3889	1.19503	-.170	.536
Male formtest 1 traditional	18	4.00	9.00	6.5556	1.29352	.046	.536
Male formtest 2 traditional	18	5.00	10.00	7.3889	1.46082	.119	.536
Male pertask traditional	18	5.00	8.00	6.6111	1.14475	-.174	.536
Female formtest 1 video	15	5.00	9.00	6.6667	1.34519	.504	.580
Female formtest 2 video	15	5.00	10.00	7.9333	1.38701	-.420	.580
Female pertask video	15	5.00	10.00	7.9333	1.33452	-.486	.580
Female formtest 1 traditional	15	4.00	9.00	6.2000	1.47358	.223	.580
Female formtest 2 traditional	15	4.00	9.00	6.4000	1.68184	.511	.580
Female pertask traditional	15	5.00	10.00	7.1333	1.80739	.275	.580
Valid N (list wise)	15						

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95%Confidence Interval of the Difference	
									Lower	Upper
Female posttest	Equal variances assumed	6.269	.018	4.688	28	.000	2.53333	.54043	1.42631	3.64035
	Equal variances not assumed			4.688	23.323	.000	2.53333	.54043	1.41623	3.65044
Female summative test	Equal variances assumed	6.696	.015	2.175	28	.038	1.73333	.79682	.10112	3.36554
	Equal variances not assumed			2.175	23.004	.040	1.73333	.79682	.08501	3.38166
Female formtest 1	Equal variances assumed	.049	.826	.906	28	.373	.46667	.51517	-.58860	1.52194
	Equal variances not assumed			.906	27.770	.373	.46667	.51517	-.58900	1.52233
Female formtest 2	Equal variances assumed	1.537	.225	2.724	28	.011	1.53333	.56287	.38034	2.68633
	Equal variances not assumed			2.724	27.021	.011	1.53333	.56287	.37846	2.68821
Female pertask	Equal variances assumed	2.964	.096	1.379	28	.179	.80000	.58009	-.38827	1.98827
	Equal variances not assumed			1.379	25.768	.180	.80000	.58009	-.39292	1.99292

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95%Confidence Interval of the Difference	
									Lower	Upper
Male posttest	Equal variances assumed	1.228	.276	4.961	34	.000	2.88889	.58236	1.70539	4.07239
	Equal variances not assumed			4.961	32.304	.000	2.88889	.58236	1.70310	4.07468
Male summative test	Equal variances assumed	2.516	.122	3.882	34	.000	2.33333	.60108	1.11180	3.55487
	Equal variances not assumed			3.882	31.270	.001	2.33333	.60108	1.10786	3.55881
Male formtest 1	Equal variances assumed	.010	.921	2.633	34	.013	1.16667	.44301	.26636	2.06698
	Equal variances not assumed			2.633	33.906	.013	1.16667	.44301	.26626	2.06707
Male formtest 2	Equal variances assumed	.372	.546	.730	34	.471	.33333	.45693	-.59527	1.26193
	Equal variances not assumed			.730	33.386	.471	.33333	.45693	-.59589	1.26256
Male pertask	Equal variances assumed	.000	1.000	4.558	34	.000	1.77778	.39005	.98509	2.57046
	Equal variances not assumed			4.558	33.937	.000	1.77778	.39005	.98504	2.57052

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Male posttest video - malepretestvideo	3.88889	2.24628	.52945	2.77184	5.00594	7.345	17	.000
Pair 2	Female posttest video –female pretest video	3.73333	2.34419	.60527	2.43516	5.03150	6.168	14	.000
Pair 3	Male posttest traditional – male pretest traditional	1.00000	1.57181	.37048	.21836	1.78164	2.699	17	.015
Pair 4	Female posttest traditional – female pretest traditional	1.20000	1.32017	.34087	.46891	1.93109	3.520	14	.003

Quartile distributions of pretest, posttest, formative tests 1 & 2, Summative Test, and Performance Tasks Scores for Male Respondents (Comparison and Experimental)

Male Respondents											
Pretest				Formative Test 1				Formative Test 2			
Comparison		Experimental		Comparison		Experimental		Comparison		Experimental	
Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency
1-3	5	1-3	5	4-6	10	5-7	8	5-6	5	5-7	7
4-5	6	4-5	6	7-8	7	8	5	7	4	8	6
6-7	3	6-7	3	9	1	9	3	8	6	9	4
8-9	4	8-9	4			10	2	9-10	3	10	1
Total	**18**		**18**		**18**		**18**		**18**		**18**

Male Respondents											
Posttest				Summative Test				Performance Task			
Comparison		Experimental		Comparison		Experimental		Comparison		Experimental	
Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency
4-5	9	5-8	6	4-5	7	5-8	5	5-6	8	6-8	10
6	2	9-10	12	6	3	9-10	13	7	5	9	4
7	3			7-8	4			8	5	10	4
8-10	4			10	4						
Total	**18**		**18**		**18**		**18**		**18**		**18**

Quartile distributions of pretest, posttest, formative tests 1 & 2, Summative Test, and Performance Tasks Scores for Female Respondents (Comparison and Experimental)

Female Respondents											
Pretest				Formative Test 1				Formative Test 2			
Comparison		Experimental		Comparison		Experimental		Comparison		Experimental	
Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency
2-4	6	2-4	6	4-5	5	5-6	8	4-5	6	5-7	5
5	3	5	3	6	4	7-8	5	6	3	8	5
6-7	5	6-7	5	7	3	9	2	7-8	3	9	3
8	1	8	1	8-9	3			9	3	10	2
Total	**15**		**15**		**15**		**15**		**15**		**15**

Female Respondents											
Posttest				Summative Test				Performance Task			
Comparison		Experimental		Comparison		Experimental		Comparison		Experimental	
Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency	Score	Frequency
3-5	7	7-8	7	2-5	5	5-8	6	5-6	6	5-7	4
6	1	9	3	6-8	5	9	3	7	3	8	7
7-8	6	10	5	9	2	10	6	8-9	4	9	2
9	1			10	3			10	2	10	2
Total	**15**		**15**		**15**		**15**		**15**		**15**

Citation: Madelyn C. Vega and Nilda S. Alforja. 2021. Enhancing Student's Performance in Arnis Using Teachers' Made Instructional Video. International Journal of Recent Innovations in Academic Research, 5(7): 122-150.