



## Performance of Physical Education First Year Students in Physical Fitness

*Crispin S. Quilang, Hannah Lovelle R. Abiabi, Sherille Love B. Asequia, Rhandie S. Balane, Procopio B. Galendez Jr., Ann K. Maniego, Gregorio C. Ramos Jr., Genifer C. Ramoso, and Francis Isidro L. Salvador*

Physical Education Department, College of Education, Central Mindanao University  
Musuan, Bukidnon, Philippines, 8710

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### ABSTRACT

This study investigated the effect of Physical Education 32 Fitness Exercises activities of the CMU first-year students during the Second Semester School Year 2018-2019. The focus of this study was on physical fitness status of the students using Physical Fitness Tests. The results revealed that the physical fitness level of the students has significantly improved, as this was shown in the health-related fitness test with an overall mean of 2.80 based on the conducted pre-test, while the result on the post-test manifested an overall mean of 3.06. The skill-related fitness pre-test, obtained a mean score of 2.79 compared to post-test that had 3.33. This means that physical exercise and physical education-related activities helped improve the physical fitness condition of the respondents. Physical Education subject, particularly Physical Education 32, was effective in terms of health-related and skill-related parameters. This was after engaging in the various exercises' activity, found in the outcomes-based syllabus, there was a significant increase in the number of participants who were able to reach the high competence level of fitness. It also proved that the physical fitness test under the Physical Fitness battery of test could determine the physical fitness performance of the students.

*Keywords:* PE 32, Physical Fitness, CMU First-Year Students

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### INTRODUCTION

The school is the conducive environment for students to exhibit their physical activity as suggested by the World Health Organization, demonstrating such activities means adopting a healthy lifestyle. The physical activity opportunities of students in the out-of-school environments are gradually decreasing. In this case, physical education classes in schools can present essential opportunities for students. For this reason, one of the most up-to-date goals of physical education teachers is to encourage students to be physically active. The physical fitness level of all students must be above a certain threshold whether they are part of a sports team. Physical fitness involves endurance, strength, power, speed, balance, agility, and flexibility, appropriate measurement methods should be used in the measurement and evaluation process. Quinn (2019), emphasized that some government agency uses the field measurements to monitor their personnel's physical fitness assessment for Army combat readiness test, is comprised of a series of exercises that help evaluate overall health and physical status. Some of which are intended for medical purposes. While in schools with physical education teachers play a vital role in assessing their students' physical fitness and basic motor competencies. Although, many tests are designed to assess a single aspect of physical fitness, it is crucial to combine tests that will provide a comprehensive measurement of students' (Ulupinar and Ozbay, 2020).

Furthermore, Rizal, & Gunawan. (2019) stated that Physical Education is an important subject of doing

the various exercise activities. Physical Education subjects in school aim at helping students to understand how to maintain fitness and develop muscle strength, improve cardiovascular health, and adopt a healthy lifestyle. Moreover, Walton-Fisette and Wuest (2015) stated that Physical fitness is the ability of the body's systems to function efficiently and effectively. They also added that health fitness is important for all individuals throughout their lifespan.

The Physical Education 32 (Fitness Exercises) instructors administered the physical fitness components test at the beginning of the semester to classify the fitness status of the individual students and at the same time provide baseline information. The first part of the testing sessions provides the students an idea of their fitness levels at the start of the semester and established their physical exercises aside from their regular activities in the Physical Education class schedule.

The pre-test and post-test were two phases of the physical fitness test. The pre-test was done at the beginning of the school semester to determine the fitness status of the students. On the contrary, the post-test was administered three weeks before the final examination schedule. The fitness testing was necessary for many reasons. The baseline idea of the fitness levels at the start

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#### Corresponding Author:

Crispin S. Quilang

Email: f.crispin.quilang@cmu.edu.ph

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of the school year was provided by the pre-test. There was already a significant comparison made prior to this. The instructors of physical education classified the students' performance in order to attain appropriate individual activity recommendations.

To identify the possible significance and the result between the pre-test and post-test performances of the students within the duration, PE 32 assigned instructors regularly monitored the actual activities involved in the said course. There were students with buddy and group consultations to assure proper and honest recording for Personal Physical Fitness Form (PPF).

The conduct of the Physical fitness testing should be used as an educational tool that helps students gain knowledge and understanding about physical fitness and its benefits. It should not be conducted as an isolated event. When physical fitness tests were used as a meaningful assessment, and students were taught about the physical fitness components, they were more likely to understand the value of a physically active lifestyle and more engage in regular physical activities (Eastham, 2018).

### *Conceptual Framework*

The physical fitness has a multidimensional structure and can be assessed through its different components: body composition, cardiorespiratory fitness, musculoskeletal fitness, motor fitness, and flexibility. There are more than fifteen health-related physical fitness test batteries which are used worldwide. The physical fitness assessment of children and adolescents presents us with vital information which can be utilized to maintain and improve student's health. Therefore, it is of importance for schools to implement health-related physical fitness test batteries which are in accordance with the age of the participants and best reflect the relationship between physical fitness and their health (Kolimechkov, 2017).

The physical fitness implies not only the acquisition of physical skills but it also the condition that helps a person look better, think better, digest better, enjoy more, feel better and more confident, too. It is a quality of life. A physically fit person carries out daily duties and responsibilities successfully and still have enough physical reserves to enjoy his social, civic, cultural, and recreational interests. In this unit, you will find the different physical fitness tests to determine your fitness. Supplemental activities are also included to answer your weaknesses. Physical Fitness Testing is a necessary activity because it will give us information on the status of the overall physical fitness. The test should be administered at least twice a year, the pre-test at the beginning of the school year. The results of these tests will provide information whether the Physical Education Program in general, can help the students achieve desirable levels of physical fitness. The lists include measurement of the overall physical fitness that include health-related and performance-related fitness (Imbalife, Understanding the Importance of Physical Fitness).

The respondents' physical fitness status was tested in the different physical fitness test activities such

as 50-meter sprint (Speed), long jump (power), sit-up (strength), push-up (power), shuttle-run (agility), sit and reach (flexibility) and 12 -minutes run (endurance). The physical fitness of the participants was generally impressive based on the CHED Norm of Physical Fitness. The test of measuring physical fitness level showed different results among the groups. the average set by the groups of students was generally equivalent to or higher that the CHED standards. This means that the TIP PE students could meet or even surpass CHED standards (Giron 2008).

Physical Education 32 as a course is a conducive setting that requires young students to enroll in the first two academic year's equivalent to four consecutive semesters. It has specific course activities that encourage psychomotor learning, development in monitoring assessment, health promotion, and attainment of physical fitness. As a course it helps students to establish and maintain their physical fitness.

The Department of Education implemented Memorandum Order No. 58, series of 1990 on the Guidelines and Standards for Collegiate Service Physical Education Program that presented its objectives emphasizing the integration of the improvement and maintenance of students' physical fitness.

The President's Council of Fitness and Sports in the United State of America was established on July 16, 1956. After the issuance of Executive Order 10673, this council has been continuously operating its programs. The program's highlights include the raise of standards and level of physical fitness of people. The nationwide campaign reached many education areas that strive to accomplish the following: 1) To improve programs of Physical Education with increased emphasis on physical fitness, 2) To increase the state of the physical fitness and sports program leaders and supervisors, 3) To increase the number of school personnel during physical education work, 4) To conduct a regional clinic in physical fitness, and 5) To inform the public and develop its interest in Physical Education through advertising this in social media (President's Council on Physical Fitness & Sports The First 50 Years: 1956-2006).

The Republic Act No. 5708 is known as the School Physical Education and Sports development Act of 1969. This reinforces the school's physical fitness and sports development program. This was followed by a Memorandum Order by the Department of Education and Culture in February 1971, which mandates the schools to integrate with Physical Education the school sports and physical fitness program where it should remain as part of the basic education curriculum and shall be undertaken by the Department of Education. Physical fitness program must be given from childhood to adulthood. Furthermore, there are four phases that are needed to be developed in five years. These phases are: 1) Physical Fitness Testing, 2) Curriculum Development, 3) Staff Development; and 4) Provision of Facilities and Equipment. One of the primary concerns of schools, colleges, and universities is to make young citizens aware of these all-important programs to improve and maintain their physical fitness conditions (Republic Act No. 5708, 1969). In addition,

Physical Education teachers select activities to help students develop and improve their fitness levels. These also integrate skill-related fitness components. The role of the teachers of Physical Education subjects assess the fitness levels of their students. Regularly, the fitness tests are conducted at the beginning and end of the school year or semester. The fitness status of students in the area and the physical education teachers may use fitness scores to determine the program's success (Shimon, 2011).

The physical education teachers should administer the physical fitness test which is done at least twice a year. Pre-test is conducted at the beginning of the school year and post-test is done before the school year ends. The conduct of pre-test and post-test provides information whether the Physical Education program helps the students achieve optimum physical fitness levels for their benefit (Guidangen, 2016).

It has been observed that conducting a regular period of classes two hours a week for physical activity encouraged students to participate and engage at least 40 minutes per actual session with quality physical education programmed processes to improve the fitness level. There are different combinations of physical activities through the Central Mindanao University-approved course syllabus of 2018, specifically, PE 32, with a descriptive title of Fitness Exercises, containing the various physical movements. Further, these movements enhanced individual fitness status in core stability, strength, and mobility. These also include goal-setting exercise progression and regression and periodic assessments to develop various fitness components. The students are properly guided in performing the proper execution of the actual exercises.

Physical fitness tests include specific test protocols that students must practice before test administration. To determine the individual physical fitness performance of the students, the pre-post-test Physical Fitness Battery of Tests (PFT) was administered to categorize their health-related and skill-related competencies while selecting what other components they may need to improve (Physical

Education Department Curriculum, 2018).

The Physical Fitness testing is a means for teaching students how to set goals for improving their health. This assessment is flexible enough that it can accommodate many different types of tests in the various areas of fitness (cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition and nutrition) since teachers use a wide variety of fitness tests. However, you may want to use this as a template or guide for creating a more specific assessment of your own. It is very important that goals be specific and measurable and customizing a form allows you to make it more meaningful for the tests you use (Gorwitz, 2012).

The study aimed to examine Health-Related fitness components and Skills-Related fitness components variables. The study believed that variables have influence each other. Furthermore, it attempted to describe the pre-test and post-test mean performance of each fitness component and identify the significant difference between before and after tests.

More explicit presentation of the study concept, a schematic model shows how different variables are interrelated with the physical fitness pre-test and post-test.

The study aimed to examine Health-Related fitness components and Skills-Related fitness components variables. The study believed that variables influence each other. Furthermore, it attempted to describe the pre-test and post-test mean performance of each fitness component and identify the significant difference between before and after tests. Hence, this study was anchored on Campbell and Stanley's (1963) One-Group Pretest-posttest model.

A one-group pretest–posttest design is a type of research design that is most often utilized by behavioral researchers to determine the effect of a treatment or intervention on a given sample. This research design is

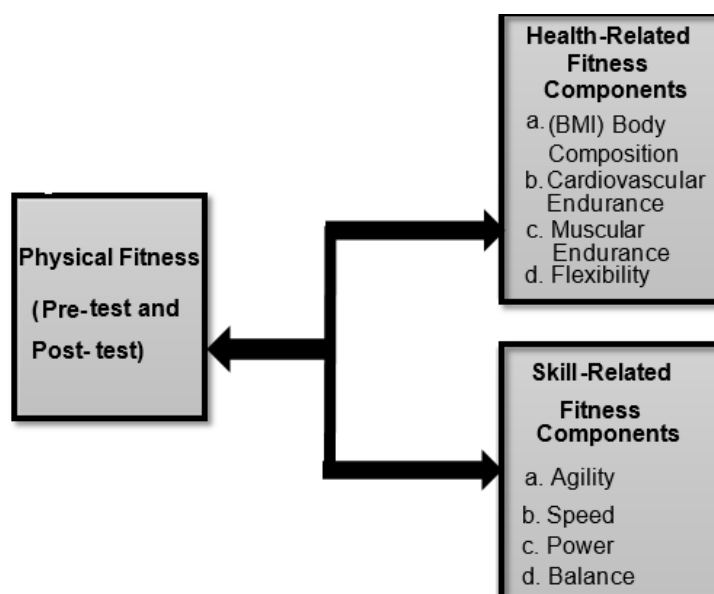


Figure 1. Conceptual Framework: Relationship Between Health-Related Fitness Components and Skill-Related Fitness Components.

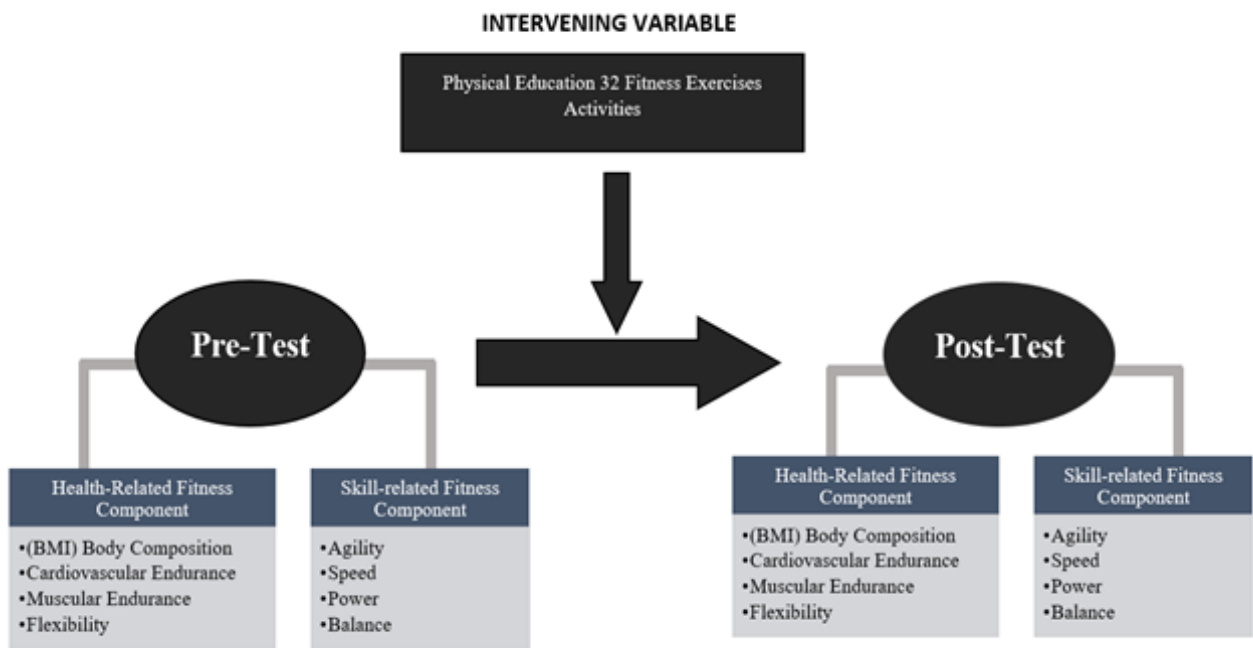


Figure 2. Theoretical Framework: One-group Pretest-Posttest Model Integration

characterized by two features. The first feature is the use of a single group of participants (i.e., a one-group design). This feature denotes that all participants are part of a single condition—meaning all participants are given the same treatments and assessments. The second feature is a linear ordering that requires the assessment of a dependent variable before and after treatment is implemented (i.e., a pretest–posttest design). Within pretest–posttest research designs, the effect of a treatment is determined by calculating the difference between the first assessment of the participants and the post-assessments of the participants after the intervention/treatment. (Cranmer, 2017)

This study integrates Campbell and Stanley’s (1963) One-group Pretest-Posttest Model as a framework that presents a pretest, followed by an intervention/treatment, and then a post-test where the difference between the Pre-test and Post-test is explained by the intervening variable – the causal link between other variables.

Physical Education 32 Fitness Exercises activities served as the intervention/treatment the researcher used for the first-year students at Central Mindanao University in this study. This was employed to identify the changes in the post-test scores after performing the exercise activities.

Operationally, four hypotheses were examined in this study:

*Hypothesis 1:* The post-test scores based on the health-related components are significantly higher than the pre-test scores.

*Hypothesis 2:* The post-test scores based on the skill-related components are significantly higher than the pre-test scores.

*Hypothesis 3:* There is a significant difference between

the pre-test and post-test performances of the students on their fitness/health profile

*Hypothesis 4:* There is a significant relationship between health-related components and skill-related components in terms of pre-test and post-test.

### Objectives

The study aimed to examine the physical fitness of the first-year students in the second semester of the school year 2018 to 2019 at Central Mindanao University and to investigate the impact of the Physical Education 32 Fitness Exercises activities as the intervention in physical exercise activity.

Specifically, this research attempts to answer the following questions:

1. Describe the pre-test and post-test mean performance of the students’ fitness/health profile in terms of the following variables:
  - a. Health-Related Components
  - b. Skill-Related Components;
2. Identify the significant difference between the pre-test and post-test, and;
3. Determine the significant relationship between the Health-related and skill-related components.

### METHODOLOGY

The researcher used the non-experimental quantitative research utilizing descriptive correlation technique, which involved finding directions and extent relationship between two variables. Using non-experimental quantitative, however, non-manipulability-free factors require further review in Education. The said technique was very instrumental in the study because

the researcher aimed to find out whether exercise motivation significantly influences the physical fitness of the respondents. The researcher conducted the study in Central Mindanao University, University Town, Musuan, Maramag, 8710 Bukidnon, Philippines. Among the 1,200 first-year student population, 232 respondents were chosen from 33 sections. Using the stratified sampling from each class section. The Slovin's formula of random sampling had employed with a maximum of 5 percent per section to identify the representative per section in Physical Education 32 Fitness Exercises course, offered Second Semester, School Year 2018-2019.

A combination of the Physical Fitness Test Manual based in the existing DepEd PPFT manual by Mequi (2014) cited by Llego (2019) were used as a guide and instruments in this study. The Department of Education Philippine Physical Fitness Test (PPFT) Manual in 2015 is the guide in executing different tests. The manual contains a set of measures that can determine the student's fitness level.

The researcher sent a letter to the University President to seek approval to conduct the study. The approval was needed before the data were collected from the respected faculty members of the Department of Physical Education. The issuance of Data Privacy Statement and the Institution Ethical Research Committee Board certificates were requested to protect the credibility of this work responsibly and for the confidentiality of the used documents. Finally, the study used Mean, Pearson (r), and Regression statistical tools to analyze the data.

## RESULTS AND DISCUSSIONS

This section presents the data gathered, a thorough discussion, interpretation, and implication of the study's findings. This also describes the level of the students' fitness health profile such as skill-related fitness components and health-related fitness components. Also, this section presents the significant difference of the students' performance in the pre-test and post-test.

Table 1.1 reveals the level of mean of the students' performance in fitness/health profile in terms of health-related components. Further, the data compares the results of the pre-test and post-test. The pre-test obtained an overall mean of 2.80 which means that the level of the respondent's health-related component is moderate. The overall results of mean of the post-test reveal an increase from 2.80 to 3.06. The body composition obtained 4.19

mean score in the pre-test. This means that which means that the health-related component of the respondents was high. Before the study was conducted, and during the post-test, the mean overall score has increased to 4.20 with a descriptive level of very high which means that the Physical Exercise subject was compelling in terms of improving the health-related component of the students in terms of body composition. This means that the students of this generation are conscious and are motivated to improve their body figures.

Secondly, the overall mean performance of the students 'cardiovascular endurance during the pre-test is 1.25, with a descriptive level of very low, while in the post-test, the mean overall score has increased to 1.48 with the same descriptive level of very low, which means that there is only a slight improvement on the students' performance, where students do not always engage in the aerobic exercises in the classroom setting but only during university functions and occasions like, Founding Anniversary, Palaro and Physical Education/Siglakas Club Day.

Thirdly, in the pre-test, muscular endurance shows the result of a mean overall score of 1.92, while in the post-test, it has a mean overall score of 2.35 with the same descriptive status of low. It means that there is only a slight improvement in the student's status of muscular endurance. One of the reasons perhaps is students nowadays do not carry heavy books and notebooks anymore in attending their classes; instead, they are only having light gadgets. Carrying this much weight every day can bring detrimental health effects (Dong, 2016). Muscles that lack muscular endurance tire easily and limit the amount of work. This is the part of the body that needs to be improved. Lastly, in the pre-test, the flexibility overall mean of score is 3.85 with the descriptive level of high. During the post-test, the flexibility is 4.22 with the descriptive level of very high, which reveals a significant difference between the pre-test and post-test. The reasons for the improvement of the flexibility skill of the students are stretching and physical fitness activities, and doing actual exercises before and after class.

It can be noted that in the pre-test, the highest mean is 4.19 in body composition, followed by flexibility with a high mean of 3.85, muscular endurance with an average mean of 1.92 and, lastly cardiovascular endurance with an average of 1.25. The highest mean in the post-test is 4.22 in flexibility, followed by body composition with the

Table 1.1 Level of Pre-Test and Post-Test Mean Performance of the Students' Fitness/Health Profile in Terms of Health-Related Components

Indicator	Pre-Test			Post-Test		
	SD	Mean	Descriptive Level	SD	Mean	Descriptive Level
Body Composition	1.04	4.19	High	1.03	4.20	Very High
Cardiovascular Endurance	0.71	1.25	Very Low	0.94	1.48	Very Low
Muscular Endurance	0.63	1.92	Low	0.83	2.35	Low
Flexibility	0.82	3.85	High	0.70	4.22	Very High
Overall	0.45	2.80	Moderate	0.49	3.06	Moderate



Table 1.2 Level of Pre-Test and Post-Test Mean Performance on the Fitness/Health Profile of Students in Terms of Skill-Related Components

Indicator	Pre-Test			Post-Test		
	SD	Mean	Descriptive Level	SD	Mean	Descriptive Level
Agility	0.75	1.99	Low	0.89	2.53	Low
Speed	0.86	3.06	Moderate	0.82	3.52	High
Power	0.77	3.35	Moderate	0.78	3.63	High
Balance	1.37	2.76	Moderate	1.32	3.64	High
Overall	0.56	2.79	Moderate	0.58	3.33	Moderate

mean of 4.20, muscular endurance with an average mean of 2.35, and cardiovascular endurance of 1.48, respectively. The fitness program of the students was only attained during their Physical Education classes, with still insufficient time intended for their physical conditioning after Physical Education class, and sometimes, classes were suspended for some holidays and university events. The short duration of Physical education classes a semester would not be enough to show significant improvement especially that the students are focuses on the use of technology for both personal and academic purposes. Further, some online games are at one corner which will make them engaged with so little time for actual physical activities. The mean value of both pre-test and post-test increased. This means that there is a positive effect on the physical and health conditions of the students. Physical Education classes contributed so much in the positive effect.

Table 1.2 the fitness profile of the first-year students in Skill-Related Components shows that the pre-test obtains an overall mean of 2.79, with a moderate qualitative description, which means that the activity related to physical fitness occasionally manifests. In the post-test, the results of the overall mean revealed an increase in mean scores from 2.79 to 3.33. The result reveals that, during the pre-test, agility has a mean score of 1.99 with a descriptive level of low. Furthermore, the overall mean score of agility in the post-test has increased to 2.53, with a descriptive level of low which means that the agility performance of the students is not applied in their daily routine. The activity is an Illinois Run where not all can perform and exert effort to gain the skill. The students have many events in their regular workload in academics and extracurricular activities, these have been observed to exhibit inadequate sleep caused by decreased body movement and lack of alertness to perform agility skills. Hence, they have fewer activities related to Illinois runs. Secondly, during pre-test, speed gets an overall mean of 3.06 with a descriptive level of moderate. On the other hand, the overall mean score of speed has increased to 3.52, with the descriptive level of high. It means that running with acceleration is very common and is mainly applied to the daily routine of the students. Thirdly, during pre-test, the power test results to an overall mean score of 3.35 with a descriptive level of moderate compared to the post-test overall mean score of 3.63 with a descriptive level of high. It means that the students habitually perform the power of legs and arms in their daily activities. Lastly,

in the pre-test, the balance overall mean score is 2.76 with the descriptive level of moderate, and in the post-test, the balance overall mean score is 3.64 with the descriptive level of high. The results mean that balance skill is applied to the performance of the students while at school and home.

Furthermore, the highest mean in the pre-test is 3.35 in power, which means that the average population of the sample students manifests explosive body movement, followed by the speed with an average mean of 3.06, balance with an average mean of 2.76, and lastly, agility with an average of 1.99. The result reveals that in the post-test, balance gets the highest mean score of 3.63, speed with an average mean of 3.52, and finally, agility with an average of 2.53. On the post-test, all the mean scores in Table 1.1 and Table 1.2 (Level of pre-test and post-test mean performance of the students' fitness/health profile in terms of skill-related components) are elevated. As shown in Table 1.1, the post-test yields an overall mean of 3.06 compared to 2.80 over the pre-test but still fell in the same category of moderate. Similarly, in Table 1.2, the post-test yields an overall mean of 3.33 compared to 2.79 over the pre-test but still belonged to the same category of moderate. Therefore, The Physical Education classes contributed the improvement and increased students' speed, power, and balance performances. In addition, the mean value of agility has increased from 1.99 to 2.53, before and after. Generally, the improvement is not fully attained.

Table 2 shows the result of the paired sample t-test and the differences between the pre-test and post-test scores. The result reveals that the body composition was at 0.180, indicating that it is not highly significant at 0.01 level. It means that there is no significant difference between the pre-test and post-test in body composition. Thus, it manifests that Physical Education classes of one semester are considered the inadequate length of period to change the body composition of all the respondents and to consider the students' rare participation in the physical exercises with their daily activities concentrating the academic performance than to enjoy performing physical activities with friends. It can be observed that the cardiovascular indicator is at 0.002\*\* significant level, indicating high significance. Hence, significant difference is noted between the pre-test and post-test cardiovascular indicators. Muscular, flexibility, agility, speed, and power

Table 2 The significant difference between the pre-test and post-test performances of the students' on their fitness/health profile was determined using paired sample t-test.

Indicator	Sig. (2-tailed)
Body Composition	0.180
Cardiovascular Endurance	0.002**
Muscular Endurance	0.000**
Flexibility	0.000**
Agility	0.000**
Speed	0.000**
Power	0.000**
Balance	0.000**

Significant Difference Between the Pre-Test and Post-Test Indicators

Legend: \*\* = highly significant at 0.01 level

indicators are at 0.000\*\*, which means that it is highly significant at 0.01 level and significant difference is depicted between the pre-test and post-test indicators. Based on the data, the balance indicator is at 0.0000\*\* significant level, indicating it is highly significant. In conclusion, there is a significant difference between the pre-test and post-test balance indicators.

The majority of the indicators are proven to have a highly significant difference between the pre-test and post-test at 0.01 level except for the body composition indicator. The significant relationship between health-related components and skill-related components.

Table 3 shows a significant relationship between the skill-related components and health-related components of the physical fitness test. Hence, the skill-related components of the physical fitness test affect the health-related components of the students and vice versa. These further imply that the physical fitness of the first-year students in Central Mindanao University significantly differs from pre-test to post-test. Moreover, the physical fitness of first-year students after the post-test has differed significantly compared to the results during the pre-test. It can be concluded that there is a significant difference found in the physical fitness of first-year students after participating in the class exercises and activities.

Findings confirm with the study of Latorre et al. (2018) that the attitudes and performance of the students in the pre-test and post-test will increase when they were exposed to Physical Fitness Test as interventions.

The results of the study of Bastug (2018) confirm that physical fitness interventions like dancing exercises and physical fitness tests could significantly enhance the physical fitness performance of the students.

Similarly, with the study conducted by Greco et al. (2019), the results also confirmed that a maintained physical fitness test could promote substantial gains in the flexibility of the lower body, static balance, explosive leg power, and general motor coordination. The study of Kolimechkov (2017) concluded that the physical fitness assessment of children and adolescents presents us with vital information that can be used to maintain and improve the health of the children. In short, it is important for schools to implement a set of health-related physical fitness test and that can fit with the age of the participants and can better reflect the relationship between physical fitness and health at the same time.

In relation to the statement above, significant findings from different researches on physical fitness were among the most frequently sought forms of assessment in this study. Based on the results, physical fitness was viewed mainly as a quantitative change and enhanced learning is considered an improvement in the acquisition of the given activity to be performed by one group or group of students in the Physical Education course for their physical fitness performance assessment. Professional fitness facilitators prescribe an exercise program with specified training principles with the frequency, intensity, time or duration, and type of exercises. These variables are needed in constructing an exercise prescription or program for an individual (Wuest & Bucher, 2014). To attain and maintain a fitness level of individual, must exercise regularly with the threshold in training workouts to achieve optimal results. Physical exercise within the fitness level target zone is necessary.

Furthermore, results conform to the study as cited by Kuehn (2019), where he said that the post-test score should be higher than the pre-test score to prove that the student performance progresses at a notable and positive levels.

Table 3. Significant Relationship between Health-Related Components and Skill-Related Components in Terms of Pre-Test and Post-Test

Pre-test	Skill-Related components	Post-test	Skill-Related components
Health-Related components	.202** .000	Health-Related components	.278** .000

Legend: \*\* = highly significant at 0.01 level

## CONCLUSIONS

The results reveal that the students' body mass index (BMI) and flexibility performance levels improved from high to very high and moderate to high level, respectively. At the same time, there was no improvement in both cardiovascular endurance and muscular endurance performance level of very low and low, respectively. It can be gleaned that the overall description of health-related fitness components was a moderate performance in the pre-test and the post-test.

The speed, power, balances improved after the post-test in which the descriptive performance level was described to be moderate to high performance. However, the agility remained at a low level from the pre-test to the post-test. The overall performance of skill-related fitness components was moderate in pre-assessment and post-assessment. Significant differences were seen between the pre-test and post-test results of the following: cardiovascular endurance, muscular endurance, flexibility, agility, power, and balance, which was opposite to the body composition with no significant difference.

The implementation of CMU Physical Education instructional system design worked effectively, especially in terms of Physical Fitness, as shown in the mean scores in the actual tests. The instructional objectives were entirely accomplished, these can be observed from the increase of the skills learned by the students from the tested physical fitness components.

## RECOMMENDATIONS

Based on the stated conclusions, it is recommended that Physical Education teachers may encourage the students to be more physically active. The physical fitness level activities not only in their Physical education classes but also in their free time.

Physical Education students may improve and maintain their physical fitness level by regularly engaging in fitness exercises wherein they can associate their skill-related and health-related performances. The study employing Physical Fitness Test (PFT) introduced by Dr. Aparicio H. Mequi and Fitness Battery of Tests recently recommended by the Commission on Higher Education, may be conducted. Every semester, more factors and variables in the test batteries may be closely examined.

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