



### Short Paper

## 8-Week Self-Training Program in Sepak Takraw

Dustin Paolo Tinte Cruz

Department of Education, Daniel Maramba National High School, Philippines

[dustinpaolocruz@gmail.com](mailto:dustinpaolocruz@gmail.com)

(corresponding author)

Russell B. Dolendo

Department of Library and Information Science, Benguet State University, Philippines

[r.dolendo@bsu.edu.ph](mailto:r.dolendo@bsu.edu.ph)

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### Abstract

This study aimed to develop and implement the researcher-made 8-week Self-Training Program in Sepak Takraw. The research method used in the study is quasi-experimental research, pre-test and post-test design. Respondents of the study were 50 athletes from five schools in Pangasinan 1 Division Districts 1 & 2. The researcher administered a Physical Fitness Test as a pre-assessment tool to determine the baseline of performances among the respondents. After the pre-assessment, the researcher then implemented the training program for the respondents for eight weeks. Athletes recorded and documented their progress during the training process. After eight weeks of training, the researcher readministered the Physical Fitness Test as the post-assessment. The results of the study were recorded, tabulated, and analyzed to serve as the basis for the finalization of the proposed training program developed by the researcher. Based on the results, the overall weighted mean of 2.67 with a descriptive equivalent of Good during the pre-test indicates that there's more to improve in other components specifically balance, strength, coordination, and speed. The post-test result indicates that the training program showed a massive improvement in the different skills of the athletes and notable excellent weighted mean scores were observed among the athletes under the following components: flexibility, agility, reaction time, and strength. There was a recorded higher score during the post-test which implies that the 8-week



self-training program provided by the researcher resulted in a higher performance among the athletes in terms of strength, flexibility, coordination, agility, speed, power, balance, and reaction time.

Keywords – Sepak Takraw, physical fitness, training program, athletes, performances

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## INTRODUCTION

Through DepEd Order 34 s. 2022 or the School Calendar and Activities for the School Year 2022-2023, the Department of Education (2022) reopened the school doors by implementing full face-to-face classes starting November 2, 2022. The policy guidelines announced that all schools will switch to five-day face-to-face classes. Extracurricular activities are allowed, provided that these activities will be held after class hours to ensure that school days are devoted to instructional-relevant activities that support learners in attaining the learning standards. Due to this reason, a significant number of athletes have learned to exercise alone and emphasized physical well-being and health maintenance due to the COVID-19 restrictions. Some athletes sought this as an opportunity to train alone at home.

Given the above circumstances, the researcher strongly believes that there is a dire need to utilize self-training programs to create a more potent powerhouse of players from elementary and high school so they can go beyond what is expected from them up to college and eventually pass national tryouts. However, studies about the development of different training programs, specially made for Sepak Takraw athletes remain limited and in need of further improvement to develop the most appropriate training.

The athlete's physical condition is critical for everyone to play a sport that requires more activity. The quality of physical condition is an ability that every athlete possesses. The components of physical condition in Sepak Takraw can be put forward as follows: Strength, Endurance (muscular Endurance, general Endurance, muscle explosiveness), Agility, and Accuracy (Anderson et al., 2015; Purwanto, 2022).

In line with this, DepEd Order No. 34 s. 2019 (DepEd, 2019) ratifies physical fitness as one of the primary goals of the Physical Education Program under the K to 12 Basic Education Curriculum. From Grades 4 to 12, it must be incorporated or modified within the PE curriculum. A collection of measurements called the Physical Fitness Test (PFT) is used to gauge a student's degree of physical fitness. In general, health-related, and skill-related physical fitness categories are the ones that will be tested. The term health-related components refers to those physical characteristics, such as the appropriate body mass index (BMI), muscular strength and endurance, and cardiovascular endurance, that enable a person to cope with the demands of daily existence. Skill-related components are physical traits like running Speed, Agility, Response time or Quickness, Balance, and

Coordination that can help one perform well in a particular skill (typically in sports) (Enclosure No. 1 to DepEd Order No. 034, s. 2019).

The Physical Fitness Test results at the beginning of School Year 2023-2024 concluded that there are components in the test that are low. These are the reasons why the researcher contemplated conducting a study on the effectiveness of the researcher-made training and development program and determining its benefit to Sepak Takraw athletes. The researcher utilized the said training and development program, which is now Level 1 Accredited in Coaching by the Asian Sepak Takraw Federation (ASTAF) committee based on its adherence to international standards. The primary aim of this study is to determine the program's effectiveness and identify its benefits to the Sepak Takraw athletes.

### **Research Questions**

The researcher developed an 8-week self-training and development program in Sepak Takraw aimed to improve the performance level of the athletes.

Specifically, the study sought to find answers to the following research questions:

1. What are the levels of performance of the athlete respondents during the pre-assessment and post-assessment:
  - a. Endurance;
  - b. Strength;
  - c. Flexibility;
  - d. Coordination;
  - e. Agility;
  - f. Speed;
  - g. Power;
  - h. Balance; and
  - i. Reaction Time?
2. Along with the components, is there a significant difference between the performance levels of the respondents in the pre-assessment and post-assessment?
3. What training program in Sepak Takraw can be developed to improve the performances of the athletes?

### **LITERATURE REVIEW**

#### ***Independent Learning***

For Charles Wedemeyer (Simonson, 2003), independence was the critical component of distant learning where the learner is responsible for their rate of advancement, with the ability to start and stop at any time. Wedemeyer's Theory on Independent Learning sums up the primary purpose of the training program developed

by the researcher. It enables every athlete to learn at their own pace, time, and environment, without the coaches, without sacrificing their time studying at school.

### ***Training Program***

The goal of a training program is to help the athlete become better at their sport and perform at their best. Quality training has a direct impact on performance. Exercise workload must gradually grow from the beginning to the elite performance stage under each athlete's physiological and psychological capabilities. (Martin, 2009). Meanwhile, Purwanto (2012) developed playing skills in Sepak Takraw exercise models. From his models, he employed a Media Video Compact Disk (VCD), where he materialized a video to program and monitor the skills of playing Sepak Takraw. He concluded that these interactive multimedia-based Sepak Takraw workouts are models for playing skills.

### ***Physical Fitness***

The study of Kumar (2015) differentiated short hills, long hills, and mixed hill running as perceived powerful exercises to increase Endurance among the players. The study concluded that Hill Running develops Strength and Power improves Coordination in the arms and legs and promotes the development of Aerobic Endurance. The physiologic profiles such as Speed, Reaction time, lower extremity Power, muscular Endurance, and Flexibility are important based on the playing positions in Sepak Takraw. Significant results among these components were found when differentiating the strikers, feeders, and servers regarding reaction time and lower extremity power among the Sepak Takraw college players (Chen Xiao, 2017).

As affirmed by Bompa and Buzzichelli (2015), some physical components that need to be developed by Sepak Takraw athletes are Endurance, Strength, Flexibility, Agility, Power, and Strength. These physical components are already incorporated in the Physical Fitness Test mandated by DepEd Order No. 34 s. 2019, with the addition of Coordination, Balance, Speed, and Reaction time, which were also mentioned by Chen and Xiao (2017) as crucial physiological profiles of Filipino Sepak Takraw players.

## **METHODOLOGY**

### ***Research Design***

Given the nature of the research problems, the study adopted quasi-experimental research. Quasi-experimental research is like experimental research. There is manipulation of an independent variable. It differs from experimental research because there is no active manipulation, control group, random assignment, random selection, or any of these Abraham and MacDonald (2011). The research design was deemed appropriate in the study since the respondents were not randomly selected because it

aimed to determine the effectiveness of the 8-week self-training program in Sepak Takraw to improve the performance of the athletes.

### ***Respondents of the Study***

The respondents of the study were the 50 non-randomly selected Sepak Takraw athletes from the five different schools in Pangasinan 1 Division Districts 1 & 2 during the academic year 2023-2024, which are the following: Botao National High School, Daniel Maramba National High School, Maticmatic National High School, Payas National High School, and Tuliao National High School. Respondents came from the recommendations provided by the five coaches of Sepak Takraw from five different schools in the district.

### ***Data Collection***

The study utilized a questionnaire checklist and assessment tool. The said tests were developed by the researcher and were validated by the three experts and will be administered to the respondents.

The data-gathering instrument is now enumerated for the different purposes needed to understand the study.

1. Physical Fitness Test Assessment Tool. This tool is adopted from Enclosure 1 of DepEd Order No. 34 s. 2009. The tool will be the basis of the results of the pre-assessment and post-assessment performances of the respondents.
2. 8-Week Self-Training Program. This training program developed by the researcher was provided to the respondents as their primary tool in training for eight weeks, with the facilitation of the researcher.

### ***Ethical Considerations***

The researcher considered the underlying ethical issues to ensure the welfare of the researcher and the respondents. The proposed training program was submitted to the researcher's adviser for further evaluation. The researchers sought approval from the Principal, Department Head, the coaches, and students before the conduct of the study.

The researcher handed over the assessment tool and 8-week Self-Training Program to the respondents. The test results were recorded, tabulated, computed, analyzed, and interpreted fairly and accurately.

### ***Data Analysis***

Problem number one and three on the level of performance of the respondents during the pre-assessment and post-assessment, along with Endurance, Strength,

Flexibility, Coordination, Agility, Speed, Power, Balance, and Reaction time were described in terms of the highest score, lowest score, mean, and standard deviation. For problem number 2 on what proposed training plan could be developed to utilize in training athletes in Sepak Takraw, adhering to the best features of the training program, the researcher developed an 8-week Training Program in Sepak Takraw. Lastly, the authors used a t-test to answer the last problem on significant differences between the pre-assessment and post-assessment.

The mean rating used by the researchers was interpreted using these mean ranges: 4.40-5.00 (Excellent, E), 3.50-4.49 (Very Good, VG), 2.50-3.49 (Good, G), 1.50-2.49 (Fair, F), and 1.00-1.49 (Needs Improvement, NI).

## RESULTS

### *Performance Level of the Athletes in the Physical Fitness Pre-Assessment Test*

The pre-test performance analysis of athletes across various components yielded the following results:

**Endurance.** Athletes demonstrated average cardiovascular endurance with a mean pulse rate of 95.5, indicating normal resting heart rates suitable for training.

**Strength.** Athletes displayed good performance in push-ups ( $M=3$ ,  $SD=1.19$ ) but need improvement in basic plank exercises ( $M=2.24$ ,  $SD=1.33$ ), highlighting the importance of enhancing muscular strength for overall athletic performance.

**Flexibility.** Athletes showed excellent performance in certain flexibility tests ( $M=2.88-3.58$ ,  $SD=.86-1.17$ ), indicating a strong foundation in this area, crucial for sports like Sepak Takraw.

**Coordination.** Athletes exhibited fair coordination skills ( $M=1.68$ ,  $SD=0.81$ ), suggesting room for improvement through targeted training and practice, essential for refining motor skills.

**Agility.** Athletes demonstrated very good agility ( $M=4.08$ ,  $SD=0.49$ ), likely due to prior athletic training, with benefits including injury prevention and improved cognitive function.

**Speed.** Athletes displayed fair speed in the 400-meter sprint ( $M=1.88$ ,  $SD=0.98$ ), indicating a need for improvement to gain an advantage in sports like Sepak Takraw.

**Power.** Athletes performed well in power exercises like the long jump ( $M=3.36$ ,  $SD=0.75$ ), highlighting the importance of leg muscle power in sports performance.

Table 1. Report on Physical Fitness Test Pre-test Results of the Respondent's Components

Component	No. of Cases	Highest Possible Score	Mean	Mean Rank	Standard Deviation	Interpretation
<b>A. Cardio-Vascular Endurance</b>						
<i>Heart Rate</i>	50	-	95.5	-	21.64	-
<b>B. Strength</b>						
<i>Push-Up</i>	50	5	3	6	1.19	G
<i>Basic Plank</i>	50	5	2.24	8	1.33	F
<b>C. Flexibility</b>						
<i>Zipper-R</i>	50	5	3.58	3	0.86	VG
<i>Zipper-L</i>	50	5	2.88	7	1.17	G
<i>Sit &amp; Reach</i>	50	5	3.44	4	0.86	G
<b>D. Coordination</b>						
<i>Juggling</i>	50	5	1.68	10	0.81	F
<b>E. Agility</b>						
<i>Hexagon</i>	50	5	4.08	1	0.49	VG
<b>F. Speed</b>						
<i>400-m sprint</i>	50	5	1.88	9	0.98	F
<b>G. Power</b>						
<i>Long Jump</i>	50	5	3.36	5	0.75	G
<b>H. Balance</b>						
<i>Stork Balance Right</i>	50	5	1.12	11.5	0.48	NI
<i>Stork Balance Left</i>	50	5	1.12	11.5	0.33	NI
<b>I. Reaction Time</b>						
<i>Stick Drop</i>	50	5	3.7	2	0.46	VG
<b>OWM</b>			<b>2.67</b>			<b>G</b>

**Balance.** Athletes showed a need for significant improvement in balance ( $M=1.12$ ,  $SD=0.33-0.48$ ), a critical component in Sepak Takraw, essential for overall performance enhancement.

**Reaction Time.** Athletes exhibited very good reaction times ( $M=3.7$ ,  $SD=0.46$ ), likely due to prior competitive exposure, crucial for sports like Sepak Takraw.

In summary, the data revealed that the athletes performed slightly well in the different components. The weighted mean of 2.67 with a descriptive equivalent of good indicates that there is more to improve in other components. Other components that call for further improvement are strength (basic plank), coordination (juggling), and speed (400-m sprint). In terms of the low standard deviation ranging from 0.33-1.33, it can be

further stated that the respondents' scores among the components are homogeneous, which indicates that scores are close to the OWM of 2.67.

### ***Performance Level of the Athletes in the Physical Fitness Post-Assessment***

The report on the post-performance level of the respondents in the post-assessment Physical Fitness Test is presented below.

**Endurance.** Athletes demonstrated moderate cardiovascular endurance with an average pulse rate OF 96.62 within the normal range. This indicates they can engage in moderate-intensity activities but may struggle with prolonged high-intensity efforts.

**Strength.** Athletes excelled in both push-ups and basic plank exercises (M=4.54-4.6, SD=0.70-0.79), indicating strong muscular strength. This aligns with research highlighting the importance of muscular strength for athletic performance.

**Flexibility.** Athletes showed excellent flexibility (M=4.64-4.9, SD=0.36-0.85) in joint movements, which is beneficial for overall joint health, injury prevention, and functional movement, crucial for sports performance like Sepak Takraw.

**Coordination.** Athletes performed well in juggling (M=3.44, SD=1.05), indicating decent coordination skills, essential for sports performance, especially in Sepak Takraw.

**Agility.** Athletes demonstrated excellent agility (M=4.86, SD=0.35) in the hexagon test, essential for quick directional changes and balance maintenance, particularly in dynamic sports.

**Speed.** Athletes performed well in the 400-meter sprint (M=3.48, SD=1.03), showcasing their ability to cover distances quickly, an asset in various sports.

**Balance.** Athletes showed lower performance in balance tests (M=3.02-3.3, SD=1.66-1.79), indicating room for improvement, which is crucial for agility and direction changes, especially in sports.

The overall score on the physical fitness test garnered a weighted mean of 4.17, which is described as very good. This result indicates that the training program showed a massive improvement in the different skills of the athletes.



Table 2. Report on Physical Fitness Test Post-Test Results of the Respondents

Component	No. of Cases	Highest Possible Score	Mean	Mean Rank	Standard Deviation	Interpretation
<b>A. Cardio-Vascular Endurance</b>						
<i>Heart Rate</i>	50	-	96.62	-	18.3	-
<b>B. Strength</b>						
<i>Push-Up</i>	50	5	4.6	6	0.70	E
<i>Basic Plank</i>	50	5	4.54	7	0.79	E
<b>C. Flexibility</b>						
<i>Zipper-R</i>	50	5	4.9	1	0.36	E
<i>Zipper-L</i>	50	5	4.64	5	0.85	E
<i>Sit &amp; Reach</i>	50	5	4.7	3	0.58	E
<b>D. Coordination</b>						
<i>Juggling</i>	50	5	3.44	9	1.05	G
<b>E. Agility</b>						
<i>Hexagon Test</i>	50	5	4.86	2	0.35	E
<b>F. Speed</b>						
<i>400-m sprint</i>	50	5	3.48	10	1.03	G
<b>G. Power</b>						
<i>Long Jump</i>	50	5	4	8	0.35	VG
<b>H. Balance</b>						
<i>Stork Balance – R</i>	50	5	3.3	11	1.66	G
<i>Stork Balance – L</i>	50	5	3.02	12	1.79	G
<b>I. Reaction Time</b>						
<i>Stick Drop</i>	50	5	4.62	4	0.49	E
<b>OWM</b>			<b>4.175</b>			<b>VG</b>

**Comparative Report in the Pre-test and Post-Test Results in Physical Fitness Test**

The table on the next page elucidates the paired sample t-test between pre-test and post-test results in the Physical Fitness Test.

Overall, the results verified that significant differences exist between pre-test and post-test performances along all components, such as strength, flexibility, coordination, agility, speed, power, balance, and reaction time using the different exercises provided in the Physical Fitness Test.

Table 3. Paired Sample T-Test between the Pre-Test and Post-Test Results

Component	Mean	STD	T	df	Sig. (2-tailed)
<b>A. Strength</b>					
A.1 Push-Up	-1.60000	.90351	-12.522	49	.000 *
A.2 Basic Plank	-2.32000	1.40611	-11.667	49	.000 *
<b>B. Flexibility</b>					
B.1 Zipper Right	-1.32000	.89077	-10.478	49	.000 *
B.2 Zipper Left	-1.76000	1.28667	-9.672	49	.000 *
B.3 Sit & Reach	-1.26000	1.04608	-8.517	49	.000 *
<b>C. Coordination</b>					
C.1 Juggling	-1.76000	1.13497	-10.965	49	.000 *
<b>D. Agility</b>					
D.1 Hexagon Test	-.78000	.61578	-8.957	49	.000 *
<b>E. Speed</b>					
E.1 400 m sprint	-1.60000	1.56492	-7.230	49	.000 *
<b>F. Power</b>					
F.1 Standing Long Jump	-.64000	.92051	-4.916	49	.000 *
<b>G. Balance</b>					
G.1 Stork Balance Right	-2.18000	1.69862	-9.075	49	.000 *
G.2 Stork Balance Left	-1.90000	1.85439	-7.245	49	.000 *
<b>H. Reaction Time</b>					
H.1 Stick Drop Test	-.92000	.60068	-10.830	49	.000 *

\*Significant

## DISCUSSION

### *Performance Level of the Athletes in the Physical Fitness Pre-Assessment*

**Endurance.** The recorded pulse rate of 95.5 implies that the athlete-respondents resting heart rates are normal to enable them to undergo the training. Mayo Clinic Sports Medicine Center's co-director, Laskowski, responded on the website saying the average person's resting heart rate is between 60 and 100 beats per minute. The article by Kikka (2019) about Cardio-Vascular in Sports & Athletica also revealed the fundamental workings of cardiovascular endurance and why sports prowess depends on it. According to him, cardiovascular endurance refers to the body's ability to carry oxygen out of the lungs to the body's cells, where it can be used to produce energy.

**Strength.** The mean results of 3.0 for push-ups and 2.24 for basic plank indicate that the respondents find push-ups more effortless than the basic plank. Hence, this

component calls for improvement since Suchomel et al. (2016), in their study, discussed the influence of physical strength on many elements involved in athletic performance, as well as the advantages of increasing muscular strength. An athlete's total performance is closely correlated with greater muscle strength and enhanced force-time characteristics.

**Flexibility.** The respondents already performed well, in this component, since their warm-up exercises mainly relate to flexibility, a significant requirement in the sport Sepak Takraw (Saharuddin, 2019).

**Coordination.** The respondents showed difficulty using their senses with their body parts used for motor functions smoothly and accurately. According to the assessment, a fair degree of coordination competence is indicated by a moderate skill level in movement coordination. Respondents may show that they have a fair amount of control over their motor abilities, but they can still do better. The results indicate that there is room for development in terms of improving coordination and fine-tuning motor skills. Individuals can improve their coordination from fair to outstanding or excellent with targeted instruction and practice. Chen and Xiao (2017) discussed in their study that Coordination, Balance, Speed, and Reaction time are essential physiological profiles of Sepak Takraw players.

**Agility.** As expected, the respondents are already very good in this component because they were previous athletes who consistently trained at their respective schools. Their recent training and competitions prepared their body for the strenuous movements of the sport. An episode of Vive Podcast with its guest Antigha (2022) discussed the top benefits of agility in any sports which include the following: a) injury prevention; b) increased cognitive function; c) improved coordination and balance; and d) improved recovery times.

**Speed.** The mean score of 1.88 implies that the respondents cannot move in one direction in the shortest period. Hence, the respondents need to improve in this component. Chen and Xiao (2017) also discussed in their study that speed is one of the crucial physiological profiles of Sepak Takraw players since high speed in sports means that players can receive the balls faster than their opponents, which is an advantage.

**Power.** In the study on Determining Dominant Physical Factors in Sepak Takraw Service Capabilities by Saharuddin Ita (2019), the author concluded that the dominant physical factor in the Sepak Takraw service capability was the leg muscle power.

**Balance.** The very low weighted mean of 1.12 implies that respondents need vast improvement to balance in both storks right and left. Balance is also noted by Chen and Xiao (2017) as an essential profile in Sepak Takraw. Therefore, this component must also be improved as the respondents undergo the training.

**Reaction Time.** This component was already established good ( $M=3.7$ ) among the respondents since they were already exposed to several competitions where the need to respond to the ball hit by opponents is essential. Similarly, reaction time was discussed by Chen and Xiao (2017) as an essential profile among Sepak Takraw players.

While athletes performed moderately well across different components, there is room for improvement, particularly in strength, coordination, speed, and balance. The relatively low standard deviation suggests consistency in scores across components. Goulding (2016), a senior personal trainer at Nuffield Health, defines continuous training, its benefits, and when to implement it. Exercise that is done continuously—that is, without taking breaks—at a "continuous" intensity is known as continuous training. Fitness tests applied to those athletes in continued training give the best result. Thus, there is a dire need to continue training to develop physical fitness among the athletes since the physical fitness pre-test results seem low.

### ***Performance Level of the Athletes in the Physical Fitness Post-Assessment***

The post-performance level of the respondents in the post-assessment Physical Fitness Test along the different components is discussed below.

**Endurance.** The average mean of 96.62 pulse rate is by what Mayo Clinic Sports Medicine Center's co-director, Laskowski, responded on the website saying the average person's resting heart rate is between 60 and 100 beats per minute.

**Strength.** The result is positively correlated to the study of Suchomel et al. (2016), who discussed the influence of muscular strength on different elements involved in athletic performance, as well as the advantages of increasing muscular strength. An athlete's overall performance is strongly influenced by improved force-time characteristics, which are strongly correlated with greater muscular strength.

**Flexibility.** The assessment revealed excellent flexibility results, indicating that the participants' joints have a broad range of motion. The mastery of Sepak Takraw is supported by the body's flexibility. Players of Sepak Takraw can learn the techniques and achieve satisfying results if their bodies are flexible and not rigid (Saharuddin Ita, 2019).

**Coordination.** The mean score of 3.44 implies that most scores fall under 3 and 4. Chen and Xiao (2017) discussed in their study that coordination, along with balance, speed, and reaction time, are essential physiological profiles of Sepak Takraw players.

**Agility.** The result ( $M=4.86$ ) implies good performance among athletes since agility is the capacity to change directions quickly while maintaining balance and using a combination of speed, strength, endurance, and coordination. Those who score highly on the assessment are probably quick-witted, meaning they can react quickly to visual or auditory signals. Being able to shift directions quickly and effectively is a sign of excellent

agility. Song et al. (2019) stated that this ability is essential in sports where rapid changes in movement patterns are necessary. High agility is frequently advantageous in sports like soccer, basketball, tennis, and many more that call for rapid direction changes.

**Speed.** The mean score of 3.48 implies that the respondents completed fast during the sprint. The excellent speed of the student-athlete, according to the assessment, shows that people can move rapidly and at a fast pace to cover distances. Fast acceleration and deceleration are characteristics of people with exceptional speed, which helps them start and stop rapidly. In many sprinting sports, like football, soccer, track and field, and many more, having a high-top speed is essential. To preserve and improve their talents, athletes with high speed may find it helpful to include speed-specific drills and workouts in their training regimen. The National Strength & Conditioning Association (NSCA) (2017) confirmed that athletes in most sports value speed highly because a faster athlete can get to a ball more quickly than a competitor or may even outrun a pursuer (Dawes, 2019).

**Balance.** The student athlete's poor result on a balancing test suggests that they have trouble staying stable and balanced whether doing static or dynamic movements. Difficulties keeping balance can be caused by imbalances or weakness in the muscles that stabilize the body. When analyzing the results, these aspects must be considered. Athletes need to develop this further because balance is critical to agility and the ability to change direction at speed - perfect for lots of sports (Acar & Eler, 2019).

**Reaction Time.** The mean score of 4.62 implies that the respondents' excellent reaction times show quick cognitive processing, which enables people to comprehend and react to events quickly. Michael Cummings (n.d.), strength, and conditioning coach wrote an article entitled "What's All the Buzz about Reaction Time?". Cummings (n.d.) said that as an athlete, a good reaction time allows one to be agile and efficient in responding to stimuli in sports. Good reaction time with a good first step (movement time) results in a high-performing athlete.

Flexibility, strength, and balance showed positive results among the respondents with excellent mean scores. This positive result further confirms the study on Determining Dominant Physical Factors in Sepak Takraw Service Capabilities by Saharuddin, Ita (2019) who concluded that a good combination of flexibility, balance, and strength will be a good flow path for an athlete.

### ***Comparative Report in the Pre-test and Post-Test Results in PFT***

The consistent elevation of mean scores in all components strongly implies that the researcher's 8-week self-training program has been effective in fostering overall improvements in the athletes' physical fitness. These positive outcomes affirm the program's impact on strength, flexibility, coordination, agility, speed, power, balance,

and reaction time. Overall, the table exhibits significant differences in the pre-test and post-test performances in all components.

### ***Development of an 8-Week Self-Training Program in Sepak Takraw***

The researcher developed an 8-week Self-Training Program in Sepak Takraw that aims to help the athletes train at their own pace, time, and place with the facilitation of the training program. The training program was developed according to the standard of STAF and was already Level 1 accredited. The Sepak Takraw 8-Week Training Plan 2020 consists of a standardized training program to be administered three (3) times a week in every phase with an increasing rate of maximum weight, repetition, set, resting set, and training speed to closely monitor the development in their level of performance in the specific phases, particularly their endurance, strength, flexibility, coordination, agility, speed, power, balance, and reaction time. The athletes' level of performance will be rated according to daily accomplishment using the scale: moderate, high, and very high. Also, the said program adheres to the standard set by the Asian Sepak Takraw Federation (ASTAF) committee, as it was required by the researcher during his international training last year. The program was approved by the committee and is ready to be utilized by all coaches.

### **CONCLUSIONS AND RECOMMENDATIONS**

The pre-test indicates a need for improvement in several components, notably Balance, Strength, Coordination, and Speed, with specific areas such as Stork Balance and Basic Plank requiring attention. However, the overall weighted mean for the physical fitness test suggests a significant improvement post-training, particularly in Flexibility, Agility, Reaction Time, and Strength, with Flexibility scoring the highest. The post-test scores demonstrated significant enhancements across all components, indicating the effectiveness of the 8-week self-training program in enhancing athletes' performance in various skills, including strength, flexibility, coordination, agility, speed, power, balance, and reaction time.

As recommendations, Sepak Takraw coaches to focus on enhancing athletes' balance, strength, coordination, and speed, as these elements scored lowest in the Physical Fitness Test. Despite this, the training program led to improved performance in the post-test, suggesting its efficacy for continued use. Additionally, the 8-week self-training program should be recommended to the division office as a complement to existing school programs. Furthermore, future research should explore additional training programs to further enhance Sepak Takraw's performances, reinforcing the need for ongoing development and utilization in this area.

## **IMPLICATIONS**

The findings underscore the effectiveness of targeted training programs in enhancing athletes' performance across multiple components of physical fitness in Sepak Takraw. By identifying areas of weakness and implementing focused interventions, coaches can facilitate significant improvements in balance, strength, coordination, and speed, thereby enhancing overall athletic performance. These results highlight the importance of tailored training regimes in optimizing athletes' capabilities and suggest avenues for further research and development in sports-specific conditioning programs to continually enhance players' skills and abilities.

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## **DECLARATIONS**

### ***Conflict of Interest***

All authors declare that they have no conflict of interest.

### ***Informed Consent***

All authors declare that this study is covered by the exceptions in the need for informed consent as no personal details are obtained.

### ***Ethics Approval***

No ethics approval is necessary for this piece of work as the research does not involve living human participants and does not utilize any personal data.

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### **Author's Biography**

Dustin Paolo T. Cruz just recently finished his postgraduate studies with the degree Master of Arts in Education major in MAPEH at Urdaneta City University, where he also graduated with his bachelor's degree Bachelor in Secondary Education major in MAPEH, Academic Year 2015. Currently, he works as MAPEH Teacher III and School Sports Coordinator at Daniel Maramba National High School. Since he started teaching, he has been a coach in the field of Sepak Takraw Boys, a Santa Barbara Sepak Takraw Club member, and is chosen as part of the R1- AA Delegation Trainer for Sepak Takraw Secondary Boys. You may contact him at [dustinpaolocruz@gmail.com](mailto:dustinpaolocruz@gmail.com).

Dr. Russell B. Dolendo is currently a Professor IV at the Department of Library and Information Science, College of Information Sciences, Benguet State University, Benguet, Philippines. You may contact her at [r.dolendo@bsu.edu.ph](mailto:r.dolendo@bsu.edu.ph)