WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Basic Alternatives in Developing Needed Endurance (B.A.D.N.E) to Improve High School Student's Push-up Performance in Fitness Gram Test

John Paul D. Endab[1], Ramoel Brave Mondelo[2], Erlouise Vargas[3]

Xavier University Senior High School, Cagayan de Oro City, Philippines

ABSTRACT:

ENDAB, JOHN PAUL D, MONDELO, RAMOEL BRAVE & VARGAS, ERLOUISE (2020). "BASIC ALTERNATIVES IN DEVELOPING NEEDED ENDURANCE (B.A.D.N.E) TO IMPROVE HIGH SCHOOL STUDENT'S PUSH-UP PERFORMANCE IN FITNESS GRAM TEST": Action Research,

Xavier University Senior High School, Cagayan de Oro City.

Increasing your muscular strength and endurance is an important component to living a healthy lifestyle. Decreased body fat percentage, reduced risk of chronic disease, accident prevention and increased capability of daily tasks are just some of the major benefits for addressing this fitness component.

This research determined the effectiveness of B.A.D.N.E in improving high school student's push-up performance in Fitness Gram Test in Cagayan de Oro City for school year 2020-2021.

This study utilized quasi-experimental design (pretest and posttest). Findings reveal that there was a significant increase on their muscular endurance specifically in their arm after the intervention. The study further established that all participants have improved their muscular endurance. It shows how effective the modified push up as an alternative push up to enhance the ability of muscular arm endurance.

Keywords: Arm strength, Endurance, Modified Push-up, Traditional Push-up

INTRODUCTION

Physical education, in the Philippines and of the whole world, main goal is to help people enjoy their life to the extent. This means that people will experience life that is free from stress, depression, health problems, and will have extra energy always for leisure activities. This can be achieved if people will start engaging themselves with physical activities.

In Physical Education, measuring fitness levels of the students would be the priority of the program. On measuring this, Physical education teachers administer the *Health-related fitness Test*. The common problem observed by the researchers is the performance of the students in the arm strength and endurance. The test here is the exercise push-up. The poor performance during push-up could be an indicator of poor muscular strength and endurance of the upper extremities. But there are also things to consider before inferring to that statement. Delivery of the instruction, movement pointers, personal health problems, and motivation to participate are good contributors to the success-fail rate of the administration.

Tailoring your wellness means your personalized fitness program should start with a clear vision. Decide on what to do first: Weight loss, muscle gain, enhanced endurance, or flexibility improvement. Decide your Starting Point - Assess where you are at right now. This is important crucial for understanding your current fitness level and setting realistic expectations. You cannot map a route without knowing where you are starting. The practical knowledge here is that understanding your baseline helps you avoid overexertion and injury. Tailor Your Workouts - It is time to customize your workouts to align with your goals. A well-rounded personalized fitness program usually includes a mix of activities: cardiovascular workouts, strength training, and flexibility exercises (Endab, 2024).

The number of repetitions of push-up during the pre-physical fitness test of the five (five) grade 11 students from Xavier Ateneo Senior High School were evidently low. The researcher will try to improve the said component in the post-test by implementing the intervention BADNE Exercise. If proven helpful, BADNE exercise will be implemented in the curriculum and this step would be a benefit to the curriculum and to the goal of Physical education.

RATIONALE

The researchers chose the topic for the reasons that (a) this is problem experienced by most of the students, (b) it will help the future students improve their performance, (c) it will help the department on achieving its goal, and (d) this is the most convenient and practical study during covid19 pandemic. The findings of this study will help other researchers who also want to address this problem and trainers and coaches of sports, particularly uses arm strength and endurance, in developing and improving athletes for a better performance.

LITERATURE REVIEW

This chapter presents the literature and studies that are related this research. To present valid and reliable information, the researchers searched for published materials that could help diagnose the problem of this study.
According to Endab (2024), the result confirmed the principle of regularity, which states that the benefits of exercise only last when one exercises regularly, to adapt to muscle stimulation. Therefore, if the athlete starts a training program and trains regularly, one will achieve the best possible result. Regularity is synonymous with consistency where the training schedule should be consistent in terms of the nature of the training exercise undertaken.

Health-related Fitness Test

One of the most established measurements of Physical Education curriculum is the Physical Fitness Test. Basing from the concept of Fitness Assessment Model (Baumgartner et al., 2016), this assessment model has five (5) steps, these includes: Fitness Test, Exercise Prescription, Exercise Program, Fitness test, and Evaluation. This is model is used worldwide by physical educators and other fitness related profession.
Health-related Fitness has different components that needs to be tested to determine the level of fitness of an individual. There are several health-related fitness activity assessments. Some of these are FITNESSGRAM/ACTIVITYGRAM, AAHPERD Health-Related Physical Fitness, South Carolina Physical Fitness Test, YMCA Physical Fitness Test, and many more. Components under HRF include Aerobic fitness or cardiorespiratory, muscular strength and endurance, body composition, and flexibility. Most of them harmonized the same components but not with health-related standards (Miller, 2010).

Arm Strength and Endurance – Traditional Push -up

According to Youdas et al. (2010), traditional push-up is an exercise that improves the upper extremities' group of muscles. In fact, the American College of Sports Medicine used this exercise to improve the muscular strength of an individual.

The traditional push-up exercise usually used as a treatment to rehabilitate the upper body of an individual. It is also used as an strengthening tool to whoever wanted to improve their strength. It promotes mainly the athletes' rotator cuff and the shoulder's prime mover, if compared to the modified push-up the traditional push-up is more demanding exercise since it stresses the body with the force applied (Surpak et al., 2011).

The use of different hand positions on doing the push-up will also determine the muscles that will be developed. Whether what type of position or handgrip it is, the traditional push-up, perfect push-up in particular, will show reasonable results on muscle strengthening (Youdas et al., 2010).

Modified Push-up

If an individual cannot comply with the demand by the traditional push-up, the modified push-up should take place. It is a variation of push-up in which the individual will be kneeling all throughout the push-up process instead of using the toes to left the lower extremities. It mainly focuses on the girdle stability of the shoulders a reason why modified push-up can be used as a rehabilitating activity (Surpak et al., 2011).

RESEARCH QUESTIONS

The researchers devised questions that could help them address the poor push-up performance of the grade 11 students during the pre and post health-related physical fitness test.

These are the guide questions of the researchers:

1. What is the performance of the participant in push-up before the intervention?
   - 1.1. Participant no. 1
   - 1.2. Participant no. 2
   - 1.3. Participant no. 3
   - 1.4. Participant no. 4
   - 1.5. Participant no. 5
2. What is the performance of the participant in push-up after the intervention?
   - 2.1. Participant no. 1
   - 2.2. Participant no. 2
   - 2.3. Participant no. 3
   - 2.4. Participant no. 4
   - 2.5. Participant no. 5
3. Is there a significant increase in the participant's performance when the pre and post-test results are compared?
   - 3.1. Participant no. 1
   - 3.2. Participant no. 2
   - 3.3. Participant no. 3
   - 3.4. Participant no. 4
   - 3.5. Participant no. 5

SCOPE AND LIMITATION

This chapter contains the location, respondents, and the restriction on every aspect of the study.

Location

Due to the COVID19 pandemic, the face-to-face traditional classroom setting was forced to adapt a new mode of teaching. This mode is the flexible learning (Flexi-learning) which is done online. Since this study was done during the 1st semester of school year 2020-2021, the location of the study also shifted to a virtual classroom. The platform of this online class is the Microsoft Teams powered by Microsoft.

Respondents

In the class of twenty – five (25), the researchers consulted the four (4) male participants. The selection was based on their performance during pre-physical fitness test. These four (4) were the lowest among the twenty – five (25) when it comes to arm strength and endurance test: Push-up.

RESEARCH METHODOLOGY

On October 2, 2020, the PE class commenced its asynchronous pre-physical fitness test after getting the health appraisal record (HAR) that contains the class' medical history and other health problems. The researchers, also the teachers, handed over the instructions to their class. The class performed the activity after the session, others during weekends, and some during their free time. The researchers sent through the assignment tab of MS Teams the PPFT scorecard where the top of it is a form that collects basic information of the class and their BMI.

After collecting the class data, the researchers evaluated and assessed their performance. There, they have found the four (4) lowest data recorded during push-up test. On October 9, 2020, the researchers produced consent letter to because the prospect participants are all minors. With the use of Fitness Assessment Model (Baumgartner et al., 2016), after getting the results from the four (4) participants with lowest data recorded during pretest, the researchers decided to create a prescription that could develop their arm strength and endurance. The researchers devised a name called *B.A.D.N.E Alternative Exercise.* B.A.D.N.E exercise is a modified-push-up with intensive instruction and complemented with instructional video and pointers.

The program's duration will run up until November 20 for them to finish the 1-month training program task with 2 times per week as frequency and 10% increase of their heart rate as intensity. On their 1-month training program, they will follow the 3 phases of exercise which is the *warm-up, conditioning, and the cool-down*. On October 13, 2020, the intervention B.A.D.N.E exercise was finally implemented to the participants in their *exercise program*.

On November 20, 2020, the 1-month training program ended, and participants need to administer again the test, Post physical fitness test. This is to assess whether the poor performance of the four (4) participants elevated significantly by using the intervention BADNE Exercise.

Data Collection

After the pretest, the data of the students were collected by the researchers to identify the top four (4) lowest performance during the push-up test. The scores of four (4) participants during the pretest were reflected on the table below.

PARTICIPANTS	**ACHIEVED REPETITIONS WITHIN 60 SECONDS**
	Pretest
PARTICIPANT NO. 1	**5 REPETITIONS**
PARTICIPANT NO. 2	**15 REPETITIONS**
PARTICIPANT NO. 3	**15 REPETITIONS**
PARTICIPANT NO. 4	**13 REPETITIONS**

Push-up results of the participants during the pre-test and before intervention.

The one-month-training program commenced after collecting and interpreting the result of pretest. The intervention B.A.D.N.E Exercise was implemented by the participants for the whole month. The scores of four (4) participants during the post-test were reflected on the table below.

PARTICIPANTS	**ACHIEVED REPETITIONS WITHIN 60 SECONDS**
	Post-test
PARTICIPANT NO. 1	**20 REPETITIONS**
PARTICIPANT NO. 2	**32 REPETITIONS**
PARTICIPANT NO. 3	**30 REPETITIONS**
PARTICIPANT NO. 4	**27 REPETITIONS**

Push-up results of the participants during the post-test after intervention.

DISCUSSION OF RESULTS

We have observed a significant improvement in students' results after 1 month. It shows in their post-performance the enhance on their muscular endurance specifically in their arm averaging over 15.25 more repetition than their pretest. The lowest improvement is participant no.3 which he scores in his pretest 15rep and his posttest 30rep which means 200% improvement, in the other hand the highest improvement among the participant is participant no.1 who scored in pretest 5 reps but on his posttest 20 reps which means it enhances his repetition up to 400%. All participants have improved their muscular endurance. It shows how effective the modified push up as an alternative push up to enhance the ability of muscular arm endurance.

RECOMMENDATIONS

We recommend the use of modified push up as an alternative exercise to improve the student's performance in their arm endurance. It is a very good exercise for students who struggle in performing the normal push up, it is easy to do and it give a significant impact on their health. It is truly helpful specially to students, athletes, coaches, and PE teachers.

DISSEMINATION & ADVOCACY PLANS

We plan to conduct webinar about the B.A.D.N.E exercise is to show how to improve muscular endurance using a modified push up. This research will help the students, athletes, teachers, sports, and fitness enthusiasts to see how effective Brave exercise in terms is of improving student's health-related fitness the arm endurance. In this time pandemic, we highly encourage everyone to try our exercise to see a difference. It's also a good

exercise more specifically for beginners. We will collaborate with a partnership between schools, community organizations focused on health and fitness and to our fellow PE teachers.

REFERENCES

1. Baumgartner, T. A., Jackson, A., Mahar, M., & Rowe, D. (2016). *Measurement For Evaluation In Kinesiology* (9th Ed.). Jones & Bartlett Learning.
2. Endab, J. P. (2024). Effectiveness of Squat and Countermovement Jumps in Improving Vertical Jump Performance [Zenodo]. https://doi.org/10.5281/zenodo.11003141
3. Endab, J. P., & Salinda, N. (2024). Tailoring Wellness: Crafting your Personalized Home Fitness and Mental Health Journey. Mindanao Daily News Network, 10. https://doi.org/10.5281/zenodo.11111732
4. Miller, D. K. (2010). *Measurement By The Physical Educator Why And How* (6th Ed.).
5. Surpak, D., Dawes, J., & Stephenson, M. (2011). The Effect of Position on the Percentage of Body Mass Supported during Traditional and Modified Push-up Variants. 25(2), 497–503.
6. Youdas, J. W., Budach, B. D., Ellerbusch, J. V., Stucky, C. M., Wait, K. R., & Hollman, J. H. (2010). Comparison of Muscle-activiation Patterns During the Conventional Push-up and Perfect Push-up Exercises. 3352–3362.

FINANCIAL REPORT

There were no reported expenses while conducting this study. Only the efforts of the researchers were spent during the administration.