



Learning Environment, Motivation, and Challenges of Junior High Students under Physical Education Modular Instruction

Bena Mae C. Margario^{a*}, Joecil T. Solidarios^b and Joel M. Bual^c

^a *Manapla National High School-Purisima Extension, 6120 Manapla, Negros Occidental, Philippines.*

^b *John B. Lacson Colleges Foundation-Bacolod, 6100 Bacolod City, Negros Occidental, Philippines.*

^c *University of Negros Occidental-Recoletos, 6100 Bacolod City, Negros Occidental, Philippines.*

Authors' contributions

The paper was a collaborative work and effort of all authors. Author BMCM is the main proponent who wrote the paper, designed the study and performed the data analysis and interpretation through the guidance and recommendations of author JTS as her adviser. Author JMB on the one hand, checked and addressed the alignment of the writing from the formulation of the research objectives, framework, methods, analysis and interpretation, conclusion and the journal format. The work has been read and approved for submission by all authors.

Article Information

DOI: 10.9734/AJESS/2022/v31i430757

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/90569>

Original Research Article

Received 07 June 2022
Accepted 09 August 2022
Published 12 August 2022

ABSTRACT

Aims: This paper described the availability of students' learning environment in physical education under modular instruction in terms of exercise and dance in a public school in Negros Occidental, Philippines during the school year 2021-2022 when they were taken as a whole and grouped according to sex, parents' highest educational attainment, and family income. Likewise, it described their learning motivation both intrinsic and extrinsic. Lastly, it described their challenges in environment, content, teacher, learner, and technology.

Study Design: The study utilized the quantitative design particularly the descriptive approach.

Place and Duration of Study: The study was conducted among the students of a public school in Negros Occidental, Philippines during the school year 2021-2022.

Methodology: Using the validated and reliability tested questionnaires, the study was responded by 264 grade 10 students determined through stratified random sampling. The instrument was assessed using the scale: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly

agree. In terms of data analysis, mean and standard deviation were utilized to describe the three constructs.

Results: The students' availability of learning environment facilities in physical education under modular instruction in terms of exercise (M=3.93; SD=0.52) is rated with agreeable result. In the availability of learning environment facilities relative to dance (M=3.88; SD=0.63), it was rated with agreeable result. Finally, the overall availability of learning environment facilities (M=3.91; SD=0.53) in physical education under modular instruction is rated with agreeable result. Meanwhile, the students' intrinsic motivation (M=4.30; SD=0.60) is rated strongly agree. Their extrinsic motivation (M=4.09; SD=0.67) in physical education is rated agree. Finally, the overall students' learning motivation (M=4.19; SD=0.60) in physical education is rated with agreeable result. The students' challenges in learning physical education (M=3.31; SD=0.84) is rated neutral. The top challenge is the students' difficulty in understanding the lessons in dance (M=3.69; SD=0.96) with agreeable result. The least challenge is on the students' existing health conditions and diseases (M=2.29; SD=1.27) with disagreeable result.

Conclusion: The success of physical education modular instruction highly depends on the availability of environment facilities as manifested by the favorable space and adequate learning resources. Also, when the students' intrinsic and extrinsic motivations are in place, quality physical education instruction is guaranteed.

Keywords: Physical education; learning environment; motivation; modular instruction; descriptive; Philippine public schools.

1. INTRODUCTION

Physical Education is an essential discipline that develops the learners' holistic formation [1]. It is pivotal in advancing their health considering their current lifestyle and pandemic circumstances, which influence their life disposition [2]. Meanwhile, as this pandemic continues, the United Nations Sustainable Development Group [3] emphasizes the learners' continuous learning through modular instruction. This is to ensure that the student's education vis-à-vis physical education subjects are advanced amid this circumstance [4]. With the objective of providing physical education students with continuous instruction, an environment at home with adequate facilities is necessary to guarantee quality learning [1].

Meanwhile, when a learning environment with sufficient resources is intact among learners, quality instruction is ensured [5-8]. Additionally, the available facilities at home amid distance learning increase their motivation to perform the discipline's expected tasks [9]. The students' motivation is necessary since they were abruptly introduced to modular instruction [10,11]. In Asian countries, the instructional modality's sudden implementation created a shift in the learners' disposition towards physical education subjects where they are expected to demonstrate the competencies [12]. Hence, the learning environment, facilities, and motivation are crucial factors in embracing the subject [5].

However, in the Philippines, most students were not designed for modular instruction, which compromised their learning [13-15]. In learning physical education, most find it difficult to understand the module lessons since most personally take instructions from their teachers [16]. Meanwhile, the public schools' resort to modular instruction where the students find it hard to communicate with their teachers regarding the modules which affects their motivation [17]. Further, most don't have adequate space at home for their performances. With these, physical education instruction is compromised [18].

In public schools, this modular learning has certain adversities. These include the students' poor learning environments, which are uncomfortable, full of distractions, and insufficient space for performances [19]. The students also have poor connectivity and equipment like audio-video devices, which are essential for physical education classes. Further, most lack concentration, which contributes to their difficulty in engaging and absorbing information [13]. In fact, as teachers retrieved the modules, some were found not answering the worksheets [17].

Several studies in the Philippines were conducted on learning environments [20,21]. In learning motivation, studies were conducted in public high schools [22,18], private schools [23], and state universities and colleges [24,25]. In learning challenges, studies were conducted

among public elementary and secondary school students [26,27,19]. However, given the available studies, there has been limited literature on learning environments, motivation, and challenges, especially in learning physical education among Philippine public high school students. This is the gap that this study would like to fill in.

1.1 Research Problem

This study described the availability of students' learning environment facilities in physical education under modular instruction in terms of exercise and dance in a public school in Negros Occidental, Philippines during the school year 2021-2022 when they were taken as a whole and grouped according to sex, parents' highest educational attainment, and family monthly income. Likewise, it described their learning motivation both intrinsic and extrinsic. Lastly, it described their challenges in environment, content, teacher, learner, and technology. The findings are significant in developing supplementary physical education instructional materials to improve modular teaching in public schools.

1.2 Theoretical Framework

The paper theorized that the students' availability of environment facilities and motivation may contribute to their learning. However, there are factors which may impede the students' disposition. These assumptions were anchored on Thorndike's [28] connectionism theory. This holds that learning occurs through stimuli-response association. When this relationship is established, they become ready to perform. In this study, the students' learning is stimulated by the available stimuli, which are the learning environment resources and their motivation toward the subject. Another stimulus is when the public school resolves the learning issues. When these are addressed, their readiness to learn physical education is also guaranteed.

2. METHODOLOGY

2.1 Research Design

The study utilized a quantitative design, particularly the descriptive approach. This described the students' availability of learning environment facilities, motivation, and challenges under physical education modular instruction.

2.2 Respondents

The respondents were 264 grade 10 students in a public school in Negros Occidental, Philippines during the school year 2021-2022. They were determined using stratified random sampling and objectively chosen through the fishbowl technique.

Table 1. Demographic Profile of the Respondents

Variable	f	%
Campus		
Campus A	202	76.5
Campus B	40	15.2
Campus C	22	8.3
Sex		
Male	131	49.6
Female	133	50.4
Family Monthly Income		
below Php11, 000.00	196	74.2
above Php 11, 000.00	68	25.8
Parents' Highest Educational Attainment		
Elementary Graduate	55	20.8
High School Graduate	149	56.4
College/bachelor's degree	60	22.7
Total	264	100.0

2.3 Research Instrument

The validated and reliability-tested questionnaires were used to assess the study. These were subjected to 10 Subject Matter Experts (SMEs) with a valid score of 0.92 using Lawshe's [29]. Content Validity Ratio (CVR). A pilot test was conducted on 30 non-actual respondents who shared the same characteristics and yielded a reliable Cronbach's Alpha score of 0.818. They were all rated as 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree.

In particular, the 16-item learning environment facilities questionnaire in terms of exercise and dance was based on physical education safety guidelines under K-12 [30]. The Modified Learner Enrolment and Survey Form (MLESF) [31] was used to create the 10-item challenges questionnaire related to environment, content, teacher, learner, and technology. Meanwhile, the 8-item motivation instrument was a researcher-made questionnaire composed of intrinsic and extrinsic factors. Finally, descriptive analysis was used in data analysis physical education, specifically mean and standard deviation, to

describe the availability of learning environment facilities, motivation, and challenges.

2.4 Data Analysis

The descriptive analysis was used in data analysis physical education, specifically mean and standard deviation, to describe the availability of learning environment facilities, motivation, and challenges.

3. RESULTS AND DISCUSSION

3.1 Students' Availability of Learning Environment Facilities in PE under Modular Instruction in Exercise

Exercise is an essential PE activity that requires adequate facilities and space to ensure quality learning acquisition [2]. Table 2A presents the students' availability of learning environment facilities under modular instruction in exercise. The availability of facilities for exercise ($M=3.93$; $SD=0.52$) is rated with an agreeable result. All aspects have agreeable results. The highest rated aspects are the available safe electrical outlet and extension for exercises ($M=4.18$; $SD=0.84$) and a well-lighted and ventilated area for learning ($M=4.15$; $SD=0.76$). Meanwhile, the lowest rated aspect is the available fitness equipment ($M=3.42$; $SD=1.19$).

The agreeable result for exercise indicates that the students have very satisfactory facilities under modular instruction to perform the required exercise competencies. The rating could be influenced by the readily available equipment at home or in the neighborhood where students can easily borrow [9]. Interestingly, there are learners who can find a way to perform the subject's tasks. Manlangit et al. [32] found that the students perform the tasks despite their family income through improvised equipment from available resources. Meanwhile, the need to improve the students' facilities at home to meet the highest rating. Hence, these encourage the students to improvise facilities to ensure the exercise tasks under modular instruction.

Moreover, the students' highly available facilities are the electrical outlet and extension and the well-lighted and ventilated learning space. These results indicate that despite the modular instruction, these students can perform the tasks at home. This could be influenced by the readily available resources at home where they can connect their audio related to exercises despite the outnumbered students' low family income

[33]. Meaning, electrical outlets and extensions are everybody's necessity, regardless of exercise activities. Meanwhile, regarding the available space, this could be attributed to the wide area at home where these students can perform the exercises. Exercises can be done anywhere at home or outside. Amatriain-Fernández et al. [2] perceive that the students' exercise areas are not limited inside the house. However, despite the flexibility of physical education activities being done at home, one issue that may occur could be the element of teachers' control over their students' performances. In support, Kamoga and Varea [34] found that when physical education activities are done out of school, the easiness of control decreases. Hence, this means encouraging the students to utilize their readily available resources and space at home or outside along with the teachers' constant monitoring of their performances.

Furthermore, the rating on available fitness equipment indicates that this area should be given attention among physical education students despite the agreeable result. This could be influenced by the equipment like balls, mats, and jump ropes, which is not readily available at home [9]. Often, these are materials that should be purchased or borrowed from neighbors to be utilized. Studies show that given the outnumbered students' low family income, the majority would choose to allot their expenses to basic needs rather than buy this equipment for temporary use [35]. Hence, this implies encouraging students to borrow resources from those who have them if they cannot buy them.

3.2 Students' Availability of Learning Environment Facilities in Physical Education under Modular Instruction in Dance

Physical education students are expected to dance [36]. Here, the facilities should be adequate [37]. Table 2B presents the students' availability of learning environment facilities in PE under modular instruction in dance. The availability of facilities for dance ($M=3.88$; $SD=0.63$) is rated with an agreeable result. All aspects have agreeable results. Specifically, the highest rated aspects are the available safe electrical outlet and extension for dances ($M=4.02$; $SD=0.90$) and the informative and interesting physical education module ($M=3.94$; $SD=0.81$). Meanwhile, the available electronic

Table 2A. Students' Availability of Learning Environment Facilities in Physical Education under Modular Instruction in Exercise

Exercise	M	SD	Int
1 Adequate and comfortable space to perform exercises.	3.92	0.86	Agree
2 Well-lighted and ventilated area for learning	4.15	0.76	Agree
3 Floor surface with enough grip to avoid slipping or falling during exercise	3.80	0.89	Agree
4 Appropriate clothing for comfortable movement during exercise	4.06	0.81	Agree
5 Available footwear for safe performance	4.04	0.92	Agree
6 Area that is free from obstacles	3.79	0.95	Agree
7 Safe electrical outlet and extension for exercise	4.18	0.84	Agree
8 Availability of fitness equipment	3.42	1.19	Agree
9 Available informative and interesting PE module.	4.03	0.81	Agree
As a whole	3.93	0.52	Agree

gadgets to watch dance and record performances (M=3.81; SD=1.00), adequate and comfortable space for dancing (M=3.82; SD=1.09), and a floor surface with enough grip to avoid slipping or falling when dancing (M=3.82; SD=0.95) are the lowest rated aspects.

The result for dance indicates that the students have adequate facilities in their performances under modular instruction. The rating could be influenced by the students' available resources like gadgets, sound systems, etc. which propel them to perform the dance [36]. If available, they can borrow from their friends or neighbors. They are assured that they can perform since these materials and space are available [32]. Hence, these signify the need to strengthen the students' available facilities under modular instruction to meet the highest rating. This also implies exhausting ways for students to acquire resources if they are not available.

Relative to available electrical outlets, extensions, and informative and interesting physical education modules' ratings, they indicate that the students should make use of these readily available resources in their dance performance. This could be influenced again by the necessity of these materials at home regardless of the physical education subject [33]. Meanwhile, the informative and interesting module's high assessment could be attributed to the approved modules which are made available nationwide for DepEd schools [17]. Manlangit et al. [32] claim that interesting modules are essential in learning the physical education subject. They are informative guides in establishing the students' learning motivation under modular instruction [16]. Hence, these

signify encouraging the students to continuously utilize their available resources in dance performance. This also propels the teachers to enhance the modules to make them more interesting.

Regarding the available gadgets to watch and record dances, adequate and comfortable dance space and floor surface with enough grip as the lowest rated aspects, they indicate that they should be improved more among students despite the agreeable result of learning the dances. Because of the large number of low-income students, some cannot afford to have devices to watch, download, and record dances, which require large storage and strong connectivity [38]. Relatedly, most find it difficult to study due to poor connectivity and the availability of gadgets [39]. Hence, it affects their learning disposition. These resources are necessary, especially in distance learning for communication purposes [40].

One factor affecting the rating of adequate and comfortable space for dancing is that this activity requires more space, which cannot be done inside the house. These activities are done outside and require available outlets and extensions [4]. Similarly, the floor surface with enough grip is normally not available at home unless they improvise [41]. Mostly, improvisation takes time, which demotivates the students to perform dances. Hence, these signify encouraging the students to devise ways and improvise resources to ensure performance. This also implies the teachers' responsibility to provide activities that are within the students' reach.

Table 2B. Students' availability of learning environment facilities in physical education under modular instruction in dance

Dance	M	SD	Int
1 Adequate and comfortable space for dance performance	3.82	1.09	Agree
2 Floor surface with grip to avoid slipping or falling during dancing	3.82	0.95	Agree
3 Appropriate clothing for comfortable movement during performance	3.92	0.91	Agree
4 Available footwear for safe performance.	3.83	0.96	Agree
5 Available electronic gadgets to watch dance and record performances	3.81	1.00	Agree
6 Safe electrical outlet and extension for performance	4.02	0.90	Agree
7 Available informative and interesting PE module	3.94	0.81	Agree
As a whole	3.88	0.63	Agree

3.3 Students' Availability of Learning Environment Facilities in Physical Education under Modular Instruction as a whole

Table 2C presents the students' overall availability of learning environment facilities in physical education under modular instruction. The overall availability of facilities for dance and exercise (M=3.91; SD=0.53) is rated with an agreeable result. The overall agreeable result indicates that the students have very satisfactory space and facilities for exercise and dance performances. Naturally, these PE activities entail a favorable environment to guarantee quality learning [42]. Ulstad et al. [43] perceive that physical education learning can be achieved when the students are provided with a positive

climate to perform the tasks amid the difficulty. Physical education is also a subject that gives students an opportunity to move. Hence, a conducive space is crucial to advancing quality student learning [32].

In support, Usman and Madudili [37] remarked that the learning environment is an important predictor of students' academic and social development. This environment at home should include the learning space, facilities, and equipment, as well as the parents' and teachers' encouragement [44]. Hence, these signify teacher-parent partnerships to ensure the students' learning. This also implies teachers consider the students' learning spaces in their evaluation.

Table 2C. Students' availability of learning environment facilities in physical education under the modular instruction as a whole

Variable	Exercise			Dance			Leaning Environment		
	M	SD	Int	M	SD	Int	M	SD	Int
Sex									
Male	3.85	0.55	A	3.80	0.66	A	3.83	0.56	A
Female	4.01	0.48	A	3.96	0.60	A	3.99	0.49	A
Family Income									
below Php 11, 000.00	3.92	0.56	A	3.86	0.68	A	3.89	0.57	A
above Php 11, 000.00	3.97	0.39	A	3.95	0.50	A	3.96	0.41	A
Parents' Highest Educ. Attainment									
Elementary	3.99	0.57	A	3.83	0.76	A	3.92	0.61	A
High School	3.92	0.50	A	3.89	0.61	A	3.91	0.51	A
College/Bachelor's Degree	3.91	0.52	A	3.91	0.57	A	3.91	0.51	A
Overall	3.93	0.52	A	3.88	0.63	A	3.91	0.53	A

Note: (3.41 - 4.20) A = Agree

3.4 Students’ Intrinsic Motivation in Physical Education under Modular Instruction

Intrinsic motivation is associated with one's feelings like comfort, satisfaction, pleasure, joy, and interest without being influenced by external factors [45]. These factors are essential in the acquisition of physical education learning [18]. Table 3A presents the students’ intrinsic motivation in physical education under modular instruction. Their intrinsic motivation (M=4.30; SD=0.60) is rated as strongly agreeable. Feeling good to be healthy (M=4.51; SD=0.74) is the highest with strongly agreeing and looking forward to spending more time on fitness activities (M=4.16; SD=0.77) is the lowest with an agreeable result.

The intrinsic result indicates that the students amid modular instruction are personally disposed towards physical education learning without being influenced externally. This domain is also rated higher than extrinsic factors, revealing that they are motivated more internally than externally. This could be influenced by the physical education subject, which has personal benefits among students, not just academically [45]. Most feel that this discipline contributes to their wellness, especially amid pandemics where their mental state is affected as manifested by health as the highest rated aspect [46].

Mandolesi et al. [47] argued that intense physical activity can cause blood to flow to the brain, which boosts neurons and cell growth. Some literature claims that just a 30-minute physical activity can improve the students’ learning concentration [48]. Lastly, when they engage in physical activity, they feel healthy and good, which increases confidence, peer acceptance, leadership skills, and empathy [49]. Hence, these signify the need to provide the students with activities that promote health awareness.

The rating of spending more time on fitness reveals that some students have difficulty

allocating time for physical exercise. This could be influenced by their time allocation to comply with their worksheets rather than spending time on fitness. Meanwhile, this could also be attributed to the outnumbering of low-income students. De Guzman et al. [34] perceive that those who belong to a lower socioeconomic status would choose to help their parents with household chores rather than spend time doing fitness. Hence, this implies encouraging the teachers to incorporate physical exercises into their lessons so the students can meet their modules without compromising their physical fitness.

3.5 Students’ Extrinsic Motivation in Physical Education under Modular Instruction

Extrinsic motivation uses external rewards or punishment to encourage students’ work completion [50]. This is also essential to motivate them to embrace the physical education subject [18]. Table 3B presents the students’ extrinsic motivation in physical education under modular instruction. Their extrinsic motivation (M=4.09; SD=0.67) is rated as agree. All aspects were rated with agreeable results, with parents/guardians’ support (M=4.16; SD=0.96) as the highest and being inspired to do performance tasks (M=4.03; SD=0.86) as the lowest.

The result indicates that physical education students are not only intrinsically but also extrinsically motivated. Reflected in the highest rated aspects, they are externally motivated by their parental/guardian support amid modular instruction. In this modality, the parents/guardians were given the chance to mentor their children, which probably influenced the assessment [44]. At this opportunity, some parents offer rewards to encourage them to accomplish their tasks. Manlangit et al. [32] found that parents/guardians who devote time to supporting their children’s learning, providing adequate resources, making follow-ups,

Table 3A. Students’ intrinsic motivation in physical education under modular instruction

Intrinsic	M	SD	Int
1 I feel good being healthy.	4.51	0.74	Strongly Agree
2 I spend time for fitness activities.	4.16	0.77	Agree
3 I keep myself physically active.	4.32	0.77	Strongly Agree
4 I feel motivated that I am doing great.	4.20	0.86	Agree
Overall	4.30	0.60	Strongly Agree

and giving rewards create better students' performance. Hence, these signify encouraging parents to exhaust ways of supporting their children to ensure quality physical education learning.

Meanwhile, the result on performance tasks indicates the need to improve this aspect vis-à-vis the students' learning despite its agreeable result. Some comply with the performance tasks given their high family income. Some find it difficult since they are affected by their low socio-economic status, which requires them to purchase the materials to comply with the tasks [51]. Another factor influencing the rating is that some students choose to assist their parents in household chores and other errands [35]. Garcia [51] found that students with low socio-economic backgrounds prefer to assist their parents rather than engage in physical education activities. Hence, this implies the need for teachers to provide performance tasks for students that are attainable. This also encourages the parents to work with the teachers in compliance of these tasks.

3.6 Students' Motivation in Physical Education under Modular Instruction as a Whole

Table 3C presents the students' overall motivation in physical education under modular instruction. Their overall motivation (M=4.19; SD=0.60) is rated as agreeable. The rating indicates that physical education students are highly motivated to learn physical education both intrinsically and extrinsically. This could be influenced by the outnumbered female students' assessment in this study. The result shows that girls are highly motivated intrinsically and extrinsically in physical education activities. Lazarević et al. [52] found that in learning physical activities, females showed greater motivation than their counterparts. Furthermore, one interesting aspect of physical education entails students' movement. Most prefer the psychomotor subject, which probably impacted

the learners' assessment [49]. Psychologically speaking, adolescents are normally hyperactive and motivated to learn when they are mobile [46]. Hence, these imply encouraging the teachers to provide activities that involve mobilization to encourage student engagement.

3.7 Students' Challenges in Physical Education under the Modular Instruction

Table 4 presents the students' challenges in learning physical education under modular instruction. The overall degree of challenge (M=3.31; SD=0.84) is rated neutral. The top challenges are on the aspect of content, particularly on students' difficulty in understanding the dance lessons (M=3.69; SD=0.96) with the agreeable result. Meanwhile, the learner faces the fewest challenges, particularly in terms of their existing health conditions and diseases (M = 2.29; SD = 1.27), with unfavorable results.

The neutral result indicates that the students encounter moderate challenges in learning physical education amid modular instruction. Though these challenges are manageable, they reveal the need to address these issues to guarantee the students' quality of physical education learning. Therefore, they should not take these issues lightly. This could be influenced by the availability of the module given as a reference along with the online communication that the teachers are providing in support of the modular instruction [44].

Moreover, some are eager to learn amid modular instruction. Culajara [5] found that amid challenges, the students still learn on their own and cope with the activities and performances. Some progress and accomplish their tasks even without others' assistance [19]. Hence, this means an exhausting means to address the physical education learning issues. This also encourages the students to develop self-efficacy in their performances.

Table 3B. Students' extrinsic motivation in physical education under modular instruction

Extrinsic	M	SD	Int
1 I feel inspired doing the performance tasks.	4.03	0.86	Agree
2 I feel motivated that activities are easy to perform.	4.10	0.86	Agree
3 I feel motivated to find out my scores in doing the performance rubrics.	4.08	0.80	Agree
4 I feel the support of my parents/guardians.	4.16	0.96	Agree
Overall	4.09	0.67	Agree

Table 3C. Students' motivation in physical education under the modular instruction as a whole

Variable	Intrinsic			Extrinsic			Motivation		
	M	SD	Int	M	SD	Int	M	SD	Int
Sex									
Male	4.22	0.63	SA	4.03	0.67	A	4.13	0.61	A
Female	4.37	0.56	SA	4.15	0.68	A	4.26	0.58	SA
Family Income									
below Php 11, 000.00	4.30	0.59	SA	4.09	0.70	A	4.19	0.61	A
above Php 11, 000.00	4.30	0.62	SA	4.11	0.60	A	4.20	0.57	A
Parents' Highest Educ. Attainment									
Elementary	4.37	0.69	SA	4.15	0.78	A	4.26	0.71	SA
High School	4.29	0.58	SA	4.09	0.68	A	4.19	0.59	A
College/Bachelor's Degree	4.25	0.56	SA	4.04	0.54	A	4.15	0.50	A
Overall	4.30	0.60	SA	4.09	0.67	A	4.19	0.60	A

Note: (3.41 - 4.20) A = Agree; (4.21-5.00) SA – Strongly Agree

Table 4. Students' challenges in learning physical education under modular instruction

Variables	M	SD	Int
Environment			
1 Insufficient space for physical fitness	3.47	0.99	Agree
Content			
2 Difficulty in understanding the dance lessons	3.69	0.96	Agree
3 The performance tasks are difficult.	3.52	0.92	Agree
4 Inadequate learning resources	3.55	1.00	Agree
Teacher			
5 Inadequate teacher-student interaction	3.37	1.13	Neutral
Learner			
6 Existing health conditions and diseases	2.29	1.27	Disagree
7 Difficulty in independent learning	3.54	1.09	Agree
Technology			
8 Poor connectivity	2.91	0.92	Neutral
9 Insufficient mobile load to contact teachers	3.45	1.09	Agree
10 Inadequate gadgets and equipment	3.14	1.23	Neutral
Overall	3.31	0.84	Neutral

The difficulty in understanding the dance lessons' rating indicates that this aspect needs more attention. This could be attributed to the stringent dance rules that most find hard to understand [36]. Further, they are used to receiving direct instructions from their teachers on what to do, and this has strongly affected their learning disposition nowadays [17]. There are even modules where the content and instructions are too long and vague for students' understanding, which probably influenced the rating [19]. Also, since the DepEd modules are unified, there are instances where instructions are not contextualized to students' settings, which may have influenced their assessment [16]. Hence, these imply advancing teacher-student constant communication to derive clear instructions for dance lessons. Also, these signify ensuring that

unified modules are indicated with clear instructions to guarantee quality physical education learning.

Meanwhile, the existing health conditions and diseases' rating indicates that this aspect is not necessarily the students' concern. The rating could be influenced by students who perceive themselves as too young to acquire illnesses. Because of this, health and conditions are not their concerns now [40]. Further, students who are adolescents are not normally prone to diseases incomparable to those of adults. Wu et al. [53] believe that adolescents have a faster metabolism and a stronger immune system. That's why they are more complacent when it comes to their health. These, imply the need for teachers to encourage their students to take care

of their health. Also, it implies the strengthening of health lessons in physical education to encourage the learners to value their health.

Theoretically, the study postulated that the learning environment and motivation may contribute to learning. However, there are factors that may impede learning. This assumption was anchored on Thorndike's [28] connectionism theory. This principle implies that quality learning results from the stimuli-response association. Given the results, the connectionism theory is validated. These constructs are stimuli that produce a quality physical education learning response. With this, the need to strengthen the students' availability of space and facilities, motivation, and resolve instructional issues is critical. Hence, public school guarantees successful physical education learning amid modular instruction.

4. CONCLUSION

The student's successful physical education learning under modular instruction in a public school highly depends on their available learning environment facilities and motivation. Also, resolving the challenges is essential in ensuring quality learning. Meanwhile, they can make use of spaces at home or outside in their performances, given that resources are adequate. They can also exhaust ways to produce resources by the improvisation of available materials at home or through borrowing. The clarity of modules is also critical to the student's interest and understanding.

Moreover, the students embrace physical education when they are motivated intrinsically and extrinsically. Furthermore, these factors include parental and teacher support, which are pivotal in modular instruction. With the parents' assistance and constant teacher-student communication, their quality performance is guaranteed. Their health is also significant in physical education instruction as an attribute in learning, aside from academic achievement. Hence, the incorporation of the learners' health awareness is essential in the advancement of the physical education lessons.

With the theory's validation, it is important that the stimuli be established to produce effective responses. With this, the students' quality physical education learning can only be realized when these spaces, resources, motivation, and challenges are addressed. Given the limitations

of the study that is only limited to a single school and descriptive approach, the future researchers are encouraged to conduct similar studies on a larger scale, employing other variables not covered, and upgrade higher designs to validate the claims to become valuable contributions to physical education discipline and sports sciences.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the authors.

ACKNOWLEDGEMENTS

The main author expresses her gratitude to the public school where the study was conducted particularly the administrators, teachers, and students for their unreserved support in making this research possible. She also would like to thank the University of Negros Occidental-Recoletos Graduate School, especially her adviser, consultant, and panels who served as guiding light in the successful pursuit of this study. Lastly, to her family and friends who believed in her that she could make it this far. Thank you very much.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Shah MA, Hafeez N, Idrees J. Plight of physical education in secondary schools of Punjab; Pakistan. *Int J Educ Res.* 2019;10(3):11-25.
2. Amatriain-Fernández S, Murillo-Rodríguez ES, Gronwald T, Machado S, Budde H. Benefits of physical activity and physical exercise in the time of pandemic. *Psychol Trauma.* 2020;12(S1);Suppl 1:S264- 6. DOI: 10.1037/tra0000643, PMID 32478537.
3. United Nations Sustainable Development Group. Policy brief: education during COVID-19 and beyond; 2020. Available:<https://unsdg.un.org/resources/policy-brief-education-during-covid-19-and-beyond>.
4. Coulter M, Britton Ú, MacNamara Á, Manninen M, McGrane B, Belton S. Belton

- S. PE at home: keeping the 'E' in PE while homeschooling during a pandemic. *Phys Educ Sport Pedagog.* 2021;1-3:1-13. DOI: 10.1080/17408989.2021.1963425.
5. Culajara CJ. Barriers to learning and performing in physical education in modular remote learning and coping strategies perceived by the students. *Edu Sport Indonesian J Phys Educ.* 2022;3(1):11-24. DOI: 10.25299/es:ijope.2022.vol3(1).8559.
 6. Banusing RO, Bual JM. Appraising the quality of diocesan Catholic education in accordance with Philippine Catholic Schools Standards. *Soc Sci J.* 2021;4(2):80-9. DOI: 10.52006/main.v4i2.344.
 7. Bual J, Madrigal D. The quality of Catholic education in a diocesan school relative to the Philippine Catholic school standards. *Soc Sci J.* 2018;1(1):41-53. DOI: 10.52006/main.v1i1.11.
 8. Jorilla CD, Bual JM. Assessing the teachers' competence in diocesan Catholic schools relative to the Philippine Professional Standards for Teachers. *Soc Sci J.* 2021;4(2):71-9. DOI: 10.52006/main.v4i2.343.
 9. Nurulfa R, Motto CA, Dlis F, Tangkudung J, Lubis J, Junaidi J. Physical education survey during the COVID-19 pandemic in Eastern Indonesia. *Int J Hum Mov Sports Sci.* 2021;9(4):668-75. DOI: 10.13189/saj.2021.090410.
 10. Beboso CG, Bual J. Students' motivation and perception in learning social science using distance learning modality during COVID-19-pandemic. *AJESS.* 29Jul. 2022 [cited 29Jul.2022]. 2022;31(3):16-28. DOI: 10.9734/ajess/2022/v31i330750.
 11. Garcia JV, Bual JM. Awareness and practice of public school core values among junior high school students. *Asian J Educ Soc Stud.* 2022:1-12. DOI: 10.9734/ajess/2022/v31i430753.
 12. Balakrishnan P. Education in the age of COVID-19: educational responses from four Southeast Asian countries. *Int Stud Educ Admin.* 2020;48:102-8.
 13. Quinones MT. DepEd clarifies blended, distance learning modalities for SY 2020-2021. Philippine Information Agency; 2020. Available: <https://underoneceiling.com/top-news-and-stories/philippines-news-headline/depd-clarifies-blended-distance-learning-modalities-for-sy-2020-2021/>.
 14. Alic AKB, Bual JM. Readings in Philippine history: course review, best practices, and challenges among higher education institutions. *Soc Sci J.* 2021 Dec 15;4(4):91-103. DOI: 10.52006/main.v4i4.424.
 15. Bual JM, Madrigal DV. Correlating the school climate and teacher leadership of Catholic schools in Antique, Philippines. *Asian J Educ Soc Stud.* 2021;21(4):22-34. DOI: 10.9734/AJESS/2021/v21i430514.
 16. Gueta MF, Janer SS. Distance learning challenges on the use of self-learning module. *U Int J Res Technol.* 2021;2(07).
 17. Solomon AB, Alforja NS. Effectiveness of using different modalities to the learners' performance in physical education 8. *Int J Recent Innov Acad Res.* 2021;5(7):100-21.
 18. Bailon JV, Blancaflor EM, Datu-Puda MJ, Dabu KJ, Rioflorido RR, Cagas J. Motivation in physical education among Filipino high school students; 2018. Available: <https://www.scitepress.org/Papers/2017/70612/70612.pdf>.
 19. Dangle YR, Sumaoang JD. The implementation of a modular distance learning in the Philippine secondary public schools. In: 3rd International Conference on Advanced Research in Teaching and Education. Nov 27. 2020;100. DOI: 10.33422/3rd.icate.2020.11.132.
 20. Eimar SC, Jaguimit G, Lazado G, Lustado AL, Salagantin J, Toyco U et al. The effects of the learning environment on the academic performance of grade 12 students: an emerging guide. *Ascendens Asia Singapore-Bestlink Coll Philippines J Multidiscip Res.* 2019;1(1).
 21. Abiasen JT, Reyes GA. Teachers' and students' assessment on the extent of constructivism in the senior high school physics learning environment in Benguet, Philippines. *Mt J Sci Interdiscip Res (Formerly Benguet State Univ Res J).* 2021;81(1):100-16.
 22. Santoso AM. Learning motivation of students during the implementation of lecturing based in silico approach. *Int J Res Rev.* 2017;4(9):6-9.
 23. Campos PDS, Madrigal DV. Self-efficacy and academic motivation of students in a Catholic high school with parents working abroad. *Soc Sci J.* 2020;3(2):117-8. DOI: 10.52006/main.v3i2.256.
 24. Limbo CB, Viva EB. Motivation, attitude, and competence of physical education

- students. *Can J Educ Soc Stud.* 2021; 1(2):1-2.
DOI: 10.53103/cjess.v1i2.9.
25. Martin JT, Tubera JG, Monta VD, Naguiat ES, Yambao MJ, Tullao M, Mendoza JJ, Santos M, Baligad R. Motivation and physical activity participation of Filipino college students. *Asia Life Sciences.* 2016;25(1):245-54.
Available:<https://doi.org/10.5220/0007060903490353>.
26. Sadera JRN, Torres RYS, Rogayan. Jr DV. Challenges encountered by junior high school students in learning science: basis for action plan. *Univers J Educ Res.* 2020;8(12A):7405-14.
DOI: 10.13189/ujer.2020.082524.
27. Talimodao AJS, Madrigal DV. Printed modular distance learning in Philippine public elementary schools in time of COVID-19 pandemic: quality, implementation, and challenges. *Soc Sci J.* 2021;4(3):19-29.
DOI: 10.52006/main.v4i3.391.
28. Thorndike EL. A theory of the action of the after-effects of a connection upon it. *Psychol Rev.* 1933;40(5):434-9.
DOI: 10.1037/h0071025.
29. Lawshe CH. A quantitative approach to content validity. *Pers Psychol.* 1975;28(4):563-75.
DOI: 10.1111/j.1744-6570.1975.tb01393.x.
30. Prince Edward Island and department of education and early childhood development. Physical education: curricular intramural interschool safety guidelines; 2010.
Available:http://www.gov.pe.ca/photos/original/eecd_phyeduguid.pdf.
31. Department of Education (DepEd). Guidelines on enrollment for school year 2021-2022 in the context of continuing national public health emergency due to COVID-19; 2021.
Available:https://www.deped.gov.ph/wp-content/uploads/2021/08/DO_s2021_032.pdf.
32. Manlangit P, Paglumotan AM, Saperas SC. Nanay, handa na ba kayoing maging tagapagdaloy? Supercharging Filipino parents is key for successful modular distance learning. *FlipScience.* March. 2020;14:2021.
33. Blažević I, Benassi L, Šterpin A. Material working conditions in teaching physical education. *Econ Res Ekon Istraživanja.* 2020;33(1):1240-54.
DOI: 10.1080/1331677X.2020.1719177.
34. Kamoga S, Varea V. "Let them do PE!" The 'becoming' of Swedish physical education in the age of COVID-19. *Eur Phys Educ Rev.* 2022;28(1):263-78.
DOI: 10.1177/1356336X211036574.
35. De Guzman MFDD, Matias AD, Villalobos RN, Ganaden AR. Experiences and coping of low-income parents during covid-19 pandemic. *J Adv Educ Philos.* 2022;6(3):186-93. .
DOI: 10.36348/jaep.2022.v06i03.008.
36. El-Sherif JL. Learning, teaching and assessing dance in physical education. *Strategies.* 2016;29(5):31-6.
DOI: 10.1080/08924562.2016.1205540.
37. Usman YD, Madudili CG. Evaluation of the effect of learning environment on students' academic performance in Nigeria. *Online Submission;* 2019 Nov 20.
Available:<https://eric.ed.gov/?id=ED602097>.
38. Chang SH, Kim K, Lee J, Lee S. The effectiveness of physical activity interventions for low-income and ethnic minority children and youths: A meta-analysis. *J Phys Act Health.* 2019;16(9):799-808.
DOI: 10.1123/jpah.2018-0648, PMID 31319397.
39. Cena JB, Bual JM. Spiritual well-being of senior high school students of Philippine public schools. *Soc Sci J.* 2021;4(4):50-61.
DOI: 10.52006/main.v4i4.446.
40. Trigueros R, Aguilar-Parra JM, Cangas AJ, Bermejo R, Ferrandiz C, López-Liria R. Influence of emotional intelligence, motivation and resilience on academic performance and the adoption of healthy lifestyle habits among adolescents. *Int J Environ Res Public Health.* 2019;16(16):2810.
DOI: 10.3390/ijerph16162810, PMID 31394722.
41. Hills AP, Dengel DR, Lubans DR. Supporting public health priorities: recommendations for physical education and physical activity promotion in schools. *Prog Cardiovasc Dis.* 2015;57(4):368-74.
DOI: 10.1016/j.pcad.2014.09.010, PMID 25269062.
42. Karlen Y, Suter F, Hirt C, Maag Merki KM. The role of implicit theories in students' grit, achievement goals, intrinsic and extrinsic motivation, and achievement in the context of a long-term challenging task. *Learn Individ Differ.* 2019;74:101757.

- DOI: 10.1016/j.lindif.2019.101757.
43. Ulstad SO, Halvari H, Sørebo Ø, Deci EL. Motivation, learning strategies, and performance in physical education at secondary school. *Adv Phys Educ.* 2016;06(1):27-41. DOI: 10.4236/ape.2016.61004.
44. Pascual E. Parent-teacher-learner collaboration in modular distance learning. LAP LAMBERT Academic Publishing; 2020.
45. Davies B, Nambiar N, Hemphill C, Devietti E, Massengale A, McCredie P. Intrinsic motivation in physical education. *J Phys Educ Recreat Dance.* 2015;86(8):8-13. DOI: 10.1080/07303084.2015.1075922.
46. Xiang P, Ađbuđa B, Liu J, McBride RE. Relatedness need satisfaction, intrinsic motivation, and engagement in secondary school physical education. *J Teach Phys Educ.* 2017;36(3):340-52. DOI: 10.1123/jtpe.2017-0034.
47. Mandolesi L, Polverino A, Montuori S, Foti F, Ferraioli G, Sorrentino P et al. Effects of physical exercise on cognitive functioning and wellbeing: biological and psychological benefits. *Front Psychol.* 2018 Apr 27;9:509. DOI: 10.3389/fpsyg.2018.00509, PMID 29755380.
48. Abou Elmagd M. Benefits, need and importance of daily exercise. *Int J Phys Educ Sports Health.* 2016;3(5):22-7.
49. Fernandez-Rio J, Sanz N, Fernandez-Cando J, Santos L. Impact of a sustained cooperative learning intervention on student motivation. *Phys Educ Sport Pedagog.* 2017;22(1):89-105. DOI: 10.1080/17408989.2015.1123238.
50. Duman İ, Horzum MB, Randler C. Adaptation of the short form of the intrinsic motivation inventory to Turkish. *Int J Psychol Educ Stud.* 2020;7(3):26-33. DOI: 10.17220/ijpes.2020.03.003.
51. Garcia A. Parental involvement among low-income Filipinos: A phenomenological inquiry. *Public Access Theses Diss Coll Educ Hum Sci.* 2018;304.
52. Lazarević D, Orlić A, Lazarević B, Radisavljević-Janić S. Attitudes of early adolescent age students towards physical education. *Fiz Kult.* 2015;69(2): 88-98. DOI: 10.5937/fizkul1502088L.
53. Wu XY, Han LH, Zhang JH, Luo S, Hu JW, Sun K. The influence of physical activity, sedentary behavior on health-related quality of life among the general population of children and adolescents: A systematic review. *Plos One.* 2017;12(11): e0187668. DOI: 10.1371/journal.pone.0187668, PMID 29121640.

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