

# Level of Instructional Domains on The Self- Efficacy of Gymnastics Teachers

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**Abstract:** Gymnastics is a sports activity that involves basic to challenging movements, physical exercises, and evaluation. It comprises of many forms of movements such as endurance, strength, flexibility, agility, and coordination, conducted on the floor or with the use of apparatus. As a physical training method, gymnastics improves functional body movement and teaches balance and spatial awareness, such as movement displacement, floated, balance, and weight transfer. Additionally, gymnastics offers the opportunity to create movements against gravity, enhancing fitness and skills. Moreover, gymnastics strengthens the body, maintains good physical condition, and develops good sports habits as well as improves learners' cognitive skills, shapes the body, promotes mental health, self-development, and lifelong sports consciousness. Gymnastics promotes various health and fitness benefits, well-being, and sporting prowess, making it an essential component of physical education.

**Keywords:** Gymnastics, sports activity, Physical fitness.

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## 1. Introduction

As a fundamental part of physical education gymnastics should be offered in preschool level through college. The study conducted by YIN Chao and M A Li <sup>[1]</sup> assessed the sustainable development of preschool gymnastics curriculum. They stated that preschool period is critical in the development of physical and mental abilities of children. Therefore, its curriculum content should reflect the integration of fitness, challenge, interest, and safety, thereby improving their overall function and development, cognition, and adaptive ability. Gymnastics teaching is crucial for primary and middle school physical education teachers, requiring theoretical knowledge, professional skills development, and willpower training. It is a key indicator for certification in physical education majors. Teachers should follow basic principles, explore technical movements, and improve student quality <sup>[2]</sup>. In a study conducted by Shen with regards to the current situation in rhythmic gymnastics teaching, most regular college students render slower comprehension in learning gymnastics, which eventually leads to poor motivation and lack of self-confidence. This may be linked to the degree of importance of incorporating gymnastics into physical education, and generating of better sports foundation for the students.

Gymnastics has been described not only as a venue for developing physical fitness, but also for cultivating personal and social responsibility. Many colleges and universities attach great importance into making physical education a life-long process for college students. It is vital to promote the physical education curriculum to cultivate students who are adaptable to new economic society and socialist modernization construction <sup>[3]</sup>. With this, colleges and universities should prioritize actively look for ways to enhance the quality of teaching gymnastics because it can support college students' healthy growth <sup>[4]</sup>.

The gymnastics course is a crucial component of physical education majors in colleges and universities, fostering comprehensive teacher abilities. Hence, it is essential to promote reform in gymnastics teaching and enhance the

theory and practice of gymnastics teaching in physical education majors <sup>[5]</sup>. In Wuhan Institute of Physical Education, the primary teaching techniques for gymnastics include specialized technical instruction and training, a variety of technical teaching techniques, audio teaching, video feedback, and bilingual teaching. Additionally, the Wuhan Institute of Sport's gymnastics program offers associated training facilities for amateur gymnasts. Seven practice bases have currently been created in the neighborhood, which serves as a strong practice teaching environment for the course. <sup>[6]</sup>. The students are assessed on their practical and innovation ability, leadership, description and demonstration of exercises and movements, and class organization.

## 2. Review of Related Literature and Studies

### 2.1. Gymnastics

Gymnastics is a sport that involves physical exercises with bare hands or instruments, aiming to gather strength, beautify the body, and shape it <sup>[7]</sup>. It is a physical activity that involves basic to challenging movements, physical exercises, and evaluation. It enhances stamina, strength, flexibility, coordination, and self-control through practical bodily movement. It also teaches spatial awareness and balance skills, such as floating, shifting weight, and displacement of movement <sup>[8]</sup>. Gymnastics is a sport that enhances motor skills, hand-eye coordination, socialization, and skill acquisition through physical activity <sup>[9]</sup>.

### 2.2. Muscle Strength and Endurance

Physical fitness is directly associated with muscle strength improvement, and measuring muscle strength is considered an important performance parameter in sports. These muscles are essential for high levels of athletic practice, including jumping and pivot movements <sup>[10]</sup>. As a sport that requires different movement structure, a high technical level of Physical preparation is essential for the development and implementation of diverse structure exercises in gymnastics. In order to attain mastery on routines and elements in

gymnastics, it is necessary that the individual has precise coordination of movements, strength, and endurance Sawczyn, et al. [11]. A good strength quality is necessary for gymnastics, especially for the upper limb, waist-abdomen, and lower limb.

### 2.3. Flexibility

Flexibility, the range of motion of joints, is enhanced through structured stretching exercises, often practiced before athletic activities to maintain range of motion and muscle strength, preventing injury [12]. Flexibility allows the body's joints to move and stretch in various directions, as well as soft tissues like muscles and ligaments. Gymnastics includes various movements and apparatus such as free hand gymnastics, horizontal and parallel bars, horse vaulting, roll motion, somersault, and so on; each requiring athletes to have good flexibility [13].

### 2.4. Training Principles

Gymnastics training is a complex activity that varies with age and level, with time spent in specific activities varying with age and level [14]. Gymnastics is a physical training method that improves endurance, strength, flexibility, coordination, and self-control through functional body movement. It teaches balance and spatial awareness, such as movement displacement, floated, balance, and weight transfer. The activity should be fun and challenging for all skill levels, allowing athletes to discover their abilities and receive immediate feedback. Additionally, gymnastics offers the opportunity to create movements against gravity, enhancing fitness and skills [15]. Gymnastics is a crucial sport that involves technical and formal performance, requiring players to perform challenging exercises in an artistic and aesthetic manner. This requires physical, skill, and psychological abilities that must be developed through preparation programs and modern scientific methods. The ability to perform these exercises requires a combination of physical and psychological abilities. As a sport, the goal of gymnastics is to perform challenging abilities in a way that makes them seem simple.

### 2.5. Emotional Management

Gymnastics has been described as a perfect venue for teaching movement concepts, developing and maintaining overall body fitness, fostering personal and social responsibility, and encouraging self-expression while enhancing self-esteem in a success-oriented environment [16]. However, gymnastics is also a sport that generates intense emotional arousal, with fear being the most common type. The constant need to master and learn more difficult skills puts gymnasts in situations with potential for fear. To stay competitive, gymnasts must learn to control these fearful situations. Fear is not negative, but a response to threat-related stimuli that causes adaptive behaviors to avoid or cope with the threat. However, fear can lead to avoidance behavior, anxiety, stress, shame, discomfort, freezing in mid-action, diminished self-esteem, concentration difficulties, confidence detriments, inefficient movement patterns, performance detriments, and a higher risk of injury. Fear of injury is also a common source of worry and a possible reason for gymnasts to leave the sport in highly competitive situations. Athletes often adopt maladaptive coping strategies like rumination to

cope with fear of injury, which can exacerbate fear and hinder their ability to return to the sport. However, athletes also have adaptive coping strategies like social support, positive thinking, mental practice, and self-confidence (Svensson, 20-).

## 3. Methodology

This chapter describes study design, study sites, sampling methods, study instruments, data collection procedures, ethical considerations, and statistical treatments to be used after data collection.

### 3.1. Research Design

This study will use a quantitative-descriptive-comparative design in analyzing and interpreting the perspective of students and teachers in terms of the level of instructional domains on the self-efficacy of selected teachers such as technique, knowledge, physical activity, health-related fitness, responsible personal and social behaviors, values and advocates, and nutrition. This design is chosen to measure and interpret the relationship between the assessment of students and teachers regarding the level of instructional domain. The quantitative-descriptive-comparative design will be utilized to answer the research questions using quantitative data and comparison of the results. Voxco research design (2019) supports the present study as it aims to systematically obtain information to describe a phenomenon, situation or population. It tries to find out an explanation for the existence of such phenomenon. It also involves using a range of quantitative research method to collect data that aids in accurately describing the situation.

### 3.2. Research Locale

This study will be conducted in the city of Guangdong China, with five (5) participating public universities. These universities offering bachelor's in physical education include South China University of Technology, South China Normal University, Guangzhou University of Traditional Chinese Medicine, Guangzhou Sports University, and Jinan University. These five (5) schools all at the same time offer special courses in gymnastics for freshmen/first year undergraduate students. Each of the schools conducts classes for sixteen (16) weeks with the total of sixty-four hours (64) a semester.

### 3.3. Respondents of the Study

The respondents of the study are both undergraduate teachers and students in gymnastics in selected public universities in Guangdong City, China. For the student respondents, each school only selected students who currently take special course in gymnastics during the conduct of the study. For the teachers, all PE teachers who teach special course in gymnastics in the current semester when the study will be conducted. Age as a significant part in their profile, undergraduate students from the bachelor in physical education are in their normal age ranging from 17 to 22 years old and above; and the teachers who conduct or teach special course in gymnastics are in different age brackets that can be dependent on their teaching/career experience.

## 4. Results, Analysis, and Interpretation

**Table 1. Demographic Profile of the Student-Respondents**

Demographic Profile	Categories	Frequency	Percentage
Sex	Male	140	44.87
	Female	172	55.13
	Total	312	100.00
Age	18-19 years old	40	12.82
	20-21 years old	234	75.00
	22 years old and above	38	12.18
	Total	312	100.00
Year Level	First Year	127	40.71
	Second Year	138	44.23
	Third Year	25	8.01
	Fourth Year	22	7.05
	Total	312	100.00

In Table 1, the demographic characteristics of the student respondents are presented in a structured format. The first category detailed is 'Sex,' with respondents categorized as either 'Male' or 'Female.' The distribution shows that 140 males participated in the survey, accounting for 44.87% of the sample. In contrast, female participants were slightly more prevalent, with 172 individuals representing 55.13% of the total. The cumulative number of respondents in this category is 312, which is also the total sample size, indicating complete data coverage with a closing figure of 100%.

Next, the table describes the 'Age' bracket of the respondents, which is divided into three ranges. The group aged '18-19 years old' is the smallest, with 40 individuals making up 12.82% of the total. The most significant age group is '20-21 years old,' encompassing 234 students and accounting for the majority at exactly 75%. The category '22 years old and above' closely follows the smallest group, with

38 individuals or 12.18% of the participants. This section also sums up to the total of 312 respondents, ensuring that all participants are accounted for without any missing data.

Lastly, the 'Year Level' of the students is examined. The table shows that 'First Year' students form 40.71% of the respondents, totaling 127 individuals. 'Second Year' students are the largest group in this section, comprising 138 respondents, which translates to 44.23%. The participation diminishes as the year level increases, with 'Third Year' students making up 8.01% or 25 individuals, and 'Fourth Year' students being the smallest group at 7.05%, equivalent to 22 students. Once again, the total adds up to 312 respondents, consistently reflecting the full count of the survey population. The tabular representation ensures that each category is mutually exclusive and collectively exhaustive, providing a clear demographic snapshot of the student body that participated in the survey.

**Table 2. Demographic Profile of the Teacher-Respondents**

Demographic Profile	Categories	Frequency	Percentage
Sex	Male	15	55.56
	Female	12	44.44
	Total	27	100.00
Age	25-29 years old	17	62.96
	30-34 years old	2	7.41
	35-39 years old	1	3.70
	40 years old and above	7	25.93
	Total	27	100.00
Years of Teaching Experience	1-5 years	14	51.85
	6-10 years	5	18.52
	11-15 years	2	7.41
	16 years and above	6	22.22
	Total	27	100.00

Table 2 categorizes the demographics of teacher respondents across various profiles. Beginning with the 'Sex' category, the table indicates that out of the 27 teachers who responded, 15 are male, making up 55.56% of the group. The remaining 12 respondents are female, which constitutes 44.44% of the sample. This brings the total number of participants in this demographic to the full cohort of 27, confirming that the data encompasses the entire teacher group involved in the survey, amounting to 100%.

Moving on to the 'Age' category, the teachers are distributed across four age ranges. The majority fall within the '25-29 years old' bracket, with 17 individuals representing 62.96% of the respondents. Only 2 of the teachers are '30-34 years old', a mere 7.41% of the total. Even fewer, 1 respondent, is within the '35-39 years old' category, accounting for 3.70%. The '40 years old and above' age bracket includes 7 teachers, composing 25.93% of the respondents. This portion of the

table also adds up to the total number of respondents, ensuring no teacher is unaccounted for.

The final category detailed in the table is 'Years of Teaching Experience'. It illustrates that the largest group of teachers, 14 individuals or 51.85%, have '1-5 years' of teaching experience. The '6-10 years' category follows with 5 teachers comprising 18.52%. A smaller number of teachers, 2 respondents, have '11-15 years' of experience, which is 7.41% of the total. Lastly, teachers with '16 years and above' of experience make up 22.22%, totaling 6 individuals. Similar to the previous categories, the sum here is 27, which aligns with the total number of teacher respondents, rounding off the demographic data at 100%. The table presents a comprehensive breakdown of the teachers' demographics, offering insight into their sex distribution, age groups, and the range of teaching experience within the respondent pool.

**Table 3.** Students' Assessment of Instructional Domain – Technique

Indicators	Mean	SD	Rank	Verbal Description/ Interpretation
The teacher demonstrates the domain needed to perform a variety of physical activities.	3.62	0.65	2	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain in developing cardiovascular activities.	3.46	0.82	5	Agree/Demonstrated
The teacher demonstrates the domain when developing muscles strength and endurance activities.	3.60	0.67	3	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain in developing flexibility.	3.59	0.65	4	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain in safety techniques.	3.64	0.63	1	Strongly Agree/ Always Demonstrated
Technique	3.58	0.63	-	Strongly Agree/ Always Demonstrated

Scale: 1-1.49: Strongly Disagree/Not Demonstrated; 1.50-2.49: Disagree/Sometimes Demonstrated; 2.50-3.49: Agree/Demonstrated; 3.50-4.00: Strongly Agree/Always Demonstrated

Table 3 lays out the students' assessment of the instructional domain focusing on 'Technique'. It employs a set of indicators to measure the perceived efficacy of teachers in demonstrating various domains of physical activities, rated on a scale that provides a mean score, standard deviation (SD), and rank, accompanied by a verbal description or interpretation.

The first indicator assesses how well the teacher demonstrates the domain necessary to perform a variety of physical activities, yielding a mean score of 3.62 with an SD of 0.65. This indicator is ranked second, with the interpretation being 'Strongly Agree/Always Demonstrated', suggesting students frequently observe their teacher successfully demonstrating this domain.

The second indicator examines the demonstration of the domain in developing cardiovascular activities, where the mean score is 3.46 and the SD is 0.82. It is given a rank of five, and the verbal interpretation is 'Agree/Demonstrated', indicating agreement but with less conviction than other areas, possibly due to a higher variation in student responses as suggested by the larger SD.

In the context of developing muscle strength and endurance activities, the third indicator presents a mean score of 3.60 and an SD of 0.67, ranking third with the interpretation 'Strongly Agree/Always Demonstrated'. This implies a strong

consensus on the teacher's consistent demonstration of this domain.

Flexibility development is the fourth indicator, scoring a mean of 3.59 with an SD of 0.65. It's ranked fourth and also falls under the 'Strongly Agree/Always Demonstrated' category, indicating a high level of performance by the teacher in this domain.

The fifth indicator, pertaining to the demonstration of safety techniques, scores the highest mean of 3.64 with an SD of 0.63, placing it at the top rank with the interpretation 'Strongly Agree/Always Demonstrated'. This suggests that teachers are most effective in demonstrating safety techniques, with a high level of agreement among students.

The overall assessment for the 'Technique' category has a mean score of 3.58 and an SD of 0.63, and it is collectively interpreted as 'Strongly Agree/Always Demonstrated'. This indicates a general consensus that teachers are perceived as highly competent in demonstrating technical aspects of gymnastics instruction. The consistency in the mean scores and low SDs across the indicators reflects a uniform perception of the teachers' efficacy in this domain. Physical education teaching involves the influence of various knowledge, skills, and techniques on each other, directly affecting students' learning and mastery of sports knowledge, technology, and skills (Liang Chao, 2019)

**Table 4.** Students' Assessment of Instructional Domain – Knowledge

Indicators	Mean	SD	Rank	Verbal Description/ Interpretation
The teacher demonstrates the domain by understanding the benefits of physical activity/dangers of physical inactivity.	3.62	0.62	1	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by understanding health-related fitness and application of FITT principle.	3.56	0.68	4	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by understanding the basic anatomy, physiology, physiological responses to physical activity	3.56	0.65	4	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by understanding the raining principles (overload, specificity, progression) & workout elements.	3.60	0.63	3	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by understanding the factors that influence physical activity choices.	3.62	0.63	1	Strongly Agree/ Always Demonstrated
Knowledge	3.59	0.60	-	Strongly Agree/ Always Demonstrated

Scale: 1-1.49: Strongly Disagree/Not Demonstrated; 1.50-2.49: Disagree/Sometimes Demonstrated; 2.50-3.49: Agree/Demonstrated; 3.50-4.00: Strongly Agree/Always Demonstrated

Table 4 provides an assessment of the instructional domain pertaining to 'Knowledge', as evaluated by students. The table is organized into indicators that reflect different aspects of the knowledge a teacher demonstrates, with corresponding mean scores, standard deviations (SDs), ranks, and a qualitative interpretation for each.

The first indicator suggests that teachers strongly convey their understanding of the benefits of physical activity and the dangers of inactivity, with students giving a mean score of 3.62 and an SD of 0.62. This indicator is ranked first, and the consensus among the students is that they 'Strongly Agree/Always Demonstrated', indicating a highly effective demonstration of this knowledge domain by the teachers.

When it comes to understanding health-related fitness and the application of the FITT principle (Frequency, Intensity, Time, and Type), the teachers received a mean score of 3.56 with an SD of 0.68. It is ranked fourth, with the interpretation again being 'Strongly Agree/Always Demonstrated', reflecting a slightly wider range of student responses yet still a strong agreement.

Teachers' understanding of basic anatomy, physiology, and physiological responses to physical activity also garnered a mean score of 3.56 and an SD of 0.65. This indicator shares the fourth rank with the previous one and is similarly

interpreted as 'Strongly Agree/Always Demonstrated'.

The domain regarding the understanding of training principles such as overload, specificity, and progression, as well as workout elements, received a mean score of 3.60 and an SD of 0.63. It is placed third in the rank, suggesting a strong and consistent recognition of the teachers' expertise in this area.

In the context of understanding the factors that influence physical activity choices, the teachers have once again scored a mean of 3.62 with an SD of 0.63, sharing the top rank with the first indicator. The consistent 'Strongly Agree/Always Demonstrated' interpretation indicates a strong perception that teachers are well-versed in this knowledge domain.

The overall assessment for the 'Knowledge' category has an average mean score of 3.59 and an SD of 0.60, with the collective verbal interpretation as 'Strongly Agree/Always Demonstrated'. This denotes a general agreement among students that their teachers possess a strong foundational knowledge relevant to the instruction of gymnastics, as evidenced by the high mean scores and low standard deviations across all indicators. Liang, et. al. (2019) emphasizes the importance of theoretical knowledge, professional skills development, and willpower training in gymnastics teaching.

**Table 5. Students' Assessment of Instructional Domain – Physical Activity**

Indicators	Mean	SD	Rank	Verbal Description/ Interpretation
The teacher demonstrates the domain by participating regularly in fitness-enhancing physical activity.	3.61	0.63	2	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by participating in physical activities (e.g., gymnastics, aerobics muscle strength & endurance, bone strength, and flexibility).	3.68	0.58	1	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by participating in the creation of an individualized physical activity plan.	3.62	0.61	5	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by participating in physical activities for enjoyment, social and personal meaning.	3.61	0.63	2	Strongly Agree/ Always Demonstrated
The teacher demonstrates the domain by participating in the self-monitor physical activity and adhere to a physical activity plan.	3.61	0.64	2	Strongly Agree/ Always Demonstrated
Physical Activity	3.62	0.57	-	Strongly Agree/ Always Demonstrated

*Scale: 1-1.49: Strongly Disagree/Not Demonstrated; 1.50-2.49: Disagree/Sometimes Demonstrated; 2.50-3.49: Agree/Demonstrated; 3.50-4.00: Strongly Agree/Always Demonstrated*

Table 5 showcases the students' assessment of their teachers within the instructional domain of 'Physical Activity'. This domain evaluates the frequency and quality of the teachers' participation in physical activities as a component of their teaching efficacy.

For the indicator regarding teachers participating regularly in fitness-enhancing physical activity, the mean score is 3.61 with a standard deviation (SD) of 0.63, which is ranked second. This score is interpreted verbally as 'Strongly Agree/Always Demonstrated', suggesting that teachers are seen as regularly engaged in activities that enhance fitness.

The highest mean score of 3.68 with an SD of 0.58 is attributed to teachers participating in a variety of physical activities, such as gymnastics and aerobics, which also includes muscle strength, endurance, bone strength, and flexibility exercises. This indicator holds the top rank and is also interpreted as 'Strongly Agree/Always Demonstrated', reflecting the highest level of agreement among students regarding their teachers' active participation. This is in line with the National Initial Standards for Physical Education

Teacher Education suggesting that muscular strength, particularly core strength, could be a crucial factor in teachers' ability to competently demonstrate fundamental skills in educational gymnastics.

An individualized physical activity plan's creation by the teachers is given a mean score of 3.62 and an SD of 0.61, surprisingly ranked fifth. Despite sharing a high mean score indicative of strong agreement, the rank suggests that, in comparison to other indicators, this is seen as a slightly less observed behavior.

The teachers' participation in physical activities for enjoyment, social, and personal meaning also receives a mean score of 3.61 with an SD of 0.63. This indicator is tied for the second rank, sharing the same score with the first indicator and echoing the sentiment that teachers not only participate for professional reasons but also for personal fulfillment.

Additionally, the domain of teachers' participation in self-monitoring physical activity and adherence to a physical activity plan has a mean score of 3.61 and an SD of 0.64. This is also tied for the second rank and carries the same 'Strongly

Agree/Always Demonstrated' verbal interpretation, indicating that teachers are viewed as consistently self-regulated in their physical activity endeavors.

Overall, the 'Physical Activity' domain has a collective mean score of 3.62 with the lowest SD of 0.57, which implies a strong, consistent agreement across the surveyed students. The collective verbal interpretation of 'Strongly Agree/Always Demonstrated' for this domain indicates a highly favorable student assessment of their teachers' active engagement in physical activities as part of their instructional practice.

## 5. Summary of Findings, Conclusions, and Recommendations

This chapter presents the summary of findings, conclusions, and recommendations of this study. The manner of how the presentation in this part of the study is patterned on how the research questions were presented in the Statement of the Problem in Chapter 1.

### 5.1. Findings

Based on the data presented, interpreted, and analyzed in Chapter IV, the researcher came up with the following findings:

1.1. Among 312 student-respondents, there are 140 males, accounting to 44.87%, and 172 females representing 55.13% of the total.

1.2. Among 312 student-respondents, 12.82% are aged '18-19 years old' and 12.18% are aged '22 years old and above'. Meanwhile, the majority of 75% are aged '20-21 years old'.

2.1. Among 27 teacher-respondents, there are 15 male accounting to 55.56%. The remaining 12 respondents are female, which constitutes to 44.44%.

2.2. Majority of the teacher-respondents fall within '25-29 years old' accounting to 62.96%. Meanwhile, 7.41% are '30-34 years old', 3.70% are '35-39 years old', and the remaining 25.93% are aged 40 years old and above.

3.1. The first indicator, demonstrating the domain necessary for performing physical activities, is ranked second with a mean score of 3.62. The second indicator, focusing on developing cardiovascular activities, has a mean score of 3.46, indicating agreement but with less conviction. The third indicator, demonstrating muscle strength and endurance activities, has a mean score of 3.60, indicating a strong consensus on the teacher's consistent demonstration. The overall assessment for the technique category has a mean score of 3.58, indicating a general consensus on the teacher's competence in demonstrating technical aspects of gymnastics instruction.

3.2. The first indicator, striving to maintain healthy through knowledge, ranks first with a mean score of 3.60 and a standard deviation of 0.66. The second indicator, observing teachers' demonstration of basic nutrition and a healthy diet, ranks second with a mean score of 3.57 and an SD of 0.71. The domain of using or following diet assessment through lesson integration ranks second with a mean score of 3.57 and an SD of 0.69. Overall, the 'Nutrition' domain mean score of 3.57 and SD of 0.64 indicates students view teachers as role models for healthy diets and advocates for integrating nutrition education into physical education.

4.1. Teachers rated themselves highest in demonstrating safety techniques, with a mean score of 3.30 and a standard deviation (SD) of 0.78. Following this, with a

mean score of 3.19 and an SD of 0.83, is their ability to demonstrate the domain in developing flexibility, ranked second. The third-ranked indicator was their ability to perform various physical activities, with a mean of 3.11 and an SD of 0.89. They rank fourth in developing muscle strength and endurance activities, slightly less confidently compared to safety and flexibility, with a mean score of 3.04 and an SD of 0.85. The lowest self-assessment score was for developing cardiovascular activities, with a mean of 2.89 and an SD of 1.05, ranking fifth. The overall mean score for the 'Technique' category was 3.10 with an SD of 0.79, suggesting that teachers see themselves as capable in this domain but with room for growth.

4.2. Teachers are generally confident in their understanding of physical activity and its benefits, with a mean score of 3.22 and a standard deviation of 0.85. They also have a strong grasp of health-related fitness and the application of the FITT principle, with a mean score of 3.15 and a standard deviation of 0.91. They also have a good understanding of factors influencing physical activity choices, with a mean score of 3.11 and a standard deviation of 0.85. They also have a good understanding of training principles, such as overload, specificity, and progression, and workout elements. However, they feel least confident in the basic anatomy, physiology, and physiological responses to physical activity, with a mean score of 3.00 and a standard deviation of 0.88. The collective self-assessment across the 'Knowledge' domain yields a mean score of 3.10 and an SD of 0.82, indicating a strong foundation of knowledge in their teaching.

5. The assessment of student-respondents on the level of instructional domain found a significant difference in assessment scores between male and female students, with male students scoring higher and female students scoring higher. This difference, with a t-value of -2.14 and a p-value of 0.03, rejects the null hypothesis (H<sub>0</sub>), indicating a gender-specific assessment difference.

The assessment of student-respondents on the level of instructional domain reveals varying mean scores across three age groups: 18-19 years old, 20-21 years old, and 22 years old and above. The mean scores are significantly different, with a mean score of 3.56 and an SD of 0.68, 3.66 and an SD of 0.54, respectively. The statistically significant difference in assessments among age groups rejects the null hypothesis, indicating that age significantly impacts students' assessments.

6. The assessment of teacher-respondents on the level of instructional domain found a significant difference in self-assessment scores between male and female teachers, with males scoring higher than females. This difference, with a t-statistic value of 2.07 and a p-value of 0.04, rejects the null hypothesis (H<sub>0</sub>), suggesting sex may impact self-assessment scores.

The analysis reveals no significant difference in self-assessment scores across different age groups, confirming the null hypothesis (H<sub>0</sub>). Mean scores are relatively similar across all age groups, with some variability.

The assessment of teacher-respondents on the level of instructional domain analyzed differences in self-assessment scores based on teaching experience, with categories ranging from 1-5 years to 16 years and above. The F-statistic value was 0.65, indicating no significant difference in self-assessment scores. The mean scores varied slightly, with the group with 16 years and above having the highest mean score, but not statistically significant.

## 5.2. Conclusion

In light of the aforementioned findings, the following conclusions were made:

Students consistently perceive the teachers as proficient in exhibiting the instructional domains.

Teachers perceive themselves as proficient in demonstrating the instructional domains for fitness-specific course while expressing lower confidence in cardiovascular activities and stress management.

Gender, age, and year-level differences have a significant impact on student assessments of instructional domains.

## 5.3. Recommendations

Teachers' instructional best practices can be showcased through an academic learning exchange and benchmarking.

Departmental/institutional in-house trainings on soft skills of teachers can be cascaded to both school administrators and teachers at least once a year.

School-initiated Gender Equality, Disability and Social Inclusion (GEDSI) projects and activities can be explicitly or implicitly part in the physical education courses.

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