

## Level of appropriation of specific physical education competencies in secondary school students.

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### ABSTRACT

The ultimate goal of planning and implementing a Physical Education class is to achieve the comprehensive development of students. In this process, specific competencies must be developed that will contribute to the development of fundamental competencies. However, an assessment process must be established to verify the mastery of these competencies. The objective of this study was to determine the level of mastery of specific physical education competencies among secondary school students in the Dominican public education system. The methodology employed in this study was based on a quantitative, descriptive, and cross-sectional approach. The population consisted of 10,793 students. The sample was obtained in a stratified manner and totaled 1,196 students. The technique employed was a survey, and the instrument applied was a Likert-shaped questionnaire containing 42 questions. It was validated through expert judgment or the Delphi method and a factor analysis based on the KMO, obtaining an acceptable score of 0.841. The results showed that students maintained a positive level within the established scale for assessing specific physical education competencies. It was concluded that students had an average level of mastery of specific physical education competencies, which is significant in light of the secondary school graduation profile.

**Keywords:** *Level of Appropriation; Specific Competencies; Physical Education; Secondary School Students; Education System.*

### 1. INTRODUCTION

The Dominican Republic's educational system is based on a curriculum whose eclectic paradigm provides the opportunity to develop a host of competencies, both fundamental and specific (Polanco Rivera et al., 2023). On the one hand, this curriculum is based on constructivism, a pedagogical movement that assigns an active, leading role to the student, that is, it holds them responsible for achieving their own learning. Meanwhile, the teacher acts as a guide throughout the teaching-learning process, with no intention of presenting themselves as the owner, master, and lord of knowledge, and that the student should simply accept what they say (Viñas-Marté & Guzmán-Taveras, 2020).

From this perspective, a socio-critical constructivism is established, which, using dialogue and problematization as its foundation, empowers students to socialize with others and critique situations in their environment. Likewise, historical-cultural constructivism is adopted, seeking to foster learning that fosters indigenous and universal cultural values (Nature of Curricular Areas [NAC], 2019).

On the other hand, the curriculum is based on competencies, which seek to develop students' ability to act autonomously in heterogeneous situations and contexts, considering the integrity of the disciplines that make up the social and professional world in which they must operate (Cavani, 2021; Moreta, 2022). In this sense, the Curriculum Design of the Ministry of Education of the Dominican Republic [MINERD] (2017) states that:

The Fundamental Competencies express the most relevant and significant educational intentions. They are transversal competencies that allow for a meaningful connection across the entire curriculum. They are essential for the full and comprehensive development of human beings in their various dimensions; they are based on the principles of Human Rights and universal values. They describe the capacities necessary for the realization of human individuality and for their adequate contribution and participation in democratic processes. (p. 38)

In this sense, the curriculum considers it highly relevant to offer a comprehensive education, and to this end, it includes seven fundamental competencies that address this educational need. These competencies include: Ethical and Civic Competence; Communicative Competence; Logical, Creative, and Critical Thinking Competence; Problem-Solving Competence; Scientific and Technological Competence; Environmental and Health Competence; and Personal and Spiritual Development Competence (MINERD, 2016a).

## 2. THEORETICAL FRAMEWORK

### Specific Competencies

To achieve the development and implementation of core competencies, each curricular area has specific competencies that aim to ensure curriculum coherence. According to Marín-González et al. (2018), specific competencies constitute the set of specific abilities specific to each area of knowledge, guided by core competencies.

Along the same lines, López Acosta and Guzmán Martínez (2023) state that specific competencies related to physical education seek to showcase joint skills, knowledge, attitudes, and aptitudes acquired by students through their active participation in classes, allowing them to enjoy an active and healthy lifestyle, efficient joint mobility, assertive socialization, and positive teamwork.

According to the Ministry of Education (MINERD) (2023), when referring to specific competencies, it states that:

These competencies refer to the abilities that students must acquire and develop through the mediation of each area of knowledge. They are guided by the Fundamental Competencies and support their implementation, ensuring the coherence of the curriculum in terms of learning. (p. 19)

Specific competencies are closely linked to the performance that students must demonstrate when completing tasks, participating in activities, or in any learning situation proposed in a particular subject, field, or area. These constitute the set of basic knowledge that students must possess and are closely linked to the graduation profile and the assessment criteria established as achievement goals for performing their duties, and in this particular case, in the field of physical education.

As part of these competencies, the NAC (2019) document highlights the following for the secondary level:

*Motor control and body communication:* Students recognize their movement possibilities and use them to express moods, emotions, and ideas based on their knowledge and awareness of their own body. They perceive, interpret, and evaluate its changes, which allows for body control and motor efficiency in their harmonious, healthy, and creative relationship with the space around them and with other people. (p. 94)

Through this specific competency, students understand their bodies and develop skills that facilitate precise movements and gestures with which to express all the ideas, moods, feelings, and emotions they experience at specific moments, thus establishing communicative bonds with others.

*Sociomotor skills, recreation, and health:* Students interact appropriately with their peers, establishing cooperative and/or opposing relationships based on the rules of the game, promoting teamwork, and the enjoyment of physical activities. Identifies essential elements that enable students to adopt an active lifestyle to maintain and improve health. (p. 94)

This specific competency seeks to enable students to establish assertive interaction and communication through cooperation and collective learning underlying the performance of physical activities, which act as promoters of an active and healthy lifestyle.

*Physical and Sports Fitness:* Achieves progressive motor efficiency in everyday life situations and strengthens the development of technical skills and abilities that facilitate good performance in sports. Applies the rules and technical elements of various sports in tactical and strategic situations. (p. 94)

Through this specific competency, students are expected to optimally develop their motor skills so that they can use them to practice sports activities, demonstrating skill in easily carrying out technical and tactical actions specific to any sport they participate in.

### Level of Appropriation

Appropriation is the capacity that an individual develops to assume knowledge resulting from a prior process of training and academic preparation; therefore, the level of appropriation refers to the degree of achievement or magnitude to which a certain knowledge or value has been mastered or developed (Dávila-Rodríguez, 2020). In this sense, the level of appropriation is the result of students having completed quality physical education throughout their approximately 12 years of schooling, during which they must gradually develop certain skills that can be verified through very specific performance criteria that demonstrate having achieved a level of psychomotor awareness that allows them to perform effectively in the social, emotional, and communicative spheres, including physical activity, understanding that this can be beneficial to their health (Calánchez & Vera, 2022).

This level of appreciation can be verified and measured through certain indicators that respond to value scales. Consequently, Roque Rodríguez (2023) states that this appropriation can be measured through a numerical scale ranging from 0 to 100 points and a nominal scale ranging from low, medium, and high. The low level corresponds to a score from 1 to 50; the medium level, from 50.1 to 80; and the high level, from 80.1 to 100.

In this regard, Burgos (2022) states that appropriation is the result of design and use. It is related to the internalization of tangible actions that revolve around a framework of competencies. This appropriation can occur at three fundamental levels: at Level I or low, the student acquires knowledge of basic skills; at Level II or medium, the student deepens his or her knowledge, leading him or her to authentic problem-solving skills collaboratively; at Level III or high, the student creates

new knowledge that transcends the school environment into the social sphere.

According to Caballero and Ponce (2020), appropriation must be fostered and stimulated through recognition of the capacities developed by individuals who belong to a conglomerate that seeks knowledge, that is, students, so that they are interested in strengthening their own learning and putting this knowledge into practice when it is necessary to resolve a situation. In simple terms, the physical education teacher is the one responsible for ensuring that their students acquire the necessary skills. In this case, that they develop fundamental skills and, in particular, specific skills in the area of physical education.

### **Physical Education**

The Ministry of Education (MINERD) (2022) establishes that:

As a pedagogical discipline, Physical Education deals with the education of the body and, in this sense, has its own distinct knowledge, with implications beyond the pedagogical. It draws on the fields of biology, anatomy, biochemistry, physiology, biomechanics, first aid, and psychology, which support the conceptualizations, practices, and attitudes that will lead to effective education in this area; especially because it seeks to develop the Fundamental Competencies outlined in the Curriculum. (p. 261)

Physical education involves the implementation of countless activities whose underlying intention is the idea of comprehensive education that addresses all human dimensions: social, affective, emotional, cognitive, communicative, psychomotor, and the development of basic physical skills and abilities, leading individuals to interact assertively, effectively, and efficiently with their surroundings. In this regard, Bernate (2021) states that physical education must “promote and develop processes of awareness, empowerment and self-regulation around the quality of life of the individual and the community, with the simple aim of internalizing the practice of physical activity as a complementary element of their life” (p. 647).

### **High School Students**

High school students are ready to complete their schooling and begin their university experience. Therefore, they are expected to have a certain level of mastery of the fundamental competencies and, consequently, of the specific competencies of each subject, particularly those of physical education. In this regard, the Ministry of Education (MINERD) (2016b) states that:

Consequently, those who graduate from this level, having mastered the profile and the Fundamental Competencies, assume the personal commitment to continue deepening their levels of human and academic development throughout their lives, strengthening the cultivation of human and social values that will allow them to achieve their goals, with the firmness and temperance that our country needs in a context of great challenges, changes, and opportunities. (p. 18)

According to this graduate profile, students must be able to understand their bodies and care for them responsibly when engaging in physical activity, thereby fostering active and healthy lifestyle habits; employ effective oral and body language communication mechanisms when interacting with others; and participate in recreational, sports, and leisure activities to maintain a stable physical condition and thus be able to use it to resolve situations (MINERD, 2017).

Therefore, responsible and high-quality work must be carried out in physical education classes, since it is essential for students to develop their abilities and, as a result, strengthen their specific competencies in the area, thereby significantly contributing to the graduate profile outlined in the secondary education curriculum.

## **3. MATERIALS AND METHODS**

This study used a quantitative, descriptive, and cross-sectional methodology to determine the level of mastery of specific physical education competencies among secondary school students in the Dominican public education system. The population consisted of 10,793 students from public schools. The sample was selected in a stratified manner and consisted of 1,196 students.

For an effective data collection process, a survey technique was used, in which an online questionnaire was administered through a Google Form. The instrument used to collect the data was the Questionnaire to Measure the Level of Fundamental and Specific Physical Education Competencies in the Dominican Republic (CCFEEF-RD), validated by José Luis Rosario Rodríguez in 2023. It collects information related to fundamental competencies and, in particular, specific physical education competencies in secondary school students in the Dominican Republic.

This Questionnaire to Measure the Level of Fundamental and Specific Physical Education Competencies in the Dominican Republic (CCFEEF-RD), in Likert format, is composed of 42 closed-ended questions, of which 36 collect information on fundamental competencies and 6 of them collect information concerning specific physical education competencies. In this regard, it is noteworthy that the questions were distributed as follows: 5 questions aimed at collecting information on Ethical and Civic Competencies; 5 on Communicative Competencies; 6 on Logical, Creative, and Critical Thinking Competencies; 5 to the Problem-Solving Competency; 5 to the Scientific and Technological Competency; 6 to the Environmental and Health Competency; and 5 to the Personal and Spiritual Development Competency. Likewise, two questions were assigned to gather information on the specific competency of Motor Skills and Body Communication; two to Sociomotor Skills, Recreation, and Health; and finally, two to Physical and Sports Fitness.

This instrument was validated through expert judgment using the Delphi method. Similarly, a factor analysis based on the Kaiser Meyer Olkin (KMO) factor analysis was applied, yielding an acceptable score of 0.841. The instrument's score range places it within a range suitable for use in scientific research, particularly in research seeking to gather information related to the core competencies and specific competencies of physical education in the Dominican Republic. To complete the instrument administration process, a request for authorization was submitted to District 07-01 of Tenares, District 08-03 of Santiago, District 08-04 of Santiago, and District 08-09 of Santiago to allow the schools located within their districts that were selected for the study to be approached. The project, the objectives pursued, and the procedure to be used in administering the instrument were presented. The instrument was based on an ethical protocol that guaranteed the anonymity and respect for the integrity of the students surveyed. Likewise, the informed consent form was presented, which each of the students' parents had to read and subsequently sign if they agreed to their children participating in the research.

SPSS Statistics 27 was used to analyze the collected data, categorizing them as negative, intermediate, and positive. Data were grouped into nominal scales, responding to the negative category: Never and Almost Never. Sometimes, in the intermediate category; Always, and Almost always, in the positive category. This facilitated the identification and interpretation of the frequency with which the most specific responses were presented regarding each of the specific physical education competencies analyzed, namely, Motor Skills and Body Communication; Sociomotor Skills; Recreation and Health; and Physical and Sports Fitness.

To determine the level of appropriation of the specific physical education competencies, it was necessary to resort to the scale presented and used by Roque Rodríguez (2023), which establishes numerical values ranging from 0 to 100 and an ascending nominal scale ranging from low to medium to high. Here, a low level is assigned to values ranging from 1 to 50; a medium level to values between 50.1 and 80; and finally, a high level to values between 80.1 and 100.

Table 1. <i>Results of the Specific Competence: Motor Skills and Body Communication</i>			
Dimensions	Scale	Frequency	Percentage
P 37. Perform body movements that allow me to express and communicate my emotions and moods with ease.	Never	93	7.8 %
	Almost never	127	10.6 %
	Sometimes	366	30.6 %
	Almost always	280	23.4 %
	Always	330	27.6 %
	Totally	1,196	100 %
P 38. When I perform a movement, I have control over my body and I use it in a healthy way when relating to others.	Never	61	5.1 %
	Almost never	93	7.8 %
	Sometimes	343	28.7 %
	Almost always	334	27.9 %
	Always	365	30.5 %
	Totally	1,196	100 %
Source: Prepared by the authors based on the application of the (CCFEEF-RD), 2024.			

Regarding the Specific Competency of Motor Skills and Body Communication, the most frequent response to question 37 was "Sometimes," at 30.6%, followed by "Always," at 27.6%. Question 38 most frequently responded "Always," at 30.5%, followed by "Sometimes," at 28.7%. These results suggest that students have a considerable level of mastery of this competency.

Table 2. <i>Results of the Specific Competence: Sociomotor Skills, Recreation, and Health</i>			
Dimensions	Scale	Frequency	Percentage
P39. When I participate in physical activities, I interact	Never	61	5.1 %
	Almost never	107	8.9 %

appropriately and cooperate with my peers, and I respect my opponents, allowing me to have fun and enjoy the activity.	Sometimes	219	18.3 %
	Almost always	308	25.6 %
	Always	501	41.9 %
	Totally	1,196	100 %
P40. I am aware of the actions that allow me to have an active lifestyle, to maintain and improve my health.	Never	79	6.6 %
	Almost never	94	7.9 %
	Sometimes	285	23.8 %
	Almost always	298	24.9 %
	Always	470	39.3 %
	Totally	1,196	100 %
Source: Prepared by the authors based on the application of the (CCFEEF-RD), 2024.			

Regarding the Specific Competency of Sociomotor Skills, Recreation, and Health, the most frequent response to question 39 is "Always," at 41.9%, followed by "Almost always," at 25.6%. Question 40 most frequently responds "Always," at 39.3%, followed by "Almost always," at 24.9%. Based on these results, it can be inferred that students have a considerable level of appropriation of the competency.

Table 3. <i>Results of the Specific Physical and Sports Fitness Competition</i>			
Dimensions	Scale	Frequency	Percentage
P41. I have the ability to move with agility in situations that occur in my daily life, and I also have skills in some sports.	Never	98	8.2 %
	Almost never	107	8.9 %
	Sometimes	358	29.9 %
	Almost always	276	23.1 %
	Always	357	29.8 %
	Totally	1,196	100 %
P42. I know and have mastery of the rules and how to play some sports.	Never	81	6.8 %
	Almost never	119	9.9 %
	Sometimes	325	27.2 %
	Almost always	301	25.2 %
	Always	370	30.9 %
	Totally	1,196	100 %
Source: Prepared by the authors based on the application of the (CCFEEF-RD), 2024.			

According to the Specific Competency of Physical and Sports Fitness, the most frequent response to question 41 is "Sometimes," at 29.9%, followed by "Always," at 29.8%. Question 42 most frequently responds "Always," at 30.9%, followed by "Sometimes," at 27.2%. These results suggest that students have a considerable level of ownership of the competency.

Table 4. <i>Level of appropriation of the Specific Competence: Motor Skills and Body Communication</i>			
Category	Scales	Average ( $\bar{x}$ )	Determined level
Negative	Never	15.6 %	
	Almost never		

Intermediate	Sometimes	29.7 %	Intermediate level
Positive	Always	54.7 %	
	Almost always		
Source: Prepared by the authors based on the arithmetic mean $\bar{x}$ .			

Regarding the arithmetic mean or average of the categories and scales corresponding to the Specific Competence of Motor Skills and Body Communication, the positive category had the highest percentage, 54.7%, which indicates a medium level of appropriation of the competency.

Table 5. <i>Level of appropriation of the Specific Competence: Sociomotor Skills, Recreation, and Health</i>			
Category	Scales	Average ( $\bar{x}$ )	Determined level
Negative	Never	14 %	
	Almost never		
Intermediate	Sometimes	21 %	Intermediate level
Positive	Always	65 %	
	Almost always		
Source: Prepared by the authors based on the arithmetic mean $\bar{x}$ .			

According to the arithmetic mean or average of the categories and scales corresponding to the Specific Competence of Sociomotor Skills, Recreation, and Health, it can be stated that the positive category reached a percentage greater than 65%, which implies a medium level of appropriation of the competency.

Table 6. <i>Level of appropriation of the Specific Competence of Physical and Sports Fitness</i>			
Category	Scales	Average ( $\bar{x}$ )	Determined level
Negative	Never	16.9 %	
	Almost never		
Intermediate	Sometimes	28.6 %	Intermediate level
Positive	Always	54.5 %	
	Almost always		
Source: Prepared by the authors based on the arithmetic mean $\bar{x}$ .			

Regarding the arithmetic mean or average of the categories and scales corresponding to the Specific Competency of Physical and Sports Fitness, it can be inferred that the positive category achieved a percentage greater than 54.5%, which implies a medium level of appropriation of the competency.

#### 4. DISCUSSION

According to the most notable results of the Specific Competency: Motor Skills and Body Communication; the Specific Competency: Sociomotor Skills, Recreation, and Health; and the Specific Competency: Physical and Sports Fitness, students have achieved a medium level of appropriation. In this regard, Roque Rodríguez (2023) states that a medium level of appropriation is considered when the score obtained ranges between 50.1 and 80. Similarly, Burgos (2022) states that at Level II or intermediate, students demonstrate the ability to delve deeper into knowledge that makes them authentic and allows them to resolve situations collaboratively. These findings are consistent with those of Pulgarín (2020), whose study on the participatory appropriation of civic competencies determined that students have a medium level of favorability toward knowledge acquired through participatory civic learning. In correlation, the MINERD (2016b) in its Level of Mastery III and in relation to the graduation profile states that students are committed to continuing and deepening their comprehensive training, so that they can achieve the proposed life objectives that benefit themselves and the country.

## 5. CONCLUSIONS

Based on the results of the specific physical education competencies, and establishing a direct relationship with their level of mastery and the graduation profile, the following conclusion is reached:

Regardless of the fact that the specific physical education competencies show an average level, which is favorable for students, it should be noted that the Specific Competency of Motor Skills and Body Communication, along with the Specific Competency of Physical and Sports Fitness, the percentages that determine the level of mastery of these competencies are closer to the low level than to the high level. That is, the mastery process is just beginning, although this is ultimately positive.

Regarding the Specific Competency of Sociomotor Skills, Recreation, and Health, it can be said that the percentage that determines their level of mastery is quite significant, tending more toward the high level than the low level, denoting favorable growth in this regard. In short, the level of appropriation of specific physical education competencies is medium, which is representative of the level of mastery and the graduation profile present in the secondary level curriculum.

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