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Original Article

TEACHING-LEARNING ENVIRONMENT IN INITIAL UNIVERSITY TRAINING IN PHYSICAL EDUCATION

TEACHING-LEARNING ENVIRONMENT IN UNIVERSITY INITIAL EDUCATION

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RESUMO

Objetivou-se analisar as percepções de estudantes universitários de Educação Física em distintos níveis de progressão no curso, sobre o ambiente de ensino-aprendizagem na formação inicial. Participaram 273 estudantes (Bacharelado n=150; Licenciatura n=123) do curso de licenciatura em Educação Física de uma universidade pública de Santa Catarina, Brasil, os quais responderam à versão adaptada do Questionário de Avaliação do Ambiente Percebido da Formação Inicial em Educação Física. O teste Qui-quadrado foi utilizado para analisar as associações entre o nível de progressão discente nos cursos e suas percepções sobre o ambiente de formação inicial. Os resultados indicaram a predominância de aulas/vivências práticas e de avaliações teóricas escritas, especialmente nas fases iniciais. As experiências poucos frequentes de observação, e o aprendizado pela prática ou por observação foi o papel assumido, especialmente evidenciados nos semestres finais. Apesar de os estudantes terem se percebido ativos quanto ao seu nível de participação, indicaram que os professores são os principais responsáveis por tomar as decisões. Conclui-se que a formação inicial em Educação Física necessita reconfigurar determinadas práticas de ensino-aprendizagem para aumentar o envolvimento e a responsabilidade discentes pelo próprio processo formativo.
Palavras-chave: Educação Física. Aprendizagem. Ensino. Avaliação Educacional.

ABSTRACT

This study aimed to analyze the perceptions of university Physical Education students at different progression levels in the programs regarding the teaching-learning environment in the initial training. In total, 273 students (Bachelor's program n = 150; Licentiate program n = 123) from the Licentiate Program in Physical Education of a public university in Santa Catarina, Brazil, participated in this study, responding to the adapted version of the Assessment Questionnaire of the Perceived Environment in the Initial Training in Physical Education. The Chi-square test was used to analyze the associations between the student progression levels in the programs and their perceptions about the initial training environment. The results indicated the predominance of practical classes/experiences and written theoretical evaluations, especially in the initial phases. The infrequent observation experiences and learning through practice or observation were the assumed roles, made evident primarily in the final semesters. Although the students perceived themselves as active regarding their participation levels, they indicated that the professors are the ones responsible for making the decisions. It is concluded that the initial training in Physical Education requires reconfiguring certain teaching-learning practices to increase student involvement and responsibility for their own training process.
Keywords: Physical Education. Learning. Teaching. Educational Assessment.

Introduction

Represented by the undergraduate programs in Higher Education, initial training fulfills an important role in developing the competencies required to exercise the future profession. In general, in Physical Education, such competencies refer to diagnosing, researching, intervening, managing, and assessing bodily processes and activities in society[1-3]. Moreover, the initial training must foster the reflection and autonomy of students, allowing them to successfully solve the challenges and constraints inherent to the area of activity.

Nowadays, two qualifications contemplate distinct objectives and fields of activity within the scope of Physical Education in Brazil: Licentiate and Bachelor's degrees. While the Licentiate program aims to train teachers to work in the different steps and modalities of Basic and Professional Education, the Bachelor's program focuses on training professionals to intervene in clubs, gyms, and training centers, promoting the health and quality of life of people through physical, recreational, and sporting activities[4].

Despite the recognized importance of both qualifications for qualified professional

intervention, some limitations have been mentioned in recent years regarding the didactic aspects of the initial training environment[5-7]. The excessive use of prescriptive teaching strategies by professors, the little relationship of the contents to the professional practice contexts[7], and the articulation of the perspective from which the professor is the holder of knowledge and the primary agent responsible for resolving classroom problems[8] have led students to perceive their initial training negatively. Consequently, future professionals graduate unable to demonstrate autonomy and apply the formative learning in practice[9].

An aspect made evident in the studies is the striking presence of the instruction paradigm[10] in the Brazilian university environment in the field of Physical Education, characterized by faculty centrality and protagonism and by student passivity in the teaching-learning process. This way of organizing education makes it difficult for the student to take on an active role in their own learning and articulate it to the contexts and realities of the professional intervention[7,11]. In contrast and aware of the methodological plurality that exists in the Brazilian panorama, it is believed that the paradigm of learning founded on a constructivist educational perspective enables positioning the student at the center of the teaching-learning process for it to be significant[10]. It is important to acknowledge that the assignment of responsibilities to students must consider the maturity level presented by the group, occurring gradually and progressively throughout the initial training[12]. In this sense, it is believed that the articulation of the learning paradigm may contribute to the training of a professional who is competent to appropriately handle the demands of contemporary society, characterized by permanent volatility, uncertainty, complexity, and ambiguity[13].

Upon articulating the learning paradigm in a course of the Bachelor's Program in Physical Education, Milistetd et al.[14] identified positive perceptions by the students about the proposal but also that this was not the reality of the program in its entirety, given the report from participants about environments and more directive strategies of the professors in the other courses. It is important to stress that the study by Milistetd et al.[14] was conducted with students in the first phase of the program, the reason for which it is necessary to more properly investigate the training environment in the other steps of the initial training. Hence, this study aimed to analyze the perceptions of university Physical Education students in different years, semesters, and phases that had distinct levels of progression in the programs about the teaching-learning environment in initial training, considering the adopted teaching strategies, the roles assumed by the students, and the level of student involvement in decision-making.

Method

Context and participants

This study is characterized as empirical and associative, of quantitative nature[15]. The investigated environment contemplates the licentiate and bachelor's programs in Physical Education offered by a public university in Santa Catarina with different admissions and duration of at least eight semesters and at most fourteen semesters. While the curriculum of the licentiate program has 3,516 class hours, that of the bachelor's program consists of 3,840 class hours. The investigated university was selected intentionally due to the national recognition that it has in initial Physical Education training and because it has been the object of previous studies[5-7] regarding the quality of the offered training in Physical Education.

The target population consisted of the 491 university students in the Bachelor's and Licentiate Programs in Physical Education regularly enrolled in the second academic semester of 2018. Exchange students from other institutions were not included. According to the established criteria, 326 students filled out the data collection instrument. Among them, the participants who did not fill out the instrument completely or appropriately (missing data) were excluded. Therefore, the sample comprised the individuals who were in the classroom at the

time of data collection plus the individuals who responded to the online version of the data collection instrument, totalizing 273 students (Bachelor's program n = 150; Licentiate program n = 123; male n = 187; female n = 86) with an average age of 23.1 ± 5.3 years.

Data collection procedures

The study was approved by the Human Research Ethics Committee of a public university in the Brazilian state of Santa Catarina (Opinion No. 2.345802/2017). Initially, a survey was carried out together with the coordinating bodies of the programs to identify the regularly enrolled students and their respective electronic contact information (email addresses). In sequence, dates and times were scheduled with the professors responsible for the mandatory courses to carry out the in-person data collection. In the classroom, we first made explained the general objective of the study and the procedures to be adopted for data collection. Next, we stressed the voluntary nature of the participation in the study and the guarantee of anonymity in all steps of the process. Those interested in participating in the study were asked to read and sign a Free and Informed Consent Form.

An adapted version of the Assessment Questionnaire of the Perceived Environment in the Initial Training in Physical Education was used for the data collection[16]. Devised from the theoretical assumptions of the ecological approach by Bronfenbrenner[17] to assess the immediate environment of training, the instrument was tested regarding its objectiveness, language clarity, and reliability, revealing acceptable levels of score stability (0.72) and validation for application in the Brazilian reality[16].

The questionnaire is composed of closed-ended questions that require responses on Likert scales that contemplate the perceptions of students about the following aspects: (a) frequency of teaching activities (e.g., expository classes; practical classes/experiences; group discussions; theoretical seminars; teaching experiences; laboratory experiences; observation experiences; written theoretical evaluations; practical evaluations; paired evaluations; and self-evaluations) (never = 1; a few times = 2; many times = 3; always = 4); (b) frequency of the roles assumed as a student (e.g., scholar-student; coach-student; practical-student; critical-student; person-student) (never = 1; a few times = 2; many times = 3; always = 4); (c) level of student participation in the teaching-learning process (fully passive = 1; partially passive = 2; partially active = 3; fully active = 4); (d) degree of professor and student involvement in making decisions about the teaching-learning process (fully teacher-centered decisions = 1; partially teacher-centered decisions = 2; joint decisions between professors and students = 3; partially student-centered decisions = 4; fully student-centered decisions = 5).

The students filled out the instrument individually in 15 min to 20 min. Occasional doubts were promptly clarified in the classroom by the researcher responsible for the application. The students who were not present at the time of collection were later contacted by email and offered the chance to participate by filling out the online version of the questionnaire, made available on the Google Forms platform. The ethical procedures adopted in the in-person data collection were also respected during the electronic contact with the students by making available the Free and Informed Consent Form, seeking to ensure the voluntariness of the participation and the integrity and anonymity of the individuals.

Data analysis

The data were analyzed using the program SPSS Statistics 21 from descriptive (absolute and relative frequencies) and inferential (hypothesis tests) statistical resources. The Chi-square test was used to analyze the associations between the student progression levels in the programs and their perceptions about the initial training environment. The 5% significance level was adopted to interpret the test results. Considering that the teaching system of the programs

offered by the institution is that of enrollment by course with suggested periodization, the individuals who were attending the highest number of courses allocated up to the fourth phase of the programs at the time of data collection were categorized as students in the initial semesters. In turn, the students considered to be in the final semesters were those attending a higher number of courses allocated from the fifth semester onward.

Results

Among the teaching activities perceived by the students throughout the initial training (Table 1), the practical classes/experiences and written theoretical evaluations occurred many times or always, regardless of the student progression level in the programs. However, they occurred significantly more often in the initial semesters than in the final ones ($p < 0.005$). In turn, the observation experiences were more adopted in the final phases of the training ($p = 0.004$). Regardless of the student progression level in the programs, the predominance of practical classes/experiences and group discussions was verified. On the other hand, theoretical seminars, teaching experiences, and laboratory experiences were strategies adopted less often by the professors. Regarding the evaluative strategies, the frequent occurrence of written theoretical evaluations throughout the training stood out, whereas practical evaluations, paired evaluations, and self-evaluations were less frequent.

Table 1. Frequency of teaching-learning activities considering the student progression level in the programs

Teaching activities	**Initial Semesters**		**Final Semesters**		*Sig.*
	Never or a few times	Many times or always	Never or a few times	Many times or always	
	n (%)	n (%)	n (%)	n (%)	
Expository classes	73 (49.7)	74 (50.3)	61 (48.4)	65 (51.6)	0.903
Practical classes/experiences	24 (16.3)	123 (83.7)	47 (37.3)	79 (62.7)	**< 0.001**
Group discussions	63 (42.9)	84 (57.1)	52 (41.3)	74 (58.7)	0.807
Theoretical seminars	75 (51.0)	72 (49.0)	76 (60.3)	50 (39.7)	0.143
Teaching experiences	87 (59.2)	60 (40.8)	76 (60.3)	50 (39.7)	0.902
Laboratory experiences	132 (89.9)	15 (10.2)	111 (88.1)	15 (11.9)	0.701
Observation experiences	122 (83.0)	25 (17.0)	85 (67.5)	41 (32.5)	**0.004**
Written theoretical evaluations	32 (21.8)	115 (78.2)	50 (39.7)	76 (60.3)	**< 0.001**
Practical evaluations	103 (70.1)	44 (29.9)	92 (73.0)	34 (27.0)	0.687
Paired evaluations	124 (84.4)	23 (15.6)	112 (88.9)	14 (11.1)	0.293
Self-evaluations	136 (92.5)	11 (7.5)	11 (89.7)	13 (10.3)	0.521

Source: The authors

Regarding the perception of the students about the roles assumed in the courses (Table 2), a high frequency (many times or always) was observed for all roles regardless of the student progression level in the programs. Specifically, learning by practice or observation occurred with higher frequency in the final semesters ($p = 0.010$).

Table 2. Frequency of assumption of roles by students considering the student progression level in the programs

Roles assumed	Initial Semesters		Final Semesters		*Sig.*
	Never or a few times	Many times or always	Never or a few times	Many times or always	
	n (%)	n (%)	n (%)	n (%)	
Acquire knowledge and master contents	37 (25.2)	110 (74.8)	30 (23.8)	96 (76.2)	0.888
Acquire skills and master techniques	83 (56.5)	64 (43.5)	67 (53.2)	59 (46.8)	0.626
Learn by practice or observation	50 (34.0)	97 (66.0)	25 (19.8)	101 (80.2)	**0.010**
Learn by practice and develop a reflexive attitude	53 (36.1)	94 (63.9)	45 (35.7)	81 (64.3)	1.000
Develop perceptions of oneself and transform oneself	48 (32.7)	99 (67.3)	34 (27.0)	92 (73.0)	0.354

Source: The authors

No significant associations were observed between the participation level and degree of involvement of students with their progression level in the programs (Table 3). The students revealed they were mostly active, either in the initial (52.4%) or final semesters (56.3%) of the program. On the other hand, the students indicated that the joint decision-making between professors and students occurred infrequently throughout the initial training because the professors were the main people responsible for this assignment (87% of the students in the initial semesters and 82.5% in the final semesters).

Table 3. Participation level and degree of involvement of students in the classes considering the student progression level in the programs

Variables	Initial Semesters n (%)	Final Semesters n (%)	*Sig.*
Participation level			
Predominantly passive	70 (47.6)	55 (43.7)	0.544
Predominantly active	77 (52.4)	71 (56.3)	
Degree of involvement			
Teacher-centered DM	128 (87.0)	104 (82.5)	
DM balanced between professors and students	17 (11.6)	18 (14.3)	0.456
Student-centered DM	2 (1.4)	4 (3.2)	

Caption: DM = Decision-Making
Source: The authors

Discussion

This study aimed to analyze the perceptions of university Physical Education students that had distinct levels of progression in the programs about the teaching-learning environment in initial training, considering the adopted teaching strategies, the roles assumed by the students, and the level of student involvement in decision-making. Regarding the perception of students about the teaching-learning activities, the predominance of practical classes/experiences and group discussions, as well as written theoretical evaluations, were identified regardless of the progression level in the programs. In contrast, the little frequency of laboratory and observation experiences, self-evaluations, paired evaluations, and practical evaluations were noticed. When the student progression level in the programs is considered, it was verified that the practical

classes/experiences and theoretical evaluations occurred more frequently in the initial phases of the training, while the observation experiences were significantly more used in the final semesters of the programs than the beginning of the training process.

Practical activities, especially those of interactive nature, become fundamental to fostering collaborative learning environments[18]. In this direction, Morgan et al.[19] emphasized that, upon establishing contact with the different perspectives and experiences of their classmates, students have the possibility of developing negotiation skills and renouncing individual interests in favor of collective goals. This is particularly important in the initial phases, considering the commitment of the programs to training future professionals to work with responsibility and empathy when providing services to society[20]. In the initial Physical Education training programs investigated, the practical activities are typically predominant in courses of a practical nature (e.g., Individual and Collective Sports, Games and Playing, Dance) but may also be present in a more one-off manner in courses with a more theoretical focus (e.g., Physiology of Exercise, Biomechanics, Sports Training) from the Pedagogical Practices as Curricular Components (PPCCs). PPCCs cover about 25% of the workload of the offered courses, which justifies the perception of the investigated students regarding the high occurrence of practical activities.

Despite the social and theoretical-practical nature of the initial training in Physical Education idealized by the University in question, the predominance of written theoretical evaluations of a predominantly summative nature is in line with the evaluative principles characteristic of the instruction paradigm. According to Bar and Tagg[10], this type of evaluation favors individualism and performance comparisons among students instead of fostering the exchange of information and collaboration. In the study by Marcon, Nascimento, and Graça[21], in which teachers who were egresses of the initial training in Physical Education participated, it was reported that, during the initial training, theoretical exams and papers predominated in the courses with contents of theoretical essence, while practical exams stood out in the predominantly sportive or practical courses. In this study, it was emphasized that the focus of the evaluations was primarily quantitative, being reduced to the results obtained in only a few specific moments. Hence, the final product was favored to the detriment of the reflection directed to the process as a whole.

The adoption of reflexive and collaborative evaluative strategies such as self-evaluations and paired evaluations proved to be limited in the perception of the investigated students in both the initial and final phases of the initial training, which reinforces the striking presence of characteristics of the instructional paradigm in the evaluative dimension. To Weimer[12], the evaluative processes employed in educational environments must integrate theoretical and practical strategies that have a formative nature to the detriment of the summative nature, contributing to the development of reflection and autonomy in the student. Hence, it is recommended to avoid the excessive application of evaluations that promote content memorization, which involves the operationalization of predetermined procedures little relevant to the resolution of problems in the future professional practice[12]. Although the use of theoretical exams was perceived as less frequent in the final phases, the evidence of the present study confirms the high frequency of this type of activity, which incites questions about the type of learning encouraged in the Physical Education students investigated throughout the formative process.

As for the roles assumed in the teaching-learning process, the students highlighted that they sought to learn by practice and through observation experiences, especially in the final phases of the programs. Learning by observation is an essential element for understanding the process of learning to teach, especially when the models (individuals) observed are positive representations of conduct or behavior in a given situation[22]. Vieira, Vieira, and Fernandes[23] emphasized the relevance of observation experiences when they allow the student to have

contact with different contexts of professional activity because this propitiates a broader training that allows the integrated acquisition of knowledge, skills, and attitudes indispensable to appropriate professional performance. Finally, the close observation of a given situation allows the occurrence of deeper and more significant learning for students[24].

The curricular structure of both investigated programs predicts the performance of more practical activities in the second half of the training, among which the supervised curricular internships stand out, which favors the assumption of this type of role by the students. Through the internships, the students seek a greater approximation between the university reality and the activity context of the future professionals so that the professional competencies needed to exercise the respective function may be developed gradually[25]. Moreover, internships play a fundamental role in the professional socialization process[26] because they allow the student to experience the idiosyncrasies and complexities of the work environment at the same time as they put them in contact with other more experienced professionals.

It is important to stress that, from the fifth semester onward, the investigated students could also become involved with additional practical activities such as the non-mandatory internships, which further facilitates the involvement of the students in experiences of observation and/or practical interventions. Finally, the PPCCs, which foster the gradual approximation of students to individuals and contexts belonging to the future professional activity fields[21], are present since the first phase in both programs. In the study by Bisconsini and Oliveira[27], students and teachers reported the importance of experiencing specific practices since the beginning of the program, aiming at the continuous and gradual preparation of the contact with the future professional space, which was reinforced in the study by Barbosa-Rinaldi[9]. Moreover, Bisconsini and Oliveira[27] emphasized that the absence of PPCCs could limit the intervention opportunities of the student in the real context of activity, which would potentiate the "shocks with reality" commonly faced by newly-graduated professionals.

If, on the one hand, the practical focus of the initial training was highlighted by the investigated students, the reflective and investigative aspect seems to be addressed insufficiently. Besides the little occurrence perceived of self-evaluations, the low use of laboratory experiences and fact or phenomenon observation experiences stood out, which could help in the development of a more (self-)critical posture of the students regarding the teaching contents addressed and their own involvement in the teaching-learning process. Indeed, although most of the investigated students perceived themselves as actively involved with the initial training, the centralization around professors of most of the organizational decisions of the courses seems to hamper the assumption of more responsibility and autonomy by the investigated students.

Teaching proposals with a constructivist focus seek that students assume more responsibilities throughout the formative process with the concomitant development of the maturity and motivation of the individuals to take on the more considerable demands resulting from this approach[14,28]. In the present study, no substantial alterations were identified between the perceptions of the students in the initial and final phases regarding the level of student involvement in the formative process, which could indicate both the striking presence of an instructional teaching perspective and the lack of maturity and motivation of professors and students to balance responsibilities and powers in the formative process better.

The centralization around the professors when making decisions regarding the general organization of the teaching-learning process in the investigated programs reveals a certain misalignment between the pedagogical proposal of the initial training offered by the investigated university and the everyday pedagogical practices. In effect, the pedagogical projects of both programs contain the intention of providing opportunities for the students to be active participants in their own training because they are conceived as adults with accumulated

experiences and knowledge capable of taking responsibility for the decisions made and for the management of their own academic-professional development. According to Bar and Tagg[10], teachers guided by the instruction paradigm typically direct their focus to the efficiency of the teaching strategies they adopt, which renders them centralizers in the teaching-learning process. On the other hand, teachers who based themselves on the learning paradigm are more concerned with the student learning results, the reason for which they pay special attention to the creation and consolidation of a learning environment favorable to interaction and reflection[10].

From a constructivist perspective, students and teachers share powers, decisions, and responsibilities throughout the formative process so to stimulate student protagonism and autonomy in conducting their own learning[12]. For this to be possible, the teachers need to assume the roles of learning guides and facilitators, giving opportunities for the pupils themselves to make decisions regarding the contents, activities, and experiences relevant to the development of the desired competencies[12]. Moreover, the involvement of the students in the initial training is fundamental so that the contents and teaching strategies may be more properly adapted to their previous experiences and professional activity interests[12]. Hence, with the purpose of fostering an initial training more in line with the expectations and needs of students and society[11], the need for the gradual and progressive involvement of the Physical Education students throughout the investigated initial training is identified.

Conclusion

The findings of this study demonstrate that the practical classes/experiences and written theoretical evaluations have been carried out very often and occur predominantly in the initial phases of the investigated initial training in Physical Education. Although not as used as a teaching-learning strategy, the observation experiences are significantly more adopted in the final phases of the initial training than in the initial phases. The main role assumed by the students was that of learning by practice and observation, which is in line with the type of activity predominantly developed in the programs. Although the students mostly perceived themselves as actively involved with the initial training, it was recognized that the professors have still been centering the decisions regarding the general organization of the teaching-learning process.

This study has the merit of investigating the perceptions of several students enrolled in two nationally recognized Physical Education programs, which is an important introductory step of the institutional diagnosis regarding the quality of the initial training offered. The concern of the investigation with providing a picture of the initial training in its different steps is an advancement relative to the punctual investigation of a given course or curricular axis. However, we stress that this study only investigated one teaching institution, suggesting caution in extrapolating the findings to other contexts. Moreover, we emphasize that only the student perceptions were considered in this investigation, and such perceptions were identified from responses to a questionnaire.

The continuity of the studies is recommended to contribute to the advancement of the literature and the improvement of the quality of the initial training in Physical Education through the more in-depth investigation of the perceptions of students about their own formative environment, which may be carried out with the employment of techniques such as interviews and focus groups. In addition, the investigation of the perceptions of professors about the teaching-learning process is also suggested so to have a broader and more detailed depiction of the activities developed in the initial training in Physical Education and, consequently, to better substantiate the decision-making by institutional managers so as to overcome the limitations and fragilities found.

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