

ARTICLE

**ARTISTIC GYMNASTICS IN HIGHER EDUCATION: IMPLEMENTATION OF SPORT  
EDUCATION FROM THE FREIRIAN PERSPECTIVE <sup>1</sup>**

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**ABSTRACT:** The objective of the research was to understand the pedagogical strategies mediated by a professor in an undergraduate school in Physical Education in the implementation of Sport Education (SE) to develop knowledge about Artistic Gymnastics (AG) from the Freirean pedagogical proposal. Action research was used as a qualitative research method, with the implementation of the pedagogical process developed in twelve weeks, with the participation of the research professor and 17 students. The data were collected weekly and included: pedagogical documentation produced during the course; field diaries written by the professor at the end of each meeting; discussions with a critical friend during the development of the educational process; conducting focus groups after the entire process. Thematic Analysis was used for data treatment. The results indicated that the three pedagogical strategies built were fundamental for the implementation of the SE in AG: the Performance of different functions, the Dynamics of the design and the Co-creation of the code of points. This set of strategies characterizes a pedagogical mediation consistent with Paulo Freire's pedagogical proposal, by evidencing fundamental knowledge inherent to the ethical nature of a liberating educational practice, which are: Reading the world, Investigating spirit, Stimulus to autonomy, Horizontality, Problematization and (Re)construction of (new) knowledge.

**Keywords:** sport education, freirean pedagogy, artistic gymnastics, higher education.

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## **GINÁSTICA ARTÍSTICA NO ENSINO SUPERIOR: IMPLEMENTAÇÃO DO SPORT EDUCATION A PARTIR DA PERSPECTIVA FREIRIANA**

**RESUMO:** O objetivo da pesquisa foi compreender as estratégias pedagógicas mediadas por uma docente em um curso de graduação em Educação Física na implementação do Sport Education (SE) para desenvolver os conhecimentos sobre a Ginástica Artística (GA) a partir da proposta pedagógica freiriana. Foi utilizada, como método de pesquisa de cunho qualitativo, a pesquisa-ação, com a implementação do processo pedagógico desenvolvido em doze semanas, com a participação da docente pesquisadora e 17 estudantes. Os dados foram levantados semanalmente e incluíram: documentação pedagógica produzida durante a disciplina; diários de campo redigidos pela docente ao final de cada encontro; discussões com uma amiga crítica durante o desenvolvimento do processo educativo; realização de grupos focais após todo o processo. A Análise Temática foi utilizada para o tratamento dos dados. Os resultados indicaram que as três estratégias pedagógicas construídas foram fundamentais para a implementação do SE na GA: o Desempenho de diferentes funções, a Dinâmica do desenho e a Cocriação do código de pontuação. Esse conjunto de estratégias caracteriza uma mediação pedagógica condizente com a proposta pedagógica de Paulo Freire, ao evidenciar saberes fundamentais inerentes à natureza ética de uma prática educativa libertadora, quais sejam: Leitura de mundo, Espírito investigador, Estímulo à autonomia, Horizontalidade, Problematização e (Re)construção de (novos) conhecimentos.

**Palavras-chave:** sport education, pedagogia freiriana, ginástica artística, ensino superior.

## **GIMNASIA ARTÍSTICA EN LA EDUCACIÓN SUPERIOR: IMPLEMENTACIÓN DEL SPORT EDUCATION DESDE LA PERSPECTIVA FREIRIANA**

**RESUMEN:** El objetivo de la investigación fue comprender las estrategias pedagógicas mediadas por una docente en un curso de graduación en Educación Física en la implementación del Sport Education (SE) para desarrollar los conocimientos sobre Gimnasia Artística (GA) con base en la pedagogía freireana. Se utilizó como método de investigación la investigación acción, con la implementación del proceso pedagógico desarrollado durante 12 semanas con la participación de la docente investigadora y 17 estudiantes. Los datos fueron recogidos semanalmente e incluyeron: documentación pedagógica producida durante la disciplina; diarios de campo redactados por la docente al final de cada encuentro; discusiones con una amiga crítica durante el desarrollo del proceso educativo; realización de grupos focales después de todo el proceso. El Análisis Temático fue utilizado para el tratamiento de los datos. Los resultados indican que las tres estrategias pedagógicas construidas fueron fundamentales para la implementación del SE en la GA: Desempeño de diferentes funciones, la Dinámica de diseño y Cocreación del código en la GA. Ese conjunto de estrategias caracteriza una mediación pedagógica acorde con la propuesta pedagógica de Paulo Freire al evidenciar saberes fundamentales inherentes a la naturaleza ética de una práctica educativa liberadora, a saber: Lectura del mundo, Espíritu investigador, Estímulo a la autonomía, Horizontalidad, Problematización y (Re)construcción de (nuevos) conocimientos.

**Palabras clave:** sport education, pedagogía freiriana, gimnasia artística, educación superior.

## INTRODUCTION

The debate on teaching-learning methodologies in the areas of Physical Education and sports pedagogy has been the target of studies that focus on proposals that excel in the active participation of students/practitioners in educational processes (Aleixo; Mesquita, 2016; Amato *et al.*, 2022; Carbinatto; Henrique; Patrício, 2023; Mota Junior; Krahenbühl, 2023; Nogueira *et al.*, 2019; Vargas *et al.*, 2018). Both in school Physical Education and in sports practice, such proposals seek to overcome reproducivist and mechanized forms of teaching and learning that aim at simple motor experience, advocating the centrality of the subjects, who become protagonists of the action. Furthermore, these proposals encourage reflection on the context of the practice as a whole.

In addition to being an important source of knowledge for the performance of teachers and coaches, such reflections are urgent in the context of initial training in Physical Education since pedagogical practice in the area is crossed by experiences lived throughout the subject's life (Arruda *et al.*, 2023; Backes *et al.*, 2020; Costa *et al.*, 2020). In the meantime, it is necessary to consider that school Physical Education classes in undergraduate basic education were often guided by a traditional approach (Backes *et al.*, 2020; Costa *et al.*, 2020; Neira, 2021), influenced by a banking educational perspective that, in this curricular component, corresponds, especially, to the teaching of techniques and patterns of movements decontextualized from the reality of students and society (Kirk, 2011; Maldonado; Prodócimo, 2022).

Regarding the field of gymnastics, the focus of the present study, research indicates that freshmen in undergraduate Physical Education schools arrive at initial training with restricted knowledge regarding gymnastic practices (Carbinatto *et al.*, 2017; Lopes; Maldonado; Prodócimo, 2023; Lopes; Niquini, 2014), which corroborates scientific evidence that the treatment of this bodily manifestation is not always developed in the daily life of Physical Education classes in our country (Costa; Gomes, 2020; Lopes; Nobre; Niquini, 2019; Oliveira; Barbosa-Rinaldi; Pizani, 2020; Santos *et al.*, 2018).

In the set of gymnastic practices, we highlight Artistic Gymnastics (AG), a sportivized modality that, although it has shown exponential growth in the context of high performance at the national and international level in recent years (Schiavon; Locci, 2018; Vargas; Capraro, 2020), is still little known by the Brazilian public. People's access to gymnastics generally occurs through the media (Carbinatto *et al.*, 2017); however, due to the emphasis on the dissemination of competition results to the detriment of information about training and massification actions, it is possible that this communication channel does not contribute effectively to the dissemination and development of the modalities (Reis-Furtado *et al.*, 2021). The impression is consolidated that sports gymnastics are difficult practices, possible only for exceptional athletes and taught exclusively by specialized coaches (Ayoub, 2007; Graner, 2020).

AG is a sporting modality belonging to the technical-combinatorial category, which takes into account the quality of the action/movement, according to pre-determined standards, which are compared to define the winner (González, 2004, 2006). Unlike practices that are characterized by the comparison of results with quantitative records that are easily perceptible by the spectator – such as, for example, a ball reaching a aim (soccer, basketball, handball etc.) or an athlete crossing the finish line (running events in athletics, swimming etc.) –, the judgment of the gymnast's performance comes from the aesthetic appreciation of the movements. The evaluation criteria for a series of AG are complex, as they involve both additions and deductions in the score, considering the degree of difficulty of the

elements and the execution errors. The gymnast's final grade is composed of a combination of objective (technical) and subjective (expressive-artistic) parameters, as pointed out by Oliveira and Bortoleto (2009) and Roble, Nunomura and Oliveira (2013).

These factors make it difficult to understand the gymnast's performance, represented by the evaluation of the referees and the public: those who are not directly involved with the sport (Oliveira; Toledo, 2023). Due to the lack of access, many undergraduate students find themselves in this group of individuals who do not understand the rules of AG. If the initial training of teachers does not address, based on reality, the specificities of such complex sports modalities as this one, it is likely that the treatment given to these practices in physical education and/or sports classes will be superficial, precarious, or even nonexistent.

Thus, the need to review the organization of the teaching-learning process also affects higher education schools. The demands required by the complexity of today's social relations increasingly require the design of dynamic, problematizing pedagogical strategies that are connected to reality, in favor of the formation of autonomous and critical subjects (Alves; Teo, 2020; Nörnberg; Reschke; Garcia, 2023). In view of this, we evoke Paulo Freire's pedagogy in higher education, which is related to the concept of praxis, in which practice and reflection are dialectically tensioned, encouraging educators and students to reconstruct their knowledge during the teaching-learning process, mediated by the world (Freire, 1994, 1996).

Studies point to the development of Freirean pedagogy in dealing with body practices in pedagogy and physical education schools. In these trainings, it is possible to verify the intersection between scientific knowledge and the knowledge constructed during physical education classes in the basic education of undergraduates, allowing the understanding of the adequacy of the training processes to the ethical-political commitment to education in current times (Lopes; Maldonado; Prodócimo, 2023; Neira, 2021; Sampaio; Surdi, 2022).

In view of the above, we highlight Sport Education<sup>2</sup> (SE) as one of the pedagogical models studied by researchers in Physical Education and Sports Pedagogy, especially in the international context. It is a proposal developed in different educational contexts (schools, universities, community institutions etc.) that aims to provide an authentic sports experience to students. We perceive similarities between this model and Freirean pedagogy, especially when criticizing the teaching of sports in a decontextualized manner that is distant from the ways in which it manifests itself in the real lives of individuals. Instead of “depositing information” about the sports practice worked on, the SE prioritizes the protagonism of students based on pedagogical elements that place them in the central role of the teaching-learning process (Costa *et al.*, 2020; Hastie; Ojeda; Luquin, 2011; Luguetti *et al.*, 2018; Siedentop; Hastie; Mars, 2011).

However, most of the work on SE is developed with collective modalities (Hastie; Ojeda; Luquin, 2011; Sinelnikov; Hastie, 2010; Wallhead; Garn; Vidone, 2014). An exception to this rule is the study by Luguetti *et al.* (2018), which aimed to understand the complexity and tensions (for teachers and undergraduate students) of experiencing an authentic season of AG within learning communities. Thus,

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<sup>2</sup>Sports Education – the model's nomenclature was used in English in order to follow the pattern presented in most Brazilian research. However, we reinforce the importance of decolonization in practices in the area of Physical Education.

what we perceive is a lack of knowledge about pedagogical strategies for implementing SE in modalities that have an aesthetic character.

Thus, with the present study, we intend to try to fill the gaps on the implementation of SE in AG, given its complexity and the need for a more dialogical practice in higher education. Considering the Freirean theoretical lens, our objective was to understand the pedagogical strategies mediated by a professor in an undergraduate Physical Education school for the implementation of SE in AG. We believe that Paulo Freire's pedagogical proposal (Freire, 1994, 1996) can enhance the implementation of SE in AG in higher education, considering that, in addition to positioning students at the center of the process, it also addresses the dialogical, democratic, and political principles that foster an education for freedom.

### **The Sport Education model**

The SE model was created by the North American Physical Education teacher and researcher Daryl Siedentop with the aim of countering the traditional way of teaching sports, signaling a critique of reductionist, decontextualized, and inauthentic pedagogical proposals (Siedentop, 1994). Its objective is to develop three learning outcomes: (a) to form competent students – who have basic skills and strategies so that they can enjoy and successfully participate in sports; (b) to form literate students – who understand the rules, traditions, and values associated with sports, in addition to distinguishing between good and bad sports practices; and (c) to form enthusiastic students – who play and have respectful attitudes towards sports culture (Siedentop, 1994; Siedentop; Hastie; Mars, 2011).

Based on constructivist ideas, the model emphasizes that students must gradually assume responsibility for their own learning and play an active role in their own sporting experience, which provides an expanded understanding of the practice through acting in different roles beyond that of an athlete, such as captains, coaches, statisticians, referees, managers etc. (Siedentop, 1994).

Studies indicate that the SE model reinforces the critical and post-critical pedagogical conceptions of Brazilian Physical Education, which seek to break with practices centered on physical fitness that praise solely biological views on the body and bodily practices (Ginciene; Matthiesen, 2017; Souza; Costa, 2020; Vargas *et al.*, 2018). The way in which the SE is structured dialogues with an educational perspective that strives to understand sport as a sociocultural phenomenon constantly resignified in society, which contributes to students engaging with this cultural manifestation in a free and critical way. An authentic sports experience provides opportunities for group integration through different forms of participation, which fosters not only sports-related training but also humanizing training by promoting skills that value personal development and social relationships (Costa *et al.*, 2020; Kirk, 2013; Luguetti *et al.*, 2018; Siedentop, 2002).

With the possibility of adaptation so that the practice is viable in light of the reality of each educational institution, the SE uses six critical elements that guarantee the legitimacy of the sports experience, namely: season, affiliation, formal competition, record keeping, festivity, and culminating event (Siedentop, 1994; Siedentop; Hastie; Mars, 2011).

The season aims to increase the time students spend in contact with the teaching and learning content, in order to provide effective knowledge about the sport. The amount of time dedicated to the season should take into account the topic studied, and should be planned in such a way as to provide an

opportunity for systematization of knowledge that will enable students to appropriate the sporting practice so that they can practice it.

In the affiliation, students participate as members of a team, in which each one performs a role in addition to being an athlete. The aim is to foster a sense of belonging to the group based on the recognition of the importance of each role in the development of the sporting practice, eliminating exclusionary factors, and favoring the effective and balanced participation of all.

Formal competition takes place through the preparation of a schedule built by the students in a season, that is, the practice of the sport as it happens in the real world. The aim is to facilitate decision-making in planning that promotes equal opportunities for all, valuing fair play.

In parallel with the formal competition, performance records are kept, consisting of grades on individual and team performance, which provides feedback to students and encourages them to set goals. They also include the process of disseminating both these records and the culminating event, with the aim of telling the story of the competition.

The celebration refers to the movement of fellowship, which should be encouraged throughout the process to establish a pleasant and motivating environment in the educational action. Finally, the culminating event determines the end of the sports season in a competition that involves all subjects.

Although the SE aims at a comprehensive and conscious education of students in the sense of knowledge and practice of sports, it does not show a greater concern with the formation of critical thinking in relation to the broader context of sports in society. Thus, we understand that the SE linked to Freirean pedagogy can be a methodological strategy with the potential to face the challenges of critically working AG in higher education.

The possibility of authentically experiencing the sport during undergraduate studies can expand the education of students beyond the pedagogical aspects that involve the teaching and learning of gymnastic movements, the main skill expected of a Physical Education professional, whether they are a school teacher or a sports coach. In this proposal, it is necessary for students to understand the social occurrence of AG today, so that it is possible not only to plan the structuring of a competition, but also to develop ways to study the modality in its entirety. Likewise, it is essential that students understand who the actors are who make AG happen, what their functions are, and how they are carried out. The complexity of the knowledge worked on allows for the foundation of a solid pedagogical basis for the broad and critical teaching performance that is expected in today's society.

## **Freire's pedagogy**

The choice of Freirean pedagogy as a methodological proposal at the university is based on the assumption that, regardless of the level of education, educational practice is never neutral; it is always intentional and, in this case, driven by the idea of education for freedom (Freire, 1994). Thus, based on the questioning of what is being taught when teaching, decisions are made about principles and values that will guide all pedagogical action (Ramos; Sampaio; Saul, 2021).

Paulo Freire's pedagogical proposal contrasts the banking model of education centered on the educator who, in an anti-dialogical and authoritarian manner, disregards the knowledge that students bring with them and deposits knowledge that they consider superior. On the contrary, Freirean pedagogy

proposes a liberating education that stimulates critical-problematizing thinking in a horizontal and inseparable relationship between educator-student-object of knowledge (Freire, 1994). Dialogicity and politicality in the educational act are basic principles of Freirean pedagogy, which highlight dialogue as a fundamental tool in pedagogical action and determine the movement of action-reflection-action that presupposes an attitude of the subject towards reality (Feitosa, 2003; Gadotti, 2000).

Once proposed as a literacy method, Freirean pedagogy was expanded to various areas of knowledge other than its origin (Beisiegel, 2010; Brandão, 1981). In this movement, several socio-educational experiences elucidated essential pedagogical devices so that cultural action could be considered as dialogic and political in favor of a liberating education (Ramalho, 2022). Such devices correspond to the set of actions that characterize the pedagogical mediation of the educator, which permeate both the fundamental knowledge inherent to the ethical nature of a liberating educational practice and the understanding of the systematization of Paulo Freire's pedagogical proposal. Regarding the fundamental knowledge for teaching practice, Freire (1996) argues that education goes beyond training to perform technical tasks and, therefore, points out attitudes necessary for all those committed to building a transformative educational relationship inside and outside the classroom.

Among the 27 requirements outlined in the work *Pedagogy of autonomy: knowledge necessary for educational practice* (Freire, 1996), we highlight, first, *Horizontality*. To overcome the welfare-based connotation of education, which insists on an active stance by the educator who donates knowledge to the student, who remains passive – a relationship in which there is no dialogue –, it is necessary to establish a horizontal relationship between these subjects. Therefore, the educator must assume the role of coordinator of debates, while the students act as participants in the group. The balance between the freedom of the student and the democratic authority of the educator favors the creation of a relationship of mutual respect, an essential requirement for establishing the discipline necessary for learning (Freire, 1963, 1996).

In this educational logic, it is necessary to pay attention to stimulating curiosity, which contributes to the construction of an investigative spirit in students. By overcoming the educational concept of knowledge donation, the educator must create challenging strategies that promote conditions so that students feel provoked to doubt and, thus, exercise their reasoning, leading them to criticize consolidated knowledge, compare, formulate new questions, and advance in the development of a critical stance towards the object of study (Freire, 1996).

What is expected is that the *(Re)construction of (new) knowledge* occurs in a collective, democratic way and in line with the reality of the students (Freire, 1996). The aim is for the pedagogical process to generate the creation of something original for the subjects, free from myths produced by oppressors and conceivable for the collective, reorganized with its own authentic senses and meanings (Ramalho, 2022). Thus, from a stance that challenges the subjects to appropriate specific knowledge, always questioning and relating the information in dialogue with the concrete reality of the context in which they are inserted, the epistemological curiosity of everyone is instigated. With ethics and aesthetics, depth in the interpretation of facts and review of findings, the critique of deep-rooted knowledge, and the contestation of hegemonic ideologies that determine the lack of access to certain knowledge and practices are facilitated. Aware that history is a possibility and that nothing is determined, what is studied begins to make more sense when the transformation of reality is a possibility. In this way, the aim is to generate

theoretical-practical knowledge, more in line with the needs of subjects today, placing them in the participation of the unfinished process of humanization of the world (Freire, 1996).

We therefore observe the materialization of an environment that promotes the Stimulation of autonomy since, in Freire's conception, education should enable the student to recognize themselves as the protagonist of their story and no longer as a mere supporting actor. By placing the student at the center of the educational action, autonomy strongly influences the process of emancipation and empowerment, as the students begin to think for themselves and learn to govern and govern themselves (Freire, 1996; Gadotti, 2000).

Regarding the systematization of Freire's pedagogical proposal, researchers who were guided by the work *Pedagogy of the Oppressed* (Freire, 1994) point out three important phases for its development, namely: *Investigation*, *Thematization* and *Problematicization*. Such moments can be adapted to different areas of knowledge and are essential in the liberating educational process (Beisiegel, 2010; Feitosa, 2003; Freire, 1994).

*Investigation* is highlighted as the first step in the pedagogical process. Also known as *Reading the World* (Freire, 1978), it refers to the moment of surveying the reality of students and their ways of life (Beisiegel, 2010; Feitosa, 2003). In the adult literacy experience, this phase aimed to discover, collectively (between educators and students), “[...] life through speech; the world through words [...]” (Brandão, 1981, p. 13). In different educational contexts, *Investigation* consists of reflecting on the critical perception of reality, “[...] of life-lived, including both the most intimate subjective experiences and the most complex historical-social relationships [...]” of the subjects, paying attention to the inequalities produced throughout history (Britto; Giorgi, 2022, p. 7). It is at this first moment that the subjects discuss the prior knowledge they have about what will be studied, their impressions before beginning to dig deeper into the object of knowledge, highlighting unknown or mistaken points that need to be expanded and unveiled during the educational process.

This *Investigation* allows for *Thematization*, which consists of selecting the generating themes that emerged from the students' knowledge of the *Reading the World* based on their pragmatic meaning – potential for critical nature or the set of sociocultural reactions that it can generate, and which will be studied (Beisiegel, 2010; Feitosa, 2003; Freire, 1963).

Therefore, with the themes defined, *Problematicization* occurs, aiming to replace a naive view with a critical view, creating possibilities for the subjects to become capable of transforming the context in which they live (Feitosa, 2003; Freire, 1994). When studying the scientific knowledge produced by humanity, underlying questions arise regarding the broader problems related to the themes addressed, mainly those that are pertinent to the context in which the subjects are inserted, which need to be decoded through debates and reflections, leading the students to rethink their situation in the world. Pedagogical action goes beyond the specific content to be taught, encouraging the expansion of critical nature levels and envisioning possibilities for change in search of a transformation process (Beisiegel, 2010; Freire, 1963, 1994).

## METHODOLOGICAL PROCEDURES

We opted for the qualitative method, using the structure of action research, which presumes a form of planned action, in this case, of an educational nature, in which researchers and participants are involved collaboratively in the investigation (Carr; Kemmis, 1986; Thiollent, 2003).

### Context and participants

The group of subjects was composed of 17 students (13 men and four women), whose ages ranged from 19 to 30 years old, who participated in the discipline "Sports and leisure gymnastics" of the PE school at the Federal University of the Jequitinhonha and Mucuri Valleys (UFVJM) in 2022.

Offered in the second semester of the course, the objectives of the discipline include knowledge about the characteristics of competitive gymnastics modalities, basic notions of refereeing, and pedagogical procedures for teaching gymnastics in different contexts. The students had already taken, in the first semester, "Fundamentals of gymnastics", a prerequisite discipline that aims to develop historical, cultural, and social knowledge about the various forms of expression of gymnastics and their possibilities of movements.

Four other subjects also participated in the study: a research professor (responsible for the discipline and first author of this article) – with more than twenty years of experience in AG, twelve of them in higher education, in addition to experience with the SE during her PhD (Lugueti *et al.*, 2018); and three monitors (two women and one man) – students who had already taken the aforementioned disciplines in previous semesters and who were active members of a gymnastics extension project at UFVJM. The monitors had the function of assisting in the process of co-creation of the adapted AG code of points (CP) and acted as referees with the other students. The monitors and students had no experience with the implementation of the SE.

The names of the students were changed to fictitious names in the presentation of the results.

### The implementation of SE with GA in higher education

The implementation of the SE with the AG lasted twelve weeks, with weekly sessions of four hours plus twelve hours of extra-class activities, totaling 60 hours of workload in the discipline, under the planning and mediation of the research professor. Chart 1 presents the relationship of the six critical elements of the SE worked on in the implementation with AG:

**Chart 1** – Critical elements of SE and how they were developed in the discipline

Critical elements	Development in the discipline
Season	It took place over a twelve-week period: pre-season – nine weeks; regular season (culminating event) – one week; post-season – two weeks.
Affiliation	The students organized themselves into four teams, chose their respective names (ARPS, SMIRNOFF, TEAM ALFA, DREAM TEAM) and remained on the same team throughout the season.
Formal competition	The students were encouraged to play roles beyond gymnastics: coach, manager, referee, and journalist. During the pre-season, they developed the competition's CP at the same time as they created the series and organized the competition. The competitions were held during the season. In the post-season, they carried out a self-assessment on their participation in the discipline.
Culminating event	During the culminating event, the AG competitions and a gymnastics exhibition for all (GFA) were held with first-semester students.
Records	Performance records were made by gymnasts and coaches during training, by referees and managers at the culminating event, and by journalists in the form of images on an Instagram profile throughout the process.
Festivity	Students were encouraged to create the name and logo of the event (UFVJM AG Cup), the names, colors, and logos of their teams, the invitation for external spectators etc. All materials produced were shared and commented on the Instagram profile created for the event.

**Source:** The authors.

The research professor presented the proposal to develop the SE for teaching and learning sport-based gymnastics in the first meeting, briefly explaining the idea of organizing and participating in an AG competition (week 1). After accepting the invitation, the students read bibliographical materials and discussed the differences and similarities between competitive and non-competitive gymnastics regulated by the International Gymnastics Federation (FIG) (week 2).

During the pre-season, we worked on preparing for the culminating event (weeks 3-9). To understand the complex dynamics of the AG rules, we carried out the process of explaining the CP with a drawing competition, whose rules were collectively developed with criteria similar to those of the sport (weeks 3-4). Next, the students organized themselves into four teams, trying to equalize the distribution of people who had previous skills with gymnastic movements – three teams with four gymnasts and one with five (totaling 17 students). In addition to the role of gymnast, each student also took on the role of coach, manager, referee or journalist. In the team of five students, two acted as journalists (week 4).

The creation of the rules (co-creation of an adapted CP) occurred concurrently with the training of the teams, qualification, and performance of the assignments beyond gymnastics (weeks 4-9).

In the regular season, the students chose to hold the competitive event in a single day, in which, in addition to the AG competition by team, by apparatus, and individual all-around, a GFA choreography show was held with the students of the first semester. All gymnasts were awarded medals according to their placement (1st to 4th or 5th place) in the team competitions (sum of the three highest scores in each event), by apparatus (best scores on vault, beam, and floor) and individual all-around (sum of the scores of all events) (week 10). In the post-season, students read bibliographical materials about SE and discussed the similarities and differences between the events: GFA (non-competitive), in which they had participated in the first semester, and the current AG (competitive). They also carried out a self-assessment on their participation and the knowledge acquired during the semester (weeks 11-12).

## Data collection and analysis

We used multiple techniques to collect data, which were applied during the development of the discipline and at its end: (a) pedagogical documentation produced during the course – teaching plan, lesson plans and CP record created by the collective; (b) field diaries written by the research professor at the end of each meeting, so that a detailed description of the facts that occurred during the investigation could be recorded (Minayo, 2012), represented by the acronym FD followed by the number corresponding to the classes; (c) discussions with a critical friend throughout the development of the educational process (Baskerville; Goldblatt, 2009; Ní Chróinín; O’Sullivan; Fletcher, 2016); and (d) conducting four focus groups (FG), which occurred after the entire process, with the aim of promoting spaces for group debates, with discussions that problematize issues pertinent to the study (Barbour, 2009; Minayo, 2012).

To process the data, we used Thematic Analysis, which refers to “[...] a method for identifying, analyzing, and reporting patterns (themes) within the data. It minimally organizes and describes the data set in (rich) detail” (Braun; Clark, 2006, p. 7). Initially, the research professor read the multiple data sources and identified themes and categories. In meetings with the critical friend, these categories were discussed, and three pedagogical strategies were co-constructed from the data (Braun; Clark, 2019).

The research was submitted to and approved by the UFVJM Research Ethics Committee (CAAE no. 67021122.8.0000.5108), ensuring that all procedures involving human beings complied with current ethical-scientific standards, so that subjects participated voluntarily, signing the Free and Informed Consent Form.

## RESULTS

Based on the data, we constructed three fundamental pedagogical strategies for implementing SE in AG: Performance of different functions, Design dynamics, and Co-creation of the CP (Figure 1). In the results section, we present the processes of implementing the pedagogical strategies and their relationships with the Freirean perspective, as well as the perceptions of the research professor and the students.

### Perform different functions

The research professor proposed an initial action to raise students' knowledge about the world of AG in order to contextualize what would be studied. In addition to surveying previous experiences with sport-based gymnastics, videos of competitions in the sport at different skill levels – from school to high-performance – were read/analyzed, which allowed students to identify different social issues, such as the “[...] high cost of the physical structure, the majority of gymnasts being white and with a similar body type (thin and strong), early specialization in the sport, only female gymnasts not wearing pants or shorts and using music and dance in their series etc.” (FD2).

In this process, the subjects involved in an AG competition were also recognized: “[...] gymnasts, referees, commentators, spectators, coaches, technical team, people who organized the event

– who set up the space, who was counting the scores, playing the music etc.” (FD2). They identified that, “[...] although it was an individual competition (each gymnast performs alone), there is a very strong interaction between the athletes on the same team, especially when they are setting up the apparatus for their teammates to compete and when encouraging each other during the performance of the series” (FD2).

These findings led to a reflection on the different facts that involve the sport and that are not directly related to the technical aspects of gymnastic motor actions. They also considered the need for essential actors and actresses for a competition to take place, that is, Physical Education professionals can act beyond the role of coach (FD2).

That said, we discussed the roles necessary for a competition adapted to the level of the students to take place: gymnasts, referees, and event organizers. The research professor also added the coach, a role that the students did not consider necessary due to the fact that they all had a similar level of knowledge about AG and, in their opinion, “[...] a coach should know more” (FD2). After discussions, we established that the coach would act as the team leader and that the event organizers would include managers and journalists.

The students asked the research professor to determine the organization of the teams, respecting the criteria that “[...] those who were also part of a gymnastics extension project that takes place at the university should not be together, to balance the skill level” (FD4). Once the division was made, the students chose the other roles they would assume according to their affinities.

Over the course of six meetings (FD4; 5; 6; 7; 8; 9), while the co-creation of the CP took place collectively, the groups of each role performed their tasks beyond gymnastics, namely: the coaches helped the gymnasts to create and train the series; the referees practiced refereeing together with the monitor; the managers planned the organization of the space, developed spreadsheets to calculate the scores for the competition, and sought sponsors to buy the medals; the journalists recorded images and created promotional materials for the social network. In addition to helping with all the functions, the research professor and the monitors took on the responsibility of recording the CP definitions and the summaries, making them available to everyone through a closed group on the social network.

The students' testimonies suggest that participation in different roles helped in understanding AG, as we can see below:

*Caio Souza: I think that this issue of rotating roles, [...] you end up creating an awareness of what you are actually doing. [...] this was essential for us to create a consensus that goes beyond competing, being an athlete, and really understanding how the competition works. So that you could really experience all aspects of the competition in the best possible way (FG).*

*Patrick Sampaio: [...] Before, we knew the basics of gymnastics, we learned how to do some things. Now that we have learned outside the athlete, we know more about refereeing, about management, and these things. We know more about not just being an athlete but also about the organizer, the person in the middle (FG).*

*Laís Souza: [...] you experience the sport itself. From refereeing, the organization, to being an athlete, the summary. I myself had never paid attention to how the summary of a gymnastics competition worked. [...] we learn more in practice what gymnastics as a sport is (FG).*

*Flávia Saraiva: [...] I thought it was cool that everyone experienced everything, the rotation, you know? The organization, you know? Because I think that from that point on, they have a much broader vision [...].*

This strategy also appears to have helped in the development of gymnastic skills when the students were performing as gymnasts:

Daniele Hypólito: *It's the fact that you, as a student, are acting differently; for example, as a coach, you analyze the movement that your colleague is doing; you are also training. You can even tell where you are making mistakes and where you can improve* (FG).

The strategy also made it possible for everyone to participate in the discipline and, consequently, in the teaching-learning process, even without practicing the modality:

Daiane dos Santos: *[...] even though I didn't participate in the practice itself, I participated in other functions, management, media. [...] I also had contact with the summary, and I never tried to find out how it was done. And we start to have a little idea, right, from this class format* (FG).

## Drawing dynamics

The research professor began the explanation of AG rules with a discussion about the different forms of competition. The students mentioned examples such as “who gets there first” (racing, swimming etc.), “who scores the most points” (ball sports), “who knocks down the opponent” (wrestling), until they got to gymnastics, in which the one who “does the best” is evaluated (FD3).

This led to the question: “how do we evaluate who does the best?” (FD3). At this point, the students presented some prior knowledge about the sport, such as “stepping outside the line deducts a point, falling deducts a point” (FD3), but were unable to discuss the specifics of the rules.

The following statements demonstrate the students’ limited knowledge about AG rules before experiencing the SE:

Diogo Soares: *[...] before we started the discipline, I liked watching the Games and the Olympics because I thought they were beautiful and interesting, but I didn't understand how the scores were calculated, for example. [...] I only saw the athlete's performance. I didn't understand why they got a certain score, what criteria were used to disqualify them [...] FG).*

Mosiah Rodrigues: *[...] if you're going to do this with soccer, for example, like, everyone knows the rules. You don't have to teach the referee, people know more or less. Not in gymnastics, you have to teach everything, it's different, no one has ever done it and it takes a while to learn the rules, it's hard* (FG).

In view of this, the research professor invited the students to a drawing competition since it would be possible to evaluate the “most beautiful” drawing from the same perspective in which the “most beautiful” AG series is evaluated (FD3).

The dynamic began with generating questions to stimulate the collective creation of rules: “What are the subjects necessary for the drawing competition to take place? What will be compared? What should the drawing be like in order to be compared? What elements should make up the drawing? What values will each element have? Can we value connections between elements? How will we evaluate the flaws in the drawings?” (FD3). As the questions were answered, the rules of the game were determined, following the logic of the official AG CP:

- Subjects – artists (gymnasts), technical team (coaches), judges and timekeepers (referees), audience/fans.
- Drawing theme – life in the countryside (event in which the gymnast competes).
- Criteria for the difficulty score:
  - ✓ Drawing content – elements of difficulty classified into groups according to type – animals/human beings, human constructions, vegetation, non-living beings, and,

simultaneously, groups according to the difficulty to draw – bird value A, fish value B, horse value C, man value D etc.) (table of gymnastic elements).

- ✓ Composition requirements – ten elements in the composition of the drawing, at least one element from each group, one element from each difficulty etc. (specific composition requirements for each event in the AG).
- ✓ Bonus for connection between elements – flower on the tree etc. (direct and indirect connections).
- Criteria for the execution score – errors related to the drawing's line, which would be deducted from ten points, equivalent to the level of error – lines with small variations in the line deduct one tenth etc. (execution errors specific to each event).

Entries in the FD indicate how complex the process of creating the rules for the drawing competition was:

Research professor: [...] at first, the students thought it would be easy to create a drawing competition, but as soon as some elements emerged, everything became more confusing, such as what to have in the drawing so that it could be compared. I had to start structuring a value chart for each element of the drawing, in the same way as is done in gymnastics – the chart of gymnastic movements that can make up the series, each with a degree of difficulty. The students were unable to come up with this strategy on their own. From then on, they began to form associations with gymnastics. Occasionally a comment would come up: is it like this in gymnastics? We created all the rules together, with me managing the drawing composition requirements – defining the general rules, and then defining what to draw and the values – flower with such value, tree with such value, flower connection in the tree, having ten elements in the drawing etc. So I got into the execution point part. I explained the grade that adds (difficulty grade) and the grade that deducts (execution grade) and I explained that in the drawing competition, we would be very subjective, giving examples of types of lines that could be discounted. I added that they needed to be fair between the designers, the same criteria for both<sup>3</sup> (FD3).

However, statements in the FGs also demonstrate that students began to relate the rules for the drawing competition with those of the AG during this process:

Yuri Guimarães: That drawing thing, at first, I thought you were tripping. [...]. Then you started doing it, creating it, making that table, giving value to things, then it started to fit together, and you could already see that it was gymnastics you were talking about. Because if you went straight into the movements, ugh, I wouldn't understand anything (FG).

In the same way, we observed the students' recognition of being protagonists in their teaching-learning process, which also contributed to the understanding of the rules:

Daniele Hypólito: [...] we participated in the process of choosing what we were going to do in the drawing and then in the gymnastics. It was easier to understand. [...] it was much more concrete (FG).

The following images illustrate the rules created collectively during the meeting to hold the drawing competition<sup>4</sup>:

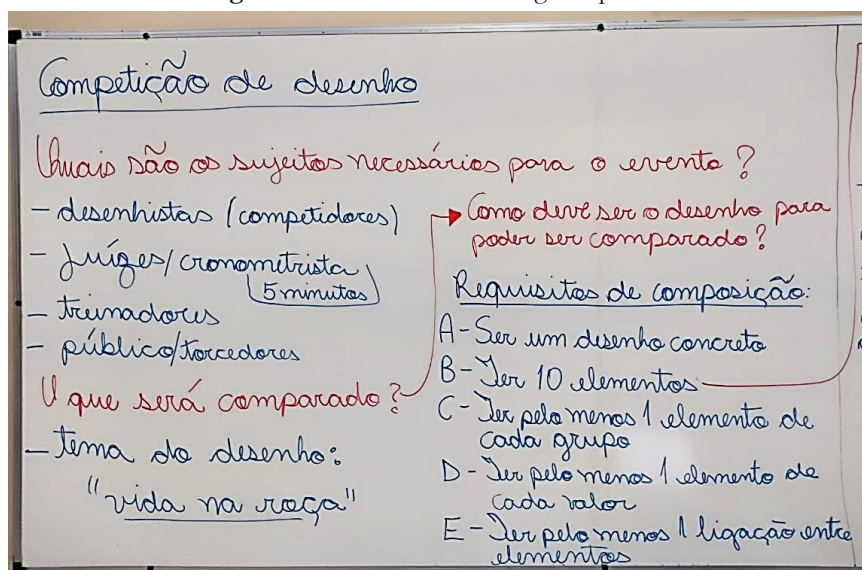
<sup>3</sup> Two students were selected to participate in the drawing competition.

<sup>4</sup> **Figure 1** - Rules for the drawing competition

Drawing Competition - What are the subjects necessary for the event? – Draftsperson, - Judges/timekeeper (5 minutes), - Coaches, - Audience/fans. What will be compared? -Drawing theme: “Life in the countryside”. What should the drawing look like so that they can be compared? Composition requirements A – Be a concrete drawing, B – Contain 10 elements, C – Have, at least, 1 element of each group, D – Have, at least, 1 element of each value, E – Have, at least, 1 connection with each element. **Source:** Image from FD3.

**Figure 2** – Rules for the drawing competition

Figure 1 – Rules for the drawing competition



Source: Image from FD3.

Figure 2 – Rules for the drawing competition

Quais elementos podem compor o desenho?

VALORES

GRUPOS	A = 0,10	B = 0,20	C = 0,30	D = 0,4
1 animal/ser humano	pássaro	peixe	caralo	homem mulher
2 construção de ser humano	ponte	casa	ferramenta	carruagem
3 vegetação	mato	flor	frutos vegetais	árvore
4 seres não vivos	sol	nuvem	montanha	rio com cachoeira

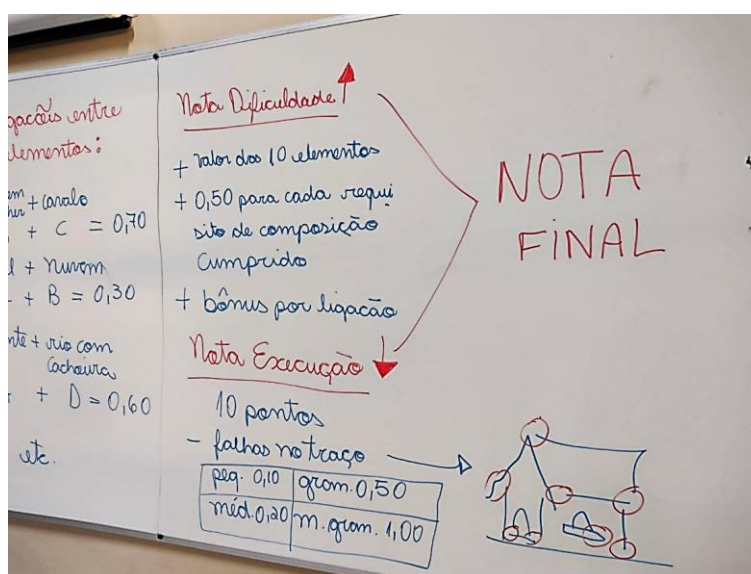
Source: Image from FD3.

Groups: 1 - animal/human being; 2 - construction of the human being; 3 - vegetation; 4- non-living beings  
 Values: A= 0,10 – Bird, bridge, grass, sun; B = 0,20 – fish, house, flower, cloud; C = 0,30 – horse, tool, fruits/vegetables, mountain; D = 0,40 – man/woman; carriage, tree, river with waterfall. **Source:** Image from FD3.

**Figure 3 – Rules for the drawing competition**

Final score: Difficulty score: + value of the 10 elements; + 0,50 for each composition requirement met; + bônus for connection. Execution score: 10 points – trace flaws – small 0,10, médium 0,20, big 0,50, very big 1,00. **Source:** Image from FD3.

Figure 3 – Rules for the drawing competition



Source: Image from FD3.

After completing the rules of the game, the students were divided into competitors, coaches, referees (difficulty, execution, timekeeper and chief referee) and fans. After writing down the rules, the class ended with the proposal to study them in order to hold the drawing competition in the next meeting.

The competition began with the first competitor drawing while the opponent waited outside the classroom, so that they would not feel influenced to change their strategy based on what they were seeing. Entries in the FD show that, even with an analogy, the aesthetic evaluation to determine a winner was not easy:

Research professor: *The most interesting part was evaluating the drawing, the referees didn't even know how to start, and I helped with the first drawing – I started by putting the values of each element drawn and counting the quantity to see if the first requirement was met. We all judged the difficulty score together, the judges and all the other students helped, but we didn't add up the scores, so there would be [sic] some suspense. For the execution score, I indicated what I would discount, but I asked the judges to do the analysis alone. We didn't disclose the score of the first artist at that time. In the second drawing, I also helped evaluate the difficulty score, but I had to interfere less because the whole class had already understood the process and were practically talking along with me (FD4).*

After the two competitors' performances, the scores were given to the chief referee, who calculated the final score, which was only announced after the second competitor's evaluation. The students pointed out the "[...] need to create strategies, choose the best elements to score more, and manage time to be able to draw everything and what they could have done differently to get higher scores" (FD4).

At the end of the game, the official AG CP was presented, associating the rules created for the drawing competition with those specific to the modality. Even recognizing the amount and complexity of information in the FIG document, the students were able to establish connections with what they had just experienced, as illustrated by the statements below:

Diogo Soares: *[...] When we see the presentation, no, wait a minute! As if it were the drawing. So you didn't meet those requirements, so you will lose points. So if you comply with the connection, you will have an additional point. I think it was a more didactic way of understanding what the final evaluation is like (FG).*

Rebeca Andrade: [...] *the drawing competition, right, which made things easier. You first compete by drawing, understanding that it is something, how do you say? Aesthetic, right? That explanation of seeing the flaws in the lines and each drawing has a value. I think it was very didactic* (FG).

To facilitate the association, we made some changes to the rules of the drawing competition. We included gymnastic elements that the students were able to perform in the difficulty table, in addition to some types of execution errors, such as, for example, a bent knee in the movement in an arabesque balance. These adaptations also contributed to a better understanding, bringing the requirements closer to the students' skill level:

Daiane dos Santos: [...] *And also to analyze what each one could do and what they couldn't. Because even in the drawing there were things that you didn't know how to do and you could choose another one* (FG).

Arthur Nory: [...] *in the drawing it helps to understand exactly what the criteria are, even more than in the practice of gymnastics itself. There, you can simulate and then put it into practice during gymnastics* [...] (FG).

At this point, we also presented some symbols that represent the gymnastic movements in the official CP, making it clear that we could create a symbology adapted to the group's skill level (FD4). The monitors had participated in the same dynamic when they took the course in the previous semester; thus, they also emphasized the relevance of this pedagogical strategy for understanding the AG rules, as illustrated by the following statements:

Jade Barbosa: [...] *I think it is essential because it already starts with a competition. [...] It already anticipates how this business of putting together the series will be, you know?* (FG).

Flávia Saraiva: *It already gives an outline, right, of what we are going to do, it provides a basis. Like, you have to look at the score, how many drawings you need to beat the other, both in terms of connection, like we put the car with the apple* [...] (FG).

Mosiah Rodrigues: *It's more illustrative of what you'll have to do in gymnastics, you can already see that you have to have a strategy, what you know how to draw to make it worthwhile, to not lose points. The same thing in gymnastics, if it's worth doing something that you don't know how to do it properly* [...] (FG).

## Co-creation of the adapted code of points

The research professor encouraged the students to reflect on the complexity involved in practicing official AG and how it would be possible to provide access to it in different contexts and for people with lower skill levels. Based on the study and knowledge of the official regulations governing the modality, carried out in line with the dynamics of the design, the students identified elements that needed to be changed so that the new rules created in the adapted CP would meet everyone's needs, respecting individual skills, as illustrated by the FD entries:

Research professor: *Next, I designed the women's floor gymnastics CP and asked about similarities with what we had done in the drawing. They identified the requirements, the value chart, the connections etc. They also said that everything was more confusing in the floor gymnastics, especially in relation to the movements, many of which they had never seen before and many types of discounts, since the CP shows angles that they thought were impossible to identify in movement. The students returned to the question posed when they watched the competition videos, asking why only the women's floor gymnastics has music and dance, which led to other points, such as the difference between the apparatus, the number of events for each category (more for the men), the artistic aspect being more evident in the women's etc. I couldn't answer the reason for these differences, I said that it was necessary to study the history of the sport in more depth. After some discussion, we came to the conclusion that it possibly had to do with the sexist society, the fact that the [sic] women's floor gymnastics competition in the Olympic Games started much later, and all the other differences that also occur in other sports. They also asked about the symbolism and I explained that we could even create our own symbols for movements that do not appear in the official CP. I informed them that we would make an adapted CP according to our abilities and that we would define everything*

*together. At that moment, the students demanded that they wear the same clothes, stating that they would not wear swimsuits. Everyone laughed and agreed, saying that all the rules should be the same for everyone: no differences between the tests, music and dance for everyone, and so on (FD4).*

Such gender equality and the involvement of male students were points highlighted in the testimonies after the entire experience, as illustrated in the following statement:

*Rebeca Andrade: [...] I think it's interesting to look at it from the outside, because they say that gymnastics is for women, right? And you see the boys very involved, participating. They excelled, because there were only three women competing, that's it. From the outside looking in, it was really good. [...] Neither did I. No one said: I'm not going to do that because it's a girl's movement, you know? They didn't put any limitations on their movements (FG).*

After the explanation of the official CP was finished, the next meetings were dedicated to experimenting with gymnastic movements on the AG equipment to define the CP rules adapted to the students' reality (information from the teaching plan). During five meetings (FD4; 5; 6; 7; 8), with the help of the research professor and the monitors, the students listed the movements they knew how to perform, or that they believed were feasible to learn, and tried them out on the respective equipment, while determining their values. The research professor presented the symbology of some movements, and, as changes were made, new symbols were created or adapted.

Although the possibility of creating elements that are not specific to AG was opened up, the students defined the vault, balance beam and floor exercises to compose the competition, eliminating other apparatuses that they considered very different from what they had already experienced throughout their lives, according to the FD entries:

*Research professor: In the first moment of experimentation, the students found it very difficult on the parallel bars. I said that they could create movements that did not even exist, but they found it too complicated due to the short time until the competitions, which made us discard this event immediately (FD6).*

Once the events were determined, we continued experimenting and establishing the rules: difficulty table, connections between the movements to compose the list of bonuses according to the complexity of the execution, composition requirements for each event, and execution discounts (criteria for small, medium, large, and very large errors in each gymnastic movement selected to compose the CP).

The entire process of creating the adapted CP was centered on the students, who participated in all decisions in a collective and democratic manner, as illustrated by the following statements:

*Sérgio Sasaki: Yes, it helped us by putting us at the center of the entire process. We were the main people in the entire process (FG).*

*Daniele Hypólito: [...] So that we would know what we were going to do, we created, experimented, and then studied [...] (FG).*

*Arthur Zanetti: [...] it was more learned than memorized, because we did things, you know? [...] I learned, I didn't memorize. I know how to do the movements and even the scoring code; I know what this difficulty and execution thing is [...] (FG).*

It is important to emphasize that there were conflicts during the decision-making process regarding the movements that would make up the table of difficulties and connections. Divided into teams, each group was responsible for experimenting and defining the movements of a test, which would be validated or modified by the next group that tried the apparatus. During this exchange, when they came across ready-made definitions, some disagreements emerged:

Research professor: *As soon as they came into contact with the written definitions from the previous group, there was a moment of tension. Both groups complained about the definitions that had already been made, they didn't feel included, they said that the definitions hadn't taken everyone's abilities into consideration, that not everyone would be able to do what was written etc. There were a lot of complaints! It was really funny to hear the complaints, because I was on the outside just supporting the monitor who had questions about what was written in the table and how to do a certain movement, if it could be changed to a certain thing etc. Both groups felt wronged; it wasn't just one group complaining. It seems that the fact that they hadn't created the rules for that test made them feel like they weren't included. I asked them to try out the movements that had been selected by the previous group and to suggest changing the value if they thought it was necessary, then we would discuss everything at the end of the meeting. By allowing themselves to try out what another group had created/determined, the tensions diminished, and a few adjustments were made without many problems. I think the tension was just initial when they came across something ready, different from what they had been experiencing since the beginning of the curricular unit with everything defined collectively. In other words, the acceptance of the rules is greater when I participate in the creation process. That's incredible! (FD6).*

The students agreed that the movement would be included in the difficulty table if “at least two people could do it without falling” (FD6), which fostered a sense of respect for different abilities, as illustrated in the following statement:

Diego Hypólito: *And adapted for the people who are going to participate, right? In this case, like you did with us, you let us set the rules according to our abilities. That makes it more inclusive (FG).*

In addition to the movements, all the other components of the CP were created collectively during the Season:

Research professor: *[...] we sat in front of the board to define the jumps and their respective values. We decided that we would have the jump without and with the table, since two students were still unable to do jumps on the table, so that everyone would have the chance to participate in this test. To define the execution discounts, it was necessary for some students to demonstrate, again, how they were executing the jumps and, based on the aesthetics, how much they could extend their knees, elbows, toes etc., we determined the discount parameters (FD5).*

Research professor: *[...] we defined the requirements for the composition of the floor and beam: number of elements in the series, how many from each group and value, artistic elements etc. The students negotiated a lot, demanding points that would allow the less skilled ones to be able to create a series with all the requirements. We also talked about execution discounts, and, at the same time as they demonstrated how much they could raise their legs during the arabesque move, extend their knees in the star, remain still in the handstand etc., we were determining what would be considered a small, medium, or large error (FD7).*

Research professor: *I started the meeting by presenting the printed CP, which was also shared with the group via WhatsApp. I printed and handed out the CP with the descriptions of each test to the coaches of each team, explaining some points and that they could make adjustments according to what was happening in the training: we could change values, remove or add movements, modify the determined connections etc., all with the consent of the group (FD8).*













The following images illustrate fragments of the specific rules of the floor test, described in the document prepared by the collective, to exemplify the CP created during the pedagogical action:

**Chart 2** – Specific rules for the floor test

<b>FLOOR: Specifics rules of the event</b>
<b>FINAL SCORE</b> = difficulty score + execution score
<b>DIFFICULTY SCORE:</b>
Sum:
-Composition requirements met
-Difficulty value of the 8 elements executed according to the elements table
-Bonus for direct connections between elements
<b>Composition requirements</b> = 3,00 if all are met
Requirement 1 – 10 elements in the series = 0,50
Requirement 2 – at least 1 element from each group = 0,50
Requirement 3 – at least one element of each difficulty level: A, B and C (D is not necessary)= 0,50
Requirement 4 – at least 1 direct connection between 2 elements = 0,50
Requirement 5 – do not repeat elements (except in defined links)= 0,50
Requirement 6 – inclusion of at least 3 artistic movements (body expression, dance, music and movement) = 0,50


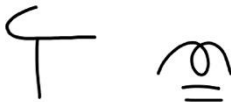


Source: Pedagogical documentation.

**Chart 3** – Fragment of the element difficulty table

Element groups	Difficulty value			
	A	B	C	D
	0,10	0,20	0,30	0,40
JUMPS	GALLOP	SCISSORS	SISSONE	SPLIT
				
	STRAIGHT	STRAIGHT WITH ½ TURN	TUCK	STRADDLE
				
STATIONARY MOVEMENTS	PASSÉ	CANDLESTICK	ARABESQUE	BRIDGE
				

Source: Pedagogical documentation.

Chart 4 – Fragment of the bonus table for connections

<p>PASSE + ARABESQUE</p>  <p>ARABESQUE – ROLL FORWARD</p>  <p>FRONT SUPPORT + SIDE SUPPORT + BACK SUPPORT</p> 	0,30
<p>HOLLOW DISH + ARCH</p> 	0,40

Source: Pedagogical documentation.

Chart 5 – Discounts for execution failure

EXECUTION SCORE:				
Starting from 10.0 points and execution failures are deducted according to the type and level of the error (according to the table below).				
Fault description	Small	Medium	Large	Very large
	- 0,10	0,30	0,50	1,00
Plantar flexion All elements must be performed on the toes when the soles of the feet are not resting on the ground	Little plantar flexion	Medium plantar flexion	Dorsiflexion of the feet	
Knee, Elbow or Hip Flexion Discount on elements that require extended knees, elbows, hips	Up to 20°	Between 21° and 89°	Higher t 90°	
Insufficient Flexion of Knees, Elbows or Hips Discount elements that require full flexion of knees, elbows, hips	Higher than 90°	Between 21° and 89°	Up to 20°	
Insufficient flexibility Discounting elements that require flexibility – splits, bridges, arabesques, jumps with legs apart etc.	Little lack of flexibility	Medium lack of flexibility	High lack of flexibility	
Insufficient height in jumps	Medium	Low	Very low	
Imbalances	Additional movement of arms or legs to maintain balance	Additional movement of limbs and trunk to maintain balance	Large additional movement of limbs and trunk to maintain balance	
Extra steps on landings	1 small step	1 long step	More than 1 step	
Fall			One-handed support to prevent falling	Two-handed support or effective fall
Discounts must be applied each time they occur on each of the elements.				

Source: Pedagogical documentation.

The following statements show that providing the opportunity to experience an AG competition designed by the subjects themselves made it possible to transform a reality. A modality that was previously inaccessible became knowable in its different aspects, both for the students and for the monitors:

Caio Souza: *We created it; each one was able to create their own using the rules that we also created. You know that there is a rulebook, the one that counts; if you don't have the ability, you won't take the most difficult one, you will improve during the training period to arrive on the day and present in the best possible way* (FG).

Daniele Hypólito: *Participating in the process itself, a process that you can do. It's as if you were actually there in a real competition [...]* (FG).

Arthur Nory: *[...] I only had contact with it at university. So, I think that something, some competition, some presentation [...] I think that these things help the person in practice to have an idea of what it's like when it's done the correct way* (FG).

Mosiah Rodrigues: *[...] there were a lot of movements that I didn't even know about. I was like: "What's this gallop, this scissors, these things?" [...] I said: "Wow! Cool! I'll take it to another practice". So, I took many of the movements that were there to teach in the monitoring [...]* (FG).

## DISCUSSION AND CONSIDERATIONS

When we choose a particular pedagogical perspective, it is important to keep in mind that the choice should not be based on strategies or techniques, but rather on a vision of the world, society, education and the person. In the pedagogical experience in question, the choice was made for the pedagogy proposed by Paulo Freire. In this context, it is also necessary to reflect, first, on the objectives intended in the educational action, since the teacher's mediation involves the planning and execution of a set of procedures that aim to enable access and production of knowledge about the object of knowledge worked on and the expansion of the student's *Reading the World* (Freire, 1978).

In this article, we seek to understand the pedagogical strategies mediated by a professor of an undergraduate school in Physical Education with the purpose of developing knowledge about AG, using the SE as a resource in dialogue with Freirean pedagogy. Data analysis highlighted three themes that correspond to the pedagogical strategies constructed during the educational process, which proved to be fundamental for the implementation of SE with AG in higher education and were based on elements of Freirean pedagogy, namely: Performance of different functions, Design dynamics and Co-creation of CP.

The performance of different functions emerged from the students' understanding of the topic studied through *Reading the World* (Freire, 1978). The research professor created a space for contextualization about gymnastics based on the students' reflections on their previous experiences with the modality, whether they came from the physical practice itself or from visual access through the media, allowing for an understanding of the social occurrence of gymnastics in today's society.

As contact with the practice of AG was nonexistent in the lives of most UFVJM students, the research professor opted for the critical exercise of reading/analyzing videos of competitions. Thus, instead of transferring knowledge, she stimulated the students' curiosity with generating questions that led to an investigative attitude, contributing to the construction of what Freire (1996) called the *Investigative Spirit*, the fruit of *epistemological curiosity*.

Through debates, we raised questions about what was explicit and implicit in the images, thus developing the *Problematization* (Freire, 1994) of the topic addressed, leading students to reflect on

the issues underlying the modality that are often naturalized, such as differences related to gender and socioeconomic conditions for the practice to be viable. The purpose of this reflection was to encourage overcoming a naive and *codified* view of AG and a critical stance towards the object of study, envisioning possibilities for transforming reality (Beisiegel, 2010; Feitosa, 2003; Freire, 1963, 1994), based on its *decoding*.

In this movement, the students also understood the functions necessary to organize an AG competition adapted to their own level, placing them as protagonists of their teaching-learning process, which demonstrated the *Encouragement of autonomy* (Freire, 1996; Gadotti, 2000) from the beginning of the pedagogical action and the overcoming of *limiting situations*, namely, the difficulty of participation due to the complexity of gymnastic movements, as presented in the hegemonic media.

To construct the Drawing Dynamics, the research professor also started from *Reading the World* (Freire, 1978), since the students brought their knowledge about the different ways of defining a winner in a sports competition, revealing their lack of knowledge about the AG rules. This procedure allowed the approximation of the studied theme (distant) with something more present in their life contexts (close).

In the process of developing the rules for the drawing competition, we once again noticed the stimulus to the *Investigative spirit* (Freire, 1996) when the research professor encouraged the discovery of the elements necessary for the game to take place, as well as their relationships with the official AG rules, avoiding the transmission of knowledge. Once again, the *Stimulus to autonomy* (Freire, 1996; Gadotti, 2000) was fostered by a series of choices made democratically by the students, demonstrating *Horizontality* (Freire, 1996) in the pedagogical action, since the role of the educator as the sole person responsible for decisions was eliminated.

Finally, the development of the Co-creation of the CP indicates, once again, the *Problematization* (Freire, 1994) of one of the components of the knowledge worked on. When faced with the official rules of the AG, the students identified situations that, in addition to making them socially uncomfortable, made it difficult to authentically access the practice of the modality, such as the requirement of music and dance movements only for women, the high degree of difficulty of the gymnastic movements considered valid, the complexity of the rules and guidelines described in the official CP etc. Debates about such circumstances led to the *decoding* of these aspects, leading to the questioning of precepts conceived as natural and universal, which reveal that the culture presented by the oppressor does not match the reality of the oppressed (Ramalho, 2022). The institutionalized practice of AG is systematized in such a way that, in most educational institutions in the national public system, its authentic development becomes unfeasible. This is due to the structural conditions determined in the CP and the level of difficulty of the movements required in the document, which are incompatible with the abilities of many Brazilian students. In these debates, *extreme situations* were triggered, and there was reflection on ways to overcome them.

Based on the reflections, we can conclude that the students raised their levels of criticality regarding the conceptual, social and practical aspects of AG, because, through the proposal to create a CP adapted to the level of skills they had, they faced the problematic elements (*extreme situations*) that prevented their participation in the sport. There was the *(re)construction of (new) knowledge* collectively, democratically, and in line with the reality of the students (Freire, 1996). The final product – the CP of the UFVJM AG Cup – constituted original knowledge, which changed norms and inserted gymnastic

movements that could be performed, developed based on criteria of methodical rigor that involved research, experimentation and reflection. This CP now carries multiple meanings and significance for students by allowing access to what was previously unattainable, effectively transforming a reality (Beisiegel, 2010; Freire, 1963, 1994), a possible *Unprecedented-viable*.

This action was also permeated by *Horizontalidade* (Freire, 1996), as the research professor acted as coordinator of the debates necessary for defining the new rules, and the essential responsibilities for carrying out the tasks were distributed among all those involved. The encouragement of students to take responsibility for defining the rules of the adapted CP was constant, so that they always remained at the center of the process as subjects who think for themselves, capable of managing their own learning. This reflects the *Stimulus to autonomy* (Freire, 1996; Gadotti, 2000) throughout the entire pedagogical action.

It is also important to highlight the difficulties faced during the educational process, such as: the lack of motivation of students to engage in the initial development of the proposal; the frequency of participants in classes due to the men's soccer World Cup games, which took place at the same time as the meetings; the apprehension of the research professor in determining quantitative grades for each activity (a requirement of the training course), so as not to interfere with the authentic engagement of the study participants, among other factors inherent to the reality of higher education. These types of situations are inevitable, since every educational context, formal or informal, presents specificities and limits that are beyond the control of the educator.

In view of the results, we consider that the pedagogical experience presented is relevant, considering that it demonstrates a possibility of developing knowledge about AG in higher education, placing students at the center of the process, in dialogue with the reality of the context in which they are inserted and based on Paulo Freire's Pedagogy of Liberation. Obviously, the experience gained during undergraduate studies does not encompass all the diversity that will be experienced in the pedagogical practice of future teachers. However, the exercise of a liberating education in initial training can show possible paths and provide support for a humanizing and emancipatory praxis in the different contexts in which Physical Education professionals work.

Therefore, if the expectation is that future Physical Education teachers, whether working in schools or outside them, break with traditional models of teaching sports that keep students on the sidelines of the process, teaching in initial training needs to be reviewed.

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**Author 1** – Project coordinator, conceptualization, methodological design, investigation, data collection, data analysis, writing of the original draft, writing of the final text and final editing.

**Author 2** – Conceptualization, methodological design, investigation, data analysis, critical review of the text and addition of significant parts.

**Author 3** – Data analysis, critical review of the text and addition of significant parts, final editing.

## **CONFLICT OF INTEREST**

The authors declare no conflict of interest in this article.