

ENSINAR E APRENDER A SE MOVIMENTAR: UMA ABORDAGEM ESTÉTICA E INTERDISCIPLINAR DO ENSINO DO MOVIMENTO

Teaching and Learning to Move: An Aesthetic and Interdisciplinary Approach to Teaching Movement

Enseñar y Aprender a Moverse: Un Enfoque Estético e Interdisciplinario de la Enseñanza del Movimiento

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RESUMO

O presente ensaio teórico-prático tem como objetivo discutir o ensino e a aprendizagem do movimento a partir de uma abordagem estética e interdisciplinar, tomando como exemplo o ensino da bandeja no basquete no contexto da formação inicial de professores de Educação Física. Fundamentado nos pressupostos da didática do movimento, da educação estética e do ensino e aprendizagem genética dos jogos esportivos, o estudo articula diferentes referenciais teóricos, como a fenomenologia do movimento, a teoria da Gestalt, a morfologia do movimento e uma perspectiva pedagógica crítica sobre o uso das mídias digitais. Metodologicamente, o ensaio ancora-se em uma experiência de matriz participante, desenvolvida com pós-graduandos, um estudante de iniciação científica e docentes do campo da Educação de uma universidade pública brasileira, na qual práticas corporais, reflexões coletivas e processos criativos foram integrados ao longo do percurso formativo. O núcleo da proposta consistiu na transformação da técnica da bandeja em um objeto de ação estética, por meio da criação de uma imagem-sequência do movimento, mediada pelo uso pedagógico de mídias digitais. Os resultados indicam que a articulação entre

prática, reflexão e criação estética favorece uma compreensão ampliada do aprender a se movimentar, deslocando o foco do desempenho técnico isolado para a experiência perceptiva, expressiva e relacional do movimento. Conclui-se que a educação estética do movimento constitui um eixo potente para o ensino da Educação Física, especialmente quando pensada em contextos interdisciplinares e formativos.

Palavras-chave: Educação estética; Interdisciplinaridade; Didática do movimento.

ABSTRACT

This theoretical-practical essay aims to discuss the teaching and learning of movement from an aesthetic and interdisciplinary approach, using the teaching of the basketball layup as an example within the context of initial teacher education in Physical Education. Grounded in the principles of movement didactics, aesthetic education, and the genetic teaching and learning of sports games, the study articulates different theoretical frameworks, including the phenomenology of movement, Gestalt theory, movement morphology, and a critical pedagogical perspective on the use of digital media. Methodologically, the essay draws on an experience grounded in a participatory approach, developed with graduate students, an undergraduate research student, and faculty members from the field of Education at a Brazilian public university, integrating bodily practices, collective reflection, and creative processes throughout the formative trajectory. The core of the proposal consisted of transforming the layup technique into an object of aesthetic action through the creation of a movement image-sequence mediated by the pedagogical use of digital media. The findings indicate that the articulation between practice, reflection, and aesthetic creation fosters an expanded understanding of learning to move, shifting the focus from isolated technical performance to the perceptual, expressive, and relational experience of movement. It is concluded that the aesthetic education of movement constitutes a powerful axis for Physical Education teaching, especially when conceived within interdisciplinary and formative contexts.

Keywords: Aesthetic education; Interdisciplinarity; Movement didactics.

RESUMEN

El presente ensayo teórico-práctico tiene como objetivo discutir la enseñanza y el aprendizaje del movimiento desde una perspectiva estética e interdisciplinaria, tomando como ejemplo la enseñanza de la bandeja en baloncesto en el contexto de la formación inicial de profesores de Educación Física. Fundamentado en los principios de la didáctica del movimiento, de la educación estética y de la enseñanza y el aprendizaje genéticos de los deportes colectivos, el estudio articula diferentes marcos teóricos, como la fenomenología del movimiento, la teoría de la Gestalt, la

morfología del movimiento y una perspectiva pedagógica crítica sobre el uso educativo de los medios digitales. Metodológicamente, el ensayo se apoya en una experiencia de carácter participativo, desarrollada con estudiantes de posgrado, un estudiante de iniciación científica y docentes del campo de la Educación de una universidad pública brasileña, en la cual se integraron prácticas corporales, reflexiones colectivas y procesos creativos. El núcleo de la propuesta consistió en la transformación de la técnica de la bandeja en un objeto de acción estética, mediante la creación de una imagen-secuencia del movimiento, mediada por el uso pedagógico de medios digitales. Los resultados indican que la articulación entre práctica, reflexión y creación estética favorece una comprensión ampliada del aprender a moverse, desplazando el foco del rendimiento técnico aislado hacia la experiencia perceptiva, expresiva y relacional del movimiento. Se concluye que la educación estética del movimiento constituye un eje potente para la enseñanza de la Educación Física, especialmente cuando se piensa en contextos interdisciplinarios y formativos.

Palabras clave: Educación estética; Interdisciplinariedad; Didáctica del movimiento.

Introduction

The subject at hand is a didactic one. Didactics has been called the “art of teaching” since Comenius introduced the term in the sixteenth century. The problem he defined with it, and solved for the first time in his own way, has proven to be timeless: anyone who wants to teach something to others, or, in other words, anyone who wants to help them expand and deepen their skills and knowledge through teaching, must consider what they wish to offer and propose for their acquisition. In doing so, they will find that their selection can be made from various perspectives and must therefore be justified with different arguments. The mere definition of content (e.g., a sports game or a movement technique) is not sufficient, as scientific didactics has reliably demonstrated, since such content is always introduced into teaching with a specific purpose. By making content teachable and learnable, it is placed within a context of intention. In didactics, this process is also called “didactic transformation” (Hildebrandt-Stramann et al., 2020).

A first step in this didactic transformation is the conversion of content into topics. In more recent concepts of movement didactics, and also in more recent concepts aimed at Physical Education teacher education, these topics are integrated into the so-called “movement fields” (Hildebrandt-Stramann; Taffarel, 2017; Hildebrandt-Stramann et al., 2020). These “movement fields” generally have an interdisciplinary structure. This means that the topics are approached from various scientific disciplines, enabling learners to gain a holistic view of the subject.

This essay addresses the movement field “teaching and learning of movements,” using as an example the teaching of sports games, specifically basketball. The teaching-learning proposal was carried out with graduate students and students in the field of education, but with initial training in Physical Education. The

interdisciplinarity of the proposal consists in the integration of the following academic disciplines, which also structure this essay:

1) The teaching-learning proposal is inspired by an artistic project of the street artist Robin Rhode¹, and is therefore associated with an aesthetic theory of movement. This theory is briefly explained in the first stage.

2) The focus of the proposal is the teaching of the layup¹, a movement technique used in basketball. For this reason, the second stage presents a theory of teaching team sports games, based on the approach of genetic teaching and learning of sports games. A central aspect of this genetic approach is problem-oriented teaching, which is presented from the genetic conception, using the layup as an example.

3) In our example, the use of digital media is closely linked to the approach of aesthetic movement theory, to that of problem-oriented teaching, and to morphological movement theory. For this reason, it becomes necessary to explain, in the third stage, a pedagogical theory of media use.

4) In the fourth stage, we return to the topic of motor learning addressed in the second stage. The theory of motor learning that we present is closely linked to a theory about the connection between “morphology and movement,” which will be discussed in this stage.

5) To counteract the impression of an eclectic way of thinking resulting from the various theories used in this essay, the fifth and final stage highlights the need to think in scientific contexts. Thinking in contexts is, ultimately, a theoretical-scientific necessity for students to understand the holistic, or interconnected, structures of science^{II}.

Theoretical-methodological characterization of the essay

This work is characterized as a theoretical-practical essay. An essay is understood as a genre of academic writing constituted by argumentative reflection, articulating theoretical frameworks with a concrete experience, without claiming to be an empirical study aimed at collecting and generalizing data (Meneghetti, 2011). Its practical dimension derives from a formative experience developed in the field of Education at the Federal University of Santa Maria (*Universidade Federal de Santa Maria* – UFSM), which brought together graduate students, an undergraduate research student (*iniciação científica*)², and faculty members of the institution, and which is taken as an exemplary case for discussing the teaching and learning of movement from an aesthetic and interdisciplinary approach.

¹ **Translator’s note:** The Portuguese term *bandeja* (literally, “tray”) is the name given to the layup in basketball. It evokes the gesture of a waiter carrying a tray, as the authors note later in the text. In this translation, it is rendered as “layup” throughout.

² **Translator’s note:** *Iniciação científica* (“scientific initiation”) is a Brazilian program in which undergraduate students take part in research projects under the supervision of a faculty member.

The group consisted of five doctoral students, two master's students, one undergraduate research student, and two faculty members, who participated together in the theoretical-practical meetings. In the bodily experience, four members performed the sequence of movements, while the others observed and documented the process through photographs, videos, and field journal notes, records that supported the reflection developed in the essay.

Methodologically, the proposal is grounded in participatory research³, understood as an approach that articulates intervention and reflection in real teaching contexts, seeking to address concrete problems of practice and to produce knowledge from the pedagogical action itself. From this perspective, the process takes on a dialogical and relational character, fostering more symmetrical communication between teacher-researcher and students, who actively participate in formative decisions and in the construction of the path. The iterative dynamic between action and reflection (Altrichter; Posch, 2008) supports the monitoring and analysis of the process, through procedures characteristic of qualitative research, such as observation and reflective dialogues (Flick, 2005)^{III}.

Consistent with the essayistic genre, the experience is not subjected here to a systematic analysis of data, but functions as a starting point for theoretical reflection. The interpretations presented result from the monitoring carried out by the teacher-researchers throughout the path, and it is from this standpoint that the transformations observed in the process of teaching and learning movement are examined.

For the approach proposed in this essay to preserve its theoretical-scientific coherence, it must be understood from a relational and contextual perspective on knowledge. The references drawn upon here are not juxtaposed in an eclectic manner: each responds to one dimension of the same problem, that of understanding movement as a dynamic relationship between subject, social world, and material world. Phenomenology conceives movement as a way of making sense of the world; Gestalt theory and the theory of perception make explicit how this sense is organized into perceptual totalities; aesthetic education situates sensory and expressive experience within this process (*Aisthesis* and *Poiesis*); and movement didactics converts this understanding into teaching decisions. It is this convergence around movement as relation, and not the mere sum of theories, that gives unity to the path. This understanding requires thinking about teaching and learning in contexts, in which theory and practice, perception and action, reflection and creation mutually implicate one another, approaching systemic and dialogical conceptions of science (Hildebrandt-Stramann, 2022).

It is also necessary to make explicit the conception that underpins the expression "moving oneself"⁴. This is the dialogical understanding of human movement

³ **Translator's note:** The authors use the hyphenated form *pesquisa-participante*, which, as explained in endnote III, they consider more appropriate than the unhyphenated *pesquisa participante* given the dialogical-emancipatory character of their work. English has no equivalent distinction, so the term is rendered as "participatory research".

⁴ **Translator's note:** The Portuguese expression *se movimentar* is reflexive (literally, "to move oneself") and emphasizes the subject's own intentional agency in moving. Elsewhere in this translation, it is rendered more simply as "to move," as in "learning to move" (*aprender a se movimentar*).

developed in Physical Education by Kunz (1991; 1994), in line with Hildebrandt-Stramann's movement didactics, already drawn upon in this text: movement is not understood as a mere bodily displacement observable from the outside, but as an intentional action through which a situated subject engages in dialogue with the world and attributes meaning to it. This conception, phenomenological in its roots (Merleau-Ponty, 2011), is consonant with the aesthetic approach developed here, since both take "moving oneself" as a perceptual, expressive, and relational experience, and not as mere technical execution.

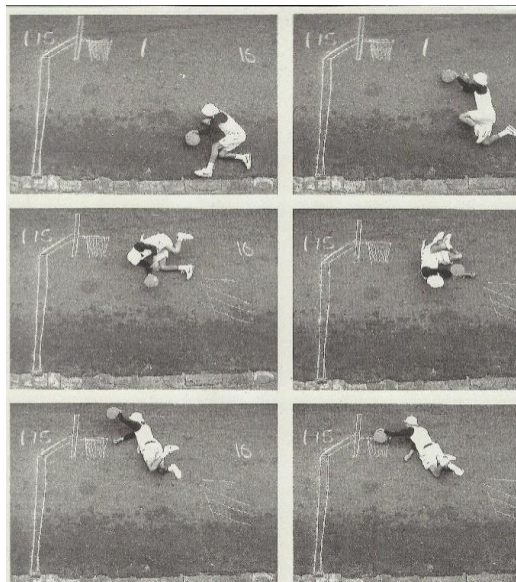
To fully understand the theoretical implications of this didactic proposal, we consider it necessary to briefly outline its path.

Outline of the Path of the Didactic Proposal

Students are to learn to play basketball and, in doing so, to engage creatively and reflectively with their own learning process. At the core of this teaching-learning proposal is an artistic-aesthetic task: students are to draw and digitally create a "layup" sequence, understood as a movement sequence typical of basketball. In order to learn and understand the layup not merely as a movement technique isolated from the game, students must first learn the game of basketball didactically, based on the didactic concept of genetic game teaching. Only then does the transition to aesthetic teaching take place. The reflective parts, which, naturally, had already been repeatedly addressed in the practical parts, are based on the experiential knowledge acquired. In these reflections, the aesthetic theoretical dimensions are linked to movement theories appropriate for "learning to move", such as the connection between "morphology and movement". The practical design of the "layup" sequence is carried out with the aid of digital media, mainly by means of a photographic camera and a video camera. The use of media is based on a pedagogical understanding of the use of media in schools and universities, which also requires theoretical reflection.

The idea for this proposal was inspired by the works of the world-famous street artist Robin Rhode (Ruhkamp, 2019). Robin Rhode creates his works on public walls in Johannesburg. Step by step, he photographically records the development of his visual tales. His strength is the innovative combination of drawing, movement, body, object, and wall. The sum of the photographs forms the narrative. For example, he draws simple exercise and sports equipment with chalk on the ground or on the wall, such as the basketball hoop. The drawing is activated when it is connected with the body and movement: when an actor wants to put the basketball into the basket, he begins to move (Figure 1).

Figure 1 - The layup in Robin Rhode's art



Source: Ruhkamp (2019, p. 32).

Participants draw movement or sports objects, for example, on the floor or on the wall, as in the representation of a basketball hoop. The task consists of representing the movement sequence of a layup in a physically expressive way, such that an actor, either a) lying on the floor or b) actually performing the movement sequence in front of a wall, portrays the individual phases of the movement sequence, from the jump to the layup proper. The individual phases are photographed or videographed and then arranged into a sequence of phases. The entire movement sequence, that is, the individual phases combined, is then projected onto a wall. As a result, the viewer sees a complex series of images of the layup. The actors' task consists of dealing analytically with this complex movement sequence in order to then physically enter the respective phases, describing them through their own bodies.

First stage: The understanding of an aesthetic education in Physical Education

By aesthetic education we understand, above all, the orientation of teaching toward the sensory potential of learners^{IV}. In this sense, we advocate an understanding of so-called "sensory-based aesthetic education", which means that Education, and not only Physical Education, should begin with the universal and learnable senses of subjects. In this case, the senses should not be understood as tools that can be discarded after use and that would therefore remain external to the human being, but as "organs produced by the body itself in its growth, which belong to the organism as a whole and participate in their own rhythm" (Bräuer, 1989, p. 39).

It must be considered that it is important not only to begin the educational process from children's senses, but also to refine them throughout the subsequent stages of human development, understanding them as organs of knowledge and

expression. Sensory knowledge is not a passive process; it is based on a human being's active struggle with the world, which we call **aesthetic behavior**.

The goal of any aesthetic education can be formulated, in general terms, as the education, training, and differentiation of aesthetic behavior. This behavior constitutes a fundamental way of configuring and symbolically visualizing the world. It manifests itself, on the one hand, in *Aisthesis*, understood as reflective sensory perception that awakens sensations and carries a cognitive character; and, on the other, in *Poiesis*, understood as the capacity to express subjective feelings and experiences through the configuration of the world (Hildebrandt-Stramann, 2022, p. 93–104).

The basic task and goal of an aesthetic education in school, both in Early Childhood Education (*Educação Infantil*) and in Elementary Education (*Ensino Fundamental*)⁵, and at the university, consist in fostering the development and differentiation of a “productive sensuality” (Bannmüller, 1992, p. 141), understood as the capacity for self-perception, perception of the object, self-configuration, and configuration of the object. As already indicated, these capacities develop only through active practical activities, inevitably associated with movement and the body. In this sense, the elementary processes of aesthetic learning are always related to corporeality and movement.

Therefore, the basis of these aesthetic learning processes in school/university must be considered and assumed by everyone responsible for the educational process. It cannot be understood as part or exclusive task of a single discipline, but as an integral part of teaching and of the educational institution as a whole. For better understanding, in this essay, both areas, *Aisthesis* and *Poiesis*, are briefly presented, highlighting their connections with corporeality and movement^V.

***Aisthesis*: a capacity for perception guided by the senses**

Etymologically, the term “*Aisthesis*” comes from the ancient Greek *αἴσθησις* (*aísthēsis*), and means “perception” and “sensation”. In modern philosophy, “*Aisthesis*” designates the capacity for sensory and bodily perception, guided by the senses, understood as an original form of access to the world. This capacity is the basis of a way of understanding and comprehending our reality. The philosopher Welsch (1998) describes this form of understanding as **aesthetic thinking**. Aesthetic thinking is the basis for the subjective form of appropriating the world, as opposed to objective-descriptive access. This capacity constitutes an original form of access to the world and is not opposed to reason, but is articulated with it in a complementary way (Welsch, 1998).

***Poiesis*: aesthetic action**

The second fundamental area of aesthetic education is the area of *Poiesis*. In philosophy, the term *Poiesis* (from the ancient Greek ποιέω, “to make”) denotes an

⁵ **Translator's note:** In the Brazilian education system, Early Childhood Education (*Educação Infantil*) serves children from birth to 5 years old, and Elementary Education (*Ensino Fundamental*) comprises nine years of schooling, typically for children aged 6 to 14.

action linked to a goal and, in our thematic context, refers to **aesthetic action**^{VI}. It encompasses the expressive dimension of aesthetic behavior, that is, the human being's capacity to express themselves, to shape, and to mold. Thoughts, feelings, experiences, or ideas are transformed into expressive forms and thus become accessible to other people. A lived experience is the interpretation of the original form of experience into a new form, for example, in a dance, in an image, in the performance of a play, or, as in our case, in the image of a movement sequence, the layup.

Within the scope of aesthetic education, *Poiesis* refers to the expressive and configuring dimension of human behavior, that is, the capacity to transform perceptions, experiences, and meanings into sensibly communicable forms. Applied to the education of movement, this perspective implies understanding the learning of sports techniques not as mere skill acquisition, but as a process in which students actively co-configure their learning path, attributing meaning to the movement forms they produce.

Second stage: A didactic conception of the mediation of team sports games, genetic teaching and learning

In traditional Physical Education classes, the learning of team sports games generally follows a defined sequence: first, the movement skills of the respective sport are learned in isolation from the sports game, before being applied in a simplified version of the game. The didactic approach can also be characterized by the following formula: first there is practice and training, then the game is played under simplified conditions.

The genetic teaching model adopts the exact opposite approach: first, the complex game is played. In this case, the complex game is understood as a **phenomenon**. This phenomenon arouses a certain interest in the learners, provokes their own questions, and leads to the formulation of problems. During the game, so-called **game problems** arise, which the players, pupils, or students must recognize and name. The basic idea of genetic teaching and learning therefore lies in the fact that learning does not provide copies or reproductions of models of a pre-established solution. Instead, learners autonomously develop the formulation of problems and seek **solutions**, which must always be reviewed and, if necessary, corrected or further developed. This process includes the fact that different pupils may find different solutions to the same problem.

The development of a genetic course can be outlined as follows:

- At the beginning is a **phenomenon** (the team game);
- During the game, **problems or questions** appear;
- The pupils or students propose **solutions** to the problems;
- These solutions or proposals are then **practiced**;
- These testing phases give rise to **new problems**, which are then identified, and **new solutions are proposed**.

In this way, a game is created by and with the players, which need not be identical to the familiar team sport, but can be reinterpreted and transformed (Hildebrandt-Stramann; Beckmann; Wichmann, 2009, p. 36; Wichmann, 2025). In this sense, as explained in the previous topic, the process of creating a sports game can also be understood as an act of *Poiesis*.

In our specific case, the learning process, which can only be summarized very briefly here, was as follows:

The beginning: **from phenomenon to problem**

The participants came to the course expecting to play basketball (the phenomenon) according to its constitutive rules. Which rules should be followed? The following basic rules were agreed upon:

- a) The out-of-bounds rule: if the ball crosses the court lines, a throw-in is awarded.
- b) The foul rule: if there is physical contact that constitutes an obstruction, a throw-in or free throw is awarded.
- c) The dribbling rules: The ball must be touched with one hand while running; after completing the dribble by holding the ball with both hands, a second dribble is prohibited.
- d) The three-second rule is suspended.

With this basic set of rules, the first basketball match was then played. The teacher acted as referee. The first experience of the game made visible recurring difficulties in heterogeneous groups, such as collective disorganization, the centralization of actions in a few players, and the limited participation of most students. These characteristics revealed not only technical challenges but also significant differences in the forms of involvement and in the emotional experience of the participants during the game. Collective reflection on this situation enabled the participants to recognize that the game being played did not correspond to the characteristics that, in their understanding, define basketball, such as the fluidity of actions, the circulation of the ball, the active participation of everyone, and the possibility of finishing close to the basket. From this problematization, the group began to critically discuss the didactic conditions of the game, making evident the need to rethink its pedagogical organization.

The problematization of this and other games in the discussion led to the central problem: **in a heterogeneous group, the goal is to provide a positive basketball experience for as many participants as possible**. Solving this problem became the task of the entire learning group.

Solutions suggested by the group

- 1) Technical problem: practice units with the main topics of “shooting technique” and “dribbling technique”.
- 2) Number of players: reduction in the number of participants.

In the following game, the training process did not have the expected effect. On the contrary, the practice process led to a decrease in motivation among the participants and raised the decisive question of how much longer practice would be needed before the techniques could be applied with reasonable success in the game. How should the game be played in the meantime? At this stage of the problem-oriented genetic approach, the participants repeatedly proposed solutions based on the traditional didactics of teaching sports games (Beckmann; Hildebrandt-Stramann; Wichmann, 2009).

Before returning to technical training in the course of this process, additional steps were taken in genetic teaching, which were necessary to understand the return to technical training in the sense of an aesthetic learning process.

Next steps

The process up to that point showed that the learning group had not yet reached the main problem, that is, the development of a game satisfying to all participants. At this point, the teacher intervened by offering a concise formulation of the problem: **the classical didactic approach to teaching a sports game can be described as raising the players' initially inadequate skills to the level of basketball. The alternative approach consists in reversing this procedure: the game of basketball is reduced to the skill level of the players.**

The level of difficulty of the game is reduced so that everyone can participate constructively. Implemented consistently, this approach implies simplifying the game through the modification of the constitutive rules:

- 1) Reduction in the number of players;
- 2) Reduction of technical demands by changing the inventory rules and the action rules (Hildebrandt-Stramann et al., 2020, p. 106-108). With regard to the inventory rule, the height of the basket was slightly lowered and its size increased by installing a bicycle rim;
- 3) Modification of the action rule through the abolition of the dribbling rule, allowing players to run with the ball without bouncing it.

Without going into the details, at this point, of the controversial discussions following the various rounds of play, the following results can be highlighted:

- The game developed proved satisfactory for all participants, providing a positive game experience;
- For all participants, the game presented the typical structure of basketball, characterized, in relation to modern basketball, as a fast and dynamic game in which the attacker dominates the defender;
- In particular, the solution that allowed running with the ball led to typical basketball actions, such as the ball carrier breaking through the defensive line toward the basket, getting past the opponent.

The theoretical reflection based on the theory of perception

From the point of view of the theory of perception, this solution variant is decisive for the success of the game of basketball in a typically heterogeneous group. This is due to two perception-theoretical reasons:

a) Most beginners in basketball keep their eyes on the ball while dribbling and running, out of fear of losing it and in order to control it. They “only” pass the ball. This perceptual pattern generally prevents the typical advances of basketball from occurring, because the players are unable to perceive “gaps” in the opposing defense. They become literally “blind”. The moment they are able to run with the ball, they become “sighted”. A perceptual reorganization then occurs, in which the players change their perspective, beginning to focus their perception on the opponent and on the playing environment.

b) Suddenly, they see “gaps” in the defense, allowing them to advance and reach the basket. From the perspective of the theory of perception, we humans always act on the basis of the connection between situational perception and situational meaning. Perception is not neutral but oriented by meanings attributed to the situation. Applied to our basketball example, this means there is a double shift of meaning that leads to a positive game experience.

The first shift of meaning consists in a change in the meaning attributed to the ball. Whereas, in the initial situation with the dribbling rule, the **ball is perceived as an object that is difficult to control**, for many players the action of the game takes on **the meaning of an imminent loss of the ball** and, therefore, **the meaning of embarrassment**. In the new situation, **the ball takes on the meaning of a game object with which I, as a player, can associate success and the possibility of effective action (first shift of meaning)**.

In the initial match with the dribbling rule, in which perception is focused on the ball, I, as a player, can perceive my playing environment, that is, my teammates and opponents, only in a limited way. For example, **the opposing defense takes on the meaning of an impenetrable wall**, through which I cannot reach the basket. The distance is too great and the basket too small for a shot. To avoid losing the ball, I quickly pass it to the teammate beside me. From the moment I am able to run with the ball (change in the dribbling rule), I can concentrate my **perception on the environment around me**. I can recognize “gaps” in the opposing defense, allowing me to advance toward the basket. **The meaning of the opposing defense changes from an “impenetrable wall” to a “defense with exploitable gaps” (second shift of meaning)**.

Only this shift of meaning, based on the change in perception, which in turn occurred through changes in the rules, led to a transformation in the actions of the game, which, consequently, modified the game experience^{VII} toward a positive and meaningful experience.

However, the process of teaching the genetic game does not end there. It is important to emphasize once again that students play a decisive role in this process of

change. The entire process of developing the genetic game must be open to the learners' experiences (Hildebrandt-Stramann, 2009). This means that, in the spirit of a democratically structured learning process, students, both at the university and at school, must be decisively involved in the construction of their own learning process and in didactic decision-making.

In our specific proposal, the learning process took an interesting turn because the participants expressed the desire to learn the specific movement technique of the layup after quickly getting past the defense. Of course, we teachers met the participants' wishes, but here too we suggested an alternative form of teaching that connected to the genetic course, without interrupting it but expanding it. The change in the genetic approach to teaching basketball lies in the connection with the theory of aesthetic education, which we explained in the second topic, and which will be illustrated below with the example of the layup.

The starting point is the current state of the game development process, which the participants describe as follows, based on observations of the game through video analysis: the participants perceived the attacker's dominance over the defender in the game with the ball in hand and, subsequently, with the simplified dribble. The attacker often manages to get past the opponent. This results, in many situations, especially while the defenders are not yet helping one another, in the possibility of reaching the basket and shooting on the move.

Experts solve this situation with the layup technique. The participants in our course, in turn, often solved the situation with a "shot at the basket". A comparative analysis of the experts' solutions with those of the participants shows why this technique is called a "layup" and not a "basketball shot". The ball is not thrown toward the basket or the backboard using the "push shot" technique but placed into the basket by means of the "underhand shot" technique.

A more in-depth analysis of beginners' attempts using the "push shot" technique clearly shows the problem with this solution. When running and jumping quickly toward the basket, the ball usually describes a high arc over the basket or bounces too hard off the backboard. In the analysis, the participants identified that the force of the shot forward and upward, combined with the momentum of the run and the jump toward the basket, causes the ball to acquire excessive speed. The solution of simply running more slowly or braking before jumping toward the basket proves unrealistic in a game, since the defender who has been passed can catch up with the attacker and interfere with the shot. Therefore, the solution remains to perform the shooting movement in such a way that no forward impulse is added to the ball. This is exactly what occurs in the "underhand shot" movement, which propels the ball predominantly upward.

After this analysis, the participants were given the task of testing this solution. The specific task was: "The participants must 'place' the ball in the basket without touching the backboard or the rim". This was to be done running at full speed, as in a game. The task emphasizes the "**soft shot**" after an explosive start and the jump toward the basket, lifting the ball with both hands and using the arms to generate momentum. The ball is then guided only with the shooting hand, in an "**underhand shot**", similar to the gesture made by a waiter serving with a tray^{VIII}.

The change in the genetic approach to teaching basketball lies in the connection with the theory of aesthetic education, which we explained in the first chapter and which will be illustrated below with the example of the layup. This connection expands the genetic teaching process, shifting it from the exclusively technical domain to an aesthetic understanding of movement. After this analysis, the participants were given the task of testing the solution, seeking to “place” the ball in the basket without touching the backboard or the rim, from a full run, as in a game situation. This proposal emphasized a soft shot after an explosive start and a jump toward the basket, configuring a perceptual and motor reorganization of the movement. At this point, the teachers intervened in the process of developing the concept of movement, complementing the genetically structured course with an aesthetically oriented development process, without interrupting it but deepening it formatively.

When learning the movement technique “layup” as part of aesthetic movement teaching, the focus shifts from mere technical success to the quality of the perceptual experience of movement. As we described earlier, the learning processes of aesthetically structured movements are based, on the one hand, on bodily-sensory perception (*Aisthesis*) and, on the other, on an action linked to the object, that is, to aesthetic action (*Poiesis*). At the center of our example is the learning of the sequence “jump, fly, shoot” or, more precisely, the ability to consciously feel this sequence. The hallmark of this sequence is the perception of the temporal dynamics of the movement, and not merely its functional execution.

From the perspective of Gestalt theory, learning the layup can be understood as the apprehension of a perceptual configuration that articulates temporal, spatial, and dynamic dimensions of movement. The basket takes on the function of an organizing pole of perception, guiding motor action and configuring what, in Gestalt theory, is called “external centralization”.

The coordination of movement depends, simultaneously, on bodily sensory capacities, related to the so-called “internal centralization”. In the learning process, it is observed that an imbalance between these two forms of centralization, whether through exclusive attention to the target or through excessive focus on the execution of the movement, compromises the quality of the action. The balance between internal and external centralization cannot be acquired through direct instruction but emerges from the practical and sensory experience of movement. In aesthetic theory, this process is understood as *Aisthesis*.

The creation of an expressive object expands this perceptual process, functioning as an extension of bodily experience. This creative moment is characterized as aesthetic action (*Poiesis*), in which the participants begin to artistically represent the layup sequence, making the lived experience of movement visible and communicable.

The Layup as an Aesthetic Action

As mentioned earlier, a fundamental prerequisite for implementing the aesthetic-artistic proposal developed in this essay was the relatively skillful execution

of the layup in the context of the game. This condition does not refer to full technical mastery of the movement, but to the possibility that participants recognize, experience, and differentiate its basic structure. This prior experience constitutes an indispensable requirement for the movement to be subsequently shifted from the functional plane of the game to the reflective, aesthetic, and expressive plane.

Continuing the essay, a practical stage entitled “The layup as an aesthetic action” was developed, conceived as a direct outgrowth of the articulation between genetic game teaching and the theory of aesthetic education. In this stage, the pedagogical focus shifted from the functional resolution of game problems to the conscious creation of an aesthetic product, understood, in the terms of the theory, as an act of *Poiesis*.

The participants were organized into groups of four (Figure 2) and were given the task of representing the movement sequence of the layup on a large surface on the floor. The floor was deliberately chosen, rather than the wall, since the layup is a movement characterized by displacement, jumping, and flight, whose spatiotemporal dynamics could not be adequately explored on a vertical surface. This methodological decision reinforces the understanding of movement not as a succession of isolated bodily positions, but as a meaningful spatial-temporal-dynamic configuration.

Figure 2 - Organization of the participants into groups to carry out the aesthetic activity



Source: Authors

To support the creative process, the participants initially made audiovisual recordings, using a smartphone, of the layup performed by one of the group members (Figure 3). These recordings were not evaluative or corrective in nature, but functioned as instruments for observing, slowing down, and analyzing the movement. In the collective dialogues observed, revisiting the technical gesture fostered the discussion of its fundamental characteristics and the thematization of aspects that, during real-time execution, tended to remain largely unconscious.

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Figure 3 - Audiovisual recording of the layup performance as support for the analysis and creation process.



Source: Authors

Based on this analysis, the groups began to structure the movement sequence, identifying phases such as the approach, the push-off, the jump, the moment of flight, the finish with the underhand shot, and the landing. This planning constituted a central moment of the process, in which the movement ceased to be merely executed and came to be thematized, segmented, and reinterpreted.

Based on this planning, the movement was translated into a series of “freeze frames” (Figure 4). For this purpose, a smartphone was positioned on the ceiling of the room, connected to a computer, making it possible to capture the images from an overhead perspective. In each previously defined phase, a participant assumed on the floor a bodily posture corresponding to that specific moment of the movement and was then photographed. This procedure was repeated until all phases of the layup had been recorded.

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Figure 4 – Translation of the layup movement into “freeze frames” in the aesthetic creation proces.



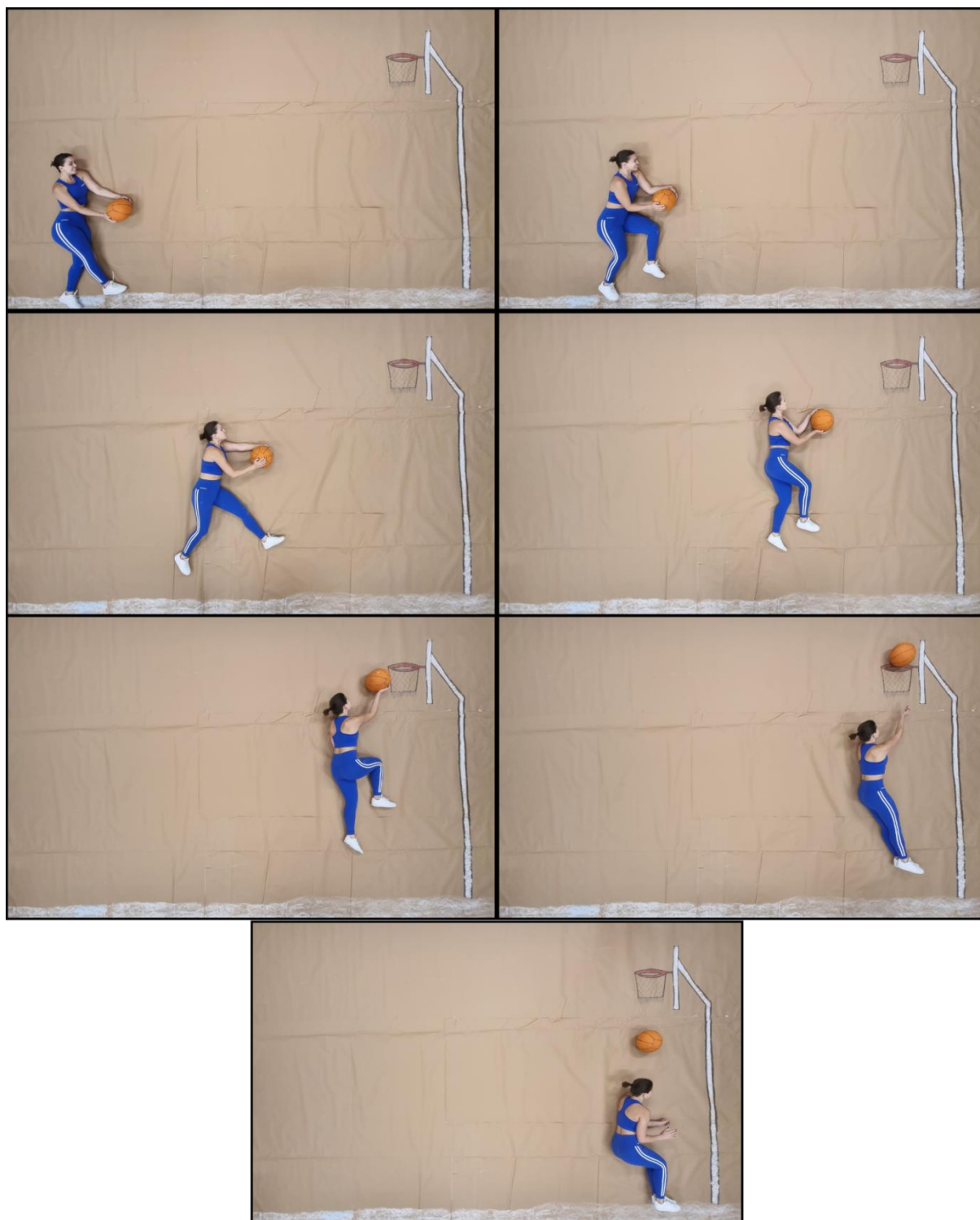
Source: Authors

The resulting set of photographs was arranged so as to compose a movement image-sequence (Figure 5). In this arrangement, the group sought to consider both the distance between the images and their spatial relationship to the basket drawn on the brown paper, so that the sequence expressed, in a visually intelligible way, the temporal, spatial, and motor dynamics of the layup. The result was a representation that not only illustrates the movement but reconstructs it aesthetically, making its internal logic and its morphological organization visible.

From the point of view of aesthetic theory, this activity constitutes an act of *Poiesis*, since it culminates in the production of an object created by the participants themselves, in which bodily perception (*Aisthesis*), reflection, and creative action are articulated. The layup thus ceases to be merely a sports technique to be reproduced and comes to be understood as an expressive form, produced and resignified in the encounter between body, space, media, and creation. The photographic records attached to the essay materialize this process and suggest the potential of aesthetic education to expand the possibilities of teaching and learning movement in the context of training in Physical Education.

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Figure 5 - Aesthetic representation of the layup movement sequence



Source: Authors

Third stage: the use of media in the proposal

Digital media have been taking on an increasingly relevant role in the pedagogical configuration of university and school teaching, significantly impacting contemporary learning processes. In the context of initial teacher education, this scenario requires that students not only develop technical competencies for the use of media but, above all, understand their pedagogical possibilities within teaching and learning processes. In this sense, the presence of media in teacher education cannot be thought of in an instrumental or neutral way, but must be articulated with clear educational objectives.

From a pedagogical-educational perspective, the use of media should be guided by the so-called primacy of pedagogy, that is, by the question of how these resources can effectively support the learning of children, young people, and university students. Such an understanding implies shifting the focus from mere technological mastery to reflection on the didactic mediations that media make possible in different educational contexts (Hildebrandt-Stramann et al., 2020).

In the specific case of Physical Education, this issue takes on particular contours, since the pedagogical use of media can contribute to a reflective understanding of movement learning processes. By enabling the observation, analysis, and revisiting of bodily actions, digital media expand the conditions for pupils and students to consciously appropriate their own process of learning to move. In this way, movement learning ceases to be conceived merely as a process of motor acquisition and comes to be understood as a holistic process, in which perception, action, and reflection are inseparably articulated (Hildebrandt-Stramann, 2016).

Based on this understanding, the use of media in the proposal presented here is not an end in itself, but a pedagogical resource that supports processes of analysis, creation, and aesthetic reflection on movement, as will be made explicit in the description of the practical activity carried out with the participants.

The role of media in the layup teaching proposal

Based on the reflections presented earlier, it is possible to analyze the layup learning proposal developed in this essay. It is a proposal aimed at an aesthetic education of movement within the scope of Physical Education teacher education. Inspired by Robin Rhode's artistic approach, discussed in the introduction of the essay, the participants were invited to draw objects related to movement or sport on surfaces such as the floor, as, for example, in the representation of a basketball hoop.

Although the activity created conditions for exercising technical competencies related to the use of media, this learning was always subordinated to the central pedagogical task: the bodily and aesthetic presentation of a movement sequence. The process thus involved a double dimension of presentation: on the one hand, the individual execution of the motor action; on the other, its artistic and communicable configuration. In this way, the path offered participants the possibility of using digital

media in a didactically meaningful and innovative way, expanding their possibilities of pedagogical application in Physical Education classes in the school context.

Fourth stage: morphology and movement

In this topic, we return to the foundations of movement theory presented in Topic 2, deepening the analysis of the relationship between “morphology and movement”. In that topic, the didactic concept of genetic basketball teaching was discussed, with recurring references to the foundations of movement theory, especially from a perceptual perspective and from Gestalt theory. With the focus of the course directed at the layup, the “form of movement” comes to occupy the didactic center of the teaching process. This, at first glance, may seem like a theoretical contradiction.

On the one hand, the genetic approach advocates reducing the game of basketball to the skill level of the players, considering the game as a whole. On the other hand, directing attention to a specific movement technique may suggest a more elementary approach to the game, characteristic of the traditional method, whose aim is to raise initially insufficient motor skills to the level of the formal sport. From an epistemological point of view, this is the well-known contrast between totality and elementarization. This opposition, which finds correspondence in the different didactic models of teaching sports games, is overcome, in our understanding, when the concept of “form” is interpreted in light of Gestalt theory. From this perspective, form is understood as “morphology” (Metzger, 1966; Köhler, 1968; Von Weizsäcker, 1966).

The question then arises about the status of morphology in contemporary motor learning processes. Morphology is generally understood as the study of form (from the Greek *morphé*), but what interests us here is the specific meaning that Gestalt theory gives it: the form of movement not as a sum of isolated bodily positions, but as a dynamic totality whose elements acquire meaning only in the relations they maintain with one another. It is by this route, and not as a method transposed from other sciences, that morphology becomes productive for motor learning. The hypothesis underlying this approach is that morphology can be understood as a paradigm in the movement sciences (Müller et al., 2022).

From this perspective, the configuration of the learning environment plays a fundamental role, including in the learning of movement techniques. Considering that motor learning occurs only through the subject’s active engagement with a material and social environment, the action situation constitutes a central dimension of the learning process, as already evidenced in the example of the genetic method applied to teaching basketball. Unlike direct instructional forms, the situation, as perceived by the learner, relates directly to their learning activity in the sense of an *affordance*, shaping plans of action and guiding the execution of movement.

However, it is important to emphasize that the configuration of learning environments, although relevant, constitutes only a means of mediating the content, in the present case, the team game of basketball and, in particular, the layup technique, and should not be confused with the content itself. The use of aesthetic methods presupposes that the learner functionally recognizes the appropriate moment of

approaching the basket, jumping, flying, and shooting, as a space–action–effect relation (SAE) meaningful for learning^{IX}.

These actions evidence the aesthetic-expressive dimension of the process of learning the layup (Scherer; Bietz, 2013). A formative process of movement thus develops, derived from the very structure of the object in question. The layup, as a manifestation of the sports movement culture, becomes an object of study from multiple perspectives. On the one hand, it can be analyzed as a movement technique external to the subject, according to descriptive approaches to movement, such as that of Meinel and Schnabel (1984). On the other, it can be understood as an artificial mode of movement, characterized by a self-referential structure of meaning, to which an equally self-referential structure of experience corresponds (Scherer; Bietz, 2013).

In this sense, the experiences arising from sports forms of movement aim at the sensory experience of movement itself and of sporting action, making, so to speak, movement itself its subject. This “reflection inherent to performance” (Scherer; Bietz, 2013) is based on sensory experience and requires a reflective distancing from one’s own action within the action. Such distancing can be triggered by pauses, stumbles, specific moments of success (Franke, 2003) or, as in the present essay, by the articulation with artistic elements such as drawing, photography, and videography.

The aesthetic experiences thus made possible promote a continuous reflection stimulated by the senses. Especially in aesthetic forms of movement, whether in sport or in other bodily cultural practices, the structural logic of movement and the specificity of bodily relations with the world can be experienced in a particularly clear and concrete way through aesthetic reflection (Scherer; Bietz, 2013).

Fundamental to this perceptual and Gestalt-based foundation is the understanding that the concept of situation is not limited to what surrounds the subject in action, but includes the actor themselves, with their competencies, dispositions, and valences. The action situation thus constitutes a meaningful whole from the subject’s perspective. It is a holistic network of relations, the layup as running, jumping, flying, shooting, time, space, dynamics, and media, which implies that the modification of a single component alters the movement as a whole or, from the didactic point of view, enables its intentional transformation.

All these relations constitute what can be called “form” or, in the terms of Gestalt theory, which we adopt here, a “morphology”.

Fifth stage: Thinking in contexts

The proposal presented here constitutes a concrete example of a central requirement of university education: the construction of an understanding of learning in contexts. Taking basketball learning as a reference, the proposal highlights the interrelation between practice and theory by demonstrating:

- 1) The paradigm shift from an object-centered focus, the game of basketball and its scientific teaching, to a focus on human movement as a mediator of the

relationship between the subject and the world, characteristic of a phenomenological perspective on teaching;

- 2) The didactic transformation of the athletic game of basketball into a game created and configured by the participants themselves, guided by pedagogical intentionality;
- 3) The legitimation of this didactic transformation through the articulation of different theoretical approaches, whose coherence lies precisely in their internal consistency.

These approaches fall within the field of aesthetic, phenomenological, Gestalt, perceptual, and critical theories, sharing a focus on the human being in action and in their relationship with the social and material world. Ultimately, these are dialectical and dialogical perspectives of a systemic nature, also referred to, in scientific systematics, as “theories of relation” (Hildebrandt-Stramann, 2022, p. 75–92).

Conclusion

Returning to the participatory research approach, it is possible to state, from the situated perspective of the teacher-researchers, that it constitutes not only a methodological framework but also a structuring principle of the entire path presented in this essay. Although an in-depth analysis of this perspective exceeds the limits of this text, being the subject of a specific publication in preparation, its central assumptions guided the way in which the formative experience was organized, monitored, and interpreted.

As discussed in the introduction, participatory research is characterized by its dialogical, processual, emancipatory, and systemic nature. These elements were observed in the moments of collective reflection and in the interactions recorded during the development of the proposal. Since no systematized individual testimonies were produced, no conclusive statements are attributed to the students about their personal meanings of the experience. Even so, the monitoring records indicate that the articulation between thinking and doing favored the problematization of the complexity involved in the processes of teaching, learning, and knowledge production. Moreover, the authorship of a concrete product, the layup image-sequence, proved, in the monitoring of the activity, to be an important element of engagement with the learning process.

From the teacher-researchers' point of view, the proposal created conditions for bodily sensitization and for facing technical challenges related to the use of photographs and the analysis of one's own movement. The requirement to observe, reflect on, and collectively discuss motor actions triggered substantive dialogues between peers and teachers about the relationship between lived movement and its image-based representation. In this situated reading, both the didactic approach of genetic teaching and the theoretical foundations drawn upon, such as the

phenomenological conception of movement, aesthetic theory, and the Gestalt perspective on learning and morphology, expanded the possibilities of understanding the layup beyond its technical execution.

In monitoring the experience, the teacher-researchers also identified challenges inherent to the development of the project, especially regarding the theoretical density of the discussions, the reading load required, and difficulties related to bibliographic research, particularly in texts published in a foreign language. These tensions do not indicate weaknesses in the proposal but reveal the challenges inherent in formative processes that seek to overcome traditional teaching models and to promote a more complex, reflective, and integrated understanding of learning.

Finally, the principle “produce instead of consume”, discussed in the context of the pedagogical use of digital media, is taken up again. The proposal developed created conditions for a dual formative movement: on the one hand, the exercise of the pedagogical capacity to reflect on movement from an “external image of movement”, articulated with more conventional analyses; on the other, the deepening of the perception of the “internal image of movement”, understood as a capacity for aesthetic reflection anchored in sensory experience. This process culminated simultaneously in the production of pedagogical knowledge and in the creation of an aesthetic object, materialized in the layup image-sequence.

To do full justice to the conceptual horizon that inspires this essay, especially the work of Robin Rhode, it would be necessary to situate these aesthetic productions in a broader social context, in line with a systemic approach to thinking. The aesthetics of street art that underpins the proposal engages intensely with urban cultures, popular sports, youth cultures, and contemporary narrative traditions, opening new possibilities for a digitally mediated and socially situated education of movement. Such a perspective points to future developments of the proposal and reinforces the potential of aesthetic education as a structuring axis of critical, creative, and contextually relevant formative proposals in Physical Education.

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Notes

^I Robin Rhode became known for numerous art exhibitions in the most important art museums in the world. His most recent publication dates from 2019 and was edited by Uta Ruhkamp.

^{II} Specifically regarding the production of knowledge, in dialogue with Freire, we advocate the importance of building scientific knowledge with Physical Education teachers, and not for them and among themselves, in the utopia of joint thinking as transformative intellectual teachers in public schools.

^{III} To be consistent with the dialogical-emancipatory character of this work, the term “participatory research” (*pesquisa-participante*) seems to us more appropriate. Scientific research, grounded in Paulo Freire, is essentially built within pedagogical practice, an important basis for the reflections that follow from it. Thus, participatory research becomes the guiding thread of this work (see Brandão; Streck, 2006, p. 29; Nogueira; Maldonado; de Siqueira Farias; dos Santos Freire, 2021, p. 142-163).

^{IV} Since Alexander Baumgarten (1714-1762) defined aesthetics as the “science of sensible cognition, or lower gnoseology” (apud Bayer, 1965, p. 184), it has been established that it has a cognitive and an emotive component. According to Iser, aesthetics brought a new question: “Is it an interpenetration of the faculties, illuminated by ‘sensory knowledge,’ or does it operate as an intermediary agent for the body and the mind, illuminated by a reciprocal relationship that it sets in motion? Is it something that can be grasped, or is it a function?” (2001, p. 35-36).

^V In the book “Curricular Considerations for the University Education of Physical Education Students” (*Considerações Curriculares para a Formação Universitária dos Estudantes de Educação Física*), Hildebrandt-Stramann explains in detail these two principles of an aesthetic education in Physical Education (2022, pág. 93-104).

^{VI} In the context of hermeneutics, *poiesis* means creating a reality by dealing with an object. Understanding and problem-solving are seen as a communicative and creative action.

^{VII} From a perception-theoretical perspective, this dialectic between perception and meaning can be explained by the fact that the stimulus material in the training phase corresponds to the perceptual conditions of the real situation (Munzert; Hossner, 2008).

^{viii} In the theory of perception, and especially in Gestalt theory (cf. Metzger, 1962), phenomenologically oriented, metaphorical language is frequently used in movement learning. It is directed at the learner's so-called "inner vision," which refines the conception of movement with qualitative movement characteristics.

^{ix} In contrast to the natural-science theory of motor learning, Gestalt theory does not speak of a causal context between the sensory system and the motor system (as, e.g., the authors Meinel and Schnabel, 1984), but rather of a coincidence. As the example of the genetic learning process in this essay shows, perceiving influences moving oneself and vice versa. This unity of moving and perceiving corresponds, in the training process, to the meaningful context of "feeling" and "being able." In motor learning theory, one speaks today of an "effect-controlled movement learning." According to this, the so-called "stimulus-response-effect-relations" (SAE) are the basis of motor control and motor learning (Scherer, 2018, p. 197). The problem of motor learning consists in learning to feel oneself in the execution of the movement, increasingly, in the most differentiated way and in relation to the situation, initiating the movement process in such a way that excess and lack of energy can be balanced step by step. The thesis verified in the evolution of the proposal confirms this theoretical statement.