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Feedback Practices in Physical Education and Sports Instruction in Senegal: An Analysis of Teachers' Concepts and Practices

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Abstract

This study analyzes the perceptions and feedback practices of physical education and sports (EPS) teachers in Senegal, primarily in the Dakar region. It has two objectives: to describe these teachers' uses of and conceptions about feedback, and to examine the extent to which their socioprofessional characteristics and their work context influence these practices. Methodologically, the study employs a mixed-methods approach combining a probability-based questionnaire administered to 150 teachers, selected through a two-stage random sampling procedure (random selection of 30 schools, then random selection of five teachers per school), and a semi-structured interview guide administered to a subsample of eight teachers selected through a non-probability network (snowball) sampling method. The quantitative data collected were analyzed using SPSS software, while the data from the interviews were subjected to content analysis. The results indicate that 69.3% of teachers consider feedback to be very important for learning, and 72% believe it has a positive influence on student motivation. They also reveal a predominantly corrective and performance-oriented conception of feedback, as well as a clear predominance of verbal (93.3%), corrective (62%), and immediate forms of feedback, which place these practices at the "task" level of the integrated typology. Regarding frequency of use, the data show that neither age nor years of experience significantly determines the preferred type of feedback. In contrast, "teachers" conception of feedback is the major determinant ($\chi^2 = 69.16$; $p < 0.001$). Furthermore, 58.3% of respondents believe that structural constraints, particularly overcrowded classrooms, result in a lack of time and limit their ability to provide individualized feedback to students.

Keywords

Feedback, Practices, Perceptions, Uses, Physical Education

1. Introduction

In the classroom, during the daily interactions that take place throughout a lesson, teachers often observe and evaluate—through verbal or nonverbal expressions—the quality of the tasks and activities students are engaged in. In doing so, teachers may encourage students by praising their work, assess their level of understanding to adjust their own teaching approaches, or express approval or disapproval of students' responses to a question. These ongoing interactions, which teachers use to adapt and structure their pedagogical exchanges with students, constitute feedback.

Thus, feedback is the most widely used teaching tool in education. In physical education, it plays an important role in improving the acquisition of motor skills [1]-[3]. Furthermore, it takes on a unique dimension in this context, as learning occurs through the body, in real-world situations, and often in real time. As a result, teachers provide rapid, tailored, and context-specific feedback to students with varying needs, skill levels, and sensitivities.

Feedback in classroom settings has been the subject of several studies across diverse educational contexts, spanning Europe [3]-[6]; Africa [7]; Asia [8] [9]; and Latin America [10] [11]. This demonstrates a clear interest in this area of study. However, it must be noted that, to the best of our knowledge, no study in Senegal has yet addressed this issue in the context of physical education. This lack of local research represents a gap, given that Senegal's specific educational contexts are likely to influence teachers' feedback practices as well as their effects on student learning.

It is precisely to fill this gap that the present study was conducted. It has a twofold objective: to describe the uses and conceptions that Senegalese PE teachers have of feedback, and to examine the extent to which their socioprofessional characteristics and their teaching context influence their feedback practices. The aim is thus to better understand how these teachers perceive and implement feedback in their daily work. From this perspective, we seek to determine the extent to which the socioprofessional characteristics and teaching context of PE teachers influence their conceptions and uses of feedback in their teaching practices. At the same time, we hypothesize that teachers' conceptions and uses of feedback vary according to their socio-professional characteristics, particularly their years of experience, level of training, and teaching context.

The article is structured in four parts. The first part offers a critical review of the literature covering the range of research on feedback, highlighting the points of tension and convergence that run through it. The second part outlines our theoretical and conceptual frameworks. The third part presents the research meth-

odology adopted as well as the results obtained. Finally, the fourth and last section offers a conclusion that wraps up the discussion and opens up avenues for future research.

2. Feedback in Physical Education: A Literature Review

Research on the effects of feedback in physical education points to a shared conclusion: that feedback plays an important role in the acquisition and learning of motor skills, whether for simple or complex tasks [1]-[3] [12] [13]. These studies, whether in the form of meta-analyses or systematic reviews, consistently demonstrate that feedback provides added value compared to its absence in motor learning. However, these results are qualified by certain studies that have revealed limited or mixed effects of verbal feedback alone on motor learning, particularly with regard to evaluative and informative feedback, the results of which differ depending on the context [1] [2] [14]. Furthermore, the long-term impact of feedback on skill and motivation remains a subject of debate, with research suggesting that the observed gains are limited to the short term [14].

Regarding feedback modalities, the literature highlights the advantages of multimodal feedback—which combines visual and verbal components—over one-dimensional forms, particularly since it better promotes motor learning and student understanding [5] [12] [15] [16]. More specifically, video feedback—whether based on expert modeling or self-modeling—has proven effective in school settings, contributing to improved motor performance, increased motivation, and the development of students' self-assessment skills [3] [17]. However, studies report difficulties in implementing video feedback due to contextual barriers related to digital literacy [12]. Finally, the degree to which students engage with and effectively use feedback varies depending on the context and the individual [18].

Beyond the nature of feedback, the timing of its delivery and its content are variables under study. Feedback provided after task completion has been shown to be more effective than evaluative feedback [1] [19]. In terms of content, corrective feedback is particularly beneficial for acquiring complex skills, while informative feedback is better suited for novice learners in the cognitive phase [1] [2]. However, according to the authors, the superiority of certain forms of feedback over others is not always conclusive, and contextual obstacles related to the timing of delivery and the dissemination of feedback content have been identified as factors likely to affect its effectiveness [6] [11].

From the teachers' perspective, there is a consensus regarding the formative role of feedback in the development of motor skills and student motivation [6] [11]. Studies also note that positive and corrective feedback help reinforce students' learning attitudes [9] [20]. However, discrepancies persist between teachers' beliefs regarding their use of feedback and the practices actually observed, with some tending to underutilize or misapply certain types of feedback [10] [21]. In addition to these discrepancies, variations have been noted in the frequency and specificity of feedback given to students based on their gender [22] [23].

Ultimately, this review shows that feedback in physical education constitutes a diverse and varied body of practice. While there is a consensus regarding the added value of feedback on motor learning, studies note that its effectiveness depends on a combination of factors such as the nature and form of the feedback, the timing of its delivery within the instructional sequence, the nature of the task, and the learners' level, as well as teachers' professional beliefs and competencies. These findings nevertheless call for caution in interpretation, as many uncertainties remain, particularly regarding the long-term effects of feedback. It is within this context that the present study is situated, aiming to contribute to enriching this body of research by exploring the conceptions and uses of feedback among physical education teachers in the Senegalese context.

3. Analytical Models and Conceptual Framework

3.1. Analytical Models

Within the body of knowledge on feedback, several researchers have developed analytical models to better account for the underlying processes. Within the scope of this article, we have chosen to conduct a synthetic analysis of two models: that of [24] and that of [25]. These models were selected because of their structural complementarity, their shared grounding in learning contexts, and their role as theoretical foundations for various typologies. In the following sections, we discuss the points of convergence between these two models as well as their respective limitations.

Points of Convergence between the Two Models

Although they stem from distinct perspectives—one centered on the internal cognitive mechanisms of self-regulation [24], the other on the measurable effects of feedback on performance [25]—these two models share several points of convergence. First, both models agree that the effect of feedback depends fundamentally on how the learner processes it. [24] emphasizes the cognitive processes of interpretation and adjustment, whereas [25] highlights the learner's behavioral choices in response to the perceived gap. In both cases, the recipient of feedback is not a passive receiver. Furthermore, [24] suggests that elaborated cognitive feedback (focusing on strategies and processes) is more instructive than outcome-based feedback. [25] confirms that focusing on specific aspects of the task maximizes the effect of feedback. Both models thus converge on the same conclusion: effective feedback focuses on approach and processes, not on the person. Both models also acknowledge that the effect of feedback is neither automatic nor universal. Furthermore, [24] emphasizes the potential dissonance between internal and external feedback. As for [25], they document the variability of effects depending on moderating variables. In fact, this recognition of contextual complexity invalidates any mechanistic approach to feedback.

However, these similarities call for an emphasis on the respective limitations of the two models. [24] remains focused on cognitive processes and neglect the af-

fective and situational dimensions of feedback reception. [25], for their part, does not sufficiently account for initial conditions or the interactive effects between feedback and other teaching behaviors—a shortcoming noted by [26]. It is precisely these limitations that justify the use of typologies within the conceptual framework, in order to operationalize the conclusions of the models.

3.2. Conceptual Framework

3.2.1. Feedback: Analysis of a Concept at the Heart of Learning

The concept of feedback is complex and multifaceted. While some authors take a narrow view and regard feedback as a basic informative response, others, on the other hand, take a broader view and see it as having a wide-ranging impact. In other words, for those who advocate for the second perspective, feedback in its broader sense is rich with inferences and is much more than simple feedback that informs the student about their performance.

1) A multidimensional concept and…

[27] considers feedback to be information provided in response to the behavior or performance of one or more students. More explicitly, [28] writes the following about feedback:

> […] in the context of learning, [feedback] consists of informal or intentional information—positive or negative, one-time or sequential—provided by oneself, others, or a device, either immediately or at a later time, and focused on the task, processes, self-regulation, or the individual. It arises from the various consequences of the individual's activity and serving an affective function related to motivation to perform tasks, as well as cognitive functions of evaluating the activity against a goal or standard, aiding in task completion and knowledge development, and guiding a learner to bridge the gap between the outcome of their current activity and the expected outcome at the end of the learning process. […] (p. 346).

From this perspective on feedback in an educational context, we can see that it comprises several characteristics (positive or negative connotation, level of focus, timing, etc.), organized around a variety of functions (affective, cognitive, etc.) but also a typology (verification feedback, elaboration feedback, etc.) based on the content of the information it conveys. It is in this sense that [29] writes that, beyond its written or oral form, feedback includes guidance with cognitive, metacognitive, methodological, and affective implications. Along the same lines, [30] highlights the variety of functions associated with feedback. In this regard, feedback can: a) provide information that engages the student and helps them focus on successfully completing the task; b) direct students' attention toward the processes necessary to complete the task; c) inform the student about concepts that have been misunderstood; d) aim to motivate students to engage more fully in the task.

2) …a tool for regulation and formative assessment

[31], as a reminder, notes that formative assessment was initially defined pri-

marily as feedback. In fact, [32] identifies formative assessment as a feedback practice capable of supporting learning. The fact is that by constantly and systematically regulating the learning process, feedback is a form of interactive formative assessment [33] [34]. It is in this sense that feedback is formative in nature and constitutes the key element of formative assessment [35]-[38]. Although feedback is now just one formative assessment strategy among many, it is often the most studied in research on the subject [31].

Similarly, [34] views feedback as evaluative statements. She adds that the feedback provided to students is often based on observations made by the teacher during teaching-and-learning activities. In this sense, feedback represents important opportunities for teachers to gather data about their students. However, even though feedback can be provided in the heat of the teaching moment—that is, when the teacher immediately addresses any difficulties students encounter during the learning process—it can also take place before or after students begin an activity. In other words, feedback can occur at any point during the teaching process.

Furthermore, [39] argues that feedback is a form of regulation intended to inform the learner about the quality of their learning activity. Generally based on the gap between what the student does and what is expected of them, or on the errors the student makes—which [40] views as central to the learning process—feedback, especially verbal feedback, provides opportunities for the teacher to reinforce, guide, or redirect students' learning strategies and approaches. It is in this sense that feedback serves as a means of regulating learning processes and can prompt students to engage in constant self-regulation, which helps structure their learning [41]-[43].

3) Categorization of Feedback

Several authors have developed categorizations of feedback based on various criteria, such as the sender, the receiver, the timing of receipt, the functions fulfilled, the nature and type of information conveyed, the context of transmission, the content, or the level of focus. For the purposes of this article, we have selected five typologies—those of [29] [44]-[47]—whose contributions and limitations are examined in the following paragraphs.

Several findings emerge from the analysis of the selected typologies. The typology proposed by [44], grounded in the observation of classroom practices, represents one of the earliest attempts to rank forms of feedback according to their pedagogical impact. By distinguishing between evaluative and descriptive feedback, it raises the fundamental question of the function of feedback: namely, whether it should punish or guide. [29], for his part, offers the most comprehensive analytical framework by organizing feedback around content, nature, formulation, and form. His original distinction between metacognitive and methodological content represents a contribution absent from other typologies. As for [45], they propose the most integrated framework, structured around four levels of focus and three guiding questions. Their demonstration that person-centered feed-

back can have an inhibitory effect, whereas task- and process-centered feedback is most effective, constitutes a major contribution. For its part, [46], from a pragmatic perspective, enriches the discussion by incorporating often-neglected dimensions—namely, the tone, clarity, and specificity of the message. In this regard, he aligns with the concerns of [48] regarding the conditions under which students receive feedback. Finally, [47] stands out as the only author to explicitly incorporate the collective dimension of feedback and to emphasize the importance of the sequential context in which it occurs.

Nevertheless, despite their respective contributions, these typologies share common limitations in that they treat the affective and metacognitive dimensions unevenly and struggle to link their descriptive frameworks to the cognitive mechanisms underlying the effectiveness of feedback. Furthermore, none of them, on its own, accounts for the complexity of the phenomenon of feedback. Each sheds light on a specific dimension (pedagogical function, content, level of focus, pragmatic aspects, or modes of interaction) without offering a comprehensive view. It is precisely this observation that justifies the development of an integrated typology.

4) Toward an Integrated Categorization

Following an analysis of the five typologies developed by the authors mentioned above, we have constructed an integrated categorization based on four axes, synthesizing their specific contributions while resolving the identified tensions. Each axis is defined by its degree of focus (outcome, task, process, person), student involvement, consistency with the selected analytical models, and pedagogical implications. This framework is based on the hierarchical logic proposed by [45], enriched by the contributions of [29] (content), [47] (modalities), [46] (strategies), and [44] (classroom practices). Essentially, these levels reflect, from a typological perspective, the conclusions of the models presented at [24] and [25] regarding the conditions for effective feedback.

Thus, the first category corresponds to evaluative feedback. It encompasses the most basic forms of feedback—that is, approval or disapproval of the result, without any information about the process. This axis corresponds to levels A1/A2/B1/B2 in [44], to outcome-based feedback in [24], and to self-focused feedback in [25]. Its effectiveness is low, or even counterproductive.

Regarding the second axis, it refers to descriptive-corrective feedback. It forms the core of most typologies and incorporates methodological dimensions (alternative strategies), informative-corrective dimensions (identification and explanation of errors), and suggestive dimensions (encouragement to explore further). This axis is linked to levels C1/C2/D1 from [44], to the cognitive and methodological content from [29], to the task and process levels from [45], and to the corrective and developmental feedback from [47].

The third axis refers to metacognitive-reflective feedback. It represents the most demanding and most formative level. Self-regulatory feedback engages the student in a reflective process regarding their own strategies, while co-constructive

feedback establishes a critical dialogue between teacher and student. These two subtypes correspond, respectively, to the self-regulation level described at [45], the metacognitive and suggestive content at [29], level D2 at [44], and the monitoring and collective feedback types at [47]. They are directly aligned with the model at [24], whose core focus is precisely the promotion of self-regulated learning.

Finally, the fourth category corresponds to affective-motivational feedback. It covers feedback with motivational and encouraging content. In contrast to analyses that view feedback as exclusively negative toward the individual [45], this level acknowledges its potential role in supporting student engagement. Its effectiveness, however, remains conditional and must always be combined with Level II or III feedback to avoid the negative "ego-involvement" effect [25] [49].

Diagram 1: the Axes and Their Level Classifications

Axis	Level	Description	Effectiveness
Evaluative	Evaluative +	Verbal or nonverbal approval; symbolic reward. Result-oriented (correct/incorrect)	Low (not very informative)
	Evaluative –	Disapproval, punishment, correction without explanation. May be inhibiting	Negative (inhibitory effect)
Description Corrective	Corrective Informative	Identification of the error with an indication of the correct answer or the missing information	Moderate
	Corrective Methodological	Information on the approach used and possible alternative strategies. Links the quality of the work to the procedure used	High
	Suggestive Correction	Encourages further exploration, correction, and dialogue. A suggestive approach that fosters student initiative	High
Metacognitive Reflective	Self-regulating	Engages the student in a reflective process regarding their own strategies, conditional knowledge, and self-assessment	Very high
	Constructive	Critical dialogue between teacher and student, or among peers, regarding the work. Joint development of the path forward	Very high
Affective motivational	Motivational Encouraging	Motivational information, support for engagement. No explicit cognitive content, but emotional support for the process	Conditional (depending on context)

3.2.2. Teaching Practices

According to [50], the concept of "practice" refers to the "application of procedures related to a specific area of human activity" (p. 1007). If we are to believe this author, practice would therefore involve following a specific set of rules of action. This author also links practice to specific fields of activity and professions. In the same vein, the conception offered by [51] does not seem far removed from that of Legendre (1993), who defines practice as "the exercise of a voluntary activity that alters the environment by combining a set of skills with prolonged expe-

rience" (p. 27). By defining practice in this way, [51] argues that it carries a transformative dimension and is built over time through the accumulation of know-how proven over time. From another perspective, when addressing this concept, [52] approaches it from a discursive standpoint, viewing it as "a statement or discourse by a subject about their own activity". He also adds that, more often than not, "(…) what subjects engaged in activities call 'practice' is what they are willing to say about their activity when communicating with others" (pp. 103-104). Thus, to understand any given practice, one need only refer to the statements of practitioners. Essentially, this perspective of J. [52] is not too different from that of Honoré (1977), who believes that practice is what one experiences and thinks about actions—the lived experience. However, the understanding of practice offered by [53] seems more comprehensive, as he states that it refers to "any application of rules and principles that enables one to carry out an activity in practice, and thus to perform operations and comply with requirements" (p. 12). At first glance, this interpretation of the concept of "practice" does not seem very different from that found at [50] or even [51]. But [54] clarifies that "practice", even though it encompasses the idea of application, does not automatically refer only to doing and gestures, but also to the processes involved in doing. Thus, it is both the rule of action (technical, moral, religious) and its exercise or implementation. For [53], practice encompasses a "dual dimension": on the one hand, actions, behaviors, and languages; on the other, through the rules, it involves the objectives, strategies, and ideologies that are invoked. It captures both what is made visible by the activity carried out by an individual in action and the underlying, invisible foundations that guide that activity. [54] concludes by arguing that it is this dual dimension of the concept of practice that makes it valuable.

Teaching practices refer to what teachers do in the classroom in the presence of students. For his part, [55] defines teaching practices as the performance of teaching actions and interactions. They also include the procedures by which an individual carries out an activity in a given situation, as well as the underlying choices and decision-making (ibid.). Thus, teaching practice encompasses procedures and outcomes, as well as interactive, cognitive, relational, psychological, and contextual processes. [56] notes, for its part, that teaching practice cannot be considered the mere application of a method, since each teacher adapts the characteristics of the chosen method in their own way, and a comparison of the observed practices of teachers who are supposed to be implementing the same method reveals significant inter-individual differences. Thus, teaching practice corresponds to a situated professional activity, guided by the aims, goals, and standards of a professional group. Finally, it is a social practice that manifests itself through the implementation of actions that are both constrained and chosen by an individual.

In this article, we define teaching practice as what teachers say about what they do in the presence of students to support them in acquiring motor skills. In other words, it refers to teachers' reported practices—that is, their discourse on feedback in classroom contexts during teaching-learning situations.

3.2.3. Conceptions

In the educational sciences literature, the concept of "conceptions" plays a central role in understanding teaching practices. Conceptions are individual mental constructs developed through the interaction between the individual and their environment, incorporating their history, past, intentions, and plans [57]-[60]. Distinct from social representations, which are shared and collective, conceptions are unique to each individual and become stabilized in long-term memory, while remaining open to change through new experiences. This individual and stabilized nature gives conceptions an important role in teaching practices. According to [58], they serve as both supports and drivers of action and communication, shaping the way teachers perceive their role, approach educational situations, and make pedagogical decisions. In this sense, the conceptions a teacher holds about the profession—whether they concern the transmission of knowledge, the relationship with students, or the management of learning—directly influence their instructional choices and classroom behavior. As [61] points out, the conceptions teachers have of their role and function shape how they act and react in teaching-and-learning situations.

In terms of professional development, these conceptions play a dual role. On the one hand, they influence the pedagogical processes involved in building professional competencies [58] [62]; on the other hand, they contribute to the construction of the teacher's professional identity [59] [63]. In this regard, [59] refers to them as professional representations—that is, representations of the profession and its associated activities—as both products and processes underlying the practices implemented in professional contexts. This perspective emphasizes that conceptions are not merely opinions, since they constitute a frame of reference through which teachers make sense of their practices, justify their choices, and guide their actions. Furthermore, research shows that teachers' initial conceptions—often shaped by their own experiences as students or those of their colleagues—are persistent and serve as a framework for guiding their behavior [64].

In this article, we examine teachers' conceptions of feedback, as they are closely related to how teachers approach feedback in the classroom. Indeed, a teacher's beliefs about feedback—whether they view it as a simple correction tool, a means of guiding learning, or an opportunity for dialogue with students—directly shape the nature, form, and function of the feedback they provide in the classroom. A teacher who views feedback primarily as an evaluative act will tend to favor simple, outcome-focused forms of evaluation [44], which have little impact on student progress [25]. Conversely, a teacher who views feedback as a tool for cognitive regulation will be more inclined to provide descriptive, methodological, or metacognitive feedback that can support students' self-regulation processes [24]. In this sense, teachers' conceptions of feedback are not neutral, because they partly determine the quality and effectiveness of feedback practices. Identifying and questioning these conceptions is therefore a prerequisite for any effort aimed at improving feedback practices, insofar as, as noted by [48], feedback whose regu-

latory impact the teacher does not personally recognize risks being, for the student, nothing more than a message in a bottle.

4. Methodology

Feedback in an educational context is a complex subject of study that cannot be fully understood through a single methodological approach. This study adopted a sequential explanatory mixed-methods design [65], in which quantitative data were collected first, via the questionnaire administered to the full sample (n = 150), followed by a qualitative phase consisting of semi-structured interviews with a subsample of eight teachers. The qualitative phase was designed to elaborate on and contextualize the quantitative findings: interview themes were used to illustrate, nuance, and help explain the statistical associations identified in the questionnaire data (see Section 5).

The study was conducted in public high schools in the Dakar region and involved a population of physical education teachers.

4.1. Sampling and Sample

Initially, a probabilistic sampling procedure, based on simple random sampling without replacement was used to select, from each of the three school districts in the Dakar region, the thirty schools (n = 30) in which the survey was conducted.

In a second step, within each selected school, five teachers were selected by random draw without replacement, using a simple random sampling procedure [65]. This procedure resulted in a main sample of 150 teachers (n = 150), corresponding to five teachers per school. The inclusion criteria were as follows: (1) teaching PE in a public high school in Dakar; and (2) having at least three years of teaching experience. The final sample consists of 131 male teachers (87.3%) and 19 female teachers (12.7%).

Finally, in preparation for the semi-structured interviews, a network-based subsampling method [65] was used to select eight teachers (n = 8). To this end, given that our study was conducted in thirty high schools, one teacher was randomly selected from the first school. At the end of this interview, we asked the teacher to refer us to one of their colleagues working at another high school among the thirty selected schools. This process was repeated iteratively until we reached a total of eight teachers.

4.2. Data Collection Instruments

Data collection relied on two complementary instruments: a questionnaire administered to the entire main sample and a semi-structured interview guide used with the subsample.

4.2.1. The Questionnaire

The questionnaire comprised 17 items organized into six thematic sections: socioprofessional characteristics (6 items), perceptions of feedback (3 items), feedback

use (3 items), difficulties encountered in providing feedback (2 items), perceived effects of feedback on students (2 items), and an open-ended suggestion item (1 item). Most items were nominal (e.g., type of feedback used) or single-item ordinal (e.g., perceived importance of feedback), together with open- and closed-ended multiple-choice questions; they were not designed as a single unidimensional Likert-type scale. Content validity was addressed through a pre-test with a small group of teachers (n = 15), used to verify the clarity of the wording and to adjust any items that were confusing, in accordance with the recommendations of [65].

A reliability analysis was nonetheless conducted on the subset of six ordinal items suited to a composite scale (Q8, Q9, Q12, Q14, Q15, Q16), covering perceived importance, motivational influence, frequency of use, enabling conditions, perceived contribution to progress, and perceived effect on engagement. This 6-item composite showed acceptable internal consistency (Cronbach's $\alpha = 0.728$, N = 141; $\alpha = 0.748$ if the conditions item, Q14, is removed) and admissible sampling adequacy for factor extraction (KMO = 0.684; Bartlett's test of sphericity $\chi^2 = 221.68$, df = 15, $p < 0.001$).

A finer-grained analysis of four thematic sub-groupings within this 6-item set, however, shows that they are not equally coherent. The four perceived-effects items (Q8, Q9, Q15, Q16) form the most robust sub-scale ($\alpha = 0.774$; split-half reliability, Spearman-Brown corrected, $\rho = 0.796$), indicating that teachers who rate feedback as important also tend to report it as motivating, helpful for progress, and engagement-enhancing. By contrast, the three practice items (feedback form, type, and frequency—Q10, Q11, Q12) show weak internal consistency ($\alpha = 0.331$), consistent with the theoretical expectation that these are conceptually distinct facets of practice (a teacher may give feedback very often while relying almost exclusively on a single type) rather than indicators of one underlying practice construct; they are therefore analyzed separately rather than combined into a composite score elsewhere in this article. The two conditions items (Q13a, difficulty individualizing feedback; Q14, enabling conditions) yield a raw negative alpha ($\alpha = -0.592$), which traces to opposite coding directions rather than a substantive problem: Q13a was coded with 1 = difficulty present (unfavorable) while Q14 was coded with higher values indicating more favorable conditions. After reverse-coding Q13a, the corrected alpha rises to approximately 0.37 - 0.44, a modest but coherent bipolar "conditions" indicator.

4.2.2. The Semi-Structured Interview Guide

The semi-structured interview guide, used with the subsample of eight teachers, enabled the collection of qualitative data on their feedback practices as well as the strategies employed to support students in their learning. This guide is structured around five main themes and sixteen subthemes. A thematic content analysis [66] was applied to the eight semi-structured interviews, which lasted an average of forty- five minutes, were recorded, and transcribed in full.

Coding followed a two-step procedure: open coding using an inductive ap-

proach, followed by thematic grouping based on categorical saturation, which was reached after the sixth interview. Coding was conducted by a single researcher. To enhance consistency in code application, the coding categories were revisited iteratively throughout the analysis, with the emerging thematic grid retrospectively applied to earlier transcripts as new categories emerged from subsequent interviews.

5. Results: Presentation, Interpretation, Discussion

The presentation of the results is organized in two parts. First, the socioprofessional characteristics that define the overall profile of the sample are presented. Next, the teachers' conceptions of feedback are presented, followed by the types of feedback they report preferring, as well as the forms and timing of their implementation. Finally, the analysis examines the relationships between these conceptions, reported practices, and teachers' characteristics by cross-referencing quantitative data from the questionnaire with qualitative data collected during the interviews. Each result is presented, interpreted, and discussed in light of the theoretical framework and relevant literature. The discussion, conducted in a second phase, places these results in a broader context and compares them with previous research.

5.1. Socio-Professional Considerations

The age distribution of the sample (Table 1) indicates that 83.3% of teachers are between 30 and 49 years old. The median age falls within the 40 - 49 age range. Furthermore, we note the near-total absence of teachers under 30 (0.7%). Data on years of teaching experience (Table 2) show that 99.3% of respondents have at least 5 years of experience. The group of teachers with 11 - 20 years of experience in the profession is the largest (45.3%), indicating that the majority of the teaching staff is mid-career. Finally, teachers with more than 20 years of experience in the profession account for approximately 17.3% of our sample.

Table 1. Sample distribution by age.

Age group	n	%
Ages 30 - 39	59	39.3%
40 - 49 years	66	44.0%
50 and older	24	16.0%
Under 30	1	0.7%
Total	150	100.0%

Source: survey data.

Table 2. Sample distribution by years of service.

Years of Experience	n	%
5 - 10 years	55	36.7%
11 - 20 years	68	45.3%

Continued

Over 20 years	26	17.3%
Under 5 years	1	0.7%
Total	150	100.0%

Source: survey data.

5.2. Approaches to and Types of Feedback

5.2.1. Feedback to Guide and Regulate Learning

The results regarding the functions attributed to feedback by the teachers surveyed are shown in Figure 1 below. It appears that the majority of teachers view feedback through a corrective and performative lens. Indeed, when combining the teachers who view feedback as a means of correcting technical errors (28%) with those who associate it with improving overall performance (22%), we find that half of them (50%) attribute to it a function centered on correcting and optimizing performance. These conceptions relate to the second axis of our integrated typology, corresponding to the task level described by [45]—a level that is useful for guiding student action but often insufficient for fostering the development of self-regulation. Furthermore, one-third of teachers (33%) view feedback as a tool for communication and regulation, thereby highlighting its role in pedagogical interactions and the continuous adjustment of learning. Finally, the motivational function of feedback appears to be relatively undervalued, since only 17% of teachers perceive it as a means of motivating students. In summary, these results suggest that, from the perspective of the teachers surveyed, feedback is viewed more as a lever for guiding, regulating, and improving learning than as a simple tool to support motivation.

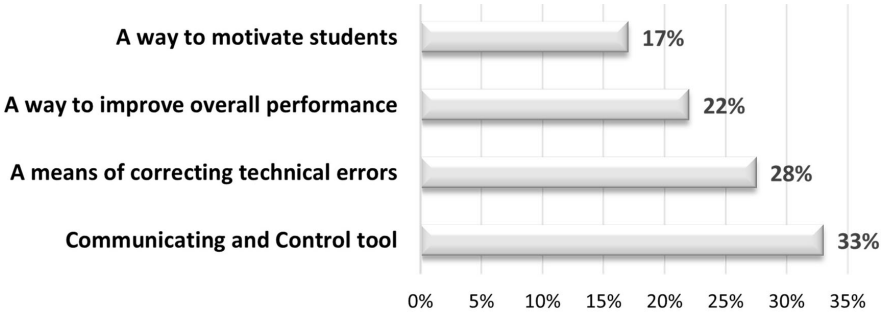

Figure 1. Breakdown of the sample by conception of feedback.

On the other hand, in the transcribed statements of the teachers, feedback emerges as a fundamental and indispensable component of the act of teaching physical education. This conviction appears to be universal, even if it is expressed with varying degrees of intensity depending on the teachers' profiles. For example, one teacher stated bluntly that "a session without feedback is not effective" (Teacher_1). One of his colleagues also noted: "(…) whether you call it feedback or adjustment, it is essential to ensuring the quality of performance" (Teacher_3).

The existence of a direct and positive link between the quality of feedback and student performance is a view that is expressed almost unanimously. On this subject, one of the teachers interviewed articulated the following causal logic:

"(…) *feedback is directly linked to performance. When a student receives clear and precise feedback, they can correct their mistakes immediately, which improves their technique and results. Without feedback, mistakes persist and performance stagnates*" (Teacher_6).

Another teacher views feedback in terms of guiding the student's cognitive development, arguing that (…) without feedback, the student is moving forward somewhat in the dark; they don't know exactly whether they are progress or not (Teacher_4). In a similar vein, another teacher states:

"*Feedback is very important. It's a way for the teacher to show the student what they're doing well and what they need to improve. Without feedback* (…), *the student doesn't know whether they're making progress or making mistakes. For me, it's an essential tool for guiding learning and helping students understand their actions and their mistakes*" (Teacher_6).

Overall, in their comments, the teachers view feedback as a practice that distinguishes active teaching from mere facilitation. This view aligns with one of the tenets of the [24] model, which holds that feedback is an integral part of learning—and not merely an evaluative add-on.

Nevertheless, the way each teacher conceives of feedback reveals their implicit positioning along one of the axes of our integrated typology. Thus, two levels of conceptualization can be observed in the teachers' discourse. The first level corresponds to a corrective, transmissive conception of feedback. For teachers whose comments lean toward this first level, feedback is primarily conceived as corrective guidance that involves conveying information to the student to correct their actions. As one of the teachers interviewed put it: "(…) I immediately tell the student what they need to do and why they are not succeeding" (Teacher_6). In the second level of conceptualization, which reflects a strategic, analytical approach, teachers view feedback as a strategic guidance tool that addresses both the student's performance and the approach to be taken. The following remarks by a teacher fit within this perspective:

"*You have to be very familiar with the subject matter, but you also have to know the students and their level well in order to provide the right feedback that will help them succeed in the task at hand* (…) *a student who doesn't receive feedback is often with a teacher who isn't very familiar with the subject they're teaching. Without feedback, you're just leading an activity*" (Teacher_5).

In these remarks, this teacher highlights an important aspect in the context of physical education instruction, namely the teacher's technical and subject-specific mastery [67]. This mastery is undoubtedly a prerequisite for any effective feed-

back. Clearly, a teacher who does not master the technique cannot direct the student's attention to specific aspects of the task. This is, in fact, what one of his colleagues seems to confirm by stating: *"(…) it is knowledge of the exercise that allows for quick feedback and for addressing exactly what the student needs to correct. If there is a lack of familiarity with the activity, the feedback risks being directed toward something else"* (Teacher_6). In reality, familiarity with the activity allows the teacher to make an experiential transposition from their personal experience to the knowledge to be taught, where that experience serves as the reference point [67].

5.2.2. Feedback Practices Primarily for Corrective Purposes

Regarding the types of feedback preferred by the teachers surveyed, Figure 2 below shows that more than six out of ten teachers (62%) prefer corrective feedback. At the same time, one in five teachers (22%) prefers encouragement through praise. Similarly, only 15% of teachers prefer descriptive feedback. Finally, prescriptive- feedback is virtually nonexistent (1%). These results show that the teachers surveyed generally use types of feedback whose effects on learning—in terms of added value—are considered by the scientific literature in this field to be conditional (praise) or moderate and/or high (corrective, descriptive, prescriptive). Furthermore, in line with our integrated typology, these results indicate that descriptive-corrective feedback, which accounts for 77% of the statements, corresponds to axis 2, while affective-motivational feedback, representing 22% of the statements, corresponds to axis 4.

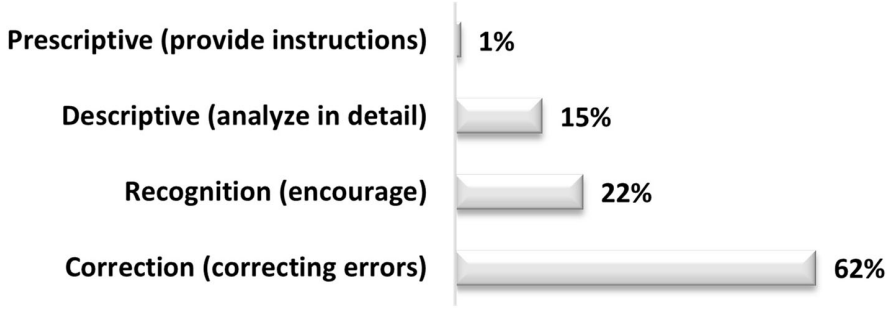

Figure 2. Distribution of the sample by preferred type of feedback.

At the same time, in the comments of the teachers interviewed, Axis 2 also appears to be the most prevalent in the reported practices. On this axis, predominantly informative corrective feedback—such as identifying the error and indicating the correction—is ubiquitous, and it is this type of feedback that is most often provided in a highly detailed and technical manner. The following statement by a teacher provides a particularly instructive illustration: "(…) *I observed that the position of the palms directly influences rotation during certain movements. Through verbal corrective feedback, I showed the student precisely where and how to place their hands*" (Teacher_8). Still within this same axis 2, corrective feedback practices with a predominantly methodological focus are also noted in

the teachers' discourse. In this vein, one teacher states: "*For a forward roll, you tell the student to round their back, press their palms into the floor, keep their knees off the floor, stand on their tiptoes, push off with their feet, tuck their chin to their chest, and roll*" (Teacher_5). In the same vein, another teacher reports the following: "(…) *if the technique isn't correct, I can stop the session and demonstrate the proper execution—that is, show how one foot follows the other, the lateral movement, the coordination of the legs, etc.*" (Teacher_3).

Furthermore, Axis 4, concerning affective and motivational feedback, is also evident in the statements of the teachers interviewed. Thus, in elaborating on the concept of differentiated recognition and emphasizing the need to adapt success criteria to each student's body type and individual abilities, one teacher told us that: "(…) *feedback allows us to recognize their efforts and encourage them to persevere, even if their physical performance is limited. It also helps adapt technical movements so that every student can experience a sense of accomplishment and make progress*" (Teacher_1). In the same vein, another teacher tells that: "(…) *feedback can not only motivate but, above all, encourage students who are struggling to exceed their own expectations*" (Teacher_8).

5.3. The Form and Timing of Feedback

An analysis of the types of feedback used (Table 3) reveals a contrasting hierarchy of usage. Verbal feedback dominates by a wide margin (140 mentions, 93.3% of respondents), confirming its status as the default method in the reported practices. Next, visual feedback occupies a secondary but substantial role (71 mentions, 47.3%), while nonverbal feedback remains marginal (11 mentions, 7.3%). With 222 mentions among 150 respondents—an average of 1.48 forms per teacher—the combined use of multiple channels remains limited. This means that the majority of teachers rely on a single modality. Nevertheless, the most frequent combination is "verbal + visual" at 39.3%.

Table 3. Breakdown by type of feedback provided (Q10—multiple responses).

Type of Feedback	N	%	Integrated forms	N	%
Verbal only	71	47.3%	Verbal	140	93.3%
Verbal + Visual	59	39.3%			
Visual only	9	6.0%	Visual	71	47.3%
Verbal + Nonverbal	8	5.3%			
Verbal + Nonverbal + Visual	2	1.3%	Nonverbal	11	7.3%
Nonverbal + Visual	1	0.7%			
Total	150	100.0%	Total mentions	222	1.48 mentions per respondent (148.0%)

Source: survey data.

Furthermore, discourse analysis also confirms this trend identified by the quantitative data. Indeed, in the comments gathered from teachers, verbal feedback remains by far the most common form. According to the teachers interviewed, this predominance is explained by practical constraints in the classroom and the very nature of physical education, which is a practical subject where students are in motion and written communication is virtually impossible. One teacher clearly explains this situation as follows: "*In PE, we're often on the move, so speaking directly to the student allows us to correct them right away. It's also more engaging, and students respond better to verbal feedback*" (Teacher_2). It should be noted that these statements reveal much more than just the preferred form of feedback. In essence, they also implicitly refer to the immediate nature (or timing) of the feedback—namely, that it occurs during the activity itself, with the aim of embedding the correction within the ongoing motor experience. It is in this sense that one teacher remarks, "*Feedback given too late loses its effectiveness, because the student risks repeating the same mistakes without realizing it*" (Teacher_8). Along the same lines, another teacher emphasizes that: "*The feedback that has the greatest impact is the feedback given during the action, because it allows for immediate correction*" (Teacher_4). Another teacher who shares this belief adds: "*It's during the activity that I can immediately correct or adjust what's wrong. That's when the student is most receptive and when the correction has the greatest impact*" (Teacher_5).

5.4. Feedback as a Support for Student Progress and Engagement

5.4.1. Feedback as a Support for Student Progress

Data on teachers' perceptions of feedback and its effect on student progress are presented in Table 4 below. The results indicate that among those who consider feedback to be "Very important" (n = 104), a large proportion (84.6%) say it helps students progress "a lot". Conversely, among those who consider it "Only important" (n = 45), this proportion drops to 35.6%. This 49-percentage-point gap suggests that teachers who are most convinced of the pedagogical value of feedback are also those who perceive its positive effects on learning most strongly. Furthermore, the proportion of teachers who believe that feedback contributes "Moderately" to student progress is slightly higher among those who consider it "Simply important" (64.4%) than among those who consider it "Very important" (15.4%). This difference reflects a more moderate perception of the effectiveness of feedback among this second group.

Table 4. Conceptions of feedback and their effect on progress.

Teachers believe that feedback is…	% who say it helps "a lot" with progress	% who say "Moderately"
Very important (104 teachers)	84.6%	15.4%
Somewhat important (45 teachers)	35.6%	64.4%

Source: survey data.

At first glance, these results suggest an association between the pedagogical value attributed to feedback and the surveyed teachers' perception of its impact on learning. A chi-square test (Table 5), combined with the calculation of Cramer's V (Table 6), was used to determine the significance of the hypothesized association.

Table 5. Chi-square.

Indicator	Value
X2	33.57
Degrees of freedom	1
p-value	<0.001
Valid N	149

Table 6. Effect size.

Indicator	Value	Interpretation
Cramer's V	0.475	Moderate-strong effect (close to the strong threshold ≥ 0.50)
R-rank (Mann-Whitney)	0.389	Moderate effect
Cohen's d	1.218	Strong effect (>0.80)

Table 5 and Table 6 above indicate that the association between the importance surveyed teachers place on feedback and their perception of its role in promoting student learning is highly significant and of strong magnitude. The Cohen's d of 1.22 is remarkable, indicating that the two groups differ by more than one standard deviation. Thus, the more importance the teacher s place on feedback, the more likely they are to consider it a strong driver of student progress. This result confirms, in our sample, that belief in feedback is the most powerful predictor of the perception of its effectiveness.

5.4.2. Feedback as a Driver of Student Engagement

Table 7 below highlights a relationship between the frequency of feedback provided by teachers and the level of perceived student engagement. Among teachers who report providing feedback "Very often" and who also gave a valid engagement rating (n = 67), three-quarters (74.5%) believe that students are "Much" more engaged in learning, while 25.4% rate this engagement as "Moderate". Among teachers who provide feedback "Often" (n = 73 with valid engagement ratings), 47.9% report students as "Much" more engaged, while the majority (52.1%) consider engagement to be "Moderate". Among teachers who provide feedback only "Sometimes" (n = 5), perceptions are more divided: 40.0% consider students "Much" more engaged, 40.0% "Moderately" engaged, and 20.0% "Little" engaged.

Table 7. Feedback and student engagement.

Frequency of Feedback (n Respondents)	Students "Much" More Engaged	Students "Moderately" Engaged	Students "Little" Engaged
Very often (n = 67)[1]	74.5%	25.4%	----
Often (n = 73)[1]	47.9%	52.1%	----
Sometimes (n = 5)	40.0%	40.0%	20.0%

Source: survey data. [1]Row totals reflect respondents with a valid frequency response AND a valid "Much"/"Moderately" engagement response. The raw number of respondents reporting each frequency category (before excluding missing or "Little" engagement responses) was 68 for "Very often" and 75 for "Often" (148 total valid frequency responses across the three categories). The full analytic sample used for the Kruskal-Wallis test in Table 8 (N = 145) additionally includes the "Little" engagement responses.

Overall, these results suggest that the frequency of feedback is a factor that can promote student engagement. In other words, the more regular the feedback, the more teachers tend to perceive a high level of student engagement in learning situations. This finding aligns with research highlighting that feedback helps maintain attention, boost motivation, and support learners' active participation by providing them with guidance on their progress and necessary adjustments.

Furthermore, a supplementary statistical analysis (Table 8 below) using the Kruskal-Wallis test confirmed the significance of this association across the full analytic sample of complete cases (N = 145, combining all three engagement response categories). This test is more appropriate because the engagement variable is ordinal (3 levels) and the "Sometimes" group is very small (n = 5).

Table 8. Kruskal-Wallis test.

Indicator	Value
H	11.73
df	2
p-value	0.003
N	145
η^2 (effect size)	0.069

Note: N = 145 corresponds to the number of respondents with a non-missing response on both the frequency-of-feedback item and the student-engagement item (all three engagement categories—"Much", "Moderately", and "Little"—included). This differs from the row totals in Table 7 (148 combined) because Table 7's row labels reflect valid frequency responses only, while its percentages are calculated on the subset with a "Much"/"Moderately" engagement response specifically (see Table 7 note).

The results show that the association between the frequency of feedback and students' perceived engagement is statistically significant (p = 0.003) with a moderate effect size (η^2 = 0.069; moderate threshold ≥ 0.06). The main difference lies

between teachers who provide feedback "Very often" and those who provide it "Often" ($p = 0.001$); the "Sometimes" group is too small ($n = 5$) to yield reliable comparisons.

5.5. A Significant Link between Conception and Preferred Type of Feedback

Table 9 below compares the preferred types of feedback with teachers' theoretical conceptions of feedback. Thus, teachers who believe that feedback serves to "motivate students" use the Affirmative type in 69% of cases; this is by far the most consistent group. Those who believe that feedback serves to "correct errors" or "improve performance" use the Corrective type in 76% - 79% of cases. Only teachers who view feedback as a "tool for communication and regulation" actually use the Descriptive type (37%); this is the group most open to various forms of feedback. Overall, 45.9% of teachers—or nearly one in two—show a perfect match between their conception of feedback and the type of feedback they prioritize in their teaching practices.

Table 9. Conception of feedback × preferred type of feedback.

How the teacher conceives of feedback	They primarily use: Corrective n (%)	They primarily use: Descriptive feedback n (%)	He/she mainly uses: Appreciative n (%)	Total
Communication and regulatory tool	27 (55%)	18 (37%)	4 (8%)	49
Ways to Correct Technical Errors	32 (76%)	4 (10%)	6 (14%)	42
Ways to motivate students	7 (27%)	1 (4%)	18 (69%)	26
Ways to improve performance	26 (79%)	2 (6%)	5 (15%)	33
Total	92 (61%)	25 (17%)	33 (22%)	150

Source: survey data.

Furthermore, the chi-square test presented in Table 10 below, applied to the contingency table above (Table 9), reveals a highly significant association between teachers' conception of feedback and the type of feedback they prefer ($\chi^2 = 69.16$; $p < 0.001$). This result indicates that reported feedback practices are not independent of teachers' conceptions of this instructional tool. In other words, the way teachers conceptualize feedback strongly influences how they implement it in their classroom practice. This relationship is reinforced by Cramer's V ($V = 0.48$), which corresponds to a large effect size and is close to the threshold generally considered strong (0.50) according to the benchmarks proposed by Cohen (1988). Thus, the observed association is not limited to mere statistical significance related to sample size but also reflects a substantial link between the two variables. In interpretive terms, this value suggests that a significant portion of the variability observed in feedback practices is associated with teachers' conceptions of feedback, which lends this result both statistical and theoretical robustness.

Table 10. Chi-square test.

Statistic	Value	Interpretation
Total inertia (chi^2/N)	0.467	Very strong association (indicative threshold: >0.20)
Chi^2 = inertia × N	69.16 (df = 6)	p < 0.001—highly significant association
Cramer's V	0.48	Moderate-strong effect (Cohen: >0.30 = moderate)

5.6. Type of Feedback, Age, and Tenure: Between Non-Significance and a Shift toward Positive Evaluation

The analysis of Tables 11-12[1] and Tables 13-14 below presents the results of cross-tabulating the preferred type of feedback with the variables age and tenure. They reveal a descriptive trend that, although it does not reach the threshold of statistical significance, is worth noting and examining closely. Indeed, the same pattern emerges across the two socioprofessional variables considered. On the one hand, the use of descriptive feedback decreases steadily with increasing age, falling from 20.3% among teachers aged 30-39 to 4.2% among those aged 50 and older (Table 11); the same decline is observed with regard to years of experience, from 20.0% among teachers with 5 to 10 years of experience to 4.0% among those with more than 20 years (Table 13). On the other hand, and in exactly the opposite direction, the proportion increases with age (from 16.9% to 29.2%) as well as with years of experience (from 14.5% to 32.0%). However, this trend is not sufficient to confer inferential significance, as the chi-square tests remain non-significant ($\chi^2 = 6.41$, df = 9, p = 0.698 for age; $\chi^2 = 7.91$, df = 9, p = 0.543 for experience). It should be noted that both tests include several cells with an expected count below 5 (8 of 16 cells, or 50%, for the age table alone), exceeding the conventional threshold for reliable chi-square approximation; these non-significant results should therefore be interpreted with caution rather than as firm evidence of the absence of an association.

When considered within our integrated typology, this dual trend reflects a gradual shift from axis 2 (descriptive-corrective) toward axis 4 (affective-motivational) as professional experience accumulates. Such a shift is not without significance in light of what is known about the development of teaching expertise [55]. Over time, the experienced teacher—whose subject mastery and classroom reading have become more refined—appears able to reduce the amount of explicit technical feedback (which is now partly automated or internalized) in order to focus more on the relational and motivational aspects of teaching. Their focus thus shifts from merely ensuring the accuracy of instructional actions to supporting students' perseverance, confidence, and engagement.

Similarly, a joint analysis of the two tables sheds light on the link—established

[1]Both chi-square tests were computed on the full four-category breakdown of age and experience, including the very small "Under 30" (n = 1) and "Under 5 years" (n = 1) groups, which is why each test carries 9 degrees of freedom. These two groups are shown in Table 11 and Table 13 for transparency, although their extremely small size means the percentages reported for them (100% Corrective, based on a single respondent) should not be over-interpreted.

elsewhere—between the conception of feedback and the type of feedback actually favored. Since neither age nor years of experience have a statistically significant influence on this type, it is indeed the teacher's conception of feedback that constitutes the major determinant (Table 10: $\chi^2 = 69.16$; $p < 0.001$). In other words, it is not the teacher's demographic profile, but the meaning they attribute to feedback, that shapes their reported practices. This connection is all the more consistent given that the descriptive trend itself can be interpreted through this lens. This means that if older teachers tend to value feedback more highly, it is likely because experience has shaped their conception of feedback (from a tool for correction to a lever for motivation) far more than the mere passage of time. The generational variable, when it appears to be a factor, thus acts indirectly—through the mediation of conceptions—rather than as an independent explanatory factor.

Table 11. Age group x preferred type of feedback (Q11).

Age group (Q2)	Corrective (%)	Description (%)	Appreciative (%)	Prescriptive (%)	Total
Ages 30 - 39 (n = 59)	61.0%	20.3%	16.9%	1.7%	100%
Ages 40 - 49 (n = 65)[1]	61.5%	15.4%	23.1%	0.0%	100%
50 and older (n = 24)	66.7%	4.2%	29.2%	0.0%	100%
Under 30 (n = 1)[2]	100.0%	0.0%	0.0%	0.0%	0.0%

[1]One additional "40 - 49" respondent did not report a preferred feedback type and is excluded from this row (n = 66 in the full sample). [2]The "Under 30" group (n = 1) is shown here for transparency. Its single response was Corrective. This group is retained in the chi-square test below (Table 12), which is why that test carries df = 9 (a 4 × 4 table).

Table 12. Chi-square test (age × preferred type of feedback).

Test	Value	df	p-value	Interpretation
Chi-square	6.41	9	0.698	Not significant

Source: survey data. Note: Computed on the full 4 (age group) × 4 (feedback type) contingency table, including the sparse "Under 30" row (n = 1). Eight of the sixteen cells (50%) have an expected count below 5—well above Cochran's recommended threshold of no more than 20% of cells—so the chi-square approximation is unreliable here and this non-significant result should not be read as firm evidence of no association. Source: survey data (N = 149; one respondent with missing feedback-type data excluded).

Table 13. Experience x preferred type of feedback (Q11).

Experience (Q3)	Corrective (%)	Descriptive (%)	Appreciative (%)	Prescriptive (%)	Total
5 - 10 years (n = 55)	63.6%	20.0%	14.5%	1.8%	100%
11 - 20 years (n = 65)	60.3%	16.2%	23.5%	0.0%	100%
Over 20 years (n = 25)[1]	64.0%	4.0%	32.0%	0.0%	100%
Under 5 years (n = 1)[2]	100.0%	0.0%	0.0%	0.0%	100%

[1]One "Over 20 years" respondent did not report a preferred feedback type and is excluded from this row (n = 26 in the full sample). [2]The "Under 5 years" group (n = 1) is shown here for transparency. Its single response was Corrective. This group is retained in the chi-square test below (Table 14), accounting for df = 9.

Table 14. Chi-square test (years of service × preferred type of feedback).

Test	Value	df	p-value	Interpretation
Chi-square	7.91	9	0.543	Not significant

Source: survey data. Note: Computed on the full 4 (experience group) × 4 (feedback type) contingency table, including the sparse "Under 5 years" row (n = 1). Several cells have an expected count below 5; as with Table 12, this violates the standard assumption for the chi-square approximation, and the non-significant result should be interpreted with caution rather than as definitive evidence of independence. Source: survey data (N = 149; one respondent with missing feedback-type data excluded).

5.7. Discussion

One of the first notable findings is the convergence of quantitative and qualitative data toward a single dominant feedback profile. Regarding conceptions, half of the teachers (50%) view feedback as primarily focused on correcting technical errors and optimizing performance, compared to one-third (33%) who see it as a tool for communication and regulation, and a minority (17%) who emphasize its motivational impact. Regarding practices, more than six out of ten teachers (62%) prioritize corrective feedback, and 93.3% primarily use verbal communication, most often immediately in the heat of the teaching moment. These conceptions and practices, when viewed through our integrated typology, focus on the descriptive-corrective axis—that is, at the "task" level [45].

Ultimately, this approach seems consistent given the unique nature of physical education—a subject in which learning takes place through the body, in real-life situations, and often immediately. The predominance of corrective, verbal feedback thus appears to be a functional response to the demands of motor skills, a view confirmed by the teachers interviewed when they justified the use of verbal feedback by citing the need to correct a movement while the student is in motion. From this perspective, our findings align with research that attributes added value to corrective feedback for the acquisition of motor skills, particularly complex ones [1] [2]. However, they also highlight a tension identified in the literature review: the near-absence, in reported practices, of metacognitive-reflective feedback—despite such feedback being considered the most formative. While a focus on the "task" level is useful for guiding students' immediate actions, it remains insufficient for supporting the development of their metacognitive skills. This disconnects between the effectiveness recognized in the literature and the reality of current practices echoes the discrepancies between beliefs and practices documented elsewhere [10] [21], and prompts us to examine the conditions that keep teachers at this level.

The second finding revealed by the data points to a certain homogeneity in practices, regardless of the age group, gender, or years of experience of the teachers surveyed. Thus, the fact that teachers with contrasting profiles converge on the same course of action undermines the hypothesis of variation. In this regard, two complementary factors—one professional in nature (related to professional cul-

ture) and the other structural—may explain this finding. Regarding the first factor, which relates to a shared professional culture, it should be emphasized—as noted by [55] and [56]—that teaching is a situated activity, guided by the aims, goals, and norms of a professional group. Consequently, PE teachers in Dakar, who were trained in comparable settings and share the same disciplinary frameworks, tend to draw upon a common repertoire of feedback strategies. Regarding the second factor—which is of a structural nature and even more decisive—nearly six out of ten teachers (58.3%) attribute, for example, material constraints—notably overcrowded classrooms and a chronic lack of time—to the significant limitation on their ability to provide individualized feedback. This suggests that it is not so much the individual characteristics of teachers as the structural conditions of their work that shape feedback practices. This finding supports [56]'s view that practice is never reducible to the application of a single method. The convergence observed here is not methodological but rather contextual, the product of a shared work environment rather than a deliberate pedagogical choice.

The third finding concerns the close relationship between how teachers conceive of feedback and how they implement it. In the Senegalese context, this finding confirms the widely accepted thesis that conceptions are not mere opinions, but a d frame of reference through which teachers make sense of their practices and guide their actions [58] [61] [64]. A teacher who views feedback as an act of correction favors corrective feedback, whereas one who sees it as a tool for motivation relies primarily on positive reinforcement. In other words, conceptions do indeed serve as a framework for behavior. Furthermore, this link revealed by our results corroborates research that positions feedback as a support for learners' motivation and active participation [9] [11]. Nevertheless, we note that these findings must be interpreted with caution, as the variables correlated here are based on teachers' perceptions and self-reports, rather than on an objective measure of student learning or actual engagement.

6. Conclusions

The objective of this study was to describe the conceptions and uses of feedback among physical education teachers in the Dakar region and to examine the influence of their socioprofessional characteristics and their teaching context on these practices. In the absence of previous research on this topic in the Senegalese context, this study helps fill a gap and enrich a body of literature that has thus far been dominated by research conducted in the West.

The results paint a picture of teachers who place great value on feedback, which they view as an integral and indispensable part of teaching physical education. This feedback is primarily conceived and practiced in a corrective, verbal, and immediate manner, placing it at the "task" level of our integrated typology (axis 2), with the affective and motivational dimension (axis 4) playing a secondary role and metacognitive and reflective feedback (axis 3) remaining virtually absent.

The study also highlights a strong consistency between teachers' conceptions

and their reported practices. It further reveals that, regardless of differences in age, gender, and years of experience, teachers converge toward the same mode of action, driven by the combined effect of a shared professional culture and, above all, common structural constraints. This latter finding calls for a qualification of the initial hypothesis regarding variations in practices based on teacher profiles. Indeed, neither age nor years of experience significantly determines the preferred type of feedback, as only the teacher's conception of it exerts a decisive influence. At most, a non-significant trend suggests a shift toward affective feedback among the oldest and most experienced teachers. Thus, while teachers' conceptions shape the type of feedback, its form and frequency appear to be shaped more by the context in which they work than by individual characteristics.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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