

# Regulating Learning Within a Sport Education Program of Physical Education

Darnis Florence, Ghorbel Nada  
LACES University of Bordeaux, Bordeaux, France

This study adopts a historical and cultural approach to interactions (Berni é 2012) in order to propose a comparative analysis of the work of physical education (PE) teachers, focusing on team sport specialists and non-specialists and their teaching of handball in a school environment. Our goal is to understand the modes of language employed by teachers in the regulatory phase of the learning process. Our hypothesis is that the sporting specialization of teachers influences their use of language in terms of both form (speech acts) and content. The aim of this study is to use linguistic analysis as a means of better understanding the regulating actions deployed by PE teachers when teaching handball in a French middle school.

*Keywords:* expertise, team sports, teaching

## Theoretical Framework

Sport education (SE) curriculum model (Siedentop, 1998) updates competences in four broad domains: physical, social, affective, and cognitive (Wallhead & O'sullivan, 2005). According with Leinhardt and Greeno's view (1986), teachers must pursue a dual agenda: on the one hand, the didactic work of structuring and managing teaching content; on the other hand, didactic interaction to support the construction of knowledge, through functional relations as well as the effective organization of learning and situations, known in mathematical teaching contexts as didactic regulations (DRs) (Thépaut & Delbrayle, 2018). For Jaubert and Rebi ère (2008), the professional actions associated with didactic regulation can be defined as "a coordinated and articulated set of speech acts focused on the knowledge in question, intended to steer pupils' activities and achieve the desired transformations" (p. 155). Boudard and Robin (2012) define didactic regulations (DRs) in physical education as the sum of verbal communications and didactic actions<sup>1</sup> aimed at one or more pupils engaged in a given task, delivered after an initial observation phase. For Tochon (1991): "teaching is partially determined by didactic anticipation and partially indeterminate as a result of didactic adaptation" (p. 122). Teacher-pupil interactions are characterized by instructions defining the purpose of the task, the applicable safety rules, and feedback from didactic interactions which allow them to define the situation, regulate it, and set out clear criteria for performance and success. Bru (1991) sees DRs as being partly anticipated in lesson planning or the pre-activity phase (Cloes, Zabu, & Pieron, 1991). In the same article, Bru considers didactic variations in the organization of learning

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Darnis Florence, Ph.D., Assistant Professor, National Institute of teaching and Education, Bordeaux University LACES University of Bordeaux, Bordeaux, France.

Ghorbel Nada, Doctoral Student, department of Education, LACES University of Bordeaux, Bordeaux, France.

<sup>1</sup> For Bri ère (2020), didactic actions correspond to a teacher's ability to respond to the demands of their profession on the spot, but also to personally and permanently appropriate collectively approved practices (a sort of collective heritage).

conditions, identifying three profiles: When preparing classes, 24% of teachers consider potential didactic variables,<sup>2</sup> anticipating the likely responses of pupils and planning corrective actions. 30% of teachers expect such variables but attempt to limit the chances of them occurring. They thus plan regulating measures to avoid changing their lesson plan. Finally, 46% plan corrective actions but aim to limit their number and their impact on the lesson; they are capable of anticipating developments and making decisions as the lesson unfolds. Within the same line of research, Altet (1994) discusses pedagogical deviation from the initial teaching strategy: Either the teacher ignores the unexpected reactions of pupils (a strategy of non-adjustment), which means that there will be few or no DRs; alternatively, the teacher may endeavor to adapt and to deploy a scenario commensurate with the observed behavior of the pupils. In such cases, the DRs required will be substantial. Further exploring modes of adjusting to didactic action-interactions, she identifies four main types of deviation: deviation from the strategy; deviation from the objective; deviation from the instructions; and deviation from the criteria of the task. We can thus propose four categories of didactic regulations in response to these different forms of deviation: DRs involving the learning strategy (or guidance) (Lafont, 1994); DRs involving the objectives (simplification or complexification of the task); DRs affecting the instructions (didactic variables) (Amade-Escot, 2004). In another side Boudard and Robin (2012) hold that, above and beyond the specificity of the knowledge to be transmitted, there are various technical factors specific to the discipline which have an influence on the teaching/learning (T/L) process. They argue that didactic regulation is a very particular form of social relation which requires certain linguistic, and even ethical, precautions (cf. Hadji, 1997). In the specific context of physical education (PE), regulation means “observing and assessing pupils, encouraging them to reflect upon their actions, to rethink their representations and movements” (Boudard & Robin, 2012, p. 27). A supportive, mentoring atmosphere needs to be established (Olry-Louis & Soidet 2003), a relationship of trust with the teacher and an atmosphere conducive to learning. Furthermore, under the cognitive mediation hypothesis (Lee & Solmon, 1992), the cognitive background and behavior of the teacher do not define the entire teaching/learning process. In fact, the cognition and perceptions of students are equally important to fully understanding learning processes.<sup>3</sup> The search for meaning is at the heart of this model, attempting to cast light on the origins, motivations, and different dimensions of the teacher-learner relationship. The cognitive mediation hypothesis holds that teachers and pupils may perceive events differently, stifling communication between them. Recognizing the importance of pupils’ perspectives, Lee, Keh, and Magill (1993) suggest that learners’ perceptions may mediate the influence of feedback on performance. Furthermore, Silverman, Tyson, and Krampitz (1992) have demonstrated the existence of a positive correlation between feedback and performance. In spite of the paucity of empirical evidence for the impact of teacher feedback on pupils, such feedback is widely regarded as necessary (Rivard, 1991; Magill, 1994; Crahay, 2007; Carpentier & Mageau, 2013) and plays an important role in motivating pupils during lessons. Indeed, significant correlations have been observed between perceived positive reinforcement and performance, as well as between the effort and perceived enjoyment of pupils participating in PE lessons (Koka & Hein, 2003;

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<sup>2</sup> For a given learning task, didactic variables are parameters which, when modified, lead to adaptations or regulations. Didactic variables allow for differentiation, rendering tasks simpler or else more complex. Per Amade-Escot (2004): “Variables are factors upon which teacher can act in order to help pupils acquire knowledge”.

<sup>3</sup> The socio-cognitive approach to mediation exists within a cultural current of cognitive psychology of which Jerome Bruner is one of the pioneering figures. This school of thought is concerned with the relationship between cognitive functions and the social, institutional, and historical context. It is greatly informed by two postulates derived from Vygotski’s theory of development: The first is the cultural origin of thought and learning, and the other is the need for mediation. Mediation can be understood as both a form of (social) support and a means of equipping individuals with key cognitive tools.

Petiot, Desbiens, Visioli, 2014). For example, Nicaise and Cogérino (2008) have demonstrated that teacher feedback has an impact on girls' perceptions of their own abilities, regardless of their age, their degree of extracurricular physical and sporting activity, and their level of ability in PE. They show that positive reinforcement and time invested by the teacher are perceived by pupils as being positively linked with their own perceived abilities and efforts in PE, whereas criticism and "technical and encouraging" feedback are negatively correlated with both of these variables. The nature of the feedback given by teachers may also have an impact on the intrinsic motivation of pupils (Ryan, Conell, & Deci, 1985). Positive feedback after a success or strong performance reinforces pupils' perceptions of their own abilities, and their intrinsic motivation for the discipline in question (Ryan, Conell, & Deci, 1985).

Adopting a scientific paradigm coherent with that set out above, and also based upon a historical and cultural approach (Vygotski, 1934/1985), didactic speech acts in professional contexts (Coulange, Jaubert, & L'Hoste, 2018) can be analyzed with the help of enunciative and pragmatic theories of language (Maingueneau, 1984; Bronckart, 1996; Rabatel, 2004) in order to examine the construction of knowledge in educational interactions (Jaubert, 2007; Coulange, 2014). Based upon the contrasting notions of spontaneous concepts and scientific concepts (Vygotski, 1934/1985) and defining language as the practice of constructing meaning of "worlds" (François, 1998) and objects (Grize, 1996), this approach seeks to explore the role that language plays in the construction of knowledge at school and in professional training contexts.

Our socio-constructivist framework (Darnis, 2019) is inspired by Vygotski's work, and examines the support available to the teacher (Bucheton & Soulé 2009). Our research objective is thus to explore and analyze the work of teachers by looking at their speech, adopting a pragmatic approach to didactic language interactions. According to Santini and Sensify (2014), describing observed educational interactions as elements of a learning game can help us better explain the immediate reality of didactic actions, and the means and stakes involved. In PE, as in any other educational discipline, teachers are necessarily driven by a "didactic desire" (Cicurel, 2011, p. 176) which may or may not be shared by (all of) the pupils. Learning situations are thus subject to a certain number of tensions, misunderstandings, and potential gaps between what was intended and what actually happens, at several levels: between the teacher's intentions and actions, between the teacher's intentions and the response of the learners, or even between the demands of the program and the actions of the teacher. Our study utilizes the concept of "educational discipline discourse communities" (Jaubert & Lebouvier, 2018; Darnis, 2019). This theory holds that all human activities which develop their own modes of acting, thinking, and speaking form "disciplinary discourse communities", providing a means of understanding both the role of language and the dynamics of learning situations, through the appropriation of cultural and psychological tools which occurs within shared social contexts. This approach focuses on the "postures" which characterize the different reactions of pupils to educational tasks. It presupposes the existence of a "social locus", a context for communication which serves as a "zone for cooperation", within which a specific activity unfolds and is articulated by means of speech acts. In culturalist terms (Jarnet, 2009), the teaching of PE belongs within the category of "physical, sporting and artistic activities", taught with reference to sporting practices associated with leisure activities, some of which are deeply culturally rooted in society. As such, each PE teacher has a different profile in terms of sporting specialty, experience, and their relationship to sporting and cultural activities. Our hypothesis is that this expertise which allows teachers to evaluate pupils' movements and identify elements is conducive to regulating their learning.

### Experience/Expertise

While the knowledge of expert teachers is often defined as active knowledge, practical knowledge, or experiential knowledge, Richardson & Anders (1994) argues that research in the field of education studies has by and large neglected one form of inference which could potentially inform changes to teaching practices. Richardson holds that practitioners make inferences based upon their personal experiences, applying them within a given context. For Tardif and Lessard (2000), “knowledge derived from day-to-day experience of work appears to be the cornerstone of teaching practice and professional capabilities” (p. 370). Various studies into the educational practices of teachers in primary schools in Quebec have found that a majority of teachers primarily plan their teaching activities with reference to their personal experience and the experience of their peers (Tardif, Lessard, & Lahaye, 1991). Moreover, Tardif and Lessard (2000) propose a system for classifying the various definitions frequently attached to the notion of experience. We can thus define experiential knowledge as the cornerstone of the notion of expertise (Calafat, 2011). Experiential action as a source of learning can be understood in two main ways. For Lenoir and Tochon (2004), the notion of the teacher-as-expert highlights the importance of engaging both with teaching practices, in all their complexity, and with the discourse surrounding these practices, rather than remaining narrowly focused on the latter. This realization has been instrumental in the development of research-action and collaborative research. On the one hand, it means acknowledging that teachers have specific skills, rooted in practice, which are not always explicit (Buznic-Bourgeacq, Terrisse, & Lestel, 2008). On the other hand, it might also serve to enhance the social status of teachers. Ben Jomân and Terrisse (2011) further define expertise as a key concept associated with a specific aspect of the expertise of PE teachers, namely their “specialist abilities in a specific discipline” (Piéron & da Costa, 1996) which is to say their acknowledged sporting specialty and/or a specific physical or sporting activity (Berliner, 1986; Siedentop & Eldar, 1989). This corresponds to their sporting expertise. The authors thus define PE teachers as “sports specialists” if they are involved in playing and coaching in the sporting “world”, i.e., outside of school (Carnus, 2012). They define experts as teachers with extensive, multi-faceted experience (having played and coached a sport for 10 years or more), a profound understanding of their chosen sport and an experience of playing the sport to a high level. For Piéron and da Costa (1996), a background in playing the sport adds an extra dimension to teachers’ expertise, equipping them with a highly detailed understanding of the sport and an experience of working regularly with sportsmen and women, especially at the top level. They thus possess “expert knowledge” and/or “expert reference points”. As such, sporting and/or physical expertise corresponds to a sum of knowledge and motor skills developed over a long period of time, often beginning in childhood, by means of direct personal participation in the sport, often to a high level. Furthermore, sporting and physical expertise can be defined as a form of expert knowledge, informed by teachers’ own practice and understanding of physical and social activities, an experience acquired in various environments and enriched by numerous influences (discipline-specific expertise connected with technological capabilities in physical and social activities; professional knowledge associated with didactic understanding of the processes whereby techniques are transmitted to and appropriated by pupils, etc.) among which personal knowledge takes pride of place. It is also interesting to note that the professional skills of experienced teachers are recognized and valued by their institutions (mentoring trainee teachers, etc.), in various domains of interest for the purposes of our study.

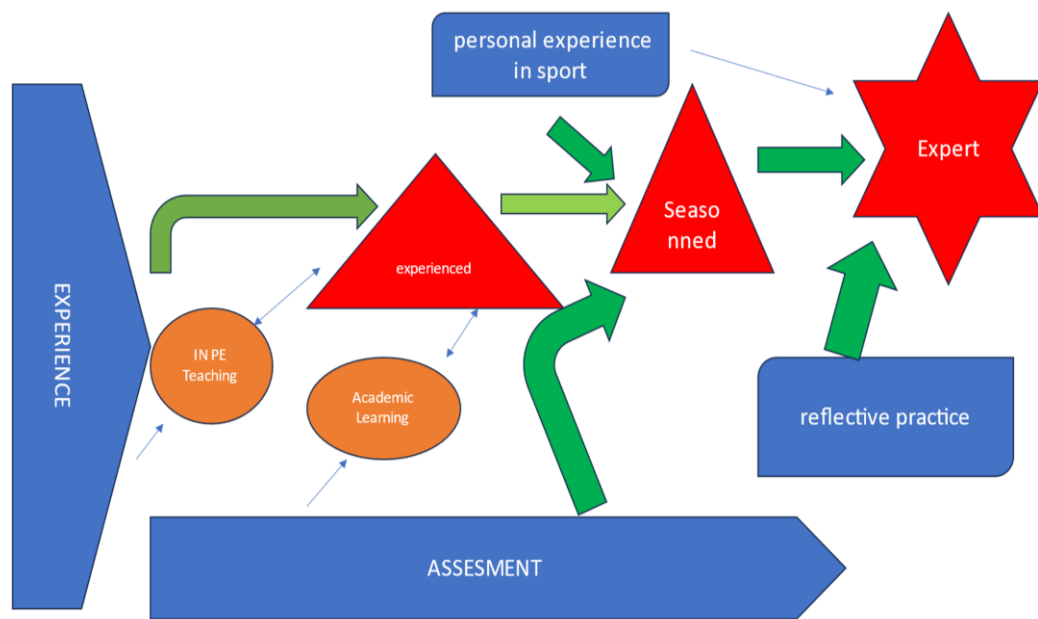


Figure 1. Expertise/practice/personal experience of PE teachers.

If expertise can be understood as the combined result of knowledge acquired during initial training and knowledge derived from practical experience, the fact remains that teaching is a process of transmission whose purpose is to enable pupils to acquire knowledge and skills specific to the physical and social activities being taught. This process involves various educational and didactic means, united in a teaching style defined by a certain number of guidance procedures.

### Guidance Procedures

In the teaching of PE, the theoretical model proposed by Mosston and Ashworth (2002) views teaching as primarily a matter of decision-making. They posit that responsibility is divided between learners and teachers for different categories of decisions corresponding to the successive stages of teaching-learning situations, namely the planning phase, the interaction phase, and the evaluation phase. Mosston and Ashworth propose a classification of teaching styles based on this division of responsibilities: responsibilities assigned to the teacher, and responsibilities assigned to the learner. For example, if learners are given responsibility for evaluation decisions, the resulting teaching style is more learner-oriented than teaching styles where the only responsibility left to the learners is to determine the order in which they complete learning activities. It is therefore possible, using this theoretical model, to determine the positioning of each potential combination of decision-making responsibilities (i.e., possible teaching styles) on a spectrum, with one extremity corresponding to a style in which all decisions are made by the teacher (directive), and the other extremity representing a style whereby all decisions are left to the learner (autodidacticism). Mosston and Ashworth (2002) propose 11 potential configurations of decision-making distribution, corresponding to 11 teaching styles which serve as points of reference. Moreover, the differentiation of knowledge based on the specificities of the skills involved has already been discussed by Brière-Guenoun et al. (2017) and Altet (1994). Furthermore, and with specific reference to the teaching of PE, Lafont and Bouthier (2004) argue that teaching content is largely dependent upon physical techniques. A teacher's job is by nature complex, difficult, singular, and hard to define. Attaining educational objectives, which

are partly imposed from outside, requires teachers to master a variety of precise skills. “Strong” guidance procedures (demonstration with explanation, interactive imitation) can be used whenever the teacher wants to convey specific sporting techniques or movements (Lafont & Bouthier, 2004). For physical and sporting activities where safety is an essential prerequisite for learners’ participation, instructive guidance may be used (for example, to teach specific rock-climbing techniques). Lafont (1994; 2014) suggests that the use of demonstrative guidance is determined partly by the nature of the motor skills involved, and partly by the teaching content, the desired effect, and the conditions in which the lesson takes place. Lafont (1994; 2014) also demonstrates the advantages of adopting a “multi-procedural” approach in terms of the professional development of new and future PE teachers, looking at the perceived effectiveness of different teaching procedures with reference to the nature of the skills being taught. The results reveal the fundamental importance of initial training in fostering flexibility and multiplicity in future teachers, with guidance procedures tailored to the nature of the skills being taught. In the spheres of work and professional training, analyzing the actions of practitioners is particularly important when it comes to understanding the basics of a profession, by studying the ways in which professionals conduct and experience their work. This experience-oriented approach also speaks to another social priority, encouraging the recognition and construction of a professional identity, conceptualized as the connection which binds practitioners to their profession and to their peers (Alin, 2001). Professional identity is not simply a matter of internalizing the organizational and institutional norms and codes of conduct associated with a given profession (De Terssac, 1992). It is also a matter of actors’ individual experiences, which is to say the subjective meaning they attach to their work, their values and the emotional connections (Clot & Litim, 2008) they form. This plays a direct role in nurturing and establishing the professional culture of a group, i.e., the ways of acting and thinking specific to that group. Finally, professional identity is shaped by the various processes of socialization by which individuals are formed. In this study we seek to explore the overlap and interactions between teaching styles and actors’ experiences, examining teachers’ discursive styles with reference to their degree of expertise in the activity they are teaching.

### **Speech Act Theory**

In the wake of Austin’s pioneering work (1962), speech act theory has emerged as a major branch of contemporary philosophy of language, largely under the influence of Searle (1969). Searle proposes an elementary classification of language acts based on the concept of illocutionary purpose. As such, Searle and Vanderveken (1985) argue that there are only a limited number of ways in which language can be used to connect propositions to observable realities, by means of speech acts. They suggest that illocutionary acts can be grouped into five categories:

- Assertions or declarations: speech acts which represent an engagement on the part of the speaker, whereby the words adapt to the world and the psychological state is one of conviction regarding the content of the message, however strong it may be: “He will come tomorrow”.
- Orders or “directive” speech: speech acts whose purpose is to compel the interlocutor to do something, whereby the world must adapt to the words and the psychological state is one of desire or will: “Get out”.
- Promises or “commissive” speech: speech acts whose purpose is to commit the speaker to performing an action, whereby the world must adapt to the words and the psychological state is one of sincerity of intention: “I will come”.
- Representations or “assertive” speech: speech acts whose purpose is to express a psychological state, involving no adjustment of the world to these words, and whereby the content assigns a certain property either

to the speaker or the interlocutor: “Excuse me”.

- Declarations or “declarative” speech: speech acts whose purpose is to establish a certain reality, where the correspondence between the words and the world is direct: “I declare war”.

As such, speech acts depend not only upon “convention”, as Austin described them, but also upon “intention”: A speaker addresses an interlocutor with the intention of communicating a certain message, getting this message across thanks to the meaning conventionally assigned to the linguistic expressions utilized. This is essentially an explicit statement of what was already implicit in Austin’s work.

All of that leads us to our research question, which is as follows: What impact does specialization (personal experience with physical and sporting activities) have on the speech acts deployed by teachers during guidance procedures and regulating actions?

### Methodology

In order to address this research question, we recorded three handball lessons involving 4 Year 7 classes from four middle schools in the suburbs of Bordeaux. In each class of 24 pupils (12 girls and 12 boys), the pupils were asked to work on a specific learning situation for the activity in question. This learning situation consisted of two attacking players carrying the ball towards one defender on a half-pitch for a period of 30 minutes, during which time each pair was required to interact verbally between each action in order to agree upon their strategy, in accordance with Darnis (2004).

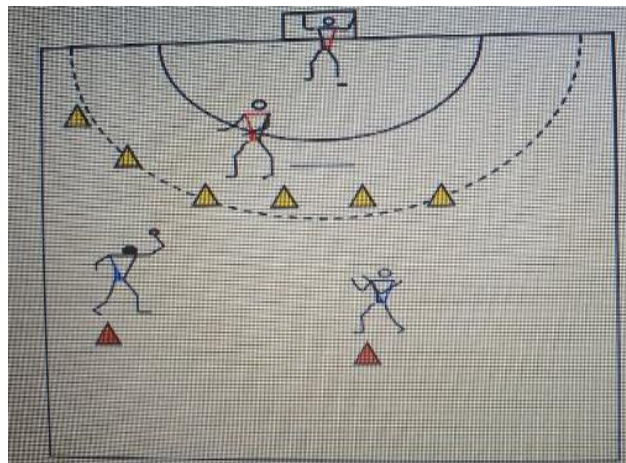


Figure 2. 2-on-1 exercise.



Figure 3. picture of two attackers ball ride against one defender.

Sample: All four teachers we observed are women between the ages of 30 and 50, used to mentoring trainee teachers and thus regarded as experts in PE teaching by the school inspectors for this discipline. Two of them are handball specialists; one is a dance specialist and one specializes in athletics. To begin with, all of the lessons were filmed using two Canon HD cameras: one set to a wide angle, the other a close-up on the teacher. We then transcribed all of the verbal interactions to create our transcripts. Thereafter, we focused on the didactic regulation phases of the paired learning exercise, i.e., the episodes where the teacher interacted with the pairs in order to shore up and guide their learning. We selected these episodes using a grid constructed for the purposes of this study and focusing on the effects of “speech acts” (François, 1993). Finally, we performed a thematic categorical analysis of these data using an iterative process combining data collection and coding to represent the inductive approaches identified (Paillé & Mucchielli, 2012). We thus conducted two separate rounds of coding:

Coding round 1: Language interactions involving the teachers were classified with reference to the categories of speech acts proposed by Searle (1969) and Searle and Vanderveken (1985), in order to obtain four broad categories corresponding to assertive-interrogatives, directives, commissives, and perlocution.

Coding round 2: In each handball lesson we identified regulatory messages pertaining to the distinction between technique and tactics (as explored by Gréhaigne & Nadeau, 2015; Bouthier, 2016; Kermarec & Roure, 2016; Darnis, 2019). For example, we identified:

- Technical content (e.g.: elbows up);
- Tactical content (e.g.: opponent unmarked).

The coding of this corpus was performed jointly and through cross-referencing by two researchers specializing in language sciences and unaware of the experimental conditions. The inter-rater reliability score we calculated ( $k = 0.70$ ) appeared satisfactory.

Each round of coding provided us with quantitative results corresponding to the frequency with which the coded items occurred.

## Results

In this section we present the quantitative results from our analysis of the speech acts recorded for our four teachers, noting their sporting specialty, followed by a qualitative analysis of two cases, one handball specialist and one dance specialist.

### Analysis of Speech Acts With Reference to the Teachers' Specializations

Table 1

*Percentage of Speech Acts for Specialist and Non-specialist Teachers*

Category	Handball specialist	Non-specialist	Chi-square
Directive injunction	44.95	39.925	Not significant
Interrogative-assertive	27.25	45.775	0.06 (significant trend)
Perlocution	7.15	10.05	0.08 (significant trend)
Commissive	3.9	4.05	Not significant



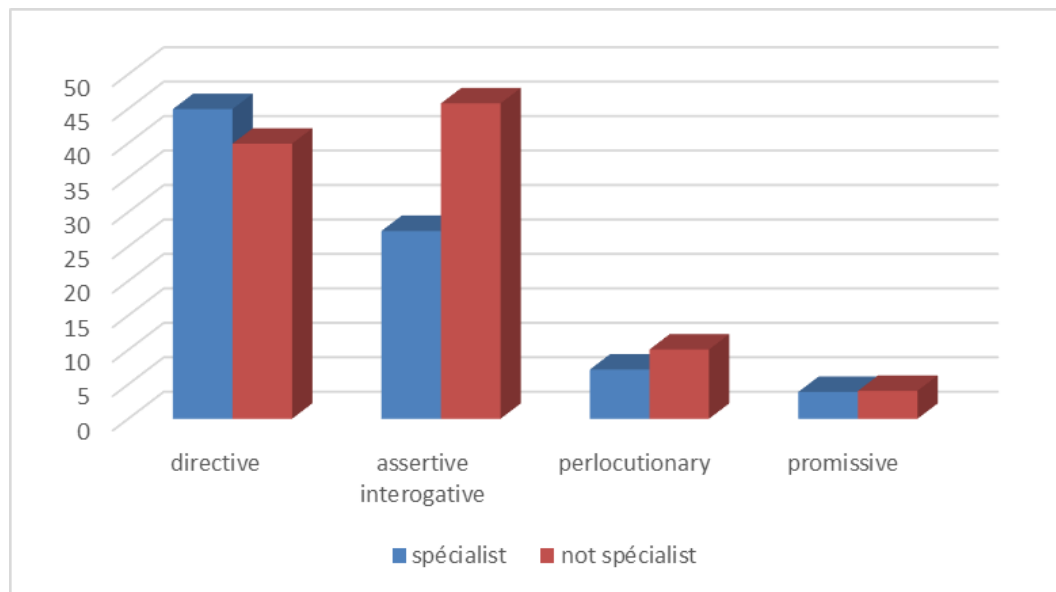


Figure 4. percentage of each language act by teacher specialty.

Our results reveal that the specialists used more directive speech acts, with non-specialists using more interrogative-assertive and perlocutionary statements than the specialists.

#### Coding the Content of Verbal Communications: Technical Versus Tactical

This table shows the quantity of speech (in number of words) devoted to the technical and tactical aspects of the activity proposed to the pupils. Delphine and Val érie are our handball specialists, while Lucie's specialty is dance and Sophie's specialty is athletics.

Table 2

*Number of Technical and Tactical Words Used in Handball Lessons by Four Teachers*

	Technique	Tactics	Technical/tactical ratio
Lucie	68	49	1.38
Delphine	98	105	0.93
Sophie	88	70	1.25
Val érie	77	123	0.62

Our results demonstrate that there is indeed a correlation between sporting specialty and the proportion of technique/tactics in teaching discourse. Specialists are more likely to discuss tactics, while non-specialists include more technique in their didactic regulations.

Table 3

*Distribution of Total Units of Speech With Technical and Tactical Content, for the Four Handball Teachers*

	Percentage of technical content	Percentage of tactical content
Teacher A Lucie	58.11%	41.88%
Teacher B Delphine	48.27%	51.72%
Teacher C Sophie	55.69%	44.30%
Teacher D Val érie	38.5%	61.5%

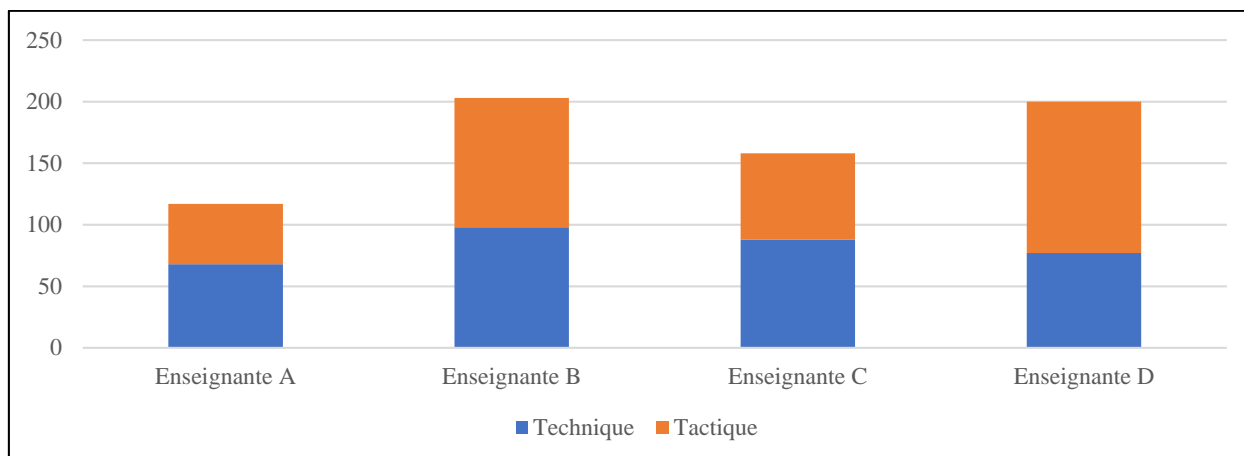


Figure 5. Technical/tactical breakdown for each teacher.

The two teachers specializing in handball (B and D) were more likely to highlight tactical aspects in their communications with pupils: 56.75% compared with 43% for the non-specialists (A and C).

### Quotations

Table 4

*Lucie (not a Handball Specialist)*

Regulating interactions Teacher/pupils	Speech acts	Content of interaction
E. Imagine that L éa has the ball, Aymeric is the defender. What do you do? L éa: I pass the ball. E. OK? Now you have 6 minutes to work it out with you partner. You need to come up with a strategy for how you are going to do it. E. And remember what we said earlier about what to do if a defender comes up on you? Loïc: We said to pass the ball, actually first he passes and then I take three steps, he passes and takes three steps, then he couldn't shoot so he pretended to shoot and passed to me, then I passed it back and he shot.	Interrogative-assertive       Interrogative-assertive	Attacking tactical proposition       Attacking tactical proposition
E. Start again. How many steps are you allowed to take with the ball?	Interrogative	Rule/technical point
Why aren't you dribbling? You have to move forward by passing the ball, then moving forward so your partner can pass you the ball, to give you a better chance of shooting and scoring from a free position. Concentrate; you're with your team-mate and you need to get up there and score, but that's going to take a bit of coordination. You need to think: when am I allowed to dribble? When am I allowed to pass?	Interrogative.  Directive  Directive  Interrogative -assertive.	Attacking tactical proposition      Rule/technical point
E. Vincent stand up! Pretend he has the ball, this is the ball, I'm the defender, OK? I'm here, what do you do? Vincent. I dribble. E. And why? Am I pressuring you or not? Vincent. No, because you're not pressuring me. E. OK! So I'm not pressuring you if I'm here? Vincent. Pass it. E. Good. But why do you pass? Vincent. Because you're pressuring me. E. That's right! Because I am pressuring you! Yes? E. But you could also do the opposite; if he's far away he can't block the pass, so I pass.	             Interrogative -assertive	             Attacking tactical proposition

Table 5

*Val érie (Handball Specialist)*

Teacher/pupil regulatory interactions	Speech acts	Communication content Teaching content
E. You're defending on your own against 2 players, what do you think is the biggest danger? Which of the 2 is most dangerous? How can you tell who is most dangerous? It's only Maliki because the one without the ball <b>has to shoot</b> , so who is most dangerous? It's him, why? Because he's more... because in fact he's not down the middle, more than on the sides... That's not the reason. It's the one with the ball because <b>he has to shoot</b> , because he has the ball so I concentrate on defending against him, and Ben sets off to dribble, he shoots and he scores the goal...	Interrogative-assertive Asks a question but does not give the pupils time to answer, providing the answer herself in the form of directives  Directive  Directive	Defensive technique-tactics    Attacking tactical choice
Margot is in line with me, we're at the same level, so <b>we need</b> to get out of line. She needs to run, over there OK, but what I need to do is wait until she calls for the ball. If I give it to her too soon, she doesn't have time to run. OK? All right let's get on with it.	Directive	Technique-tactics: marking

1. The way in which player behavior is analyzed: The teacher analyzes the behavior of the players from both the attacking and defensive perspectives.

2. The nature of the knowledge which pupils are expected to acquire: The teaching content is varied: "Which of the 2 is most dangerous? It's the one with the ball"; "Margot is in line with me, we're at the same level"; "If I give it to her too soon, she doesn't have time to run". The teacher conveys the notions of marking and moving the ball forward rapidly in attack. She encourages the pupils to think from the defender's point of view to explain the concept of marking, and then encourages them to move towards the goal and shoot. Attacking (calling for the ball, slipping a marker) and defensive (pressure, dissuasion) concepts are addressed simultaneously.

3. Learning situations and their relation to the match (the issue of transferability): This issue is not addressed in the DRs recorded.

4. The learning hypotheses which the authors invoke, more or less explicitly: In this case the teacher adopts a largely directive teaching style, demonstrating and providing the answers to the questions she asks: "We need to get out of line", "He has to shoot, because he has the ball". She asks questions of her pupils but does not give them time to think before providing the answers herself.

## Discussion

The specialist teacher is more directive and her teaching content is more varied on a tactical level. Val érie raises questions and then answers them herself, whereas Lucie really encourages her pupils to find the solutions themselves. These two cases illustrate the findings of our quantitative study, demonstrating that personal experience does indeed have an impact on the form and content of teaching interactions. Our qualitative and quantitative analyses of language interactions show that specialist teachers are capable of identifying a greater number of different forms of intervention in their specialist activities, using more directive injunctions than assertive-interrogatives. This analysis is consistent with the findings of Ben Jomâ and Terrisse (2011), to the effect that the teacher's degree of personal knowledge—i.e. the head start possessed by teachers specializing in a specific activity—can be a pertinent analytical tool as well as a marker of professional capability.

The specialist/non-specialist comparison at the heart of our research demonstrates that specialization does not have an impact on directive-injunctive interactions, used by both specialists and non-specialists alike, whereas specialists make greater use of interrogative-assertives.

In keeping with the work of Mosston and Ashworth (2002), we suggest that the nature of the speech acts used by teachers during the didactic regulation phase is indicative of their teaching style. More directive speech equates to a more directive teaching style, whereas a more assertive discourse with much use of interrogative locutions equates to a greater focus on self-learning (Mosston & Ashworth, 2002). At this point we must recall the fact that the learning task was imposed by the researcher, which necessarily encourages an indirect teaching style (Escalié, Legrain, & Lafont, 2018) and is thus one of the limitations of our study. Moreover, the choice of handball likely represents another limitation, since this sport is very widely taught in the French school systems, and all four teachers are experienced professionals used to coaching trainee teachers, and thus equipped with solid didactic capacities.

Analyzing our results with reference to Bouthier's (2016) work on tactical learning demonstrates that there is indeed a correlation between teacher specialization and the proportion of technical/tactical content in their discourse, with specialists (B and D) more likely to focus on tactics and non-specialists (A and C) more focused on technique in their didactic regulations. This may seem counterintuitive; nevertheless, it does appear that a higher degree of expertise is associated with a greater focus on tactical choices rather than technique. Professional didactic speech acts thus offer an insight into the learning objectives prioritized by teachers.

### Conclusion

Our research seeks to draw connections between everyday concepts and scientific concepts, analyzing the regulating actions of teachers with reference to their professional didactic speech acts. The concepts evoked, and thus perceived as being of fundamental importance when learning handball, vary depending on the individual experience of each teacher. Specialists teaching their sport of choice bring their didactic regulations to bear on attacking and defensive concepts at the same time, adopting a tactical-technical approach and prioritizing information and decision-making. Non-specialists focus more on those aspects involving movement (passing, dribbling) with simple rules of action (if... then...) expressed in devolutive form. Pupils are encouraged to think and search for solutions.

This research, jointly addressing the linguistic and didactic aspects of teaching utilizing the notion of professional didactic speech acts, appears to represent an interesting approach to analyzing different methods of teaching class. This focus on the teacher's experience and its impact on the learning regulation phase could be of interest in a variety of research contexts, for both PE and other subjects. DRs are more than just feedback, since they serve to guide pupils' actions while also promoting a form of secundarization (Bautier & Goigoux, 2004) conducive to the construction of knowledge with broader applications.

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