Interactions of Didactic Regulation in PE
Socio-constructivist Setting

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The aim of our study is to analyze the nature of interactions between teacher and student according to the sports specialty of teachers. The theoretical framework retained must be extended by determining the speech act categories, analyzing the didactic language interactions through a discursive analysis of speech acts. We explore here, in particular, the effect of the teacher’s expertise and the nature of the task in two contrasting Physical Sport Activity (PSA) (handball and dance). The crossing of linguistic and didactic analysis, allows, on the one hand, identifying regularities in the propensity of teachers to regulate the learning action of students in the activity for which they have an important experience. On the other hand, this analysis makes it possible to identify didactic specificities linked to the taught PSA.

Keywords: language, teaching, teachers, experience, Physical Education (PE)

Introduction

Physical Education (PE) teaching in a socio-constructivist model places the student in a situation of exploration and co-construction of his motor skills from favorable situations to social interactions (Darnis-Paraboschi, Lafont, & Menaut, 2005; Darnis & Lafont, 2013; Grehaigne, Grehaigne, Griffin, & Richard, 2005). However, the teacher’s role in the interactive phase of the lesson is left aside in this work. The aim of our study is to analyze the nature of interactions between teacher and student according to the sports specialty of teachers.

Professional Regulatory Actions

The focus on gestures supporting the regulation of learning allows us to question what Sensevy (2010) calls for the joint didactic action of teacher and learners. Regulation and adjustment are actually “professional gestures”, simple routines, but also, different ways of making people learn that teachers vary in a thoughtful way. This improvisation itself is not random, it responds to other techniques, it relies on resources, and it is in a way the invariant allows variation. For Chabanne and Dezutter (2011), teacher must know how to perceive the activity of students from relevant clues. Expertise would therefore be the ability to select, in a given situation, the relevant indices in the student to promote his learning.

According to Bucheton and Soulé (2009), the posture adopted by teacher in front of his class will have a great influence on student education. These are professional gestures, both spontaneous and elaborate since they stem from fundamental pedagogical and didactic choices. They define the different teaching postures

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defined as pre-constructed structures of “think-say-do” that a teacher summons in response to a given situation or academic task. They can nevertheless change their posture during the task according to the new meaning they attribute to it.

In a theoretical didactic framework, the authors have developed a theoretical model of “multi-agenda of professional gestures” and the cross-play of the postures of teachers and students, the objective of which is to develop didactic analysis tools to contribute the evolution of teaching practices. This involves understanding on the one hand, the role of professional gestures in academic failure and on the other hand, popularizing and teaching professional gestures in order to study the integrative and central role of language in them.

The multi-agenda is an attempt to model reality, so professional actions are broken down into four sub-categories:

- Task steering gestures: It involves managing constraints, space-time, the chosen situation;
- Atmospheric gestures: It involves managing the ethos, creating, maintaining dialogical spaces (managing what is happening, in the classroom, in school bags, etc.);
- Weaving gestures: It is a matter of giving meaning to the situation and the targeted knowledge (such as making links with what was done before or recapping the day), which is little observed in the verbal interactions of teachers (of the order of 4% and 7% of these interactions, except in technical and vocational education, where these weavings represent 50% or more);
- and finally supporting gestures: It is about making people understand, make them say, make them do, and regulate learning.

Depending on the nature of the gestures used, several postures are identified by Bucheton and Soulé (2009) which correspond to teaching styles more or less combined for each teacher:

- A control posture which aims to set up a certain framing of the situation: By a tight piloting of the advance of the tasks, teacher seeks to advance the whole group in synchrony in a direct style.
- A counter-propping posture: Variant of the control posture, the master, to advance faster if the need arises, can go as far as doing in the place of the pupil in a directive style.
- A support posture: The teacher provides occasional help, partly individual, partly collective, depending on the progress of the task and the obstacles to be overcome. This posture, unlike the previous one, opens time and lets it work. The teacher avoids giving the answer, or even evaluating. It provokes discussions between students and promotes the search for the necessary references or tools. He refrains from intervening and observes more than he speaks in an indirect style.
- A teaching posture: The teacher formulates, structures knowledge, standards, and possibly demonstrates it. He is the guarantor. He then does what the student cannot do alone on his own. Its contributions are punctual and occur at specific times but also when the opportunity demands it. Knowledge, techniques are then named. The place of metalanguage is strong in a guiding style.
- A position of letting go: The teacher assigns the students responsibility for their work and the authorization to experiment with the paths they choose. This posture is felt by the students as a pledge of confidence. The tasks given are such that they can easily solve them on their own; the knowledge is instrumental and is not verbalized in a facilitator style.
- A posture called “magician”: Through games, theatrical gestures, striking stories, the teacher momentarily captures the attention of the students. Knowledge is neither named nor constructed; it must be guessed in a laissez-faire style.
For Jaubert and Rebière (2011) the professional gestures of regulation in didactics of French, can be described as “a coordinated and articulated set of speech acts focused on the knowledge at stake which aim at the reorientation of the activity of the pupils and expected transformations” (p. 110).

**Teaching Style and Didactic Regulation**

For Physical Education, the theoretical model of Mosston and Ashworth (2008) is based on the axiom that the act of teaching consists of a chain of decision-making. These authors suggest the existence of a division between student and teacher of the categories of decisions relating to the stages of the teaching-learning situation, namely the planning stage, the interaction stage, and the evaluation stage. Mosston and Ashworth suggest a gradation of teaching styles according to the division of responsibilities: those granted to the teacher and those granted to the student. For example, if the student is responsible for assessment decisions, the resulting teaching style is more student-centered than a teaching style where the student is solely responsible for determining order of practice of the proposed learning activities. It is therefore possible, according to this theoretical model, to locate each combination of categories of decisions (teaching style) on a continuum one end of which is characterized by a style in which all the categories of decisions belong to the teacher (directive-A), and the other end, by the style where all of these belong to the student (self-taught-K). Mosston and Ashworth (2008) propose 11 combinations of sharing of decision categories corresponding to teaching styles called benchmarks.

In addition, still in Sport & Physical Education (SPE), for the acquisition of motor skills, Lafont (2014) distinguishes the direct or indirect intervention of teacher within the class group as being plural. For her, the PSE teacher observes their students, guides them, encourages them to get involved, gives feedbacks, partial demonstrations of “how to reach the goal”, and ensures that the practice is carried out safely. So this is direct intervention. In addition, by making choices of grouping forms (size, gender, homogeneity, affinity) by assigning social roles to his students, animating the group’s work, and preparing his students to interact, he intervenes indirectly. Indeed, these direct or indirect interventions call for plural procedures: an approach of autonomous search for solutions at the individual and collective level, verbal exchanges of the co-construction type, imitation and co-observation.

For Jaubert and Rebière (2007) the notion of regulation usually appears as one of the phases of the standard teaching sequence, in a rational succession: planning/preparation → implementation → regulation/evaluation → remediation, etc., which situates regulation outside the time of contact with pupils (Bloom, 1956). In PE, for Boudard and Robin (2012), didactic regulations are defined as verbal communications and the teacher’s gestures of a didactic nature, addressed to one or more students engaged in a given task, following at an observation phase.

In our research, didactic regulations also relate to student learning strategies (Fayol & Monteil, 1994). For example, a teacher may ask a student to repeat more, to mentally represent an action, or to help them deal with frustration caused by repeated failure.

Didactic regulations are more than just feedback; they are attempts to influence the cognitive and metacognitive intentions of students. They do not necessarily aim to reduce the deviation from a standard, but to redirect action towards more promising paths, as underlined by Vial (2001); they are “gestures of study aid” (Chevallard, 1999). Amade-Escot (2003) considers that an essential role of the teacher is to keep the pupils in touch with the knowledge taught. We are interested in our research work in the analysis of professorial
discourse at regulation moments in two activities namely handball and dance, and according to the area of specialty of the teacher in order to know how and for what purpose teachers intervene.

**Teacher's Expertise**

For Ben Jomâa and Terrisse (2014), it is “expert knowledge” and/or “expert reference” if we use the expressions of Johsua (1996) for whom the expert obtained “the right to tell the truth”. Thus, sports and/or corporeal expertise corresponds to knowledge and motor skills which have been developed for a long time, sometimes from childhood, in the form of a corporeal sport and personal practice, often of a high level. In addition, so-called corporeal sports expertise appears to be this large mass of expert knowledge, stemming from his corporeal practice and his knowledge of Physical Sport Activity (PSA), acquired in various places, forged by the experience of which the teacher specialist has and which is made up of various contributions (practical knowledge, disciplinary knowledge, professional knowledge, etc.) among which personal knowledge occupies the first place.

Knowledge is reconstructed and reformulated by the subject himself, according to his own experience. It is the articulation between didactics and clinic taking into account both the network of constraints (external and internal) that drives the teaching subject caught up in didactics by differentiating the official report and personal relationship to knowledge.

For Trépos (1996), expertise is a social position that refers to professional competence coupled with a metacognitive activity: product of knowledge from one’s experience.

![Figure 1. Expertise/practice/personal experience model.](image)

The work psychology contributions, of the ergonomic approach with the notion of incorporated skills (Leplat, 1997) as well as the work on situated cognition with the situated action approach (Suchman, 1987)
allow to build a model from the expert teacher. Indeed, according to Tardif and Lessard (1999), “knowledge from daily work experience seems to be the foundations of the profession practice and of professional competence” (p. 370). In Physical Education, for Ganière, M. Cizeron, and J. Cizeron (2016), when the expert speakers are concerned with the body shapes and bodily movements of students, it is not necessarily to send them strictly “formal” prescriptions, that is to say specific gestures to be performed. Experts know how to interpret these forms directly in terms of technical efficiency, which leaves their strategies for transforming these forms open, according to diversified intervention methods (specific learning devices, instructions as to intentions to pursue, perceptions or sensations to look for, body manipulation to make you feel, etc….).

Language Acts

The theoretical framework retained must be extended by determining the speech act categories. Following Austin (1975) and Lane and Tranel (1971), speech act theory has become an important branch of contemporary language philosophy, mainly under Searle (1969) influence. He proposed an elementary classification of the language types use based on the notion of illocutionary goal.

According to him, there is a very fundamentally restricted ways number of using language to link propositions to the world when performing speech acts. Indeed sayings can only have five illocutionary goals:

- The “assertives”: where the goal is to engage the speaker, where the words adjust to the world, where the psychological state is conviction; about the content, no matter how strong: “It will come tomorrow”.
- The “directives”: where the goal is to get the interlocutor to do something, where the world must adjust to the words, where the psychological state is desire/will: “Get out”.
- The “promissives”: where the goal is to engage the speaker in the performance of an action, where the world must adjust to the words, where the necessary psychological state is the sincerity of the intention: “I will come”.
- The “declaratives”: where the goal is to establish a reality, where the correspondence between words and the world is direct: “I declare war on you”.

Thus, the acts of languages are based not only on the convention, described by Austin, but also on the intention: The speaker addresses his interlocutor with the intention of communicating a certain content to him and communicates it through meaning conventionally associated with the linguistic expressions which it announces, which makes explicit what was implicit in the works of Austin.

Indirect language acts are acts performed by means of a statement containing a form conventionally associated with another act than the one he intends to perform.

The acts of diverted languages as for them are illocutionary acts whose force and the content signified correspond neither to the force, nor to the propositional content actually accomplished.

To build his theory of indirect acts, Searle (1969) is mainly interested in the relationships existing between the way of performing an act of language indirectly and its conditions of satisfaction; it is the perlocutionary act. Indeed, to determine the meaning of a specific act, for Searle, it is necessary to take into account the linguistic and extralinguistic context (spatio-temporal and relational), that this act is carried out during an activity of interpretation on the part of the recipient who reconstitutes the word of the speaker → inferential activity, and that communication remains a high risk operation: closure of meaning by the recipient. Thus, linguistic pragmatics developed on the basis of a thesis proposed by Austin, and Searle after him, according to which the main function of language is to act on the world rather than to describe it. As a consequence, linguistic
pragmatics has tended to insist on the conventional and codic aspect of language because, when faced with a statement, the theory of speech acts admits that interpretation is essentially done in a conventional manner.

• In order to answer our research questions, we will analyze the didactic language interactions through a discursive analysis of speech acts. It is a question of drawing out the generalities and specificities of the elements of the teacher’s discourse in two physical activities aimed at collective production. We will explore here, in particular, the effect of the teacher’s expertise and the nature of the task in two contrasting Physical Sport Activity (PSA) (handball and dance), analyzed according to the theory of the act of language. This analysis leads us to ask two fundamental questions: On the one hand, does the specialty (personal experience in a PA) change the nature of the teacher’s verbal interactions during the regulation phase? And on the other hand: Does the PSA taught imply a change in the nature of the acts of regulatory languages of student learning?

Context, Material and Method

This study reports on three teachers cases, in 12 lessons of Physical Education for the sole observing purpose, analyzing and understanding the effect of bodily expertise and personal PSA practice on PSE teaching practices. Will the cross-comparative analysis of these case studies allow us to see that the driving forces behind the singular functioning of the knowledge transmission process of each teacher can gain in intelligibility, taking into account the teacher’s history (his personal experience), his relationship to the activity taught, according to the expertise he demonstrates, subjective elements which seem to organize his practice of teaching PE.

Female Teachers Characteristics

Three volunteer female teachers participated in this study; they were warned that they would be filmed and gave their informed consent.

• Teacher A, 40, is a PE graduate and dance specialist (she has had a personal experience in this activity during her university career and in dance training), teacher trainee trainer.
• Teacher B is 48 years old; she is certified in PE and specialist in handball and tennis (with a professional personal experience in this activity and a competitive course in club); she is a teacher trainer.
• Teacher C is 47 years old; she is certified in PE and athlete, therefore, not a specialist in dance or handball, trainer of trainees in initial training.

Pupils Characteristics

The students come from four colleges in Gironde (Nouvelle Aquitaine, France). The sample is made up of 96 pupils from 11-12 years old, grades 6; they were warned that they would be filmed and gave their informed consent. The teaching programs are identical; the students have four hours of Physical Education per week. The pupils come from rather favored socio-professional categories (medium to upper cadre); the classes do not pose any problem of discipline and are beginners in the activities taught.

Characteristics of the Situations Taught

We asked the teachers to set up dyadic situations (Darnis-Paraboschi, Lafont, & Menaut, 2005; Darnis & Lafont, 2013), with considerable maneuver room left to each teacher.

1. In handball, the imposed learning situation is a 2 on 1 ball rise on a half court in which each dyad must alternate a pass with a phase of verbal interactions to agree on the strategy (Darnis-Paraboschi, Lafont, & Menaut, 2005).
The first three lessons were filmed; Lessons 2 and 3 were analyzed to leave the teacher free to construct the situations imposed by the researcher and the students to understand the purpose of each task.

- For teacher A, the filming time for the research situation (2 to 1) is 20 minutes in each session.
- For teacher B, the time taken to film the situation is 25 minutes for each session.
- For teacher C, the time taken to film the situation is 15 minutes for each session.

2. In dance, students must compose a duet from an inducer freely chosen by each teacher. Each teacher intervenes freely to regulate learning situations in a dyad.

- For teacher A, the inducer is to write the letters of her first name with a part of her body; the time taken to film the situation is 30 minutes.
- For teacher B, the inducer is freely chosen by the dyad; the time to film the situation is 30 minutes.
- For teacher C, the inducer is also free, chosen by the dyad; the filming time of the situation is 25 minutes.

**Corpus and Data Processing**

Initially, all the lessons were filmed using two Canon HD camcorders, one in wide shot, the other in close shot on the teacher with the use of a lapel microphone to record the professor’s speech. Then we transcribed all the verbal interactions in the form of verbatim. Thirdly, we selected the didactic regulation phases in the dyadic situation.

The professor’s speech of each teacher was categorized according to the theory of speech acts of Searle (1969) and Searle and Vanderveken (1985) in order to have four global categories which group together: interrogative and assertive (so what should be done here?), the directives (you have to watch the ball), the promissives (if you look at the ball, you can better catch it), and the perlocutoires (ah well there! This choice of coding was made a posteriori, in view of the corpora). A double coding of the corpus was carried out jointly by two experts: an expert in speech act theory and an expert in PSE teaching. The double coding made it possible to reach a consensus on each corpus.

**Results**

**Quantitative Results**

The analysis of the percentage of each language act according to the teachers’ sports specialty is summarized in the following table:

<table>
<thead>
<tr>
<th>Teachers/specialty taught</th>
<th>Injunction/directive percentage</th>
<th>Interrogative/assertive percentage</th>
<th>Perlocutionary percentage</th>
<th>Promising percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/spe (dance)</td>
<td>44.1</td>
<td>44.9</td>
<td>4.7</td>
<td>6.1</td>
</tr>
<tr>
<td>A/no spe (handball)</td>
<td>47.3</td>
<td>30.6</td>
<td>15.3</td>
<td>6.6</td>
</tr>
<tr>
<td>B/spe (handball)</td>
<td>45.8</td>
<td>43.7</td>
<td>9.6</td>
<td>1.7</td>
</tr>
<tr>
<td>B/no spe (dance)</td>
<td>29.7</td>
<td>60.5</td>
<td>6.2</td>
<td>3.4</td>
</tr>
<tr>
<td>C/no spe (dance)</td>
<td>40.4</td>
<td>48.6</td>
<td>6.8</td>
<td>4.1</td>
</tr>
<tr>
<td>C/no spe (handball)</td>
<td>42.3</td>
<td>43.4</td>
<td>11.9</td>
<td>2.1</td>
</tr>
</tbody>
</table>

We group in the following table the average of the speech acts used by three teachers according to whether or not they are specialists in the activity taught:
Table 2
Average Usage as a Percentage of Speech Acts Depending on Whether or Not the Teacher Is a Specialist in the Activity Taught

<table>
<thead>
<tr>
<th></th>
<th>Moy</th>
<th>Spe</th>
<th>No spe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive injunction</td>
<td>44.95%</td>
<td>39.925%</td>
<td></td>
</tr>
<tr>
<td>Assertive interview</td>
<td>27.25%</td>
<td>45.775%</td>
<td></td>
</tr>
<tr>
<td>Perlocutionary</td>
<td>7.15%</td>
<td>10.05%</td>
<td></td>
</tr>
<tr>
<td>Promising</td>
<td>3.9%</td>
<td>4.05%</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 2. Average usage as a percentage of speech acts depending on whether or not the teacher is a specialist in the activity taught.](image)

Qualitative Results

Dance female teacher A:

A. So what is your starting point?

Student: (Demonstration by student)

Okay after what happens? So how long is it going? So it’s me who’s going to take over there, put yourself in place, I’m going to do it with my hand ok. 1, 2, 3, 4, 5, 6, 7, 8. It’s me on the 8th! 1, 2, 3, 4, 5, 6, 7, 8, 1, 2, 3, 4, 5, 6, 7, 8, that’s it, you’re on the beat but you don’t know what to do if I stop on the 6th! You keep going on the beat after all should be in your head! So you count and all the gestures that for example (demonstration) why you do it only once? Because the spectator barely has time to see it must be done 4 times, 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4, it does not matter we have time, in fact, everything you do there you do it over 1 time the spectator does not have time to see everything trying to double the time!

Dance female teacher B:

Okay, how much do you count? How many are you there? Why wait! Why do you do anything if it’s on 4 me I’m going to see you spend 1, 2, 3, 4, and after 1, 2, 3, 4, 1, 2, 3, 4, is that what you do? But there you do anything you are not in rhythm if you do that and more funny faces … !!! We do the listening work. I listen and try to set up so that we are together! Where were you at! So if you were on 5, 6, 7, 8. I don’t care but we have to be organized and not do anything!

These two extracts from the corpus are characteristic of the fact that A (specialist of the Physical Sportive Activity taught) regulates more the activity of the pupils and proposes to support the research activity of the pupils by proposing alternatives: “that for example (demonstration ) why don’t you do it only once?” with a stimulating disturbance finding a dyad solution in the activity (strong guidance), while B directs attention to the
task: “We do the listening work ... I don’t care but we have to be organized”, without offering alternatives (weak guidance).

Extract from teacher A’s corpus, in dance and handball, analyzed according to the categories of indicators retained by Darnis and Lafont (2013), namely:

- ID: contact Person;
- Communication: verbatim transcription or communication content;
-Recipient: to whom is the phrase addressed;
- Object: interpretation of the speech in relation to the learning object;
- Type: gestural and spatial description of the interlocutors and analysis of speech acts (Bernicot, 1992).

Table 3
Teacher A’s corpus analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance teacher A</td>
<td>“Come closer!” It continues to do like every time you passed!”</td>
<td>Dyad</td>
<td>Directive + assertive</td>
</tr>
<tr>
<td></td>
<td>“Which will be good, end what we don’t see in you what you want to do so you just take steps quickly like that! Maybe this movement there we can do it on 4 while the spectator can see it 1, 2, 3, 4, instead of doing 1 (with demonstration) maybe there are things like that movements where instead of doing it on a time do it on 1, 2, 3, 4, so that we have time to see them”.</td>
<td>Dyad</td>
<td>Assertive + directive + demonstration</td>
</tr>
<tr>
<td>Handball teacher A</td>
<td>“Why do you take the ball every time!” “How are you in your opinion?” “Manon has feet in the zone!”</td>
<td>Dyad</td>
<td>Interrogative Assertive</td>
</tr>
</tbody>
</table>

Conclusive Discussion

With reference to the decision-sharing model of Mosston and Ashworth (2008), we hypothesize that on the one hand, the more the teacher regulates the activity of students in dyad using directive language acts, the more he adopts a reproductive style and on the other hand, the more he uses assertive interrogatives, the more he adopts a self-taught style.

The specificities of the didactic language interactions according to the PSA would go in the direction of the identification of disciplinary discursive communities (Jaubert, Rebière, & Bernié, 2012). Indeed, here, the speech acts nature of the two teachers reinforces the cultural aspect of the benchmark social practice of contemporary dance and its didactic transposition for creative dance as a school form of dance.

Our original study shows the interest of comparative studies in a historical-cultural framework of didactic interactions (Jaubert, Rebière, & Bernié, 2012), for the analysis of the intervention of the PSE teacher. The crossing of linguistic and didactic analysis, allows, on the one hand, identifying regularities in the propensity of teachers to regulate the learning action of students in the activity for which they have an important experience. On the other hand, this analysis makes it possible to identify didactic specificities linked to the taught PSA.

This comprehensive and situated study of the PE intervention should question the initial and in-service training of teachers in the License, Master Teaching, Education and Formation (MEEF) continuity to give an important place to practice as a lived experience which is the foundation of a professional identity (De Terssac, 1992; Leplat, 1997). Finally, the specificity of the didactic interactions of the intervention in each PSAA goes in the direction of a didactics of PSAA as a teaching object in the training of PSE teachers rather than a didactic of PSE, in an approach technological (Lafont & Bouthier, 2004; Bouthier, 2008).
References


