

Teaching Practice between Ostension and Proximity: The Case of a Seasoned Physical Education Teacher in Clinical Didactics

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Abstract. This study aims, within a clinical didactics framework, to identify the crucial role of “proxemics” (Hall, 1966, 1973), as a major driver of the non-verbal interaction within the teaching-learning process in Physical Education (PE) and the relationship that it maintains with ostension. We proceeded with a double analysis (quantitative and qualitative) case study of a Physical Education teacher’s *in situ* practice in order to identify this singularity (Terrisse, 2000). Results show a significant dependence between the use of didactic distance types (Forest, 2006) and ostension types (Salin, 2002) utilized in his teaching practice. As a result, we noticed that “distance” is intimately related to different types of ostension and has a major role, as an implicit form of interaction, in the regulation and the management of didactic situations.

Keywords: Clinical didactic; Proxemics; Ostension; Physical Education; Case study.

Introduction

Teaching is known as an interactionist profession, where the teacher employs various interaction methods involving both verbal and nonverbal communication. In Physical Education, the nonverbal interaction is of major importance due to the praxeological aspect of knowledge. This dimension of the “unsaid” incorporates all teaching practices where verbalization is not their prime tool. The focus of the present research study will be primarily on

“distance” or “proximity”, from a didactical perspective, as one of the nonverbal behaviours that interfere with the teaching-learning process.

Several empirical studies in didactics have explicitly studied the nonverbal dimension of didactic interaction (Pujade-Renaud, 1983; De Landsheere & Delchambre, 1979). Moreover, a few studies have examined proxemics in teaching practice in general (Forest, 2006) and more specifically in the Physical Education teaching situation (Vinson, 2013; Sghaier et al., 2016; Ben Jomâa, Abdelkafi Karoui, Chihi, Majdoub & Kpazai, 2018). However, as far as we know, no research study has explored the combinatorial process of proximity and ostension in the teaching-learning process.

The reason for which we have chosen to study this “hidden dimension” of interpersonal interaction originates from the intention of “*bringing the attention to the processes that we do not commonly question*” (Hall, Mesrie & Niceall, 1984, p.9). As researchers in Physical Education didactics, we are interested in studying this overlooked aspect of interaction and to bring to light some procedures governing the teaching practice in Physical Education. Thus, the purpose of this article is to highlight the proxemics phenomenon that comes into play in different teaching situations and to explore links that may be developed between two didactical and clinical original descriptors of teaching practice: proxemics and ostension.

Therefore, the present study attempts to provide clear answers to the following questions:

- 1) What is the role of proxemics in Physical Education teaching with respect to the position that the teacher subject holds in relation with his students as well as the knowledge transmitted?
- 2) Is there any association between proxemics and other types of didactic interaction such as “ostension”?

Conceptual Framework

In this study, we refer mostly to the nonverbal aspect of didactical interaction in order to figure out its effects on knowledge and the skill transmission process in Physical Education. In fact, this dimension is known as: “the set of gestures, postures, body orientations, natural or artificial somatic singularities, even objects organizations, distance relations between people which allow the transmission of an information” (Corraze, 1980, p.13).

Even if this definition focusses primarily on the nonverbal communication, it may also concern nonverbal interactions in their didactical aspect. In fact, it includes at the same time teaching gestures, body technics as well as proximity known as inseparable and irreducible components of teaching practice besides discursive manifestations. From a didactical perspective, “proxemics” is known as one of the inter-protagonist communication tools, where the teacher leaves, consciously or unconsciously, an amount of distance in regards to his student as well as the knowledge transmitted during teaching.

Historically, “proxemics” was the primary focus of many research studies conducted by the sociologist Hall (1966, 1973) who was the pioneer of this sociological model. In fact, he defines this interpersonal metric distance in the following way: “the term “proxemics” is a neologism that I have created to refer to the amount of observations and theories regarding men’s usage of space as a specific cultural product” (Hall, 1973). Thus, Hall created the proxemics model which contains four types of interpersonal distances: intimate, personal, social and public defined each with a close and a remote mode. Hall used this categorization as a crucial tool to make an intercultural comparison between different nations in order to highlight the role of distance as a way of expression and regulation of social exchanges. Similarly, Sensevy, Forest & Barbu (2005) adapted this sociological model to the field of didactics through an exploratory study in mathematics didactics. In fact, they emphasized the importance of studying proxemics as a “didactical distance”, as well as an implicit and an inescapable driver, of didactical interaction in all school disciplines (Forest, 2008).

Our objective is to investigate the richness of the nonverbal interaction in Physical Education and its role in the teaching-learning process. In fact, this led us to eventually explore the hidden link or the unfigured relationship between the usage of distance and the nature of the didactic actions that the subject employs. This link seems to be so obvious and natural that nobody has ever attempted to investigate it further. That is why we seek to bring together two didactic analysers (proximity and ostension) in order to discover this possible synergy found in Physical Education due to the specificity of its teaching gestures.

In this context, we present the concept of ostension as the act by which the teacher provides: “all constitutive relations and elements of the targeted notion” (Salin, 2002). In other words, it is about a didactic tool used by the teacher to show and communicate targeted knowledge and know-how in class by combining both verbal and nonverbal behaviours. These professional gestures have an ostensive significance that belongs to the intuitive, unplanned, and unconscious part of standard teaching practices. Indeed, “acts are not always due to the assessment of a strategy made beforehand” (Bru, 2007, p. 10). This led us eventually not to only study the didactical aspect of these acts, but also to explore the singular and intimate part of the subject through the teacher’s daily practice.

Methodology

The clinical didactic methodology takes into account the singularity of each subject through the deep and detailed analysis of personal determinants in terms of “decisional already-there” (Carnus, 2015; Ben Jomâa & Terrisse, 2014). It is mainly based on a study of “case by case, one by one” (Terrisse, 1999). Indeed, data collection and data analysis temporality allows us to some more stringent findings.

Research participant

(E) is a seasoned Physical Education (PE) teacher with over fifteen years of teaching experience. He teaches in a high school in the region of Sfax, Tunisia. (E) has voluntarily accepted to collaborate with us for this study, as he taught two gymnastics sessions of one hour each with the same class of third degree. In our context, we do not take into account the characteristics of the student subject as a variable that could affect our results. In fact, results found are strictly contextualized to the study determinants. Otherwise, this could make the subject of future researches.

Data collection

This study investigates the clinical didactics field in which we base our methodology using its original tools and techniques. Indeed, the data collection refers to a temporality based on three distinct but complementary tenses: already-there, test, and subsequent interviews (Terrisse, Carnus & Sauvegrain, 2002).

At the beginning, we proceeded with a preliminary semi-structured interview, lasting close to forty-five minutes, one week before the observation (Carnus, 2002). This interview aims to take into account the teaching subject a priori as singular, divided, and subjected (Carnus, 2009) in order to unveil the teacher's previous experience, intentions, and beliefs, as these can subconsciously influence the teacher's practice.

As for the "test", it represents the time of involvement with the complex and changing reality of the class. Hence, we conducted this study using an in situ video observation using two cameras: the first one is stationary in order to take a wide shot of the area; the other is mobile, therefore allowing us to follow the teacher's movements in class. The teacher was also fitted with a lavalier microphone to record his communication with his student. In addition, we interviewed the teacher for periods of up to ten minutes both prior to and following each teaching session.

Finally, three subsequent interviews were organized one month after the last video recording and occurred at one-month intervals (Terrisse, 2009). Indeed, this provides the time for sense shuffling and for extracting more meanings from the teacher's actions.

For the collection of proxemics quantitative data during the "test", we used Hall's four distance configurations presented in the table below (See table 1).

Table 1. Interpersonal distance scale (Hall, 1966).

Distance	Close mode	Remote mode
Intimate (ID)	Body to body	From 15 cm to 40 cm
Personal conversation (PCD)	From 45 to 74 cm	From 75 to 125 cm
Social interaction (SID)	From 1,25 m to 2,10 m	From 2,10 to 3,60 m
Public (PD)	From 3,60 m to 7,50 m	From 7,50 m beyond

As for the collection of different ostension types employed during both sessions, we refer to Salin's (2002) research in Mathematics and those of Robert (2012) in Physical Education. We identify a variety of forms presented in the table below. (See table 2)

Table 2. Ostensive forms selected for the study (Robert, 2012)

Ostensive forms	Codes		Comments
Verbal Direct Ostension	(VDO)		Knowledge is explained by Physical Education teacher who does not have the technical abilities or does not want to demonstrate it.
Total or Partial Private Physical Ostension (manipulation)	Total	(TPPO)	Knowledge is transmitted to the student through manipulation of his body. This manipulation may be either total (from the beginning until the end of the movement) or partial (a part of the movement).
	Partial	(PPPO)	
Total or Partial Physical Direct Ostension (demonstration)	Total	(TPDO)	Knowledge is physically demonstrated by the teacher. This demonstration may be total or partial.
	Partial	(PPDO)	
Disguised Ostension	(DO)		Knowledge is shown through either showcasing objects from the "environment", or questioning students about these relevant objects. (Linked mostly to verbal direct ostension)
No Ostension	(NO)		The teacher does not use any form of ostension.

Data Analysis

The present study contributes to the understanding of the *in situ* teaching practice. It is based on a singular case study in order to gain a deeper understanding of the personal determinants that affect teaching process. In this context, it should be clarified that the "case study" aims to take into account the didactic subject with its complexity and his singularity through the analysis of its decision making process. It is about a "detailed" and an "in-depth" analysis (Van Der Maren, 1995) which aims to explore the intelligibility of the observed teaching practices. In fact, we retain the point of view of Passeron & Revel (2005) who looked for the "rehabilitation" of the case study as they point to the requirements of this type of studies which "does not proceed without raising the

question”: “sciences of the case have ensured the convergence between descriptive value of clinical method and the methodological value of contextualized observation for the production of evidence” (Passeron & Revel, 2005). For this type of research, the “cumulativeness of results” is the key to providing new theoretical analyzers and methodological tools which will contribute to other studies in order to understand teaching practice in general (Terrisse, 2003).

Our data analysis follows the same clinical didactics temporality which is organized over three periods of analysis: before, during, and after the teaching act. Within the context of the present study, a double analysis seemed to be required: a quantitative analysis of proxemics and ostension forms utilized by the teacher during the “test” and a finer qualitative analysis followed by data triangulation (Huberman, Miles & De Backer, 1991). For the qualitative analysis of different *corpus* obtained, we used content analysis (Van Der Maren, 1995). As for the counting process, it was made using data analysis software “Sphinx Lexica V5” which allowed us to do basic cross sorting (See Figure 2).

Results

Results presented in the figure below (See Figure 2) were obtained through an extensive data quantification process of proxemics forms and types of ostension. We used an analysis grid, carefully developed, based on proxemics and ostension forms and categorizations that were previously illustrated. Videos playback allowed us to classify and quantify all data needed for the study in order to obtain appropriate statistics. These statistics were faced and strengthened by the *verbatim* of the teacher that was collected during all interviews in order to enhance the credibility and the legitimacy of our results.

The interdependency between ostension and proxemics in teaching practice

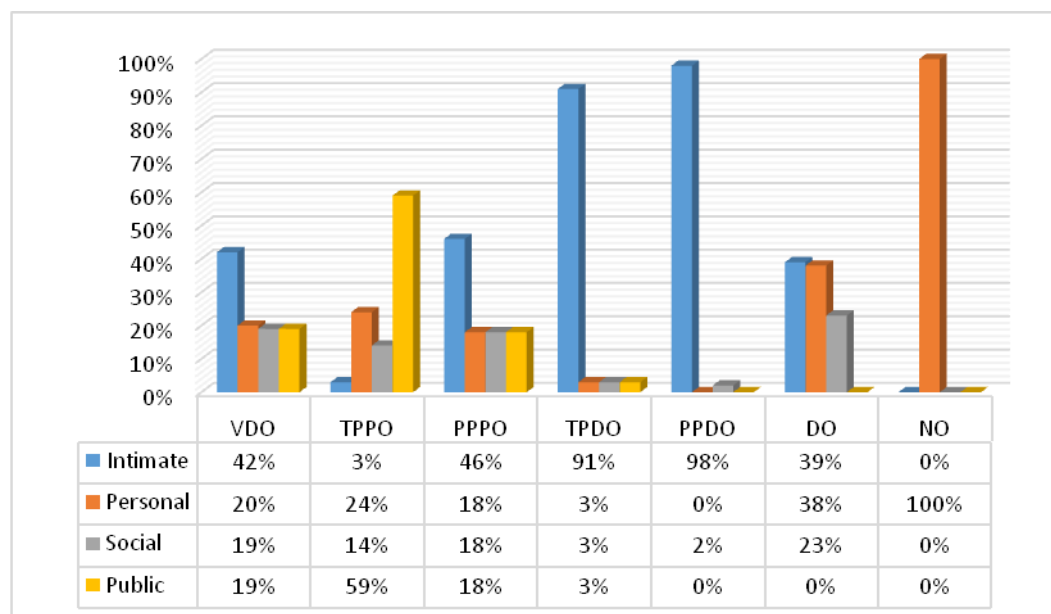


Figure 2. Intersection of proxemics and ostension forms utilized by (E)

After we counted the use of each variable studied in this research, we proceeded with an intersection of these two didactic analyzers (proxemics and ostension) using chi square test. Indeed, this analysis shows a significant relationship between the use of proxemics types and ostension forms during the teaching act. We noted that (59%) of TPDO (total demonstration) preferred to have more personal space between the teacher and the student, whereas (47%) of PPDO (partial demonstration) were performed with a more intimate distance between the subjects. Thus, the demonstration of any technical gesture requires pronounced movements of the teacher's body in order for these gestures to be entirely visible to the students from a greater distance. Hence, (E) reinforces this idea and claims: *"I always ask my students to step back so they can see my demonstration properly."* As for him, the theatrical exhibition of the body (Pujade-Renaud, 1983) is naturally involved in teaching act, or even inescapable in skill transmission and appropriation. Therefore, the appropriation of technical gestures by the student requires the *"reproduction of morph-kinetic corporal forms especially in gymnastics."* However, partial demonstration of a particular gesture corresponds to a specific intervention aimed at one student or to a small group. Therefore, the use of PPPO is preferred in situations where the teacher has to physically intervene and apply direct manipulation to the student's body in order to correct a position or motion that could potentially result an injury.

Similarly, (91%) of TPDO (total manipulation) and (98%) of PPDO (partial manipulation) are employed from an intimate distance. The previous results seem obvious that this type of ostension requires that the teacher gets involved in a kinetic relationship with the student. Because he intervenes manually in order to adjust, move, and correct the student's movements, this kind of ostension also aims to let him feel the right movement in a better way by manipulating his different corporal segments.

The present study centers primarily on the nonverbal didactic interaction, although we cannot neglect the crucial role of the verbal aspect of didactic interaction. Indeed, verbal feedback is, in most cases, supported by a gestural one, notably with proximity. In (E)'s case, direct verbal ostension (DVO) is used almost with the same percentages in all distances types but with an intimate preference (42%). As he explains: *"sometimes I don't need to move around to give instructions, so I just give them from away...although, I target my intervention in a more personal way for a better understanding."*

Furthermore, video playback shows that (E) also aims to combine several types of ostension, verbal and non-verbal (Sghaier & al., 2016), since he constantly changes his position from one situation to another. This shows that the teacher varies, consciously or unconsciously, the interpersonal distance in relation to students depending on the type of ostension as well as his purpose and strategy (Brousseau, 1996). (See Figure 3)




Screenshot 1	Screenshot 2	Screenshot 3
		
Personal distance: Direct verbal ostension (defining the situation verbally)	Remote intimate distance: No ostension (observing in parade position)	Close intimate distance: Total private physical ostension (correcting and adjusting)
During the same situation, (E) moves from a personal distance to a remote intimate distance, then to a close intimate distance depending on the aspect of didactic intervention used.		

Figure 3. The variation of distance depending on ostension types.

Even if this interdependency is quite obvious in his *in situ* teaching practice, it seems to be also clear and explicit in his discourse during different interviews. He states in the *post-session* interview: “I mostly get close in order to sensitize the student of a particular gesture, so that’s a fine intervention...although, I just stay away if it’s about a small correction.”

The significance of distance

The previous results put into evidence the crucial role of proxemics as a metric measure of interpersonal distance in the teaching-learning process as it relates to ostension types. However, we consider proximity not only as metric distance separating two people, but also as an element full of implicit significances governing teaching practice. As for this teacher, the use of proxemics in its didactic aspect is not considered only as a place of reference, but also as an efficient tool for transmitting information. When (E) stands from a particular distance, he seems to be communicating hidden messages even in his *insu*. It is a kind of implicit agreement, a system of conventional codes between protagonists which requires a mutual confidence: “I know my students very well...I understand them and they understand me sometimes from a blink of an eye...” On this basis, we notice that (E) uses distance as a tool of knowledge devolution (Brousseau, 1986) seeing that he abstains from providing any instruction using the no ostension (NO) with the intention of giving his student an amount of liberty and autonomy (See Figure 4).

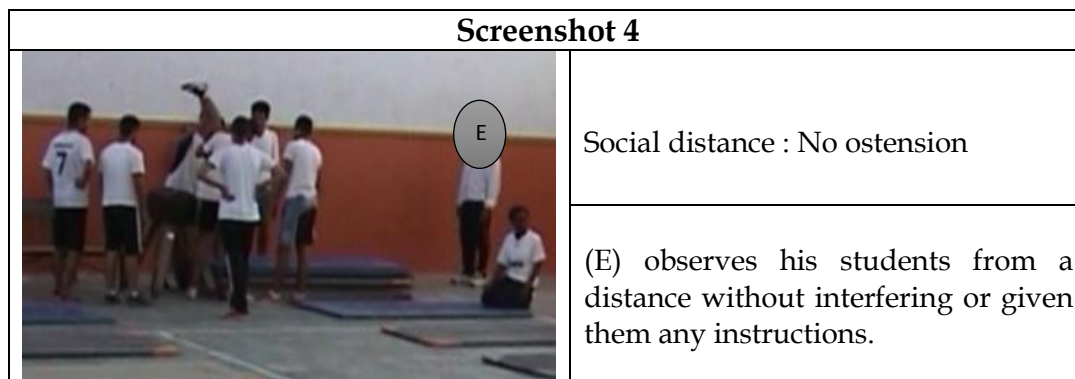


Figure 4. The significance of distance.

Proxemics: A revealer of teacher's position regarding knowledge

Proxemics are considered a daily method of teaching practice, a kind of ritual that operates in an unconscious way through which the teacher communicates all knowledge and know-how to his students: "It's a part of our job as PE teachers...getting close to students and even touching them...it's kind of inevitable...especially when we manipulate their bodies." This leads to the didactic aspect of proxemics linked directly to educational context. Indeed, this didactic distance unveils implicitly the intimate and private part of the link that the teacher holds with knowledge (Jourdan & Brossais, 2010). Detailed study of case (E) allows us to capture other factors influencing the preferential use of proximity types. These factors include personal teaching conception as well as singular link to knowledge, to Physical and Sport Activities (PSA) and to body (Jourdan, 2006 ; Ben Jomâa & al., 2018; Ben Jomâa, Sghaier & Mami, 2016).

Limitations of Research

As noted before, the present study is about a single case study that goes beyond a superficial analysis. The findings from the "in-depth" case analysis are strictly contextualized and there is no intention to generalize them. In fact, we are cognizant of the limitations of this type of study. Thus, our study attempts to produce new results for a singular case study that will be added to the existing research in the area of teaching practices within a clinical didactics framework. These conclusions will enable us to create a teacher's profile that can be generalized and applied to other cases afterwards. This teacher's profile can be considered in the understanding of the *school epistemology* of PE teachers and in the training teacher's conception generally.

Suggestions and Recommendations

Our study aims, *in fine*, to heighten the awareness of teachers and instructors in PE as well as in all other academic disciplines, as to the importance of proxemics in the teaching-learning process as a nonverbal method of knowledge and skill transmission. We believe that proxemics is an invaluable nonverbal tool for transmission of knowledge and can assist teachers in all disciplines in navigating various didactical and pedagogical situations and to wisely manage their relationships with students throughout various interventions. Therefore, we deem it necessary to implement proxemics in all preservice and continuous education programs for students and teachers.

Conclusion

The clinical didactic analysis through a case study (Carnus & Terrisse, 2013) of the combinatorial process of ostension and proxemics, allows us to unveil implicit as well as explicit links governing *in situ* teaching practice. For the present case study (E), the teacher's use of proximity types depends clearly on the ostension types that he employs at that particular moment in a given situation. According to the triangulation of all provided data (quantitative and qualitative) in this study, we notice that (E) uses a more personal distance with a total direct physical ostension, which he considers very important to the transmission of morph-kinetics elements and global techniques and abilities. However, he uses personal and intimate distances for a specific, detailed, and individualized intervention, mostly targeting one student or a small group. Although, the use of the verbal registers, due to the direct verbal ostension, is made over all distance categories depending on the nature of the situation and type of knowledge.

For the teaching practice, it is about combining different registers (verbal and nonverbal) (Sghaier & al., 2016) in order to bring more significance and legitimacy to these practices which are known normally as a kind of a daily ritual that is mostly unconscious. Indeed, it is also a revealer of internal intentions and the decision making process (Carnus, 2015) that highlights teacher's link to knowledge (Sghaier et al., 2017).

Hence, we notice that this specific practice goes beyond a simple metric proximity since it is combined with other teaching actions that are sometimes verbal and at other times nonverbal. As such, we provided evidence for the interdependence of proxemics in its didactical aspect (Forest, 2006) and the use of different ostension types (Salin, 2002; Robert, 2012) which bring more significance and legitimacy to this combinatorial process mostly neglected by researchers.

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