

The Effect of Teacher's Proxemic Aspects on Didactic Relationship in Swimming

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Abstract

This article is interesting in didactic distances (Forest, 2001) of two Physical Education (PE) teachers of Swimming in Tunisia. Its objective is to determine the different proxemic distances (Hall, 1966) of teachers at the time of didactic regulation. We postulate that proxemic distances represent a revealing of didactic relationship. The methodology of this research is qualitative and clinic. It could be registered within the frame of clinic didactic interactions of PE and on the clinic analysis of experimented and novice teacher's practice glimpsing "case by case" and to apprehend the singular subject in didactics (Terrisse, 1999). Data collection and analysis are organized according to the clinic didactic methodology. This temporal methodology differs by three different times and crusaders. From methodological point of view, this study limits itself to the second time analysis, that of the test (Terrisse, 2000). We make the choice to focus on the qualitative study of proxemic distances scale (Hall, 1966). Results put in evidence that the practice of different proxemic modes by teachers have effect on the didactic relationship.

Keywords: Ostension, proxemy, clinic didactics, didactic relationship, Physical Education teachers

Introduction:

Many researches in PE, studied the didactic interactions of regulations (Gal Petifaux, 2000; Mahut 2003; Kammoun, 2004). However, few of them tackled proxemics (Forest, 2006; Legrand (2006); Vinson, 2013) to study the didactic distance. This original article is interested to determine the different proxemic distances of teachers at the time of didactic regulations. Are these proxemic distances proved to be revealing in the didactic relationship in Swimming?

Historically speaking, the sociologist Edward Hall (1966) defined proxemics as the « *set of all comments and theories concerning the use that man made of space as cultural product* ». He showed equally that environment perception is in connection with the spoken language. In fact, « *Individuals belonging to different cultures, not only speak different languages, but which is more important, they dwell different sensorial worlds* » (Hall, 1966, 1971). According to this author, environment perception and the distance are two intimate related parameters.

To analyze the different observed types, we are going to rely on Forest's four configurations (2001) that are inspired from Hall distances models (1978). It is about distances: intimate, personal, social and public. Being adapted to the study of didactic interactions, these distances are constraints by proper environment of the class and its topology and by the necessity of social and didactic control, that the teacher must achieve their use.

We present these proxemic distance configurations as follow (Forest, 2001): The first configuration (public): It is superior to 1 m. It concerns the placing of instructions and group control. It corresponds to the « comfort zone » where there is the basis which we are going to describe. We borrowed the last notion from psychology to name this space where a person feels total security, we add that « comfort zone» is a conductual state where a person operates within a neutral anxiety relationship, using a limited range of conduct to produce a « *steady* » level of performance which is in general without a feeling of risk (White, 2009). It is this configuration which comes back constantly in all institutions.

The second configuration (social): It is between 30 cm and 1,20 m. It occurs when the teacher animates a small group of pupils.

The third configuration (remote personal): It corresponds to an « arms length » distance. It occurs when controlling a pupil.

Fourth configuration (close personal): Is inferior to 30 cm. It does not appear and consists of a helping relationship.

The public configuration it is the most representative, followed by the social configuration. This shows that actors of the educative space consider the class as a public and social space more than personal. This translates equally an interest that is clear noted on teaching pole more than in apprenticeship and it comforts the idea of verticality and the approach centered on the teacher. The primordial relationship which maintains teachers with their pupils seems corresponds to group control rather than to knowledge and interactions transmission. All that at the level of questioning and explaining a lecture course to all the group.

In this context, Forest in this thesis « *Proxemic analysis of didactic interactions* » (2006), offers to describe the proxemic behaviors, starting from light considered necessary and sufficient dimensions for teaching. In accordance with his approach, we are not thinking that the term of distance must be uniquely taken from its mathematical meaning but rather in the meaning of the perceived distance or a tool distance.

In the center of didactic interactions, these distances can play a role compared to the commitment within the didactic relationship and the maintaining of it.

Forest (2006) proposes in his work that proxemy manifests in synergy with corps technics. It is about material and linguistic technics allowing the teacher to assume the didactic relationship. This comes in accordance with Berdot, Blanchard-Laville and Camara Dos Santos (1997) propositions that define ostension (at least in its forms) as « revealing about distance of the teacher to knowledge and as identified by the study of different direction gestures of the teacher and the study of the teacher during the management of the different contract ruptures ». Meanwhile, it is the real way for the teacher to have distance and to manage more or less his own knowledge in connection with those proposed by pupils.

Since then, the synergy of proxemic modes and ostensive forms of teachers are influential in the didactic relationship in connection to knowledge of the teacher.

Problematic and research questions

Within the framework of PE, the activity “swimming” is performed obviously in difficult conditions where the intake or the admission of information is confused and the distance between the teacher and pupil is difficult to manage. However, the teacher in a swimming pool changes his place perpetually, in a voluntary way or no, to observe and regulates. Thereby Forest (2006) speaks about didactic distance which defined in function of corps orientation and or glances. This constraint proves particularly important for the dynamic of teacher-pupil interaction in PE in general and in swimming in particular. Through, the focus of clinic didactics

in this study is to analyze “test” time (Terrisse, 2000) which is the interaction moment teacher-pupil. From here we can identify teacher intervention in synergy with proxemy.

Thereby, and to better understand, the recourse to gestural and symbolic combined ostensions and the necessity to vary these displacements, to observe then to regulate, arise also as a synergy, a necessity and a particular appropriated tool to interact. Knowing that we support the idea that proxemy and gestures rythm the didactic time in the meaning of advancing knowledge in a session ~~or a meeting~~. In fact, the richness of this study which is on proxemy concept and on proxemic modes variation is to reveal that these distances could influence; From one hand in observations and regulations of the teacher and the other hand on his communication and his interaction in swimming-pool. By that these distances can play an important role compared to the commitment in the didactic relationship and the maintaining of it.

From this perspective, our problematic is interesting particularly to study proxemy phenomenon in swimming and its effect on didactic interaction. Attempting to explain this phenomenon, we advance the hypothesis that proxemic different modes used by the teacher, at the time of regulation could improve apprenticeship evolution and the didactic relationship. We would like to clarify that the study of the conceptual focal « proxemy » in swimming has not been completed at least in a Tunisian University environment. Ranging in this problematic, we questioned if the didactic distance between the teacher and student in swimming could affect the didactic interaction.

Since then, this article is interesting to know the movement “arm crawl” attempting to bring in answers to the following questions:

a) Is proxemic aspect of teachers influential in didactic relationship in an aquatic environment?

b) What are the convergences and the divergences between proxemic practices of two teachers associated to the research?

Based on Hall (1966) works on proxemy, we will try to decrypt the interactional and communicative activity of the teacher with students. Though the inclusion of interpersonal distance scale, our objective is to study qualitatively and quantitatively teacher’s mode of distance in his intervention and to free or to clear a type profile and or a proxemic distance modeling revealing of the dynamic and the evolution of didactic relationship in class space.

Method and tools

This research inserts in the field of PE clinic didactics. It is qualitative and exploratory. Hence, we have recourse to the clinic didactic methodology which is organized on three temporal professorial action the

“already-there”, the “test” and the “post stroke”, (Terrisse, 2000). But our methodology is limited to the second time the “test” (Terrisse, 2000) which is defined to real time to support teachers during the session. In order to analyze this time, we have associated in our qualitative approach a quantitative data treatment to measure teachers proxemic aspects.

We headed of from a finding where proxemy between the teacher and the student is unstable and difficult to manage and from a hypothesis where proxemic modes could influence the didactic relationship. To treat the latter, we first registered in the field of PE clinic didactics. There after, we performed two studies in the case close to two teachers and their students at Higher Institute of Sport and Physical Education (ISSEP) of Tunis.

Study population

The experimentation was performed in the region of Tunis in February 2015, at Bardo swimming pool. Two first year classes of fundamental licence in PE at the (ISSEP) Ksar Saïd have been retained for the experimentation of our protocol. Apprenticeship sessions about the crawl stroke were programmed to each of the two classes, that the level is swimmer. Two specialized teachers in swimming with the different professional experience insure sessions. In fact, the first one is an experimented expert teacher. He disposes more than ten years of experience in swimming teaching. While the second one is a beginner expert, she is specialized in swimming and she starts her second year in the matter.

Observation protocol

We have observed a session in the middle of a cycle related to Crawl stroke apprenticeship for each teacher. This observation helps guarantee a didactic density, indeed and according to Marsenach & Mérand (1987). The first consecrated sessions to diverse evaluations are just rich in teaching contents. The first observation took place with the experimented expert teacher that we call (EA), however the second observation is with the expert beginner, whom we call (EB). Each session lasts from 40 to 45 mints.

Data collection

Data collection and data analysis are registered in a temporal methodology which is organized in three times. The “already-there”, the “test” and the “post stroke”, (Terrisse, 2000). In the framework of this study we restrict ourselves to analysis of the second time of professorial action relative to test time. Here exactly is the actual moment when the subject is summoned to the complex reality of the class (Terrisse, 1999). In fact, we have selected test time because it corresponds to the interaction moment

between teacher and student and that during this interaction we can really see teacher intervention in synergy with proxemy. Moreover, the test corresponds to the moment of interaction between teacher and student. Thereby session observations stand as a test to the teacher and sometimes to the research, in the sporting sense of the term since he never knows how the lesson of PE is going to happen (Terrisse, 1994). The used data collection methodology rests on a method and two technics (De Ketele, Roegiers, 1993). The used method is observation in situ associated to image and sound recordings. The first technic is used to capture teacher gestuality which is performed by the help of a video tool that stands on two camera-videos: One is fixed focalizing on the subject teacher and a mobile one which allows to with draw pertinent extracts and « contextualities » starting from a wide shoot of the class. The second technique is used to register integrally the verbal of the teacher which is consists of audio-micro tool.

During the test, video and audio recording sessions are finished by an organized *ante-session* and a *post-session* interview. Data collection and analysis rest on « interpersonal distance scale » tool which is defined and formalized by Hall (1966), see **table 1**.

Distance	Close mode	Remote mode	Distance
Intimate - ID	Corpse to corpse - C	From 15 cm to 40 cm	
Personal conversation - PCD	From 45 to 74 cm - C	From 75 to 125 cm - R	Universal interpersonal
Social interaction - SID	From 1,25 m to 2,10 m - C	From 2,10 to 3,60 m - R	
Public - PD	From 3,60 m à 7,50 m - C	From 7,50 m beyond - R	

Tableau 1: Interpersonal distance scale (Hall, 1966).

Data treatment

SportsCode Elite 10.3 Software was used on a MacBook Pro 15in with 2,66 Ghz Intel Core i5 CPU, 8GB RAM and 7200 rpm hard drive with Mac OS X Mountain Lion 10.11 in order to cut out recordings and to index each extract in order to obtain a graphic that reports all cuttings in function of their duration.

In the window of SportsCode Codification (**Figure 1**), our choice of code buttons and labels allow us to concentrate on session indicators which we will use in our analysis. Our codification window could be simple or complex, according to our functioning mode and can evolve during the session.

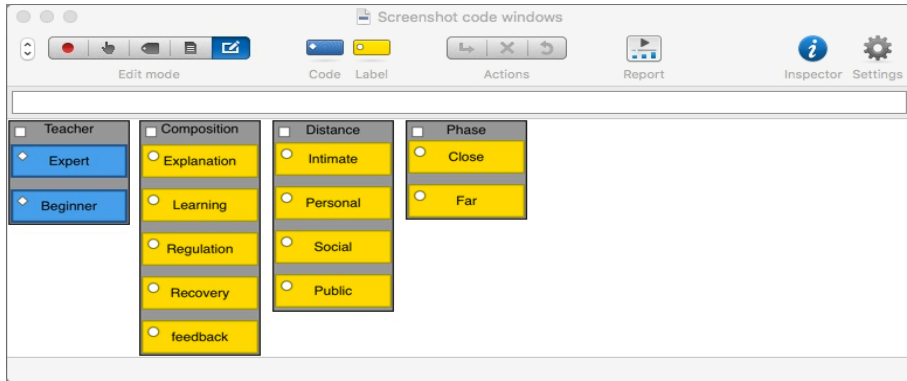


Figure 1. Screenshot code windows SportsCode Elite 10.3.

Once the video is associated to Timeline (**Figure 2**), codification could also be done manually and we can visualize fragments that we have already coded.

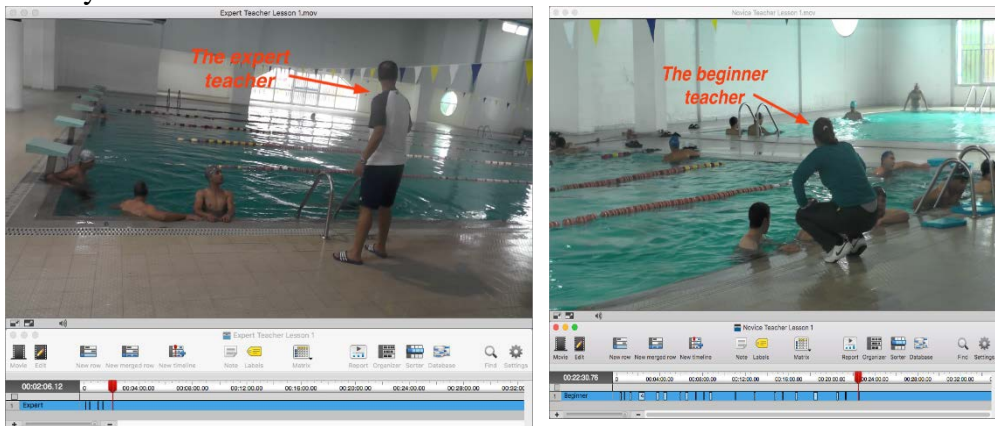
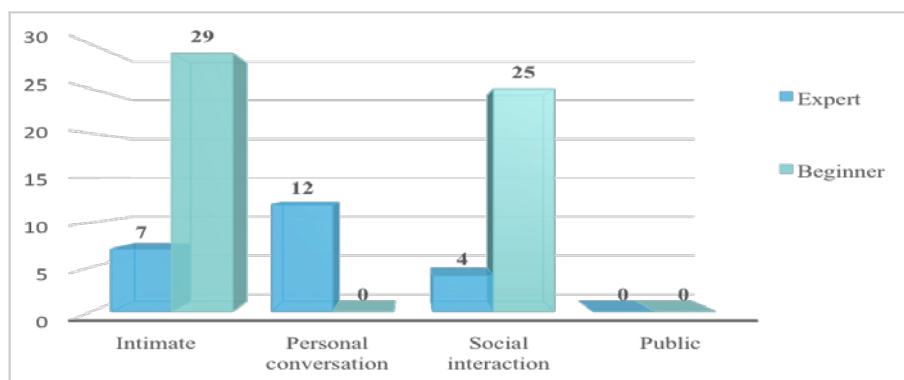


Figure 2. Timeline de SportsCode Elite 10.3.

Results

The obtained results from each study of case are illustrated in **graphic 1** which corresponds to the second time of professorial action, as mentioned above, related effectively to the test (Terrisse, 2000). During the test, the different proxemic aspects (Hall, 1966) of teachers are identified starting from video and audio recordings of sessions and SportsCode Pro Software measures them. The time of the test is about 40mn of observation amongst the two teachers.

Graphique 1: Proxemic aspects of two cases.

Discussion

At the beginning of tests and during explanation phase, the EA teacher obviously uses a remote personal distance of conversation (RPDC) (75cm/1,25m) with 6 renewals. He deploys the same distance during regulation phase with 3 renewals and he keeps the same number of renewals at recovery phase. He uses remote intimate distances (RID) three times during explanation phase (15cm/40cm), 4 times during learning phase and only one time during the Feedback. This distance allows to transmit and to communicate knowledges orally and allows equally to show arm movement to all of the group. As well as Forest (2006) notes in his work that proxemy manifests in synergy with corps technics.

He uses also, a close social distance of interaction (CSDI) (1,25m/2,10m) with two renewals at learning phase and remote social distance of interaction (RSDI) (2,1m/3,6m) with two renewals during target phase. This distance allows to observe students in order to regulate them.

From the beginning of the session to its end, the EA oscillates progressively between close social distance of interaction (CSDI) (1,25m/2,10m) with 4 renewals, a remote intimate distance (RID) (15cm/40cm) with 8 renewals and a remote personal distance of conversation (RPDC) (75cm/1,25m) with 12 renewals.

These 24 distances vary near some students, whom seem to be animated by desire to transmit and to communicate the appropriate knowledge in an ostensive manner in order to understand, to feel and to regulate. They are motivated and successful in arm movement. Knowing proxemy and gestures rythm the didactic time in the meaning of advancing knowledge in a session

For the case of teacher EB, she uses only two proxemic modes during the session: The remote intimate distance (RID) (15cm/40cm) with 29 renewals and close social distance of interaction (CSDI) (1,25m/2,10m)

with 25 renewals. She uses also the remote intimate distance (RID) positively (15cm/40cm) 13 times during regulation phase, 8 times during recovery phase. All this is to address all student of the group. We noted also, that she prefers to resort to close social distance of interaction (CSDI) (1,25m/2,10m) with 25 renewals: 6 renewals during learning phase, 16 during regulation phase and 3 times during recovery phase and her objective is to address a small group of students or only one student.

To conclude, we notice that the moments when EB stands on 2,10m the maximum are for 29 items. Whereas we obtain 25 items to a relatively close intimate distance comprised between 15cm and 74cm. We notice that the space where EB moves and where she hardly comes out, is a space where she seems standing more on the case, more sure about herself. We borrowed « *comfort zone* » notion from psychology to name this space where a person feels security. About that we will add that the « *comfort zone* »: is a conductual state when a person operates within an *anxiety-neutral relationship, using a limited conduct range to produce a « steady »* level of performance in general without a sense of *risk* (White, 2009).

The obtained results put in evidence that the expert experimented teacher moves obviously and changes involuntary his positions around the swimming pool in order to be able to observe then to regulates like what Catteau notes (1997), displacement of the teacher on the edge of the pool reveals an expertise and seems otherwise linked to the subjacent intention to his observation. These aspects proved to be important within the frame of interaction teaching-apprenticeship because teacher observation consists more obviously of a trigger (Catteau, op. Cit).

EA uses also combined ostensions (Sghaier & al., 2016) and varied proxemic aspects during the test of teaching. It is notably about personal distance of conversation that is considered as a universal distance. However EB does not use the distance. In fact she tends to move very little though out session.

This shows that personal distance of conversation it is the most representative in swimming activity, followed by social interaction configuration. And those teachers consider the swimming pool as a personal and social space than public.

Conclusion

Though the proxemic aspects scale used by (Hall, 1966), test graphic 1 analysis allows us to illustrate divergences between proxemic modes used by two associated teachers. In fact and during the test, the expert experimented teacher uses more varied proxemic modes: Intimate remote distance, remote social distance of interaction and remote personal distance of interaction. However, the expert beginner teacher uses

particularly the close intimate distance mode as well as the social distance of interaction.

We also note that EA is obviously distant and in a setback from his students, which allows him to observe and to regulate students apprenticeship and remains confident in an aquatic environment. By contrast EB is rather close to his students, first to enunciate and to explain the knowledge verbally. Then to keep them under control. It is not worthy that apprenticeship process do not move with the EB, since Gal-Petitfaux (2003) notes that break and dialogue times have to be controlled. Indeed, although necessary, these times stand halt time with apprenticeship process and they are constraints in front the evolution of the didactic relationship in swimming (Sghaier & al., 2016 ; Ben Jomaa & al., 2016). Since then, teachers proxemic practices are related to the different didactic interactions.

Consequently, dialogue times and the lack of movement at the level of the expert beginner teacher in class space is influential imperatively on his teaching method, on students apprenticeship as well as on didactic interactions in class. However, varying didactic distance, observe to regulate and privilege the personal universal distance seem to be features that characterize the expert experimented teacher method which also evolves the didactic relationship. Professional experience is obviously linked to professional career and to the extended profession practice. She acquires over the years of practice and through the experience which is connected notably to context diversities wherein the teacher has intervened. This corresponds to learning by practice (KJ Arrow, 1962). Since then the influence of professional competences on the decisional process of teachers is « a dynamic factor of knowledge transformation that to be taught to a knowledge effectively taught » (Carnus, 2001) and transmitted in situ.

The objective of this study is to show that the didactic distance (Forest, 2006) could be practiced in a voluntary way or not. First is to conduct the didactic environment, second to evolve and to optimize the relationship. Finally, the perspective of this article consists of that this proxemy could be combined with several ostension forms, which help PE teacher (beginner, expert and experimented) to select the intervention mode within an effective teaching framework of Topo-kinetic activities.

References:

- Arrow, K.-J. (1962). The economic implications of learning by doing. *Review of Economic Studies*, 29 (3) : 155 - 173.
- Berdot, P., Blanchard-Laville C., & Camara Dos Santos, M. (1997). La construction de l'espace psychique dans la classe. In Blanchard-Laville (dir.), *Variations sur une leçon de mathématiques* (pp 217 - 258). Paris L'Harmattan.
- Brousseau, G. & Centeno, J. (1991). *Rôle de la mémoire*

didactique de l'enseignant. *Revue Recherche en Didactique des Mathématiques*, 11, 167-210.

Ben Jomaa, H. Sghaier, D. & Mami, M. (2016). The impact of personal experience on the professional practice in physical education: A case study from Tunisia. *Creative Education*, 7, 1328-1334.

<http://dx.doi.org/10.4236/ti.2016>

Carnus, M.-F. (2001). Analyse didactique du processus décisionnel de l'enseignant d'EPS en gymnastique. Une étude de cas croisés. Thèse de doctorat en Sciences de l'Éducation, non publiée. Université de Toulouse III - Paul Sabatier.

Catteau, A. (1997). Observation et analyse des mouvements de nage en crawl et contenus d'enseignement. Paper presented at the Journées Debeyre. *Revue Hyper-EPS*, 1998, 203, 19-23.

De Ketele, J.-M. & Roegiers, X. (1993, 2è édition 1996). *Méthodologie du recueil d'informations*. Bruxelles : De Boeck Université.

Forest, D. (2001). Distance des élèves-maître en activité didactique. Analyse de comportement proxémiques de professeurs en classe primaire. Mémoire de DEA, Université de Nantes.

Forest, D. (2006). Analyse proxémique d'interactions didactiques, Thèse en sciences de l'Education, Université de Rennes 2.

Gal-Petitfaux, N. (2000). Typicalité dans la signification et l'organisation de l'intervention des professeurs d'Education Physique et Sportive en situation d'enseignement de la natation: le cas des situations de nage en file indienne. Thèse de doctorat STAPS non publiée, Université de Montpellier 1.

Gal-Petitfaux, N. (2003). Savoirs et action située : regard sur les pratiques d'enseignement en Education physique. In J.F. Desbiens et C. Borgès (Eds.), *Savoir, former et intervenir dans une éducation physique en changement* (pp.121-145). Sherbrooke (Canada) : Éditions du CRP.

Hall, E. T. (1966/1971). *La dimension cachée*. Paris, Seuil [rééd. « Points », 1978].

Kammoun, M. (2004). Etude exploratoire de la gestualité enseignante et de ses fonctionnalités didactiques : le cas de deux professeurs d'EPS tunisiens d'expertise gymnique contrastée, Mémoire de DEA, Toulouse III Le Mirail.

Legrand, P. (2006). Contribution à l'étude de l'action didactique d'un professeur d'EPS lors d'un cycle de basket-ball au lycée. Mise à l'épreuve d'un outil méthodologique articulant les dimensions cinématique, proxémique et énonciative. Mémoire de Master 2 Université Paul Sabatier Toulouse III.

Mahut, B. (2003). Approche Sémiotique des interactions didactiques : gestion et verbe en situation d'EPS. Thèse de doctorat en Science du langage. Université de Franche Comté.

- Marsenach, J. & Merand, R. (1987). L'évaluation formative dans les collèges. Paris, INRP.
- Sghaier, D., Ben Jomâa, H., Mami, M., & Bouassida, A. (2016). The combination of the physical ostension to the verbal ostension in swimming revealing of professorial action. *Creative education*, 7, 500-505. <http://dx.doi.org/10.4236/ce.2016.73051>
- Terrisse, A. (1994). La question du savoir dans la didactique des APS. Habilitation à diriger des recherches. UPS Toulouse III.
- Terrisse, A. (1999). La question du rapport au savoir dans le processus d'enseignement-apprentissage : le point de vue clinique. *Carrefour de l'éducation*, 7, 62-87.
- Terrisse, A. (2000). Epistémologie de la recherche clinique en sports de combat. *Recherches en sports de combat et en arts martiaux : état des lieux et perspectives*. Collection Recherche et Formation. Paris : Editions Revue EPS.
- Vinson, M. (2013). Sous la dynamique non verbale des interactions didactiques, le genre Analyse de l'action conjointe du professeur et des élèves : deux études de cas en EPS. Thèse de doctorat en Sciences de l'Éducation non publiée, Université de Toulouse 2 - Le Mirail.
- White, A. (2009). *From Comfort Zone to Performance Management*. Belgium: White & Maclean Publishing, Baisy-Thy