

Teaching Practices and Student Action in Physical Education Classes: Perspectives for Teacher Education

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Abstract

This research is part of an educational framework for analyzing teaching practices. It attempts to understand teachers' practices in physical education. For this matter, it relies on the theoretical framework of didactic joint action. Using "ordinary didactics" Schubauer-Leoni & Leutenegger, (2002), as a method of observation, we describe the teaching practices of two non-specialized teachers during two gymnastics units in two senior classes. The subject of our research is to joint didactic action in two didactic school systems: the first one is public while the second is private. In other terms, this research attempts the analysis of what the preselected teachers and students say and do while interacting. It attempts to identify teaching conditions that enable students to teach themselves, i.e. practice autonomous learning. The results put in evidence some generic characteristics of the topo-genetic process that may favor task transformation behavior among students in the context of each school system. The results open new perspectives of physical education for teacher education.

Keywords

Teaching Practices, Student Action, Joint Didactic Action, Teacher Education

1. Introduction

A number of didacticians have emphasized the fact that students remain all along their secondary curriculum "relentless beginners" (Gréhaigne & Cadopi, 1990; Marsenach & Merand, 1987) and that one learning condition is to better take into account the educational content as an underlying variable of the teaching process. In light of

the work of these different authors, the idea that is to be kept in mind is the fact that students' responsibility in the teaching content has not been investigated at length in the research in physical education.

In her thesis, Bennour (2014) has paid special attention to the break that students perform in the didactic contract. She, in fact, estimates that it is in these situations that we can see how they may or may not contribute in the didactic process *in situ* (Amade-Escot, 2004). Her research attempts to show the ways in which the modifications introduced by students, which are most of the time little perceptible and escape the teacher's attention, can help the advances of knowledge. Her research has shown that students' task transformation behavior (Toussignant, 1985) can have a positive effect on learning notwithstanding most of the literature, however, point to the weakening effect of this type of behavior on class ecology. Her research has demonstrated that students can sometimes when performing task transformation behavior find by themselves appropriate ways for their own learning.

This research undertakes the comparison of the teaching practices of two teachers of two senior classes of the same level, the first in a public school while the second is in a private one. It seeks to identify which conditions favor most task transformation behavior that allows students to be active learners in classes. More specifically, we intend to account for the teaching conditions that could allow the students to achieve a more constructive learning and acquire further competence in gymnastics. We, consequently, position ourselves according to: "[...] didactics is not the pursuit of the best way of teaching but the study of the relationships between the learning conditions and their effect" (Goirand, 1998: p. 11).

To give an account of the conditions of students' action in the teaching-learning process, we find it is useful to ground our research in a didactic analysis approach of the teacher student joint action (Sensevy & Mercier, 2007). It is worth recalling that in the didactic approach, the study of student action and participation in the didactic action in class has been done in two different ways. The first is concerned by research on verbal interaction (Bennour & Zghibi, 2013; Deriaz, Poussin, & Grehaigne, 1998; Wallian & Gréhaigne, 2004). The second is concerned by research on the didactic contract (Amade-Escot, 2003, 2004; Elandoulsi, 2013; Verscheure, 2005).

We, in fact, consider that the study of the favorable conditions that allow students to take responsibility in the teaching content highlights useful occurrences in a subsequent time in teacher education and this allows a much better concentration on what should be observed to make students far more productive.

2. Theoretical Framework

2.1. Teacher-Student Didactic Joint Action Analysis

In France, a number of authors have recently tried to describe how a teacher creates and conserves a didactic relation. The first sketches of teacher action modeling (Sensevy, 2001; Sensevy, Mercier & Schubauer-Leoni, 2000) display different levels of description going from the fundamental structures of teacher action (define, regulate, devolve, institutionalize) borrowed from Brousseau's theory of didactic situations (1988), to joint action descriptions derived from Chevallard (1991): meso-genesis, topo-genesis, and chrono-genesis.

Thus, the right environment for learning a given content could be described by a dynamics of organized objects following a temporal progression accomplished by the actors, i.e. teachers and students. The latter have varying positions in terms of knowledge and expertise that evolve along different parameters in class. The joint action model to which we refer has been made formal by Sensevy & Mercier (2007). It uses the following parameters (define, devolve, regulate, institutionalize) to account for teacher/student joint action that reflect the knowledge dynamics in class.

2.2. The Quadruplet Description of Teacher Action

In order to observe the "joint action" in class, Schubauer-Leoni (2008) suggests four macro teacher action descriptions namely: define, regulate, institute, and devolve.

-Define: refers to any teacher behavior that tries to precisely designate the underlying rules of the game during class session. More precisely, the author means by "define" any process in which both teacher and student agree on "[...] the way to name and label objects that are essential to the session as well as the task and the situation that are dealt with in common" (*ibid.*, p. 74).

-Regulate: refers to the overall teacher behavior that makes the students address "winner strategies". This regulating action which involves according to Sensevy & Mercier (2007) the core of teaching activity *in situ* : "is

thus characteristic of any teacher behavior that is produced in order to facilitate the adoption by students of winner strategies as well as understand the strategic rules of the game” (*ibid.*, p. 180). According to Amade-Escot (2003), the regulation process in physical education addresses the “set of activities that consists in modifying the constraints and situation variables and regulating the information input so as to maximize the conditions of student/knowledge interaction in learning” (*ibid.*, p. 242).

-Institute: It refers to the teacher’s action so that any behavior and/or knowledge is considered true, legitimate and expected in the school and even outside the class. The teacher proposes forms of institutionalization that are considered as instances of stabilization of the state of the arts and student practices. Institutionalization as explained by Sensevy (2001) consists in fixing in an explicit and conventional way the level/degree of knowledge required by the teacher.

-Devolve: refers to all behavior produced by the teacher to allow the students to take responsibility and engage in the proposed activity. In this context, devolution consists of a process which accompanies with varying intensity the whole didactic work and is not limited to being a condition to start the task. The “devolution” process is interested in seeing the way “the teacher accepts to divest the problem thus enabling the students to be the main participants” (Schubauer-Leoni, 2008: p.74).

In other terms, this may refer to the way in which the teacher brings his/her students to take their own responsibility in learning in a specific context. In general and as Margolinas (1996) highlights, devolution is under the teacher’s responsibility and can switch on the student’s part only under certain circumstances. This is the case because teachers often face some reluctance on their part. The latter do not easily accept to take in charge a whole set of strategies used by students to face “headfirst” the relation with the context and the failure of their attempts. Thus, on the one hand a whole set of strategies is used by the students to bypass difficulties (Amade-Escot, 2003) and on the other a whole range of devolution instances are used by teachers to share responsibility during interaction. The issue of devolution in physical education is to bring students to be constructive in their own learning. In order to transform the students’ motor conducts, the teacher is to suggest didactic contexts that allow combining the physical and reflexive activities in one. It consists to devolve to students a share of the academic “power”.

In our research, we are interested in teacher devolution. We focus on the behavior or activities that make students or a sub-group of students take responsibility to “play the game”, following Sensevy & Mercier terminology (2007).

According to Sensevy (2001), the four segments of academic action formally defined could only make sense if we consider the fact that they support the meso-genetic, chrono-genetic, and topo-genetic triple production.

2.3. The Triple Genesis (Meso-Genesis, Topo-Genesis, and Chrono-Genesis)

Meso-genesis, topo-genesis, and chrono-genesis are considered as essential in the description of teacher/student joint action and the progress of knowledge in class.

-Meso-genesis refers to the evolution of the system of objects (materials, symbolisms, “langagiers”) that are co-constructed by students and the teacher during their interaction. This system of objects is supposed to be organized in the form of a “context for studying” according to Johsua & Felix (2002).

-Topo-genesis or sharing responsibility during the teaching/learning process as part and parcel of the didactic contract implicitly creates systems of teacher and student positioning (their topos) concerning knowledge. In fact, “the distribution of positions is necessarily evolutionary since cultural objects of teacher and students interaction ‘go ahead’ throughout teacher action by creating two ways of thinking or knowing one that is proper to teaching action and another to learning action” (Schubauer-Leoni & Leutenegger, 2002: p. 238). Briefly, topo-genesis accounts for the way teacher and students share responsibility that is related to knowledge issues.

-Chrono-genesis refers to what is related to knowledge production along didactic time sequence. It, thus, sequences knowledge episodes along their progress in time. In the school didactic contract, chrono-genesis essentially depends on teaching action. In fact, the teacher is responsible for “*didactic time*” management.

The didactic joint action model that operationally distinguishes the descriptions of teacher action and teacher/student joint action allows us also to provide a fine analysis of the general context in which task transformation behavior occurs with students who may contribute in the acquisition of certain motor gymnastics skills as well as the knowledge linked to them. In other ways, this model can define the context in which students contribute to the progress of didactic phenomena.

3. Methodology

3.1. Characteristics of the Observed Empirical Contexts

We have observed two teachers in schools situated in two different neighborhoods in Tunis. They are Najoua, a teacher in a public school and Sonia, a teacher in a private school, both teachers have more than twenty years of experience, both have had the same university track and graduated from “sciences and technology of physical activities and sports”, both are non-specialized in teaching gymnastics and apart from their initial teacher education they have no previous experience in this activity.

The observations took place in two senior classes that belong to two different specialties. They are mathematics classes in a public school and economic sciences and society (ES) in a private school. We selected in each class four students girls or boys of different skill levels and that are according to their teachers “*representative*” of weak and strong students.

3.2. Data Collection

Data collection allows setting up different corpuses. We have video-recorded three consecutive class sessions of one unit of gymnastics learning as part of the preparation for the baccalaureate exam in physical education according to Tunisian curricula for the public school and French curricula for the private one.

We have recorded different interviews with the teachers.

-The pre-observation interview has been done before video tape recording the class sessions. It helps to define the planned objectives and learning during that unit. It also tries to describe the students of each class.

-The pre-session interview is performed before each observed class. It consists in asking a number of questions in order not only to know the teacher’s didactic intentions for the class session but also the methods implemented. The number of suggested situations and their progress, the situation at stake the forms of work, as well as class organization are other parameters that are exposed following this interview.

-The post-session interview has been done after the three observations each. It helps to hold the teacher’s reactions after the class session. During the interview the questions asked are about the “success” of the class session in reaching the planned objectives as well as learning achieved. The objective is to know the teacher position against the difficulties encountered by the students, their participation and their engagement during the class session.

-The post cycle interview has been done at the end of the last class session of the unit. It allowed us to have an overall view of the unit as seen by each teacher.

Concerning the three video-recorded and observed class sessions during the two units, we have taken note of the session planning done by the teacher in order to know the items taught. We have also taken some notes so as to have a better idea about the tasks proposed to the students, about teacher’s action in work presentation, and also in her guidelines during the action. We have also taken note of students’ motor action and their progress over the class session. We have also noted their relationships with their classmates, and their interaction with their teacher during or after action. We have also taken note of impression on class and/or teacher, elements on content taught, on unexpected incidents and on the general class operation (Amade-Escot & Marsenach, 1995).

3.3. Data Transcription and Condensation

Following the qualitative analyses principles (Huberman & Miles, 1991), the first step consists in copying down the data collected during the interviews (*pre* observation and *post* unit and *pre* and *post* class sessions). It consists in producing the observation data of the different class sessions in simplified forms of analysis.

We have summarized the video recorded data of each class in a synopsis (Leutenegger, 2003). Their summary has been done following the descriptions of joint action proposed by Sensevy et al., 2000: define, regulate, institute, and devolve. This step helps to illustrate the type of didactic action of teachers, that is to say its specific postures, its expected forms as well as its sequences.

The synopsis of each class session is fashioned as follow in **Table 1**: the first two columns display the chronological markings and the proposed tasks. Then, for each task and in the two successive columns we have described the work modules established and have related what the teacher says and does. A fifth column is intended for the possible interpretation tracks. This summary consists in respecting the structure of the class from the teacher’s point of view.

Table 1. Data condensation: sessions' synopsis.

Time Min	Protocol cutting along proposed tasks	Protocol cutting along created work modalities	Protocol cutting along teacher action instruction during interaction with students	Ways of teacher/students interpretation
0	Getting started			
1	Warm up			
13	Task 1:			
25	Task 2:			
40	Task 3:			
55				

3.4. Data Treatment and Analysis

The meso-didactic analysis grounded in the didactic joint action approach gives an overall view of each class session from their synopsis analysis by using descriptions of joint action (define, regulate, institute, and devolve) defined by [Sensevy, Mercier & Schubauer-Leoni \(2000\)](#). The analysis better illustrates the effects of topo-genesis, chrono-genesis and meso-genesis of the observed teachers during the class sessions.

4. Results

4.1. Characteristics of Najoua's Didactic Action in a Public School

We have produced analyses of the three completed observations in order to reach descriptive hypotheses of the general context in which task transformation behavior occurs in the context of a public school.

The creations of 4 working areas that are leveled along students' skill seem to suit the teacher. The observation shows that she keeps this organization until the end of the unit. This could be explained by the fact that Najoua can easily transform or change a task of a group or another without disturbing the course and/or interrupting the work of the other groups. However, this allows giving additional instructions for the whole class when necessary. This occurs at times during the class when the teacher interrupts students' activity either to recall the class collective memory, to raise an issue, or give instructions for the whole class.

Workshops allow the students to have some autonomy in group organization and in finding solutions to accomplish the tasks. They seem to create the adequate conditions to make the group take responsibility in learning.

The chrono-genesis analysis of each class session internally (in each class) and externally (during the three observed class sessions) shows that gymnastics chaining seems to "go without saying" for this teacher. None of the crucial principles and dimensions on which students may rely on, in order to succeed the linking of different gymnastics elements, are not under study.

The presence of the "chaining" task in the three observed class sessions appears as the field for applying the elements that are to be studied in each class. This attests to the importance given to the chaining reference by this teacher. Paradoxically enough, the underlying didactic contract seems absent: The "chaining" task does not allow the acquisition of the necessary knowledge to practice chaining. In other terms, the task does not confront students with chaining problems such as keeping horizontal speed, creating a lack of balance, halting speed, etc. The "chaining" task does not confront the students with continuity problems (absence of involuntary stopping) from a rhythm proper to chaining as [Fernandez \(1999\)](#) advocates.

Najoua's interventions seem to be characterized by a desire to practice devolution. We test this interpretation by the recourse to the following elements:

-The observation of the three class sessions shows the teacher's disposition not to do certain gestures ordinarily assigned to teacher topos. Thus, when presenting tasks, Najoua never designates the tasks to be accomplished.

-Some proposed tasks such as the handstand against the wall, the carwheel through Swedish bench etc. highlight the fact that teacher relies on the context to teach her students. Nonetheless, it should be noted that most of these contexts lack pertinent "resources" [Venturini & Amade-Escot \(2014\)](#) that enable the students to start the

task and perform tasks in a successful way. In our opinion, these contexts lacking in didactic resources make the student face some difficulties. However, we suppose that to confront students with failure may be a deliberate choice on the part of Najoua so that they identify the problems that they should resolve by themselves, which is coherent with the task devolution hypothesis. At this level, the study of “*descending topo-genetics movements*” (Senvery, Mercier & Schubauer-Leoni, 2000) may as well narrow down our main hypothesis. The teacher could withdraw leaving the place for her students because they are able to perform didactically pertinent “utterances” and “actions” in the learning situation.

Najoua, in her meso-genetics habits and relation to the learning context takes on responsibility to provide the best conditions so that the different proposed tasks allow the student to have some control over learning. However, in the three observed class sessions her interference is limited to the working methods and operation instructions and rarely to knowledge. For Najoua the meeting of the student with the learning context seems to be sufficient to produce the desired adaptations. This interpretation may account for the fact that Najoua does not take responsibility to transmit knowledge and interfere on content by supplying precise hints. Moreover, her reluctance may be explained by the lack of lived experience in gymnastics of this teacher although she has more than twenty years teaching experience in gymnastics. In her *in-situ* class interventions, Najoua finds some difficulty in explaining a task or in analyzing the causes of her student’s failure. Very often, she constantly accounts for these failures which are very often caused by the lack of pertinent means and resources, either because of the lack of an ideal form of forward pushing, execution (lack of execution, of flexion etc.) or general principles (lack also in terms of a cognitive or affective deficit).

We have been able to observe that she sometimes accounts for them during interactive phases, when the really taught content comes to the fore (Marsenach & Merand, 1987), the regulations are never made following the didactic task at stake. Independently of the proposed tasks, the teacher usually repeats the same instructions notwithstanding the student’s behavior and her/his level of accomplishment. We can consider that these “*passe-partout*” instructions that are may be applied in any context indicate that the didactic regulations used by this teacher belong to a limited repertoire. Moreover it does not put in evidence the pertinent instances of learning produced by the students.

Repetition seems to be for the teacher the ultimate condition for learning gymnastics. She, somehow, pushes her students to exploit the context elements that she has arranged. We have seen that Najoua focuses mainly on repetition. Students are in context to take charge of helping one another and to take responsibility to detect difficulties using the context.

Najoua constantly gives high credit to students’ success. Approximate realizations of gymnastics elements are considered as successful. The Topaze effect is reflected in the following words: “meher (/) make a try (the class starts laughing after an unsuccessful try) why are you having fun (/) I find that he has done well/ he has made progress//” (class 1 transcript).

In this learning context, the student takes responsibility to find alone or with his mates the “know how” to accomplish the task. We witness a suspension of teacher/student joint action. In other words, we witness a topogenesis closing where communication between the two poles is interrupted as indicated by Sensevy, Mercier & Schubauer-Leoni (2000).

Self-help as well as resorting to classmates is expected as natural attitudes. The rules as well as the principles of manipulation, of help and of gymnastics parading are never accurate. Action rules such as knowing the technique of the performed element, being active and attentive to the reactions of the performer, having a physically available outlook are not respected. Proximity, holding, precocious interference, auto protection principles etc. are never précised thus making the spotter as well as the performer face security problems and possible accidents. These are the reasons why Najoua interferes and stops students’ task transformation activity.

4.2. Characteristics of Sonia’s Didactic Action at a Private School

The analysis of the three observed class sessions shows that Sonia presents the same teaching content for all the class. As the video-taped records show, even when the students that have a high schooling position progress and that their performance level requires the introduction of new learning, Sonia waits until the weak students make a number of rehearsals before moving to the next task for the class as a whole. Our hypothesis is that Sonia (specialized in tennis) fails to provide varying teaching content adapted to different student skill levels, may be because of her low expertise in gymnastics.

Besides, Sonia has also difficulties in identifying the object of knowledge at stake. Her verbal guidelines presented in general terms most of the time take the form of injunctions. The latter are never about the objects of knowledge and sometimes accompanied by confusion in terminology. Repeatedly, Sonia gives the students false action rules. Sonia succeeds to make learning progress by the way she handles the students in action. During her tactile guidance, Sonia carefully accompanies the students when they perform the task at different levels. However, she takes charge of all the tasks' difficult aspects. Her repeated guidance that has a Topaze effect weakens the didactic effect and does not allow students to experience the actions necessary for real task mastery. Another form that is recurrent in Sonia's didactic action is to advance didactic time by over valuing strong students and weak students' performance. These forms of institutionalization associated with guidance techniques while maintaining the didactic relation by over valuing the students' real motor abilities (in the shape of encouragement or of taking charge of their difficulties) fails to create the conditions for a pertinent didactic context for the targeted learning.

The analysis of internal and external chrono-genesis shows a quasi- exclusive recourse to closed tasks. These tasks leave very little autonomy to students and seem to work against the spirit of composition and free chaining creation planned by the French baccalaureate curricula and those planned by the teacher herself: "*each student will have her/his own chaining sequence/ we will thus have as many chaining sequences as students/girls construct free chaining sequences*" (interview pre-observation). Chaining seems to go without saying to this teacher. Unlike Najoua who ends each class session with chaining practice, Sonia does not introduce chaining as a teaching subject either in the first or in the second session. She is limited to some very simple connections of two elements in class session 2. Only in the third session does she plan the chaining task as a reference one.

During the three class sessions, Sonia encourages students to repeat and to do the tasks seriously. For that, we have seen that she designs the content of her lesson *in situ* depending on the students' motor responses when she handles them one by one to encourage them. We can conclude by saying that in joint action, Sonia takes charge (topo-genesis) most of the time responsibility to cope with the context and show the tasks. Rarely is this task accomplished by students. Using these prompts, the teacher's goal seems to show in an ostensive manner what she wants the students to accomplish in the task.

4.3. Comparison of Intervention Models of the Two Teachers

Both the analysis done to the session synopses and joint action descriptions have shown particular intervention models of the two teachers that are to account for differences in student behavior.

On chrono-genesis level, we have noted the following:

-Progress in learning occurs in 4 groups in the public school in keeping with skill level heterogeneity and sex difference. It is done in one group in the private school and this despite differences in skill level in the girls group.

-The learning that occurs in the acquisition tasks is a mixture of motor solutions (movement models to reproduce) and simulation exercises in the public school. In the private school however, they mainly consist of repeated movement models.

-Chrono-genesis for both teachers is linked to a growing sense of learning situations. Chaining sequences is the place where it occurs (each class session in the public school, at the end of the three last sessions in the private institution).

-Two elements are particular chrono-genesis instances in the two schools: The recourse to collective information time in the public school; elaborating the teaching content for each student in the private school.

At the level of meso-genesis, we notice that:

-In both schools, verbal explanation is reinforced by tactile and visual techniques. They take the form of injunctions having to do with instructions for model gesture performance.

-Student activity management in the private school is done by handling the students associated with an over-valuation of student's motor achievements.

-Teacher/student verbal interaction does not frequently occur in public school and is almost absent in the private one. Learning is based on repetition and gymnastics demonstration, testifying an empirical contract in both schools.

On topo-genesis level we notice that:

-A great extent of autonomy is left to students in the public school. They take responsibility to behave by themselves, to make different level groups. They can also modify the context layout, display the task as well as

help a classmate in its accomplishment.

-A limited autonomy of student in the private school where the teacher directs her class by asking some girls who are more skilled to display some tasks.

4.4. Task Transformation Behavior and Teacher Didactic Action: Comparison between the Two Sites

In this section, we try to interpret the way the didactic contract that is variedly negotiated in terms of student and teacher mutual expectations is linked to the didactic activity of the observed teachers during task transformation behavior. Our results show a great variability in the context in which task transformation behavior occurs.

In public school, we have observed that some freedom is given to students in performing the tasks. This process of devolution depends on students' level. Najoua gives much more autonomy to the students considered "strong". In the private school, this devolution process has not been observed with Sonia's students. The latter has some difficulties to deal with students' heterogeneity in terms of progress in learning. Sonia offers the same content for the whole class and gives very little autonomy to students. The only time she gave them some autonomy by making them perform free chaining practice was in class session 3 in task 10. During this task we observed two instances of task transformation behavior. The didactic context as constructed by Sonia and its close and at the same time non-specific learning direction at stake rarely does allow task transformation behavior.

These results also indicate an inter-individual variability linked to the level of didactic expertise in gymnastics between Najoua and Sonia. The studies conducted by Touboul, Carnus & Terrisse (2008) cited in Elandoulsi (2011) have pointed to the effects of inter-individual variability between expert and less expert teachers. They have shown that expert and experienced teachers give more importance to devolution in didactic action. Although we noted on the public school site a tendency to devolution, we question the substance of such devolution. It is much more concerned with organization rather than specific aspects of learning at stake. It also varies according to the student's educational level and sex. In fact, boys are much more autonomous in work than girls. The latter are offered spaces of initiative in terms of progress or didactic line, which they more or less hold happily. The girls that are less left to their own device and much more controlled by the teacher do find opportunities to deal with a much more challenging gymnastics learning or higher level acrobatics than those proposed in another non-mixed class school.

In the private school, teaching the class as one group and having weak didactic competence in gymnastics make Sonia leave very little autonomy to her students. The latter are, however, conscientious. The learning they get is less acrobatic than in the other school and much skill is invested in esthetical gymnastics figures. Overall, the girls find few solutions to the problems of the didactic context and this is reinforced by the lack of didactic regulations they receive. Their teacher does not seem able neither to regulate their action nor to focus on the pertinent traits proper to gymnastics learning.

Sonia's intervention has more the effect of encouraging feedback. This teacher produces Topaze effects either by over-valuing students successful performance or by the handling techniques she uses. Students are left with little flexibility. The duration of the task transformation instances is short. Although we can hardly make a hypothesis of an attempted devolution in this school, we have been able to show that students take initiatives sporadically and teach each other.

In both schools, the teacher/student joint action analysis shows particular forms of class management. In these two case studies, these forms have been characterized by a "position of withdrawal" of teachers seen in different models:

- "Withdrawal" position under the following conditions "busy, happy and good" or "I have nothing to say, I'm in withdrawal because you are busy, happy and good";

- "Withdrawal" leave the student working alone or "*I do not interfere because students are working and I find that they are doing well*";

- "Withdrawal" position for lack of didactic resources where everything happens as "*I would like to interfere, but I see no didactic resources at hand*".

These different forms of teacher "withdrawal" leave for students an open space of autonomy. This allows them to take charge of a certain number of decisions to progress in their learning. We observed these moments and noted that the two observed teachers make little interferences to accompany their students. Joint action oc-

curs but the teachers' topos is reduced to the minimum in such a way as to make the students' meso-genetic actions unnoticeable.

5. Perspectives for Teacher Education in Tunisia

In this section, we hope that our work could contribute to the discussion of some perspectives for teacher education.

5.1. Didactic Competence and Class Group Management

In tune with our results, we consider that the teacher's task consists essentially to accompany students in knowledge building while taking into consideration the errors and the motor as well as socio cognitive obstacles they meet. Consequently, the target of initial and continuous teacher education should be to make teachers focus on learning strategies and learning difficulties of students. Methodologically speaking, it is important to show to student teacher how to make students make activities by selecting pertinent problem situations that would make sense. But the task of devising learning tasks on its own is insufficient to create the favorable didactic conditions for acquisition. Moreover, this practice involves knowing how to monitor a learning process going from enquiring to the implementation of learning constructed and understood by students. This, of course, takes into consideration their trial and error. In this context, teachers who are considered as facilitators able to choose the most appropriate pedagogy are called upon to understand students' expectations as well as their real interests. In fact, we think that it would be interesting that teachers, beyond the mastery of knowledge, show concern for the manner in which students achieve learning. At this stage of thinking, we really consider that the student can have a real effect in the learning enterprise. In other words, the student could be the main actor in her/his own learning. To consider the student as the main actor in learning, entails the fact that the teacher is able to distinguish what s/he thinks important that the students constructs alone and what he thinks necessary to contribute, the main target being information that are adjusted to her/his behavior. However, how can a teacher let the student be an actor in his/her own learning.

5.2. Pedagogy and Didactic Contract

Didacticians agree that the teacher should organize his/her teaching in a way that involves the student and make her/him take responsibility (Sensevy & Mercier, 2007). In teacher education, it is highly recommended to organize learning following what is currently labeled "differentiated pedagogy" (Perrenoud, 1997). It is based on the idea of individualization of students' action projects thus allowing them in a variety of ways to reach the teacher's targeted objectives. Differentiated pedagogy involves making students autonomous and responsible. It involves individualizing acquisition procedures while taking into consideration the progress rhythm of each student. It is from a common theme for the whole class that are elaborated acquisition situations of different complexity that respect the school level of each student. These situations allow the latter to situate themselves and notice their own progress or the difficulties they meet. This is what makes their real autonomous and training value. As a matter of fact, it can act as reference and allow students to relatively work autonomously individually or in groups.

However, these teaching strategies are hard to construct. The idea is that teacher devolution helps the students to become responsible and judicious. But placing the student in a problem situation does not necessarily lead the student to get implicated in a productive way in learning. This has been demonstrated in the criticism of the "task magic" accomplished by many physical education authors (Amade-Escot & Léziart, 1996; Marsenach, 1991).

When the student is asked to do exercises individually or in a group in a workshop, s/he can manage its organization, can also evaluate her/his other classmates' performance, the grading etc. This recalls topo-genesis management by teachers as described by Sensevy, Mercier & Schubauer-Leoni (2000). These authors stipulate that "topo-genesis management by the teacher supposes that at certain times the later leaves for the student a space that is devoid of any teacher presence where she/he is autonomous" (*ibid.*, p.288). By means of devolution that consists in topo-genesis displacement to the student. The teacher gives autonomy to students. But the latter is not sufficient by itself. The student should on the other hand, be part of a specific learning contract that is put to study. In other words, the student should find in the didactic context some resources that could allow him to act and to be in charge of some specific actions of the targeted learning. The learning tasks are most of the time insufficient for the production of these resources. To consider students' ignorance as legitimate and to make them more invested in solving the problems at hand, the teacher, according to these authors, could display a form of ignorance. In joint

action and in descending topo-genesis movement, the teacher expresses an amount of symmetry with the student. This helps reduce topo-genetic distance between teacher and student. The teacher should give authority to students to be able to act in problem situations. They should be given ways to spot out what they do and to identify the errors to be avoided. However, teachers should at the same time be able to interpret the actions performed by the student, in a way that allows a close regulation the latter's achievement by focusing on pertinent traits, also by modifying the didactic context by the use of verbal and/or non-verbal instructions and by reducing uncertainty. The teacher's work consists mainly in context modification (meso-genesis) by progressively regulating the student's action. This accounts for the concept joint didactic action. An essential perspective for initial teacher education in Tunisia is to make them able to better interpret students actions for a better regulation. This supposes that part of teacher education is interested in what happens in joint didactic action during training sessions or simulated teaching so that the trainee starts thinking on their own actions, on the content of their directions, on feedback, on the offered directions to students in the specific learning that is taught.

6. Conclusions

The results put forward the link between the way the teacher manages her/his class and students behavior. We think we have shown in our study that joint action allows for a better understanding of the reasons underlying students' task transformation behavior. This is accomplished by showing to what extent meso-genetic, topo-genetic, and chrono-genetic gymnastics settings could influence students' action. Our research has shown that students' action in the teaching-learning process depends on teacher didactic practices. We have also seen that very often both observed teachers were unable to react in a judicious manner in order to help their students' progress. We think that a training concerned by observation as indicated by Amans-Passaga & Dugal (2007) is necessary to train student teachers to be able to identify through didactic contract students' negotiations which ones better account for "authority" in learning.

The views on teacher education that I have so far stated will obviously require the development of research in education and teacher education in Tunisia. As a teacher trainer in a higher institute of sports and physical education, it is in this particular professional perspective that I hope I could in the future participate by continuing my research on intervention in the field of physical education.

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