Original Article

Teaching process of future tunisian physical education' teachers during a professional training

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Abstract:

This study explored the several common skills employed by future teachers during the learning athletics situations and determines the current profile of Tunisian future physical education' teacher. They were 36 sports science students pursuing degrees in Exercise Science and Physical Education. All learning lessons were observed for four months throughout the entire semester. Results showed no significant difference was observed between groups in skills employed by future teachers (run, jump and throw). However the results provided skills which were involved in the teaching / learning pattern of educational situations regardless of specialty taught as follows: The teacher's behavior 16% as the most representative factor of the teaching profile' Process, learning preparation 14%, Relationship competence' skills 13 %, expectations and adjustment of learning 7% and Pedagogical relationship since it represents just 6%. In conclusion, this study helps to improve the teaching-learning process by allowing teachers to work on the requested skills.

Key words: physical education, novice, teachers, learning, skills, observation.

Introduction

Physical Education (PE) is one of the means of education, possibly the most enjoyable and the most effective when used properly to reach its objectives (Bayraktar, 2011; Öztürk, 1998). The access path to knowledge of the subject refers to the report of the subject knowledge-that is to say the way it creates links with what he knows and how he with-draws sense. "It is to know that in a relationship to knowledge" (Charlot, 1997). Nevertheless, Future teachers must possess the ability to structure environments that lead to the successful of student learning (Bourdoncle, 2000) within the only context of a particular classroom (Munby, Russell, & Martin, 2001). Indeed, the initial year of teaching has been documented as a critical growth period for teachers development, as novices become acquainted with their teaching responsibilities and the expectations of their school while translating their teacher education' experiences and knowledge into actual teaching practices with students (Kagan, 1992). However, academic learning of future teachers, present a dual purpose of bringing future teachers to the high level and "professionalize" (Altet, 1994; Bourdoncle, 1991; Lang, 1999).

The teaching of Athletics activities, which is one of the branches of PE and described as a physical activity performed in Tunisian secondary level with the aim of making people gain strength, power, coordination, and body control, is vital in all PE classes. However, there is a lack of academic work in this area, and studies that had been conducted had mainly focused on high performance aspects of the sport. To date, only one study examined physical education majors' skills related to Athletics activities (Gouju, 2001). However, for Future teachers, teaching is a complex, intellectual process involving the application of learning theories to solve ill-structured problems. Accordingly, Future teachers need several kinds of knowledge about learning athletics situations. Teachers need to think about what it means to learn different kinds of material for different purposes and how to decide which kinds of learning are most necessary in different contexts. Teachers must be able as well to use different teaching strategies to accomplish various goals and many means for evaluating students' knowledge and assessing students' approaches to learning. In addition, teachers must be able to identify the strengths of different learners while addressing their weaknesses. This kind of understanding provides a foundation for pedagogical content of knowledge (Grimmett & MacKinnon, 1992; Shulman, 1987), which enables teachers to make ideas accessible to others.

Considering this, the first step in preparing and identifying skills for novice teachers during their initial year of practice, is to understand which skills to put into play and which knowledge to transmit during this experience. But, research undertaken on education in general was just about identifying observable elements that actually influence teaching behavior in the classroom and, despite the efforts undertaken for almost fifty years by researchers in educational science and currently in didactics to define the nature of teaching and knowledge useful to teachers to do their job well (Gauthier, 1997). This scientific basis is all the more necessary that only

education based solely on the knowledge of the discipline or the gift or on personal experience does not favor in any way desired as the professionalization of teachers (Altet, 1997; Gauthier, 1997).

This approach would potentially encourage more positive reflection on practice and help PE' teachers and induction programs recognize ways in which they can effectively assist novice teachers. Assessing skills used and knowledge put into play by beginning teachers will not only help beginning teachers during this critical period of growth, but will also address the lack of connection between the teaching learning phases (Feiman-Nemser, 2001).

Because negative aspects of the beginning teachers experience and struggles which have been overly documented in the literature (Hebert & Worthy, 2001), the primarily aim of this research was to highlight several common skills employed by future teachers during the learning athletics situations and to determine the current profile of Tunisian future PE teachers.

Material & methods

Participants

Participants were 36 sports science students pursuing degrees in Exercise Science and Physical Education during the academic year 2014/2015. in the high school (ISSEP Ksar-Said, Tunisia); the supervisor of the practice (a teacher in the physical activity and sport sciences faculty and coordinator of this project) and the observer who recorded and analyzed the data in the practice, having previously trained in practice sessions unconnected with this study.

Data collection

The research protocol has combined two methodologies presented to 36 future teachers, in physical education license, during a learning athletics cycle composed of 36 lessons of one-hour session of practice. During the experiment, the same researchers were present throughout the lessons. Future teachers were debriefed about the goal of the study once all experimental sessions were finished. During the athletics cycle, the future teachers used the following learning Item in their initiation and learning cycle instructions: learning (a) run; (b) jump; (c) throw. During the field experiences, the future teachers use the same class level and taught twelve educational athletics lessons.

The following instruments were used for data collection:

- The analysis of the content of the lesson and future teachers' intervention based on a constructed evaluation grid that comprises: Preparing for Learning (PL), Classroom Management (CM), Teaching / Leading Practices (T/LP), Performance Appraisal / Monitoring / Expectations (PA/M/E), Communication with Students (CS) and Professional Responsibility / Leadership (PR/L). We made reference-in analysis of the content of the lesson to Grid of the teacher's work adapted from Marshall (2009) revised in July 2011.
- Observing and assess the skills used by teachers during the lessons by referring to the professional skills of teachers as: Equipment Management (EM), Space Management (SM), Time Management (TM), Group Management (GM), Individualization of Instruction (II), Correction (C).

Observation has allowed us to perceive in the analysis of the possible difference between content analysis of educational record the session itself.

Process of Analysis of Observations

All athletics learning situations are digitally video filmed. All teachers' interventions sequences are recorded. The investigator had no prior relation with the participants. The investigator started this observation when the future teacher began her teaching in athletics cycle. The investigator attended and observed all learning lessons for four months throughout the entire semester. During the initiation and learning lessons, the investigator observed future teachers in individual and separate sessions throughout the athletics cycle. The investigator took field notes while observing the future teachers.

In each session filmed, we look in the first time, to identify the types of interventions and skills mobilized by the teacher that we have presented below. Indeed, the focus is on the choice of the use of the learning situations, the intervention time and ability to help and prepare the students in learning situations. Thus, when, for example, we observed several groups of students at the procurement guidelines for learning, we wanted to know what was looked and hear in the activity of the teachers observed. In a second time, and based on the observation of teaching situations, we were trying to characterize a typical profile of future Tunisians athletics teachers.

Individual Evaluation Forms

The individual Evaluation Forms were prepared for individual interventions to evaluate pre-lessons preparations and lessons interventions of the experiment future teachers whose took part in this research experiment. This individual Evaluation Forms was constructed by observing teaching lessons before the experiment. This observation allowed us to construct the individual Evaluation parameters which were also relying on the given literature Rubrics of the teacher's work adapted from Marshall (2009) revised in July 2011. Each form has different evaluation parameters specifically related to that intervention. So, a four point scale (1 = does not respond to requirements; 2 = improve; 3 = good; 4 = very good) were used. The evaluations of each future' teachers were recorded and afterwards were graded by evaluators whose were involved in the research experiment. Thus overall scores that future teachers received from each activity evaluation were counted.

Procedures

To respect the ethics of research two types of principle-were considered: the first aims to inform participants of the research objectives. The second is to protect the subjects face the possible uses of the data obtained. Phase of data collection took place during the Athletics cycle from January to April 2015. No information about the purposes of the study was given to the participants until after they completed the experiment.

We referred in this research protocol to the study of Terrisse (2006) who divides the teaching of PE in three stages, but-especially factors that assigns a category different educational choices to each of three times.

The first time is the education' design, where the teacher determines the knowledge which he wants to convey to the students and how it wants to transmit it. According to the author, these are the factors specific to the teacher (Personal experience as a student and as a teacher in the discipline taught) involved in his educational choices. *The second stage* is the teaching practice in the classroom, where the teacher concretely transmits knowledge to students. For this second time, Terrisse (2006) connects the teacher's didactic choices to contextual factors and own students (reactions to the proposed activity).

The last time is the teacher' feedback, for which no educational choice is made because it is only a personal return of the teacher on the teaching he has provided.

Statistical analysis

Data are reported as frequency and perceptual of distributions of question and means $\pm$ standard deviations and confidence intervals at the 95% level (95% CI) for items. The normality of distribution, estimated by the Shapiro-Wilk test, was not acceptable for all items. Between-groups comparison was assumed by the Chi square test for the items and questions. A principal component analysis was used to establish a profile.

Significance was set at 0.05% ($p \leq 0.05$). Calculations and statistical analyses were performed using Statistical Package for the Social Sciences version 20.0 (SPSS Inc., Chicago, IL, USA).

Results

The result of analysis, of skills employed by future teachers during the learning athletics situations, revealed no significant difference in accordance to all items studied between-groups (Table 1).

Table 1. Between-groups statistic for all items studied.

Items	Groups	Does not Respond to Requirements	Must be Enhance	Good	Very Good	χ^2
Preparation for Learning	Run	0%	25%	58,3%	16,7%	7,05
	Jump	0%	50%	50%	0%	
	Throw	0%	66,7%	33,3%	0%	
Classroom Management	Run	0%	25%	58,3%	16,7%	4,61
	Jump	0%	41,7%	58,3%	0%	
	Throw	0%	41,7%	58,3%	0%	
Teaching / Leading Practices	Run	8,3%	66,7%	25%	0%	7,5
	Jump	25%	75%	0%	0%	
	Throw	0%	91,7%	8,3%	0%	
Assess the performance / Followed and Expectations	Run	8,3%	50%	41,7%	0%	5,23
	Jump	0%	83,3%	16,7%	0%	
	Throw	0%	83,3%	16,7%	0%	

Figure 1 shows the mean response from all groups for each items studied.

Fig. 1. Percentage of response from all groups for each items studied.

Between-groups analysis in accordance to the questions showed a significant difference in Question 3 item 1 ($Q_3I_1 \chi^2 = 13.567$, with $p < 0.05$), Question 2 item 2 ($Q_2I_2 \chi^2 = 17.397$, with $p < 0.05$) and Question 7 item 3 ($Q_7I_3 \chi^2 = 13.182$, with $p < 0.05$).

Analytic Chi square comparison revealed significant difference only between run and jump groups ($p < 0.05$) in Q_3I_1 long-term planning / preparation for learning (Fig. 2). Similarly, a significant difference between run and jump groups ($p < 0.05$) and run and throw groups ($p < 0.05$) in Q_2I_2 develop a mutual respect climate / classroom management (Fig. 3). In addition, a significant difference between run and jump groups ($p < 0.05$), run and throw groups ($p < 0.01$), and jump and throw groups ($p < 0.01$) in Q_7I_3 reflects on the efficiency lessons taught / teaching and leading practices (Fig. 4).

Fig. 2. Percentage of response from all groups in the third question items 1 (Q_3I_1).

Fig. 3. Percentage of response from all groups in the second question items 2 (Q_2I_2).

Fig. 4. Percentage of response from all groups in the seventh question items 3 (Q_7I_3).

Finally, the principal component analysis showed seven factors determining the profile of the future physical education' teachers during a professional training (Table 2).

Table 2. Factor Loadings (Varimax) – analysis of main components

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Question7 Item3	0,73	0,16	0,09	0,12	0,10	0,15	0,18
Question4 Item3	0,71	0,16	0,31	-0,10	-0,06	0,37	0,23
Question7 Item4	0,69	0,30	0,08	0,44	0,15	0,14	0,12
Question2 Item1	0,69	0,42	0,10	0,08	0,04	-0,35	-0,05
Question2 Item4	0,68	0,26	0,39	0,09	0,25	0,22	0,02
Question8 Item4	0,63	0,02	0,06	0,45	0,15	0,17	0,16
Question3 Item3	0,50	0,47	0,41	0,22	0,16	0,06	0,12
Question4 Item1	0,14	0,75	0,04	0,10	0,00	0,10	0,14
Question7 Item1	0,04	0,68	0,18	0,33	0,35	0,29	0,05
Question8 Item1	0,27	0,67	0,29	0,22	0,00	-0,24	0,11
Question1 Item1	0,51	0,65	0,23	0,01	0,20	0,24	0,15
Question5 Item1	0,41	0,56	0,16	0,07	0,14	0,14	0,48
Question6 Item1	0,32	0,48	0,17	0,38	0,26	0,10	-0,18
Question1 Item2	0,04	0,22	0,78	0,26	0,05	0,05	0,25
Question3 Item2	0,13	0,10	0,73	-0,28	0,23	0,11	0,16
Question5 Item2	0,16	0,34	0,72	0,19	0,07	0,19	0,14
Question2 Item3	0,28	0,01	0,69	0,08	0,25	0,18	0,12
Question2 Item2	0,25	0,21	0,63	0,41	-0,26	0,08	-0,34
Question1 Item4	0,06	0,28	-0,03	0,83	-0,07	0,00	0,21
Question4 Item2	0,49	0,00	0,29	0,62	0,41	-0,07	-0,11
Question6 Item3	0,38	0,28	0,19	0,55	0,22	0,16	0,20
Question4 Item4	0,08	-0,03	0,30	0,49	0,35	0,36	0,12
Question5 Item4	0,16	0,14	0,10	0,20	0,82	0,07	0,10
Question6 Item4	0,13	0,47	0,28	-0,12	0,52	0,20	0,20
Question3 Item1	0,38	0,43	0,23	0,00	0,45	0,22	0,00
Question3 Item4	0,13	0,18	0,07	0,10	0,09	0,83	0,13
Question5 Item3	0,26	0,07	0,35	0,06	0,12	0,69	-0,10
Question6 Item2	0,22	0,22	0,41	0,32	0,08	0,03	0,72
Question1 Item3	0,39	0,25	0,32	0,19	0,17	0,07	0,60
Eigen Value	4,76	3,99	3,96	3,00	2,16	2,13	1,76
% Accumulated Variance	16,41	30,17	43,84	54,18	61,62	68,95	75,02

Discussion

To describe the teacher's activity globally, we look to highlight several common skills employed by future teachers during the learning athletics situations and to determine the current profile of Tunisian Future PE teacher. We will discuss our findings by referring to the work of teaching Terrisse (2006) that divide three stages. Therefore, related to the results of the present study, skills which were involved in the teaching / learning pattern of educational situations are presented below:

The education' design

For the *learning preparation*, the results suggest that (a) Planning for the teaching programs; (b) Provides differentiated planning; (c) Organizes the disposal of the classroom; (d) Mastery discipline ensures learning situations and this represents 14 % of the Process' Teaching Profile of future teachers. For Banville and Amade-Escot (2001), the quality of teaching is considered a determining factor in student learning. This influence has Teacher learning has been studied under many angles and many in the past. So, this should lead to teacher designing the training provided in accordance with the moments we was able to discern in a learning process, that is mean having foreseen, among others, to devote time to develop attitude adapted to define a project to exploit the received data. It is therefore taking into account both the requirements of content education, that is to say data from the didactic and the demands of a learning process, the teacher should designing interventions. It would put the most in these conditions chances of success on his side. This naturally would suppose given an important place in the training of teachers, the acquisition of knowledge on learning alongside knowledge of the teaching subject.

Accordingly, based on learning pattern, it suggests the introduction by teachers into their teaching, of exchanges with their pupils about their ways of learning. When planning the teaching of a subject, one should be able to take into account a reflexing on the contents as well as on the learning process. This leads to change the content and to organize differently the time, the space or the form of training activities and to give the learner new methods to respond more effectively to situations proposed. According to Mosston and Ashworth (1990), teaching is "ruled by a single process: decision making." The-quality of education, according to this definition, becomes the teacher's ability to make the right decisions at the right time. These decisions relate to several elements such students, the subject matter, the work environment or the interaction of these different elements.

According to these authors, the teaching process learning is the result-of constant interaction between the decisions taken by the teacher and those taken by the students. Furthermore, analysis of the teacher's behavior in the current study allowed us to note that this results in a stimulation in the learning associated with the individualization and the taking into consideration that can generate motivation and cognitive engagement and perseverance in learners.

The teaching practice

Teacher's behavior: Based on educational Athletics lessons observed, the data highlight the Teacher's behavior (16%) as the most representative factor of the Process' Teaching Profile of the observed future teachers. The behavior of future teachers highlights the teacher's interventions as the previous student activity (Prescription) and teacher interventions responsive to student activities (Reaction). Therefore, nature of physical education is grounded in movement, games and sports, which lends itself to a high rate of teacher-student interactions. The nature of these interactions may be a leading factor in a student's perception of physical education. Carlson (1995) and Portman (1995) cited teaching behaviours as strong indicators for either positive or negative perceptions of physical education.

The analysis of *behavior Teaching*, the trainer holds the characteristics of students, characteristics of the content he wishes to address, situational data like time and physical structures available to it. We can focus as well on the study of the interactions that develop between the person of the teacher and pupils (Brunelle, Tousignant, & Godbout, 1983), interactions that go build the educational climate. In fact, Smith, Smoll, and Hunt (1977) reported that this environment is related to the perception how students interventions of the teacher. Thus, a positive climate would-introduced by the teacher's ability to respond to student activities, an- especially to its success.

The main findings of the present study showed that future teacher' intervention should focus largely on changing these aspects of behavior. In addition, this in terms of cons-indications lots more in terms of mandatory guidelines. Because the main task of the period training is the elucidation of the image that is formed of teaching (Berbaum, 1984). This "awareness" by the teacher profile personnel, such as taking into account the importance of positive interactions, could be a decisive factor in a teacher training. Moreover, this through the central idea that teacher training is, in particular, training personal (in the sense of the person's training) which passes through the "decision awareness of what we are "when faced with different tasks teaching.

This should also lead to teacher designing the training provided in accordance with the moments we was able to discern in a learning process, that is to say having foreseen, among others, to devote time to develop attitude adapted to define a project to exploit the received data. It is therefore taking into account both the requirements of content education, that is to say data from the didactic and the demands of a learning process, the teacher should designing interventions. It would put the most in these conditions chances of success on his side. This naturally would suppose given an important place in the training of teachers, the acquisition of knowledge on learning alongside knowledge of the subject of education.

Relationship competence: This involves, skills related to classroom-management, which, according to Gauthier (1998), "is to establish a set of rules and modes of action to create and maintain an orderly and supportive environment for teaching as well as learning". However, in this study *Relationship competence'* skills come in third place (13%) in relation to the skills involved by the future teachers in the teaching / learning of athletics' activities. These skills consists in creating an atmosphere conducive to work session EPS, manage or not appropriate behavior of students in the classroom physical education and deal with deviant behavior of students.

However, these-*Relationship skills* just may be the place of many interesting progressions both in-group management that of learning. The role of the novice teacher can just take a new form with these students there. Accordingly, Postic (2001) shows that we can create a classroom dynamics to better teach. It is more effective in pleasant environment in a place where there are too many tensions. The teacher is the lifeblood of a class and it must not lose sight of one of his missions, which is to promote the success of all.

It appears therefore that it is necessary in the margins of technical learning to develop interpersonal skills that at first may seem-useless but which over the time can achieve transversal objectives of the PE such as citizenship and promote learning.

The pedagogical relationship: Our study does not meet further to the category of the Pedagogical relationship since it represents just 6% of teacher competencies. In fact, in that study future students do not emphasize the effectiveness communication on student achievement neither the information transmitted by teachers when they address their students, whether directly accessible or more informal or even unconscious.

Though, the pedagogical relationship, previous studies considered it in the middle of teaching profession and connects the individuals (teacher and students), involves various information transmission which aims final remains the acquisition of knowledge by students. However, ownership of these through requires a variety of processes including the establishment of a relationship of trust between the professor and his students. The quality of the relationship is essential since among the factors influencing the sense of well-being among students, the nature and quality of relationships with their teachers (teachers' attentive, fair and that support them account) is the most influencing factor (Meuret & Marivain, 1997).

The initial question we asked was what skills were more involved in the teaching/learning situations, including how to relate to more involved students in learning. While the experiment conducted has provided some answers, but to be more meaningful it would be interesting to assess the knowledge transmitted by teacher when learning/teaching diverse disciplines.

The teacher's feedback

Expectations and adjustment of learning /Students' learning Assessment: The analysis of data collection reveals that Expectations and adjustment of learning represent 7% of the skills involved by the future teachers. The results reveal as well that Students' Assessment learning skills has reached only 7%. However, novice teacher must also take account of Expectations and adjustment of learning and inter-individual differences-that are present in his class. The teacher's expertise makes has a role with respect to students. Teacher's actions induce as well in the student acts as the teacher knows the structure in place and for the student or he assists in the knowledge' construction. For Avanzini (1978) teacher, as mediator of knowledge, must not be content to play a role in transmission: « It has less to teach the student to arouse the desire to be taught, at least communicate knowledge to provoke the desire to receive. » It is a paradox peculiar to teaching: the message to be transmitted is only intellectual and universal, while making communication possible, it is the emotional.

Previous research highlights the existence of a "teacher-effect" of about 16% on acquisitions (Duru-Bellat & Mingat, 1994). Share behaviors that implements the nature of his interactions with students, teaching climate that landscape, it delivers the feedback, the teacher is likely to "make a difference", in terms of learning and more generally of student success (Good & Brophy, 2000; Piéron, 1993). If these work shows significant differences between the most "effective" teachers and those who are less so, some also highlight great variability in behavior of a single teacher, according to his classmates. That is, it does not give the same attention, does not show the same warmth, does not offer the same content, or does not deliver the same feedback for all students in the class (Weinstein & Middlestadt, 1979). Expectations that teachers develop with respect to their students is one of the factors explaining these differentiated behaviors.

Teaching target is primarily to make decision, because "every pedagogical action is based on an interactive decision" of the latter (Altet, 1994). Rey (1999) also goes in this direction when he states that in fact the management of a course involves an "infinite number of micro-decisions that must be urgently and improvisation" and which are rooted in research and the banishment of the dead time and student attention. Teachers are thus faced with unique situations. The work itself remains the same, but the elements can vary in quantity, quality and availability, altering profoundly the relationship and making each unique situation.

Conclusions

This paper reports on research conducted with PE future teachers to identify the skills to be mobilized in their professional practice. The findings proving the *Teacher's behavior* 16% as the most representative factor of the Process' Teaching Profile of the observed future teachers, *learning preparation* 14%, *Relationship competence' skills* 13 %, *Expectations and adjustment of learning* 7% and *Pedagogical relationship* since it represents just 6%. The results of this investigation do not only provide the importance of skills mobilized in teaching/learning PE but also show the need for Future Teachers and instructors to manage the use of the most effective skills in such a way that they can benefit from their professional training for their the knowledge' construction. Teachers need to know as well about pedagogical resources to connect their students with sources of information and knowledge that allow them to explore ideas, acquire skills, create accessible learning experiences, and frame and solve problems. Moreover, teachers need to know about collaboration how to structure interactions among students so that more powerful shared learning can occur. In sum, this study helps to improve the teaching-learning process by allowing teachers to work on the requested skills, but also instructors to take this into account in initial formation.

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