

Identification of Professional Skills of Trainee Teachers (The Case of Mosaganem City-Algéria)

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The objective of this article is to present the results of a literature review of empirical studies which define the mastery levels of professional competencies attained by novice teachers. The reference to teacher training (The Official Bulletin No. 29 of 22 July 2010) is designed as a tool to identify the professional skills of trainee teachers. This is the new policy of teacher education which includes ten professional skills expected of future teachers. Content analysis carried out, it emerged that almost all subjects are evaluated at very low levels to master all the professional skills of the repository.

Key Words : Professional Skills ; Trainee Teacher ; PE

L'objectif de cet article est de présenter les résultats d'une revue de recherches empiriques qui définissent les niveaux de maîtrise des compétences professionnelles atteints par les novices en enseignement. Le référentiel à la formation à l'enseignement est adapté comme outil permettant d'identifier ces compétences professionnelles des enseignants novices. Ce document constitue la nouvelle politique de formation à l'enseignement qui regroupe les dix compétences professionnelles attendus des futurs enseignants. Des analyses de contenu réalisées, il se dégage que la quasi-totalité des sujets évalués sont aux niveaux très faible à faible à maîtriser l'ensemble des compétences professionnelles du référentiel.

Mots clés : Compétences Professionnelles ; Référentiel ; Enseignant stagiaire, EPS

INTRODUCTION

For ten years, the notion of competence is required in companies as the watchword of the management of human resources. Skills approaches multiply the logical authority supersedes the logic of trade or logical extension, poly competence is the key to the adaptability of the company, the training gives way to the development of skills. Carried away by its success, competence has become an absolute reference, which covers many realities as the institutes or training centers that use it. The definition of the concept of skills still

arouses extensive debate; the 50 groups that met under the CNPF from April to December 97 are widely echoed. The CNPF finally adopted the following definition: "Professional competence is a combination of knowledge, skills, experiences and behaviors, training in a specific context. It finds during its implementation in a professional situation from which is pensionable. So the company or training center that belongs to locate, evaluate, validate it and evolve". (CNPF, 1998). Tools management skills are more consensual. Hardly

exaggerating, we could say that every business or educational sector generated its own methods, developed its analysis grids, and invented its business standards and competency frameworks, risk repeating work already done by others. This modest study main objective is to identify the professional skills of trainee teachers of PE in the province of Mostaganem. Our study explores initially the challenges of identifying competencies, its purpose, its objectives, challenges, before we focus on the means used to identify the professional skills of trainee teachers of PE offer key solutions that can be put in a situation for these young novice teachers. From the presentation of our problematic we ask the question: What are the representations of the level of mastery of professional skills of trainee teachers to physical education and sports?

METHODOLOGICAL APPROACH

This study was conducted during the 2012/2013 academic year. It is based on, one hand, the identification of professional skills of trainee teachers in physical education and sports, on the other hand, on data collected from the actors involved in this study in the region of the province of Mostaganem. For this purpose we used the descriptive method to achieve the expected results of this study.

Populations

Our results are based on a total sample of 23 trainee teachers EPS which represents 100% of a total population of 23 trainee teachers physical education and sports to working within schools of Mostaganem wilaya and we are graduated from a specialty master human movement and motor / sports training, they are an average experience of not more than two years in professional environments.

Instruments

Trainee teachers responded to a repository of professional skills in the art of teaching and they gave us their estimates of mastering each skill. A not involved in the study expert assured the validity check. And in this phase we went through the key steps in scientific research to get to build our search tool and Table 1 shows us the evolution of standards of professional competence in the art of teaching.

Data Processing

In this study, we will focus on the analysis of the answers

provided by the PE trainee teachers to a repository of professional competence in the art of teaching of identifying representations and degree of mastering each skill and meta- skills through Lickert scales to five levels. Responses were entered into a computer database and processed using SPSS 17 software, the comparison test of two percentages being used for analysis of our results.

RESULTS AND DISCUSSION

This part of the study will be devoted to analysis and discuss the results obtained from the subjects (novice teachers). It will allow us to highlight the main findings of our research and analysis with reference to the designs of the context of national education in our country.

Analysis of Professional Skills among Trainee Teachers of PE

According to Table 2, the degree of representation of professional skills of trainee teachers is very low to medium for each competency repository available. This would indicate that the proposed competencies do not really concern the objectives and purposes of PES training.

The analysis of the results allows identifying at what level is located mastery of each skill in the art of teaching. We found that the overall results are between the very low and medium level. Novice teachers are average in skills related to the teaching of the discipline and planning as well testing, 15 of the 23 trainee teachers who participated in the study that is 65.21 % have a deficit in the mastery ICT in the educational field, without forgetting the lack of work in collaboration with partners or parents. Moreover, the results for the training shows that 16 teachers that is 69.56 % did not receive training to update their knowledge in the field, for us it is very important to mention because after training we will be able to research that it ends with what is called innovation. We believe this shows that there's no consistency between the skills required at the end of training in physical education and sport institute and the representations of mastery of the professional skills of trainee teachers.

Analysis of Professional Skills among PE Trainee Teachers in the Field of Exercise of Professional Responsibility and Ethics

The degree representations of professional skills of trainee teachers is very low to medium for each meta-skills repository available (Table3). This would indicate that these specific skills are not really affect the skills required at the end of training and the goals and objectives of training in PE.

Table 1. Comparison of professional competences for Physical Education teachers to Perrenoud's (2004) teaching competences

Siedentop (1998)	Philippe Perrenoud 2004	Boned et al. (2004)	ANECA (2006)	Sebastiani (2007)	Teacher Education Lausanne 2012	LAROUA ABDEL HAFID (2012)
<p>1. To plan content. 2. To transmit content. 3. To motivate students in different ways. 4. To know their students. 5. To know the learning context. 6. To know their subject</p>	<p>1. To organize and encourage learning situations. 2. To manage learning progress. 3. To create and develop differentiation devices. 4. To involve students in their learning and work. 5. To work in team. 6. To participate in the school's management. 7. To inform and involve parents. 8. To use new technologies. 9. To face the duties and ethical dilemmas of their profession. 10. To organize their own continuous training.</p>	<p>1. Emotional self-control. 2. Capacity to plan. 3. Respect for ethical values. 4. Capacity for innovation and creativity. 5. Capacity to make decisions. 6. Responsibility. 7. Capacity for crisis management. 8. Capacity to anticipate problems. 9. Capacity to speak in public. 10. Capacity for social relationships.</p>	<p>1. To design, develop, and assess teaching-learning processes concerning physical activity and sports, paying attention to the people's individual and contextual characteristics. 2. To promote and assess education in enduring and autonomous habits to practise physical activity and sports among school population. 3. To apply physiological, biomechanical, behavioural, and social principles to their proposal of tasks to be taught in the educational context. 4. To identify risks deriving from practising inappropriate physical activities for the health of students. 5. To plan, develop, and assess the implementation of school sports programmes. 6. To select and use the appropriate sports material and equipment for every kind of Physical Education activity.</p>	<p>1. To connect with and motivate students. 2. To adjust to and be demanding with students according to their reality. 3. To get involved with and in the school centre. 4. To transmit comprehension, sensitivity, and enthusiasm in front of education. 5. To manage, conduct and lead their group in an attentive way. 6. To plan and program thoughtfully. 7. To demand and demand themselves. 8. To educate in attitudes and values. 9. To assess reasonably. 10. To know their students. 11. To achieve learning in their students. 12. To use a wide repertoire of resources. 13. To create a good class atmosphere. 14. To guide students according to their sports possibilities. 15. To provide knowledge. 16. To inform students about the possibilities in their environment. 17. To work from practice and research on their own action. 18. To take care of themselves. 19. To take care of materials and facilities. 20. To have a good command of sports technique. 21. To act in an exemplary and model way. 22. Others (solid training and certain personal characteristics).</p>	<p>1- Act as a professional critic and holder of knowledge and culture 2 - Engage in individual and collective professional development process 3 - Acting ethically and responsibly in the exercise of its functions 4 - Designing and delivering teaching and learning situations based on students and curriculum 5 - evaluate learning progress and the degree of acquisition of knowledge and skills of students 6 - Plan, organize and ensure an operating mode of the class for learning and socialization of students 7 - Adapting to the needs and characteristics of students with learning difficulties , adaptation or disability 8 - Integrating information technology and communication for preparation and delivery of teaching and learning activities , management education and professional development 9 - Working with educational goals of the school with all relevant partners 10 - Work with members of the teaching team to perform tasks supporting the development and evaluation of targeted skills 11- Communicate clearly and appropriately in various contexts related to the teaching profession.</p>	<p>1. Official act of the state of ethical and responsible manner 2. Master the language to teach and communicate 3. Master the discipline and have a good general knowledge 4. Design and implement teaching 5. Organize the work of the class 6. Take into account the diversity (the level) of students 7. Assess students 8. Master information technologies and communication 9. Teamwork and cooperation with parents and school partners 10. Form and innovate</p>
<p>Piéron (1999)</p> <p>1. Behaviour. 2. Skill at observing the student's features. 3. Knowledge, motivations, perception of context and situations.</p>		<p>Training Plan in Professional Competences - UEM (2004)</p> <p>1. Emotional self-control. 2. Capacity to integrate knowledge. 3. Capacity to establish social relationships. 4. Respect for ethical values. 5. Will to serve others. 6. Capacity to make and take criticism.</p>				
		<p>ANECA (2004)</p> <p>1. Capacity to transmit attitudes and values. 2. Capacity to select and use teaching methods. 3. Capacity to plan, assess, and develop teaching programmes.</p>				

(Source: Adaptation by LAROUA (2012))

Table 2. Representations of Trainee Teachers at Mastering Professional Skills

Skills	Very Strong		Strong		Meduim		Low		Vey Low	
	Count	%	Count	%	Count	%	Count	%	Count	%
1. Official act of the State of ethically and responsibly	01	%4,34	12	%52,17	03	%13,04	00	%0	07	%30,43
2. Master the language to teach and communicate	00	%0	01	%4,34	05	%21,73	16	%69,56	1	%4,34
3. Master the discipline and have a good general knowledge	00	%0	04	%17,39	15	%65,21	03	%13,04	01	%4,34
4. Design and implement teaching	00	%0	04	%17,39	18	%78,26	01	%4,34	00	%0
5. Organize the work of the class	01	%4,34	02	%8,68	14	%60,86	06	%26,08	00	%0
6. Take into account the diversity (the level) of students	00	%0	05	%21,73	13	%56,52	04	%17,39	01	%4,34
7. Evaluate the students	00	%0	03	%13,04	12	%52,17	08	%34,78	00	%0
8. Master information technologies and communication	00	%0	01	%4,34	04	%17,39	03	%13,04	15	%65,21
9. Teamwork and cooperation with parents and school partners	00	%0	02	%8,68	05	%21,73	14	%60,86	02	%8,68
10. Form and innovate	00	%0	00	%0	03	%13,04	04	%17,39	16	%69,56

The Analysis of the results allowed us to ride at what level is located mastery of each of the meta- skills in the art of teaching. We found that the overall results are between the very low and medium level. Novice teachers are average in skills relating to the master language to teach as well as skills related to teaching discipline, knowledge and planning not to mention the professional act at the heart of business , 13 trainee teachers among the 23 who participated in the study that is 56.52 % have a deficit in the safety assurance and the application of the rules of official texts not to mention the analysis of its practice, it focuses on self- evaluation of trainee teachers in the professional circles , not to mention the lack of work in collaboration with partners or with skillful persons, for example teacher trainers for their support in exercise of the profession of teaching results shows that 15 teachers or 65.22 % do not call for the support of experienced teachers or coordinators (responsible for the matter) for coordinated and applied work in the best conditions.

Analysis of Professional Skills among PE Trainee Teachers in the Field of Teaching Act

Table 4 shows us that the degree of representation of professional skills of trainee teachers is very low to medium level for each meta-competencies proposed repository.

The analysis of the results shows the level of mastering each meta- skills in the art of teaching. We found that the overall results are between the very low and medium level. Novice teachers are average in skills related to the teaching of the discipline, course design, organizational skills class work and without forgetting the planning and evaluation, 22 of the 23 student teachers who participated in the study (95.65%) do not integrate ICT in teaching sessions with students and other have a deficit in the mastery of ICT in the work of networking and collaboration with colleague (platform cooperation, email etc...) in the educational field. We believe this is a great problem mentioned in the educational system taking into account the current it is essential to work with the help of ICT in course design or for collaboration with partners in the form of electronic platform , despite only training these teachers have undergone a training program in computer science with well-defined objective , but we found that there's no consistency between skills required at the end of data processing training at the institute of the physical education and sports and representations of mastering professional skills of trainee teachers.

Analysis of Professional Skills among PES Trainee Teachers in the Field Taking into Account the Social and Educational Context

The degree representations of professional skills of

Table 3. Performances of Trainee Teachers at Mastering Professional Skills in the Field of Practice of Professional Responsibility and Ethics

	Skills	Very Strong		Strong		Meduim		Low		Vey Low	
THE PURSUIT OF PROFESSIONAL RESPONSIBILITY AND ETHICS	Mastering disciplinary knowledge needed to teach	0	0,00	0	0,00	14	60,87	7	30,43	2	8,70
	Identify links between disciplines to help their joints	0	0,00	0	0,00	10	43,48	5	21,74	8	34,78
	Be exemplary in the use of language	0	0,00	0	0,00	2	8,70	6	26,09	15	65,22
	Ensure a framework of security and respect for all students (physical and moral integrities students , sanction authority , justice ...)	0	0,00	4	17,39	12	52,17	4	17,39	3	13,04
	Identify and appeal to people who can provide help and support in the exercise of profession	0	0,00	3	13,04	15	65,22	5	21,74	0	0,00
	Taken into account in teaching the contributions of research on the school and teaching	0	0,00	1	4,35	13	56,52	5	21,74	4	17,39
	Enter values in practice professional (fight against discrimination, prevention of risk behaviors ...)	0	0,00	0	0,00	4	17,39	4	17,39	15	65,22
	Act daily in its class in the compliance (rights, duties of officers , official texts)	0	0,00	5	21,74	13	56,52	3	13,04	2	8,70
	Be attentive to the quality of the language among students	0	0,00	0	0,00	3	13,04	2	8,70	18	78,26
	Formulate requirements for vocational training	0	0,00	4	17,39	9	39,13	8	34,78	2	8,70
	Analyze professional practices	0	0,00	0	0,00	13	56,52	4	17,39	6	26,09

trainee teachers is very low for each meta- skills repository available (Table.5).

Analysis of the results allowed us to ride at what level is located the mastery of each of the meta- skills in the art of teaching.

We found that all of the results lie in the very low level. Novice teachers are very low in skills related to working with partners or parents and the students followed by a medium / long term after the orientation, 22 of the 23 student teachers who participated in the study, that is

Table 4. Performances of Trainee Teachers at Mastering Professional Skills in the Field of Teaching Act.

	Skills	Very Strong		Strong		Meduim		Low		Very Low	
THE ACT OF TEACHING	Using ICT to network with colleagues (cooperation platform , email, forum ...)	0	0,00	0	0,00	4	17,39	4	17,39	15	65,22
	Building a progression of learning	0	0,00	2	8,70	15	65,22	4	17,39	2	8,70
	Analyze the observed performance and identify the causes of errors	2	8,70	4	17,39	16	69,57	0	0,00	1	4,35
	Teach in reference to the objectives and content of programs	3	13,04	0	0,00	14	60,87	4	17,39	2	8,70
	Integrating ICT in sessions with students	0	0,00	0	0,00	0	0,00	1	4,35	22	95,65
	Organize learning situations developing participation and cooperation among students	0	0,00	2	8,70	15	65,22	4	17,39	2	8,70
	Create a classroom climate of trust (attitude , respect, rules , conflict management ...) conducive to learning	0	0,00	1	4,35	15	65,22	4	17,39	3	13,04
	Assess the skills of the common core	0	0,00	1	4,35	18	78,26	2	8,70	2	8,70
	Choose teaching and learning means (group work, media , ...) adapted to the learning objectives	0	0,00	1	4,35	17	73,91	4	17,39	1	4,35
	Adapting the course of the meeting according to the actual student work	1	4,35	0	0,00	16	69,57	2	8,70	4	17,39
	Design at different times of learning assessment for reporting student achievement	0	0,00	1	4,35	14	60,87	3	13,04	5	21,74
	Using ICT to update their knowledge and training	0	0,00	0	0,00	4	17,39	4	17,39	15	65,22
	Build learning situations based on skills students should acquire	3	13,04	5	21,74	15	65,22	0	0,00	0	0,00
Bring class work to involve all students in learning	0	0,00	3	13,04	18	78,26	2	8,70	0	0,00	

95.65% do not collaborate with colleagues on projects to establish and build relationships with external partners (artistic and cultural projects, language exchange, relationships with the professional world...). It is very

important in this study to mention that these new teachers have a deficit in social skills and they remain reserved in their professional environments without approaching the partners that foster educational

Table 5. Representations of Trainee Teachers at Mastering Professional Skills in the Field of Taking into Account the Social and Educational Context.

		Very Strong		Strong		Meduim		Low		Very Low	
TAKING INTO ACCOUNT THE SOCIAL AND THE EDUCATIONAL CONTEXT	Develop projects with colleagues in the school or institution	0	0,00	0	0,00	0	0,00	1	4,35	22	95,65
	Establish dialogue with parents or families on teaching and student tracking	0	0,00	0	0,00	2	8,70	1	4,35	20	86,96
	Being able to integrate students with special needs or disabilities	0	0,00	0	0,00	3	13,04	8	34,78	12	52,17
	Monitor and / or orientation of students in collaboration with institutional partners (counseling, medical social services)	0	0,00	2	8,70	4	17,39	7	30,43	10	43,48
	Adapt the content of the session in order to advance each student	3	13,04	1	4,35	9	39,13	8	34,78	2	8,70
	Differentiate his practice according to the needs of students	0	0,00	2	8,70	12	52,17	8	34,78	1	4,35
	Build relationships with external partners (artistic and cultural projects , language exchange, relationships with the professional world ...)	0	0,00	0	0,00	0	0,00	1	4,35	22	95,65

achievement in their profession.

How to Identify the Skills?

The purpose of the process probably depend on the choice of surgical approach, but also the choice of tools to carry it out . The identification of skills will initially be based on what is actually observable, namely the activity. We often ask before embarking on a process to identify the skills of observation and analysis finesse what activity it will have. But the debate on the ideal lattice can take place in the absolute; it is chosen according to the purpose of the process. The focal length should be adjusted as necessary to allow the tool to fulfill its function in the right measure necessary. The development of a training manual will require from a repository of much more precise than would the repertoire of professional skills. (CNPf, 1998).

CONCLUSIONS

The purpose of this study is to identify the professional skills of trainee teachers of physical education in secondary schools in willaya of Mostaganem. More specifically, the identification of professional skills during refresher training organized by the education directory of Mostaganem for trainee teachers to prepare them for working. This course which is spread over the entire school year, takes place under the tutelage of trainer teacher and the supervisor

Ten competencies have been established for this study:

- (1)Official act of the State of ethically and responsibly
- (2)Master the language to teach and communicate
- (3)Master the discipline and have a good general knowledge
- (4)Design and implement teaching
- (5)Organize the work of the class

- (6) Take into account the diversity (the level) of student
- (7) Evaluate the students
- (8) Master information technologies and communication
- (9) Teamwork and cooperation with parents and school partners
- (10) Form and innovate.

These skills were assessed through indicators that are specific. Indeed, students should be able to recognize the elements of their practice and locate the best of their skills under the various dimensions of their mission and requirements of teaching programs. To this end, we found that the level of professionalism of sport and physical education trainee teachers is very low in competence for training and innovation in the workplace. This shows that after or at the end of study and integration in the workplace, the trainee teacher does not attempt to update this knowledge through training (recycle), knowing that through continuous training, exploration research typically leads to creativity and innovation in its own domain. Moreover, the results showed that student teachers PES are very low in the jurisdiction in cooperation with colleagues and parents as well as other professional sectors. This finding has been also confirmed by the study of MIREILLE CASTONGUAY and CLERMONT GAUTHIER (2005) about the cooperation. However, student teachers are very difficult to collaborate with colleagues, This shows the limited degree of interpersonal skills between partners in the school system.

Moreover, the results also show an average level in skills relating to the mastery of the language in professional practice and in teaching didactics and evaluation. So, our results indicate that subjects evaluated easily mastered average language proficiency, many errors reported by Asselin and McLaughlin (1989) in three hundred essays future teachers enrolled in the bachelor program of teacher training in 1986 are rather state their poor command of the language. The study about the test requirements for the knowledge of the written language of the Faculty of Education at the University of Sherbrooke, led by ROY LAFONTAINE and MORIN (1990) reached similar conclusions. Indeed, 49.7% of 183 students enrolled in the Bachelor of preschool and primary education and 55.9% of 93 students intending to secondary education reached at the first award to achieve the pass mark set for the party writing the exam. If nearly half of prospective teachers fail to pass an examination by the editorial requirements for membership and right from the first try, it is legitimate to consider that they easily master the language of instruction in their beginning the profession? It is doubtful, unless there have been implemented some measures to address these challenges in depth. In contrast, the integration of CIT seems to be the biggest challenge for novices evaluated. In our study, the assessment of 15 of

the 23 student teachers who participated in the study was 65.21% have a deficit in the mastery of CIT in the educational field.

The results also challenge trainee teachers to upgrade their teaching skills by integrating current issues: organization of forms of practical school of APS, interactive animation of different social roles associated ongoing assistance and enhanced learning, assessment skills. These future teachers must acquire the necessary development of reflexivity needed to further their professional development knowledge.

In conclusion, the outstanding performance attributed to new teachers of the present study does not seem supported by some research in other areas. Follows from this fundamental question: is it realistic to expect from people starting out in the profession they are able to easily master a set as complex as those included in the repository skills?

In this purpose, Reynolds (1995) affirmed: « In particular, research findings –sketchy as they are– indicate that beginners are not able to perform all the tasks expected of competent teachers (...) This contrast between expectations and research findings has uncovered a quandary that requires much more thought than it now receives in the world of teacher education and assessment. » (p. 216)

The results obtained in this recent study must be considered like the first work for definition of professionals' competency of mastery levels fulfill by trainee teachers. We need more researchers necessary again to rich this description and to precise which appropriate practice of trainee teachers of PES named competent. This works permits to use perfectly the different tools of actors to participate in formation who evaluate in schools and University. we hope that the number of researchers who always characterize the field perfectly and who are few explored.

REFERENCES

- ANECA (2004). aneca self-evaluation report according to the standards and guidelines for quality assurance in the european higher education area [The adaptation of teaching degrees to the European higher education area]
- ANECA (2006). La adecuación de las titulaciones de Maestro al Espacio Europeo de Educación Superior [The adaptation of teaching degrees to the European higher education area]. Informe final. www.ua.es/centros/educacion/eees/eees_ua/EEES_04-05_18MagisterioInformeMesaAnecaFinal.pdf
- Asselin C, McLaughlin A (1989). Apprentissage de la grammaire du français écrit. Longueuil: Infodoc.
- Boned CJ, Rodríguez G, Mayorga JI, Merino A (2004). Competencias profesionales del Licenciado en

- Ciencias de la Educación Física y el Deporte. III Congreso de la Asociación española de Ciencias del Deporte: Hacia la Convergencia Europea. 11-13 March 2004. Valencia.
- CNPF (1998). Identifier et decrier les competences professionnelles .Tome4.Paris. France.
- Laroua A (2012). le profil des compétences professionnelles des professeurs d'éducation physique et sportive au secondaire « le cas de la wilaya de mostaganem » Contenus et impacts de la recherche universitaire en science de l'éducation .IEPS, Mostaganem. Algérie.
- Mireille C, Clermont G (2005). Vers une définition des niveaux de maîtrise des compétences professionnelles atteints par les enseignants novices. Brock Education Vol. 15, No. 1, 2005 Université Laval
- Perrenoud P (2004). Diez nuevas competencias para enseñar. Barcelona: Graó.
- Piéron M (1999). Para una enseñanza eficaz de las actividades físico-deportivas. Barcelona: INDE.
- Reynolds A (1995). The knowledge base for beginning teachers: Education professionals' expectations versus research findings on learning to teach. The Elementary School Journal, XCV(3).
- Roy GR, Lafontaine L, Morin S (1990). La maîtrise du français à l'université. Dans CRP (Éd.), Contenus et impacts de la recherche universitaire actuelle en science de l'éducation (pp. 533-550). Actes du 2ème congrès des sciences de l'éducation de langue française du Canada, Sherbrooke.
- Sebastiani EM (2007). Les compétences professionnels del professor d'Educació Física de Secundària a Catalunya. Una proposta de categories per a la seva anàlisi. Doctoral Thesis. Retrieved (03.02.10) from: http://www.tesisenxarxa.net/TESIS_URL/AVAILABLE/TDX-0927107-171433/TESI_DOCTORAL_E_SEBASTIANI.pdf.
- Siedentop D (1998). Aprender a enseñar la Educación Física. Barcelona: INDE.