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Opinion Article

COMPETENCY BASED PHYSICAL EDUCATION TEACHER TRAINING: THE CASE OF A CHILEAN UNIVERSITY

FORMAÇÃO POR COMPETÊNCIAS DE PROFESORES DE EDUCAÇÃO FÍSICA: O CASO DE UMA UNIVERSIDADE CHILENA

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RESUMO
No Chile, a formação de professores de educação física tem sido tradicionalmente baseada em modelos higienistas, dentro do paradigma biométrico. Devido às mudanças sociais e às necessidades do país, é incentivada a implantação de modelos reflexivos de prática profissional na capacitação de professores em Educação Física. Na Universidade Católica de Maule (UCM), é desenvolvido o modelo baseado em competências profissionais na formação de professores de Educação Física, no qual os possíveis domínios de desenvolvimento são determinados identificando o conhecimento mínimo articulado de forma transversal realizando ajustes verticais por meio dos diferentes módulos semianuais e horizontais ao longo do itinerário formativo. Esta proposta tem se colocado como de sucesso, mas o trabalho por competências ainda carece de maior entrosamento didático e ajustes curriculares, fato este normal dentro de qualquer proposta de formação profissional, ou seja, a revisão continuada.
Palavras-chave: Formação por competências, Formação Inicial em Educação Física, Formação Profissional.

ABSTRACT
In Chile, the training of physical education teachers has traditionally been based on hygienist models, within the bio-metric paradigm. Due to the social changes and the needs of the country, the implementation of reflective models of professional practice in the teacher training programs in Physical Education is encouraged. At the Universidad Católica del Maule (UCM), the model of professional competences in the Physical Education program is developed, in which the possible domains of development are determined by identifying the minimum knowledge articulated transversally by performing vertical adjustments through the different semester modules throughout the formative itinerary. This proposal has been placed as a success, but the work by competencies still lacks more didactic coordination and curricular adjustments, and a continuous review, a, situation that is normal in any vocational training proposal.
Keywords: Skills training, Initial Formation in Physical Education, Vocational Training.

Introduction

Since the beginning of the Republic in 1810, it has sought to integrate, to a greater or lesser extent, Physical Education as part of school education through curricular discipline, sports structures and hiring of specialist teachers from other countries[1]. Between the 1850s and 1870s, Physical Education began to integrate into the curriculum of normal schools (which formed general education teachers) and also during the same period, were integrated into the primary education classes (Elementary School). From 1872, received the status of compulsory discipline of the primary education curriculum[2].

In the late nineteenth and early twentieth century's, the discussion in the area of Physical Education focuses on the conformation of the curriculum of the discipline in articulation with the debates related to educational reforms. Initially it was characterized by the development of the health of the population and, slowly, elements of a psychological nature, character formation of the children and refinement of the body were added[3]. In the following decades, the state assumes a more active role in relation to physical education, with more or less concern according to the government of the moment, with emphasis on the

integral development of the body, moral and intellect. In the early 1970s, popular government postulated the promotion of physical-educational and sports-recreational activities as a right of all Chileans and state concern.

With the 1973 coup, there were changes in the administrative organization of Chilean education and in the higher education system, in which the private universities appear, and a process of regionalization and reform that, in 1981, allows the fundation of regional universities from the headquarters of the University of Chile and, as a consequence, the separation of pedagogical careers from state universities.

In terms of teacher training, there is traditionally technical rationality as a pedagogical focus, in which it is argued that reality can be programmed and controlled[4-9] and the learning of future teachers responds to a uniform logic, which does not consider the contexts in which pedagogical actions are carried out.

This logic of training is also observed in physical education, according to a study carried out by the National Sports Institute[10], the curricular structures of the universities in the area of Physical Education and sports were analyzed and the results showed a great diversity of program names and postgraduate types, as well as a high number of disciplines, but in terms of percentage they concentrate, on average, 22% in psycho pedagogical foundations, 11% in fundamentals of Physical Education and 67% of practical activities (usually geared toward sports and progressive curricular practices). This study indicates the idea of a fragmented, technological and sport oriented training system, supported by hard sciences and perspectives of technical rationality. In none of the curricula of teacher training analyzed, epistemological foundations are clearly defined, nor practical activities are integrated with theoretical training and other disciplines of the school environment.

As mentioned, the Ministry of Education has implemented several initiatives to strengthen teacher training: vocational scholarships for teachers, performance agreements, training orientation standards, among others. Regarding the Training Orientation Standards, the Chilean Ministry of Education states that "Guidance Standards for Pedagogical Careers" provide the country's educational institutions, colleges and schools with clear and precise guidelines on the disciplinary and pedagogical contents that each teacher must know at the end of his / her professional training, to have the necessary skills to the subsequent exercise of his/her profession"[11]. These standards are stated as everything the teacher should "know" and "know" about Physical Education and Health. This initiative aims to become a reference on what is expected of Physical Education teachers at the end of the training process, but to determining that the subject is called Physical Education and Health, emphasizes the intention to perpetuate an extended social problem. With this determination it hinders the possibilities of the area and its intervention, stimulating the technical formation, fragmented and reproductive. These guidelines fail to include a critical analysis of reality and their profession, as well as interdisciplinary work with other human knowledge sciences and school curriculum topics.

Specifically in relation to the legal aspects (Decrees, Laws, Resolutions) of the Physical Education Teacher training, it must be that in a minimum of 08 semesters (most Chilean programs have 09 semesters) of duration, have a minimum of 4.000 hours, to be organized in disciplinary, pedagogical, scientific and intehrbship thematic nuclei, with the requirement of work of conclusion of course (thesis for the academic degree of licensed in Education, and a conclusion work for the professional title of professor of Ed Physics) . In Chile after completing the undergraduate course the Physical Education professional has free and wide range of professional activity, both in the educational sector and outside of it.

Competency-based training, an innovative commitment

According to the Apostolic Constitution "Ex Corde Ecclesiae"[12] and its own general statutes, the Catholic University of Maule (UCM), as institution of higher education of the Catholic Church, assumes as institutional mission "to participate in the evangelizing mission of the Church, in dialogue with the challenges of the Maule region and Chile, in the context of a globalized world. However, as an institution of knowledge and learning, it undertakes this commitment through the integral formation of supportive and competent people, who seek the truth and academic excellence making use of scientific research and a cultural knowledge inspired by Christian faith and ethics".

The UCM Physical Education training, in the different processes of accreditation and self-assessment, decided to establish self-regulation mechanisms that reformulated the curricular structures in order to meet the educational requirements of the professionals . Likewise, the institution established an ideology of reflection on the different processes of administrative and academic management and a series of documents was prepared to guide the university work, with contributions of distinctive elements in the work of the institution itself. Both the Institutional Educational Project and the Strategic Development Plan allowed the incorporation of different elements in the training of the future professionals that are formed here.

Based on state and institutional guidelines, the Physical Education Program established the need to rethink teacher education, moving from a goal-based to a competency-based paradigm. After reflecting on accreditation processes, field pedagogical experiences, the country's demands and the regional context, five priority areas of attention were established in this innovative model:

• School Physical Education and Sports
• Physical Activity and Health
• Free Time and Nature Contact Activities
• Physical and sports training
• Management and Administration of Physical Education and Sports Activities

This project of academic innovation links the biomedical paradigm to the socio motricity and expressive motor paradigms in theacher's trainning, from childhood to adulthood, attending the social demands of sports, school physical education and physical activity at work. In operational terms, the competency-based model considers the development of progressive integration of practices and knowledge, supporting student mobility and deepen the performance areas of physical education teachers.

The implementation of the innovative curriculum considers an organized structure with clear roles and functions, supported by different internal rules and regulations, socialization procedures and collaborative work. It also considers the minimum infrastructure for the integrated development of knowledge, such as sports venues, laboratories and libraries.

From the educational point of view, the proposed model is based on the application of the scientific method as the nucleus of the generation of learning situations, establishing an experimental model of problem solving as a preponderant but not unique pedagogical strategy. This model seeks to develop superior cognitive abilities to generate pertinent answers to the professional problems raised or detected. In this way, the articulation of the modules with the teacher's internship, facilitates the detection of these professional needs and generates the academic discussion within the classroom for the joint search of solutions.

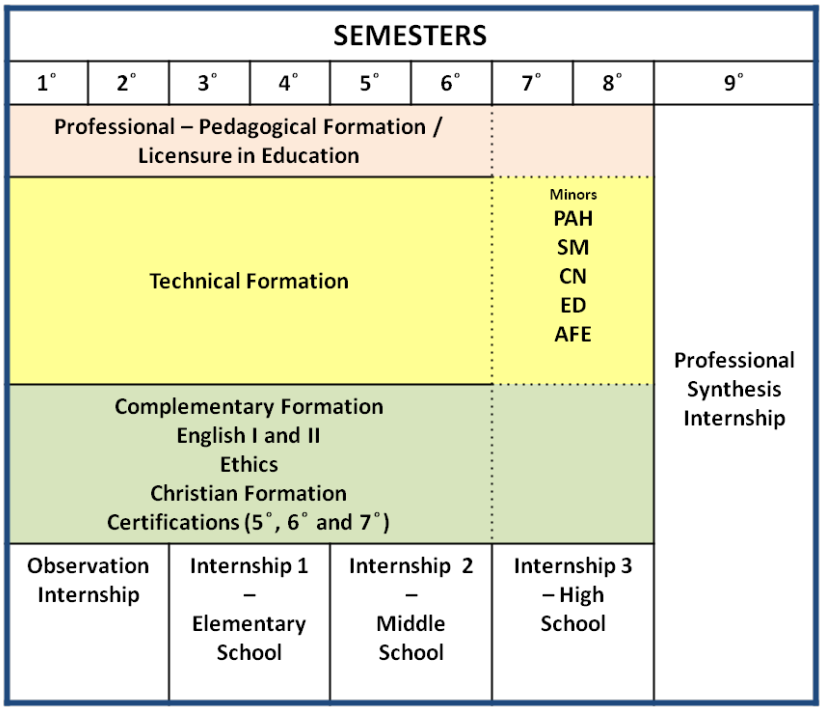

Figure 1. Curricular Structure and Organization
Source: Adapted from the UCM Physical Education Teacher Training Academic Guidelinest[12]

The program focuses its actions in five major areas, namely: (a) Physical Education and School Sports - ED; (b) Physical Activity, Health and Human Performance - PAH; (c) Management and Administration of Physical Activity - SM; (d) Adapted Physical Activity and Physical Activity - AFE; (e) Contact with Nature -CN.

The educational process underlying the educational project is based on four articulating axes that, when integrated, meet the basic and specific generic competences required by this professional for the performance of work.

First Axis: professional pedagogical base

In the current context of social and economic inequalities prevailing in Chile, teacher training must address the need to build a more just and humane society, so this professional should provide instances of school participation beyond the content to be addressed in the class session , which requires the ability to integrate cultural characteristics, demand for curricular relevance and a closer relationship between family and school, in short, be prepared to critically evaluate and select various relevant and relevant materials and knowledge[13].

Ávalos[14]suggests that the curriculum should promote the acquisition of competences for the development of creativity, professional autonomy linked to reflective capacity, availability of pedagogical knowledge specific to the areas of knowledge of its particular competence and provision of diverse methodologies that allow the optimization of relevant and relevant learning in a specific area of knowledge construction, ability to decide on teaching and learning situations, ability to take pedagogical knowledge of subject contents, ability to transform disciplinary knowledge into pedagogical knowledge.

In operational terms this means that curricular activities should aim to address the profession and discipline in the understanding that professional training needs a solid pedagogical basis, always related to physical activity. Therefore, the formative itinerary must approximate these two worlds of contents, from the structuring of contents linked to the realities observed in the stages in the school centers, which are attended by professionals of

both areas. This partnership involves a permanent dialogue between the profession and discipline, allowing the educational community to have a joint vision of the phenomenon, as well as an action that must be shared. Specifically, the pedagogical axis has been addressed by teachers in the area of educational foundations, who provide the epistemological basis of the education sciences together with Physical Education teacher's who support the conection of this theory to practical performances of professionals in formation, in a proportion of curricular time of 75% estimated for the pedagogical area and 25% for the disciplinary area.

This relationship of proximity allows the UCM program to place the Physical Education professional as an educator, developing systematic actions and destined to contribute to the learning of others, learning its complex dimension and not merely intellectual. The Learning is the main proposal of this contruction of meanings, and the teacher is the person who guides it, guides and accompanies the journey through knowledge, which requires structural and differentiated mediations where the meaning is the construction of each individual according to their cultural capitals, codes and life experiences. It is a question of conceiving the action of the education professional in its dimension of double responsibility: with the knowledge of its own professional field and with the development of knowledge with the subject in its formative relation. This framework of responsibility places the education professional in a scenario of ethical, responsible and transcendental actions with the development of humanity.

Second axis: disciplinary training

In order to train Physical Education professionals in the context of human motor skills that contribute to the integral development of the person, the biological, cognitive, affective, social and moral dimensions are integrated into a cultural environment. Its function is to cultivate the sciences of Physical Activity, Sport and Human Motricity and stimulate the necessary skills to mediate and assist the physical-educational process in a humanizing framework that values others and respects individual and social rights. Therefore, it is the purpose of graduation to train a physical education professional prepared to integrate knowledge based on Human Motricity, transitioning through an educational approach and healthy life to athletic performance, contributing to the improvement of the quality of life of the different sectors society in order to stimulate autonomy in the face of such knowledge.

The Foundations and disciplinary requirements are nurtured by at least three public policy actors. Initially, the Ministry of Education that promotes Physical Education as an important example in the development of people and requires an initial training process of Educators with a humanizing vision. The Ministry of Health calls for the promotion of healthy lifestyles among citizens, particularly reducing the high rates of sedentary lifestyle and obesity of the population. Finally, the Ministry of Sports, which requires human capital trained to implement programs and actions that establish physical activities and sports as habits of our society.

The operationalization of this axis meant the readjustment of the curricular plan that organizes the curricular activities that allow to attend, in a progressive and transversal way, the requirements previously raised. In this sense, each year of training consists of modules that contribute to the acquisition of the necessary knowledge to face the professional challenges, which allows to meet the basic requirements of the most specialized. For a better implementation, the axis is subdivided into four sub-axes: sport's didactics, motor performance and human motricity, biological fundamentals, physical activity management.

The sub-axis of the didactics of the sport considers the curricular activities that attend to the general didactics of Physical School Education, providing fundamentals and guidelines for its implementation and development, which is complemented with the specific sport's

didactics. The sports were grouped by their performance characteristics in individual, collective, racket, emerging and adapted, which are treated from the practical experience of learning while playing, generating the transfer of the basic principles of the disciplines. The modules are attended by teams of teachers who, having a central axis of didactic principles, develop them in the particularity of their disciplines, with an offer of 12 sports subjects to which all the students must attend in their formation and 04 disciplines of elective form.

The sub-axis of motor performance and human motor skills consider curricular activities that generate domains in areas of motor performance, motor performance and expression. It includes the development of integrated integrated motor expression activities (motor skills, play, body language, dance and psychomotor), development of physical, volitional and environmental skills (physical activity and health, sports training and activities in the natural environment).

The sub-axis of the biological foundations consider curricular activities associated to disciplines of the biomedical area that allows to understand the morphological and structural changes of the organism submitted to the physical activity. It is an area that is served in its disciplines, mainly by health professionals and, in some cases, supported by professionals of physical activity.

The sub-axis of physical activity management considers the curricular activities that improve the knowledge of organization and administration of physical activities in different intervention areas beyond the school, providing technical tools that allow to generate own actions or support actions already developed by others. Similar to the other sub-axes, the direct application in real situations is constituted as the main development strategy.

Table 1. Disciplines that are part of the curricular sub-axes

Sub-axes	Corresponding Disciplines
Sport's Didactics	Team sports I to IV, Individual Sports I to IV, Tennis and related sports (table tennis, badminton), Emerging physical and sport activities (sport fishing), Physical activity for special groups (adapted sport).
Motor performance and human motricity	Theory and practice of human motricity, Human mobility and game learning, promotion and prescription of physical activity for a healthy life, Physical activity for special groups, Activities in nature.
Biological fundamentals	Bioenergetics, anatomy, biomechanics, physiology, nutrition, postural education and emergencies.
Management of physical activity	Administration and formulation of projects in physical activity, sports and leisure, Deepening in sports management.

Source: The author's

Third axis: General formation (sociocultural and identity)

The general formation is defined as the area that consolidates in the formative project as a set of knowledge that complements the disciplinary and professional education, with the objective of developing in the students the integral vision of the human being and of the society. This axis of training is promoted through a set of themes that provide transversal competences and guarantee the institutional brand. In this way, it contributes to integral formation whose fundamental basis is "the humanizing vision of the person and the world". It is, therefore, a question of getting students to "acquire an education that harmonizes the wealth of humanistic and cultural development with specialized vocational training"[15]

In operational terms, students must participate in mandatory training activities in English, as a second language and in ethical and Christian training, as a UCM identity mark. They also participate in elective curricular activities that allow them to acquire certificationin a different area of the profession and area, for which they must participate in three consecutive curricular activities that provide basic and generic orientations of other areas of

formation. The modules are attended by teachers from other professional and disciplinary areas to those of the student's origin, which allows generating a different and complementary view of the phenomenon. Certification is compulsory for all UCM students. There is the offer of an elective program of complementary training to the core of professional and disciplinary competences of the courses.

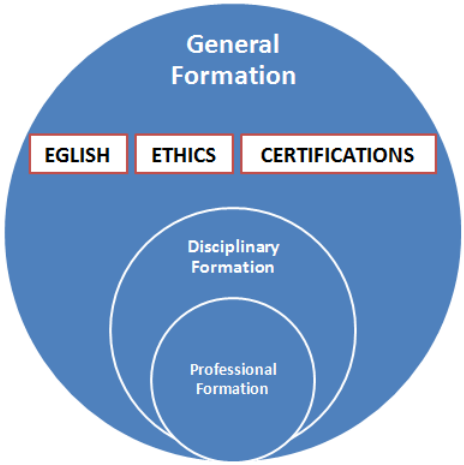

Figure 2. Scheme of the General Formation Axis
Source: The author's

Fourth axis: Internship as an integration of knowledge

The component of the internships is distributed in the first actions during the formation process and at the end of the initial formation period being the professional synthesis. The objective is to integrate the knowledge acquired by the student during initial training in relation to the field of work. These are distributed semiannually to each year of formation and are presented progressively during its development, and it begins with observational practices in the different areas of practice to continue with mediated and supervised practices, to culminate with autonomous practices of professional synthesis.

The internship model is integral to the curriculum, with vertical articulations that provide the coherence of the learning and horizontal articulations that ensure the sequential logic, generating a continuous service and associated products, based on an essential principle of this curricular activity, in consideration of the local culture.

The dynamics of the stage axis contributes to the integration of knowledge in each of the disciplinary and professional modules, so they are evaluated (and / or qualified) on the axis itself and consider the following stages and corresponding tasks:

• Internship of Observation in Areas of Intervention. (Observe and describe the local socio-educational environment, preparing reports of the observations and the different sources consulted)
• Internship of modeled Intervention, Elementary School - 1st to 4th year (Understand and apply methodological teaching strategies to students in 1st cycle)
• Internship of Tutelage Intervention, Middle School - 5th to 8th grade (Develop learning units according to educational plans and programs and organize learning procedures and strategies for 2nd cycle students)
• Internship of Intermediate Education, High School - (Engage in the classroom with proposals and actions relevant to the achievement of expected learning in high school students)

• Professional synthesis Internship - Intervene in an Educational Unit for the organization, transfer and evaluation of processes of teaching the physical environment, synthesizing the experiences and checking the theories. Prepare and execute a research project, from the minors, according to the needs of the educational center, and the different places of internships. These activities of professional synthesis are constituted as the final phase of the axis of practice of the formative process of the students. In it, the domains and knowledge acquired during the professional training process are considered autonomously and are evaluated and / or qualified in the school environment in the disciplinary exercises, school orientation and extra program activities. At the same time, the autonomous research practice will be evaluated according to the area of intervention established from the mention, in which it must apply and validate intervention elements, generating a report that verifies and intends the theorized aspects during the training process, applied in this process.

Table 2. Description of internships and their actions in curriculum development

Kind of Internship	Description
Stage of Observation in Areas of Intervention	Observe and describe the local socio-educational environment, prepare reports on the observations and the different sources consulted.
Internship of modeled Intervention, Elementary School	Understand and apply methodological teaching strategies Internship Internship
Internship of modeled Intervention, Elementary School	Develop learning units according to educational plans and programs and organize learning procedures and strategies.
Internship of Intermediate Education, High School	Engage in the classroom with proposals and actions relevant to the expected learning in high school students
Professional synthesis Internship	Participate in an Educational Unit for the design, transfer and evaluation of teaching processes of the physical environment, synthesizing the experiences and checking the theories.

Source: The author's

In order to achieve the effectiveness of the process, it is necessary to consider corrective actions that ensure the acquisition of the expected learning, which are integrated in each module and which consist of the offer of steps to demonstrate the performances, respecting the timing of acquisition of the competences of each student. This has led to improvements in performance standards and, at the same time, skill acquisition rates and, consequently, lowers failure rates. In this sense, each module establishes practical and theoretical demands in which an initial diagnosis related to the abilities and competences of each student is contemplated in order to guide them in their own learning.

It is also considered a tutorial process of the internships, in which teachers monitor the actions and interventions of the professionals in formation, besides the observations and direct orientations, raise the needs and concerns from the educational process that subsidizes the reflection of the practice itself, generating two instances relevant information. The first one is the Pedagogical Workshop, in which the tutor meets with all the professionals in training who participate in their first practices in the same center, a pedagogical problem is detected and a solution is constructed from the discussion of all students in practice regardless of the level they are in. The second action corresponds to the academic reflection to establish the curricular changes in the training course to respond to the needs detected in the different fields of action.

At the same time, the institution provides academic counseling to students in the early years, in addition to traditional advisory and feedback processes, incorporating a learning support center and other programs such as "Learning with a partner" the process of other early years.

Conclusion

Undoubtedly, a teacher´s training process is a great challenge. The option of implementing this curricular model based on competencies required the commitment of several actors, a wide institutional support, not only in the economic sphere of the institution, but also in the possibilities to create internal policies that are favorable to the development of foundations, support centers, flexible and inclusive teaching models, convinced and committed teachers, as well as students who want to improve their knowledge autonomously. This commitment to the competency based model is a ongoing process, where the discussion, reflection, and curricular analysis must be part of the teahcer's training process.

Finally, we can point out that the graduates of the course have excelled in the Chilean professional labor market, with insertions and actions that have resulted in the strengthening of the area and the professional of Physical Education. According to studies linked to the graduates of the Physical Education course of the UCM, there is great satisfaction regarding the training experienced, with 90% approval, and 98%[15] of insertion in jobs linked to the training area. This corroborates the process experienced and the continuity of the reflexive actions adopted up to the present moment.

References

1. Cornejo M, Matus C, Vargas C. La Educación Física en Chile: una aproximación histórica. Revista Digital EF Deportes 2011;16(161).
2. Soto F. Historia de la Educación Chilena. Santiago: CPEIP; 2010.
3. Martínez F. Prácticas y discursos: la formación de la Educación Física en Chile. 1889-1920. Revista Digital EF Deportes, 2012;17(171).
4. Kirk D. Educación Física y curriculum. Valencia: Universitat de Valencia; 1990.
5. Tinning R. Discursos que orientan el campo del movimiento humano y el problema de la formación del profesorado. Revista de Educación 1996;311:123-134.
6. Fraile A. El maestro de Educación Física y su cambio profesional. Salamanca: Amarú ediciones; 1995
7. Devís J. Educación física, deporte y currículum. Investigación y desarrollo curricular. Madrid: Visor; 1996.
8. Vaquero A. Claves para la formación del profesorado de Educación Física desde una perspectiva crítica: Análisis de formación y alternativas. Bilbao: Universidad del País Vasco; 2002.
9. Vizcarra M. Análisis de una experiencia de formación permanente en el deporte escolar a través de un programa de habilidades sociales. Bilbao: Universidad del País Vasco; 2004.
10. Instituto Nacional de Deportes de Chile. Análisis de mallas curriculares de las entidades de educación superior en el área de la actividad física y el deporte, estudio realizado por IPSO Public Affairs, a pedido del Instituto Nacional de Deportes - IND, Gobierno de Chile; 2010
11. Ministerio de Educación-República de Chile. Estándares orientadores para carreras de pedagogía en Educación Física. Santiago: Programa Inicia; 2014
12. Universidad Católica del Maule - UCM. Informe de acreditación de la carrera de Pedagogía en Educación Física. Universidad Católica del Maule; 2015
13. Brunner J. Los desafíos de la educación chilena frente al siglo 21. Informe de la Comisión Nacional para la modernización de la educación. Santiago: Ministerio de Educación de la República de Chile; 1994.
14. Ávalos B. Creatividad versus autonomía profesional del profesor. Consideraciones sobre el tema derivadas de la investigación pedagógica. Revista Pensamiento Educativo, 1994;14(1):13-48.
15. San Juan Pablo II. Ex Corde Ecclesiae. Constitución Apostólica del Sumo Pontífice Juan Pablo II sobre las Universidades Católicas. Roma; 1990.

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