

The system measuring the quality of Physical Education in Chile: a critical analysis

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Abstract: This paper conducts a qualitative and critical analysis of the evaluation system used by Chile's Ministry of Education to measure the quality of physical education as a subject in the school curriculum. Analytical procedures employed were generally based on the proposals of fragmentation and integration of "Grounded Theory". It concludes that the system does not respond to the concept of quality previously defined; it shows an important conceptual limitation in health-physical conditioning; and it establishes a scarcely educational evaluation logic and creates some professional devaluation of teachers.

Keywords: Quality management. Curriculum. Measurement

1 INTRODUCTION

Evaluation has always been linked to teaching and learning processes. While at first its aim was to seek maximum effectiveness and select the best students, usually by assessing cognitive abilities, from 1990s on it began to evolve into an approach that was more concerned with evaluating acquisition of complex competencies and becoming a useful tool to change teaching and learning produced in specific contexts. In the new century, simultaneously to the final triumph of neoliberal economic policies, States begin to see education using effectiveness (others would call it quality) and performance indicators similar

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to those used in markets as necessary and desirable. We are in the final push of external evaluation models, and we witness the start of the local, regional, national or international race to subject the educational system to standard tests such as Third International Mathematics and Science Study (TIMSS), Progress in Reading and Literacy Study (PIRLS), or – the best known test in our context, the International Program of Student Assessment (PISA). All these evaluation systems take the report Definition and Selection of Competencies (DeSeCo) (OCDE, 2002) as their reference. The report definitely abandons what we have been calling “Competency-based teaching”, that is, placing a mode of technical evaluation at the center of the teaching and learning process (PÉREZ-GÓMEZ; SOTO, 2011; SERVÁN, 2011).

What is the aim of external evaluation? From the viewpoint of technical rationality, it would be basically a better understanding of the educational reality under evaluation (MONARCA, 2012). Far from the claim of neutrality intended when one deprives education of all ideology and its stated intentions to build knowledge (PÉREZ; SOTO 2011), what is evident is a clear intention to convey a hidden neoliberal ideology that may have unpredictable social consequences. Recalling the words of Stake (2006, p. 34), we should not forget that “evaluation is a technology for assigning value to objects, facts, processes and people”. Facing the technical perspective on evaluation, several authors (ESCUDERO, 2010; MARTÍNEZ, 2011; PÉREZ; SOTO 2011; PERRENOUD, 2008) advocate a hermeneutic rationality that values the understanding of how and why processes occur, where knowing reality as a complex phenomenon is what matters and knowledge produced from standardized tests is seen as accessory. Some authors even choose internal evaluation (self-evaluation) of the education system. Simons (2011) offers an interesting alternative based on the involvement of all school actors in the process, including Case Studies that facilitate professional development at school and raise awareness of the educational community to demand the necessary support from the administration in order to drive changes from within.

However, current external assessment models that prevail internationally and are based on technical rationality are causing – as a result of the development of excellence rankings – the different actors involved in the school, especially teachers, to feel pushed because of the control and hierarchy to which they are subjected, to abandon cooperative attitudes so necessary for school innovation and improvement and to replace them with competitive practices that enable them to survive in the system (GOLDSTEIN, 2001).

The background of these evaluation models in Chile – which are the context for this paper – can be traced to the 1990s with the advent of democracy. A proposal for evaluating the education system started to be drafted at the time, in order to help its improvement and equality. To do that, the choice of evaluation system was based on national examinations known as Measurement System of Educational Quality (SIMCE, in Spanish) in 1988. What started with an evaluative intention towards improvement has become a means to identify schools with low academic performance and stigmatize them – typical of the competitiveness-based criterion of neoconservative policies of the military government still present (CARNOY, 2010). SIMCE and international exams (TIMSS,¹ Pisa²) give a clear indication of the direction taken by the country as far as education is concerned.

In the case of Physical Education (PE), the System of Quality Measurement (SIMCEE³) was first applied in 2010, and a second application was made in 2011 to a representative sample of 8th-graders (aged 13-14). While SIMCE aims:

[...] mainly to contribute to improving the quality and equality of education, reporting on students' performance in different learning areas of the National Curriculum and relating that performance and the school and social context in which they learn,

¹Third International Mathematics and Science Study. Study of Trends in International Mathematics and Science.

²Programme for International Student Assessment.

[...] evaluating [...]

the achievement of the Core Goals and Minimum mandatory Contents of the current Curriculum Framework in different learning areas (SIMCE, 2011, p. 1). In the area of PE it takes on a completely different logic, focusing exclusively on [...] assessing students' physical conditioning of and establishing a baseline for future evaluations (SIMCEEF, 2011, p. 3).

SIMCEEF is applied by measuring four parameters (Anthropometry, Muscle Performance, Flexibility and Cardiorespiratory Resistance). The latest SIMCEEF results in 2011 show a map of Chile's school population with high overweight and obesity rates that can lead to developing cardiac and metabolic diseases in the future, while most of them have acceptable rates of muscle and cardiorespiratory resistance.

We should take into account that the Chilean curriculum for PEF, at least formally, is eminently closed, and Units prescribed for each level are mandatory. In each of them, contents to be developed are identified in the following order: goals set based on expected outcomes; teaching guidelines; activities to be performed with different examples of each (optional); and evaluation criteria to be followed. Only the application of activities to be done in each class is left to the teacher, respecting the timing initially marked for each of the units within that respective level. What really catches the eye is that for a curriculum presented as balanced in terms of goals and content proposed, its evaluation focuses only on about 30% of it, which corresponds to the "Healthy physical activity" block.

Given the external evaluation model described above, existing literature related to the quality of PE shows how that concept often responds to a more complex, broader and enriching educational reality than that represented by SIMCEEF. Penny et al. (2009) recognized that the quality of PE and health programs goes beyond the number of hours officially devoted to the

subject, and other factors must be considered such as hours of extracurricular physical activity, teacher training, programs, students, pedagogical dynamics, co-built learning, existing research on healthy practices, the community where the physical activity is performed, among other important aspects. Such diversity of elements to be taken into account would force us to substantially change the type of tests used to assess PE quality (MENEAR; SIMS; PHILLIPS 2007).

Even American and Australian competency-based evaluation proposals have a wider perspective when including theoretical and practical knowledge, attitudes and social values, as well as collaborations with several social actors (AAHPERD, 2013; ALLIANCE..., 2013; NASPE, 2013).

Based on the above and taking into account the results described for the last SIMCEEFF edition, in 2011, we set the following goal: to critically analyze the Chilean Measurement System of Physical Education. Specifically, we want to describe the concept of PE quality that is the focus of that evaluation policy; to reveal purposes implicit to that evaluation system; to identify evaluation conceptions; to analyze the relationship between SIMCEEFF and educational inequality present in the country; and to understand the role of PE teachers built from that evaluation instrument.

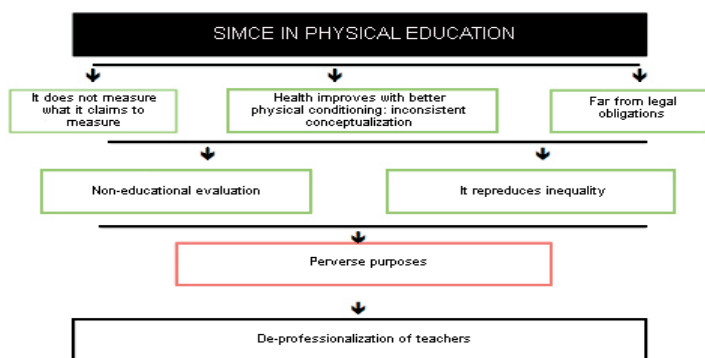
2 METHODOLOGY

We chose a research logic rooted in the interpretive-phenomenological paradigm from which we can infer and understand those meanings (CANALES, 2006; RUIZ, 2003). From such paradigmatic approach, qualitative methodology allows a subjective understanding that emerges from the documents analyzed, meaning that they hide an educational content that is implicitly and/or explicitly characterized by educational intentions, purposes, conceptions, exclusions, valuations, etc... We understand that such documents “are

examples of meaningful human communication” (GIBBS, 2012, p. 28) and use existing concepts and relationships between them for their description, interpretation and understanding of qualities (STRAUSS, CORBIN, 2002; GIBBS, 2012).

The documents analyzed were the two Reports on SIMCE Results for PE (2010 and 2011), which have become the only existing official material to explain what evaluation of PE quality in Chile is, how it is used and who should conduct it. At ministry and academic level, there is no other information about it, so we believed it was very important to conduct this critical analysis. In addition and in order to contrast the information, we analyzed the 5th, 6th, 7th and 8th grade curricula, specifically their proposed goals and content. The documents were analyzed using NVivo 9.0 software. The procedures were generally based on fragmentation and integration proposed by Grounded Theory (STRAUSS, CORBIN, 2002; GLASER, STRAUSS, 1967). A first phase of content analysis was initially performed, but we must recognize that goals were redefined in part of the process when previous categories (living knots) present in the documents appeared. Subsequently, we will proceed to an axial organization under the main metaphors of analysis (Figure 1) following the reduction of information proposed by Strauss and Corbin (2002, p 110.) and considering “thematic criteria” (RODRÍGUEZ; GIL; GARCÍA, 1999, p. 207). In a second stage marked by deepening and refinement (MILES; HUBERMAN, 1994), through the development of matrices, the most significant relationships between categories were identified, which allowed to put forward micro-hypothesis (questions arising from a more deductive analysis), as proposed by Gibbs (2012). Finally, substantive theories built from the analysis presented in the report and reflected in Figure 1 allowed us to close the investigation from final conclusions regarding the most significant findings of the investigation (RUIZ, 2003; STRAUSS, CORBIN, 2002).

Figure 1: Relationship between the main metaphors of analysis
SIMCE IN PHYSICAL EDUCATION



3 RESULTS AND DISCUSSION

3.1 SIMCEE F DOES NOT MEASURE WHAT IT CLAIMS TO MEASURE

The first idea that catches the eye is the inconsistency between the meaning of the acronym SIMCE (System for Measuring the Quality of Education) and the logic of the proposal for the PE curriculum area. Literally, it says that “SIMCE results are the education system’s main information tool on learning” [...] and “it presents results of [...] national assessment of Physical Education [...] achieved by students at different educational levels” (SIMCE 2011, p. 1).

Table 1 shows that the percentage of presence of each content block for school PE from 5th to 8th grade is virtually identical. However, SIMCEE F focuses on a very special way of seeing the content block of Healthy Physical Activity.

Table 1 – Presence of PE content blocks in each of the courses from 5th-8th years of basic education.

Contents Course	Physical Activities Nature	Healthy Physical Activity	Dance and Body Expression	Games and Sports
5 th	25%	50%	0%	25%
6 th	25%	25%	25%	25%
7 th	25%	25%	25%	25%
8 th	25%	25%	25%	25%

Source: Prepared by the authors

Secondly, if we understand that building healthy habits depends mainly on the development of certain attitudes towards physical activity, we note how, in the analysis of this type of verb present in the goals of the PE curriculum conducted by categorizing and later crossing the matrix with each of the courses and blocks with Nvivo, the goals are to develop concepts and procedures (85.7%), virtually ignoring attitude development (Table 2). It seems to suggest that by working some concepts and practicing physical activity we will be able to generate habits (attitudes) we are looking for as PE teachers, which seems like a rather important didactic mistake, especially considering the lack of time allocated to school PE. Assuming that SIMCEEFF focuses on the evaluation of the Healthy Physical Activity block, it is even more limiting in professional terms, for it ignores students' achievements related to conceptual and attitudinal goals, which represent 57.1% of expected learning. SIMCEEFF focuses almost exclusively on procedural goals.

Table 2 - Presence of the types of content in the definition of PE goals in the curriculum of 5th-8th years of elementary education.

Content	Content Type		
	Attitudinal	Conceptual	Procedural
Physical Activity Nature	20%	0%	80%
Healthy Physical Activity	14.3%	42.9%	42.9%
Dance and Body Expression	25%	0%	75%
Games and Sports	42.9%	14.3%	42.9%

Source: Prepared by the authors

It is surprising to think that the use of an evaluation system focused on children's physical conditioning can provide us with enough information to assess the quality of a curriculum area whose backbone does not focus on that physical conditioning but rather, as stated by the Ministry of Education itself, on the "development of a critical and analytical attitude towards physical activities and on understanding biological and psychological changes that young people are experiencing at this stage" (MINEDUC, 2010, p. 5).

Therefore, some questions emerge as common sense: How is the proposed analytical and critical attitude being evaluated? Do students understand the biological and psychological changes they are experiencing? How are teachers addressing their educational work in achieving such laudable educational goals? Which understanding can we take from SIMCEEf to contribute to building healthy physical activity habits among the school population? The answer is clear and compelling: SIMCEEf is not an instrument for measuring the quality of the curriculum area in question, but an instrument to measure students' fitness level.

The current situation of high obesity rates and sedentary lifestyles, together with physical conditioning unsuitable for children and young people, is certainly an international concern (HARDMAN, MARSHALL, 2000; HARDMAN, MARSHALL, 2009). However, it would be naive to think that the quality of PE should be measured according to results achieved in these areas, as if the subject were the sole responsible for that situation.

Academic and scientific work developed in recent years has ignored the construction of indicators to identify criteria to define PE quality. Unesco and the North Western Counties Physical Education Association (2011) understand that in order to have such a proposal it is necessary to work on a model of basic needs for quality PE, considering aspects as distinct as national policies, goals and contents, quality of delivery, supervision, equality, human and material resources, working conditions, conceptions of the concept of PE quality, existing examples of practices considered

appropriate. Penney et al. (2009) and Castejón (2013) offer us something similar.³

The complexity of such a polysemous expression as “quality of physical education” is simplified and distorted in SIMCEEFF through the concept of physical conditioning. As Santos (2003, p. 21) would put it, it is “abusively simplified” when it identifies students’ biophysiological achievement⁴ and verify it through insignificant tests that are not consistent with the proposed curriculum.

3.2 HEALTH-PHYSICAL CONDITIONING RELATIONSHIP THEORETICAL INCONSISTENCIES

The very report implies that knowing physical conditioning levels will lead us to information useful to build educational proposals promoting healthy lifestyles. “The results of this evaluation allow [...] developing action plans to promote physical activity and a healthy lifestyle for students” (SIMCEEFF, 2011, p. 7). But what is really serious is the cause and effect relationship between negative results, low physical activity, and unhealthy life styles. In short, a relationship between pedagogical quality of PE and high physical conditioning level is implicitly assumed.

Scientific evidence tells us that it is risky to focus efforts to improve health on higher levels of physical conditioning, especially if we are talking about children and young people, since at those ages their levels are determined by genetic and maturation factors as well as other social and environmental factors (BOUCHARD; SHEPARD, 1993), rather than physical activity habits (KATZMARZYK et al., 1998). On the contrary, there is consensus about regular physical activity being associated with better personal and social wellbeing. Why not evaluate, then, autonomy built in PE classes in relation to

³Logically, there are differences between the three proposals mentioned, but they have something in common: they respond to qualitative elements of the teaching-learning practice in school physical education.

⁴Santos Guerra uses that characterization to speak of school in general, not only of physical education. We considered important to contextualize his words within the area of study in which we are involved.

self-management of one's own work plan of physical activity related to health? How can we provoke a habit of practicing physical activity from school teaching practice?

By focusing on improving physical conditioning without considering aspects such as perceived competence, obesity and teasing from peers, social demands and personal preferences, family, the area where one lives, etc., we might be affecting identities that are inactive during adolescence (DEVÍS; BELTRÁN; PEIRÓ, 2013; DEVÍS; BELTRÁN; PEIRÓ, 2013). We understand that the effort should focus on creating habits rather than maintaining and achieving adequate physical conditioning by students (BLAIR, CHENG; HOLDER, 2001).

3.3 INADEQUATE ENFORCEMENT OF THE LAW OF SPORTS

While this is a very specific aspect of our critical analysis, we wanted to show it because of the importance of establishing a policy consistent with current legislation. Chile's Law of Sports (2005) states that "the Ministry of Education shall establish a National System for Measuring the Quality of Physical and Sports Education to be applied at the end of Basic Education. First, it must consult the National Institute for Sports of Chile" (CHILE, 2005). SIMCEE, as is becoming apparent, does not measure PE quality simply because it focuses on assessing students' physical conditioning without going into the evaluation of educational issues such as "to encourage [students'] critical and analytical behavior toward their own physical activities" (MINEDUC, 2010, p. 5) that transcend biophysiological aspects typical of physical conditioning, which is the focus of the evaluation practiced.

3.4 NO EDUCATIONAL EVALUATION THAT REPRODUCES EXISTING INEQUALITY

We understand that an educational assessment, following Santos (1995), is a global (it evaluates all actors) and self-controlled

process. Its goal will be improving the practice and the people who participate in it, respecting them. SIMCEEf's evaluation is centered exclusively on students involved, without regard to teachers, the quality of the facilities, the educational establishment, the social reality of children,⁵ etc...." The goal is to assess students' physical conditioning" (SIMCEEf, 2011, p. 3).

It surprises us that public policies propose an evaluation system centered exclusively on children's physical conditioning, and that it is believed to provide us with enough information to establish educational guidelines for school PE that allow us to educationally manage existing problems. SIMCEEf is a clear sign that PE still uses strong evaluative concepts centered on a traditional view of the area, considering that strategies reproducing objective, observable and measurable (motor performance) knowledge should represent most pedagogical work (LÓPEZ, 2004).

The social and educational inequalities outlined are mainly focused on inequitable redistribution of income, an education system that is highly segregated according to social classes and highly uneven depending on the distance to the country's capital, disparate income for men and women, and little attention to minorities (CARNOY, 2010; MAYOL, 2012; VILLALOBOS; VALENZUELA, 2012). This system of quality measurement reproduces some of these inequalities: different physical conditioning levels by sex, socioeconomic status or school students attend. These differences are used only to find that children from different segments have different results, but not to contextualize evaluation and understand reality. The following section will cover the perversity implied in that.

Given the scarcity of information produced by SIMCEEf, understanding the current state of the subject is a complex task. The focus on students' physical conditioning levels is only a small part of it, and not even the most important one (MORENO, 2011).

⁵Other analysis will be conducted to say that children who attend municipal schools have the worst results. But these analyses do not contribute to understanding those results in terms of social, cultural and economic reality.

Given this reality, the teaching guidelines provided by SIMCEEFF are general, so we do not understand the evaluative apparatus generated. Let us see what the report says about it (SIMCEEFF, 2011, p. 50):

According to the sector's and the level's study programs, development of individual work plans shall consider the following: "Activities must be worked on throughout the year. Therefore, during organization of classes, specific time must be provided to carry out activities inherent to this content axis, without neglecting other curriculum contents.

"Work plans must be implemented in and out of school. To do this, they must be designed considering possible applications both inside and outside the establishment. As a tool for self-monitoring, it is recommended that students build a weekly working log where they systematically write down and describe exercises and activities.

"Work plans should include goals and targets, types of exercises to be performed, number of weekly sessions and healthy habits.

"Assessments to be used periodically for students to evaluate their personal progress against commitment shall be determined.

The above described orientations can help improve students' physical conditioning, but the proposal is too specific to help really improve school PE practices.

3.5 SIMCEEFF'S PERVERSE PURPOSES AND DEPROFESSIONALIZATION OF PHYSICAL EDUCATION TEACHERS

Next we will approach the most significant purposes expressed by SIMCE and their usefulness to teachers and principals, as well as and how they might be damaging and distorting the educational process in School PE.

“To assess whether the initiatives implemented at school had a positive effect on student’s performance level” (AGENCIA DE CALIDAD DE LA EDUCACIÓN, 2013, p. 1). It is implicitly assumed that schools and PE teachers are taking steps to solve the big problem pointed out by SIMCEE: lack of proper physical conditioning. Why that problem and not others? For example, students’ communication, autonomy and self-esteem shortcomings, which could be dealt with from other curriculum content such as Body Expression or Sports Games. What is clear is that SIMCEE is conditioning teachers’ actual practices. A good example can be found in this quote collected by Moreno et al. (2013, p. 13): “I was given two extra hours, that is, this course had four hours to prepare for SIMCEE [...] The children ended those four hours exhausted with physical conditioning” (Soledad).

Indeed, some schools begin to serve the evaluation system, losing the necessary critical action and commitment to those who learn (ÁLVAREZ, 2006). As noted by another teacher (Gabriel) from previous research, “[...] they’ll make you work for SIMCEE” (MORENO et. al., 2013, p.13)

For SIMCE, evaluation could help parents to “[...] know their school’s performance compared to others in the same district”. To establish a “school traffic light” in order to build a map of schools that shows different levels of quality. It is perversely assumed that schools and PE classes with lower performances are a result of pedagogical work of lesser quality. During the implementation of the first SIMCEE, following its results, the Minister of Education noted that “[...] the current hours of physical education are being badly conducted” (COOPERATIVA, 2010, p. 1). Teacher professionalism and PE quality are related to the physical condition achieved by students (giving an uncritical response to what the Ministry proposes) – never to an educational teaching practice characterized by democratic, participatory and community contextualized critical action (FREIRE, 2005) (STEINBERG; FLECHA, 2009) in professional work.

To the Ministry itself, SIMCE will serve to monitor the quality and equality of education from the perspective of students' learning achievements in different curriculum areas (AGENCIA DE CALIDAD DE LA EDUCACIÓN, 2013). What good is there in finding the inequality of the education system – which is well known – if no school PE practice will be proposed that tends to offset it? (DEVÍS; MOLINA 2004; MORENO 2011). As also noted by Diniz, Franco and Silvia (2009), we keep encouraging a PE focused on a technocratic view of the educational process and on an evaluation that serves more to confirm performance levels than to understand educational processes.

4 OPINION

SIMCEEF does not respond to the previously described concept of life quality. It does not even provide information on how curriculum goals pointed out in plans and programs for the subject are being developed or not.

The conceptual relationship established between health and physical conditioning serves a limited theoretical perspective that means that the better that conditioning, the higher and better human wellbeing. This is a very risky relationship, especially in the group of children participating in that measurement system.

It is an evaluation system that tends to reproduce and verify inequality among different social groups present in the country and therefore it does not constitute an evaluation logic for transforming the prevailing status quo.

SIMCEEF intends to have a value in itself and rather than being a means to improve educational practice. That risks to create teaching more focused on responding to the tool itself than on being a contribution to the development of healthy physical activity habits from educational practices.

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