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## ORIGINAL

### META-EVALUATION IN PHYSICAL EDUCATION TEACHERS

### LA META-EVALUACIÓN EN EL PROFESORADO DE EDUCACIÓN FÍSICA

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#### ABSTRACT

This article presents the results of a broader research on the conceptions and evaluative action of six physical education teachers in high school in Medellín (Colombia). This paper presents the findings on one of its objectives: Analyze the reflections that can arise in the teaching staff once the assessment process is completed in a didactic unit, that is, the assessment of the assessment-self (meta-evaluation). The design used was qualitative, specifically a multiple case study. The strategies used were semi-structured interviews and documentary analysis. The research allows us to conclude that the moment after the didactic, does not suggest a reflection in the teachers about the assessment. The few questions mentioned in his discourse refer to the instruments or procedures performed, but there is no analysis of the purposes of the assessment and its contributions to quality.

**KEY WORDS:** physical education, meta-evaluation, teacher thinking, formative assessment.

## **RESUMEN**

Este artículo presenta resultados de una investigación más amplia sobre las concepciones y la acción evaluativa de seis docentes de educación física de Medellín (Colombia). El objetivo específico que se presenta fue: Analizar las reflexiones que pueden surgir en el profesorado una vez finalizado el proceso evaluativo en una unidad didáctica, es decir, la evaluación de la propia evaluación (metaevaluación). El diseño utilizado fue cualitativo, específicamente un estudio de caso múltiple. Se utilizaron como estrategias de recolección de información las entrevistas semi-estructuradas y, cuando fue posible por su existencia, el análisis documental. La investigación permite concluir que, finalizar una unidad didáctica no conlleva necesariamente a una reflexión del profesorado sobre la evaluación realizada. Los pocos cuestionamientos mencionados en sus discursos, se refieren a breves reflexiones sobre los instrumentos o procedimientos realizados, pero no hay una reflexión profunda sobre los propósitos formativos que tiene la evaluación y sobre sus aportes a una enseñanza de calidad.

**PALABRAS CLAVE:** educación física, metaevaluación, pensamiento del profesor, evaluación formativa.

## INTRODUCTION

Assessment is a hot topic in education, as it gathers multiple points of view, functions and ideas. Some authors have regarded it as the most difficult aspect to address in education (Cabezas, González, & Carpintero, 2009; Cerda, 2000; Salinas, 2002; Santos, 2003) and they were not mistaken.

Its complexity resides, from our perspective, in the subjectivity reflected on every assessment action. This is, the teachers' concept of assessment will be reflected on their speech, the students' level of participation, the relationship with the score, the purpose of the assessment instruments, the assessment moments, etc. Therefore, as suggested by Brown (2002), it is necessary to delve into the relationship between teachers' thinking and action and, based on that, to identify the reason for their practices and to propose improvement actions.

This manuscript presents the post-interactive reflections of the participating teachers on the assessment conducted upon completion of a teaching unit. In general, the post-interactive teaching phase, so called for the first time by Jackson (1968), refers to the moment when teachers have the opportunity to assess their education process and to propose alternatives to improve their teaching and their students' learning. This constitutes, in turn, the starting point of a new education cycle. In short, "it is a phase in which teachers must question themselves about the consequences of the decisions made and actions performed" [own translation] (Hernández & López, 2004, p. 61).

Reflective teaching or reflective practice has been addressed by different authors, who have retrieved its properties and contributions to education quality. According to Jinhong (2012), reflective teaching refers to the act of thinking such as analysing or assessing educational meanings, intentions, beliefs, decisions, actions, or products yielded through those thinking processes.

Zeichner and Tabachnick (1991, cited in Zeichner, 1998) presented four reflective practice traditions that have been used in teaching and teacher education in the United States: academic, social efficiency, developmentalist and social reconstructionist. Each of them matches a different political perspective and addresses teacher reflection in a particular manner. Nevertheless, as underlined by Zeichner, it is not possible to find one pure tradition; to the contrary, teacher education programmes and teachers themselves can combine elements in such a way that higher value is given to some tradition characteristics than to others.

Likewise, the three reflection levels differentiated by Van Manen (1977) are still completely valid nowadays. The first one is more technical, where reflection focuses on the adequate selection and use of the strategies that the teacher will use in the classroom and where the teaching means prevail over the teaching ends. At the second level, attention focuses on the interpretative comprehension of the quality of the educational experience and on making practical decisions. This is, reflection occurs on the consequences of certain

strategies. Lastly, the third level addresses reflection from a self-critical perspective and incorporates moral, ethical and political aspects of teaching and education. At this level, reflection includes critical analysis of institutions and authority.

Schön (1998) addressed reflection from a different perspective, calling it reflection-in-action, i.e. the analysis that takes place once the educative action has finished. To him, such reflection constituted a determining step in teachers' continuous learning and privileged material to transform their own practice.

Several studies within the education field have analysed the importance of teacher reflection, but only a small part of them involve physical education (Derwent, 2015; Jinhong, 2012; Tristán, 2010; Tsangaridou, 2005). Studies on this area have been published sporadically, making it gain increasing research interest (Hall & Smith, 2006).

If we apply the reflection-in-action theory to the assessment field, we will obtain the meta-evaluation, i.e. the assessment that teachers conduct on their own assessment action. The term meta-evaluation was first used by Scriven in 1969 (cited in Stufflebeam, 2001), who defined it as “any evaluation of an evaluation, evaluation system, or evaluation device” (p. 185).

This assessment must be understood as a comprehensive action that allows teachers to think about themselves and to reflect on the action performed.

... the purpose of meta-evaluation is to explain assessment as a complex social process. It essentially refers to the approach to the subject—the assessment—dealing directly with complexity, not only as a network of social actions, but also in its axiological, ideological and epistemological references and explanations [own translation] (Díaz, 2001, p. 175).

If we bear in mind that assessment allows for gathering information on the teaching-learning process in order to make decisions accordingly, we may assume that the assessment is not performed mechanically, but there is a pedagogical reason supporting it, with the main aim to help students learn more and teachers improve their teaching practice (Barrientos, López-Pastor, & Pérez-Brunicardi, 2019; López-Pastor, Molina-Soria, Pascual-Arias, & Manrique-Arribas, 2020; Trigueros-Cervantes, Rivera-García, & De la Torre-Navarro, 2012; Velázquez & Hernández, 2004). From this perspective, one of the questions that may arise regarding meta-evaluation concerns assessment's potential to promote changes (Santos & Moreno, 2004).

The studies conducted by Jiménez, Navarro and Jiménez (2001), Jiménez and Navarro (2008), Navarro and Jiménez (2012) and Cano and Ruiz (2019) represent some of the few examples involving meta-evaluation in school physical education. The research conducted by Navarro and Jiménez (2012) presented meta-evaluation as a robust process that allows for reflection and transformation of the assessment action. The researchers applied a meta-evaluation instrument with four teachers with the aim to determine the

educational effect of the assessment they used in their teaching units. “This self-assessment instrument provides teachers with the necessary operational key elements to detect the educational limits of the assessment model applied and to initiate a change in their teaching intervention” [own translation] (Navarro & Jiménez, 2012, p. 75).

The results of the study revealed how, based on self-assessment and mediated by a joint reflection process, teachers found the key to improving their assessment process from an educational perspective, especially focused on students' participation in the assessment of their own learning, what was confirmed by the students by means of a questionnaire. These studies showed the necessity of delving into meta-evaluation as a way to reflect and to improve the assessment practices conducted by teachers.

Consequently, the aim of this research was to analyse what teachers think about the assessment conducted upon completion of a teaching unit, the questions that arise about their own performance, how they apply their assessment in subsequent units and how they assess their own assessment.

## **RESEARCH PROCEDURE**

A qualitative design was applied in this study. According to Taylor and Bogdan (1987), the “qualitative methodology is more than a set of data-gathering techniques. It is a way of approaching the empirical world” (p. 7), i.e. research from a qualitative perspective constitutes a way of understanding the world, a particular way of approaching reality (Galeano, 2004).

An instrumental and descriptive multiple-case design was chosen (Chaverra-Fernández, Gaviria-Cortés, & González-Palacio, 2019; Stake, 2006). Six physical education teachers participated in the study, four men (Juan, Carlos, Luis and Pedro) and two women (Diana and María), with different teaching experience (between 10 and 20 years). The selection criteria (Goetz & LeCompte, 1988) were: to possess a professional degree in Physical Education, to have at least five years of experience as physical education teacher, to be a teacher at a state school of the city and to have time and availability to participate in the study.

The main data-collection strategy was semi-structured interviews (Massot, Dorio, & Sabariego, 2014) and, when they existed, also document analysis (Bowen, 2009; Fitzgerald, 2007). The interviews allowed us to discover the reflections arisen on the assessment conducted (meta-evaluation) through the information provided by the teachers. An outline was prepared and it was validated by three PhDs in Physical Education with research experience in assessment and one PhD in Education, non-specialist in physical education. The aim was to assess the clarity and appropriateness of the questions included in order to validate the instrument.

The document analysis, as supplementary technique, was performed on official texts (Del Rincón, Arnal, Latorre, & Sans, 1995; Woods, 1987), i.e. the

documents established by each school. In particular, the institutional folders of three participating teachers were analysed. These folders contain various official documents, such as one called *pedagogical reflections*. On it, every teacher can write the comments and reflections they deem relevant with regard to the teaching unit development. The schools of the rest of participating teachers did not count on official documents that could serve as source of information and analysis. Consequently, we tried to use the interviews to obtain the data that could have been found in these documents, in case they had existed.

These documents allowed for verification of the information gathered in the interviews and for increase of research credibility. Simultaneously, the access to these documents provided broader information on the institutional context of every teacher.

The information was analysed based on the three phases proposed by Taylor and Bogdan (1987). In the discovery phase, categories and themes were identified while carefully reading the interviews. Concepts, ideas and reflections were recorded according to the research aim.

In the coding phase, the original categories were expanded or discarded, since first and second-level categories were obtained from the information and context analysis, according to the study aims. The information was analysed using an inductive strategy (Bonilla & Rodríguez, 1997), this is, the categories appeared from data recurrence. The codes to read the results were created based on the strategy and the first letter of the teacher's pseudonym, e.g. I.3.M (María's third interview), IF.J (Juan's institutional folder).

In the data discounting phase (so-called by Deutscher and Mills, 1940, cited in Taylor & Bogdan, 1987), the purpose was not to generalise teachers' statements, but to understand them taking their context reality into account and to analyse them considering the theoretical fundamentals and the related research.

From a methodological point of view, the legitimating of the knowledge obtained from qualitative research is founded on dialogue and intersubjectivity. In this sense, reliability, objectivity and validity gain a different meaning in qualitative research from the one provided in the positivist approach that supports a large number of quantitative studies (Guba, 1989; Rodríguez, Gil, & García, 1999). For this research, the naturalistic criteria proposed by Guba (1989) were adopted: credibility, transferability, dependability and confirmability. In this case, various actions were conducted, such as information triangulation (interviews, document analysis and theory and research on the topic), confirmation with the participants of the analysis performed and review by several researchers.

The study's ethical considerations were: informed consent, information confidentiality, use of pseudonyms and return of the information to the participants.

## RESULTS

As mentioned above, this research presents some of the results from a broader study on teachers' concept of assessment and their assessment actions (Chaverra-Fernández, 2017). Along the research, several interviews were conducted with the purpose to gain knowledge on the participants' concept of assessment and their assessment actions. In those conversations, the teachers provided extensive information, full of examples and anecdotes. By contrast, the interviews that addressed the questioning and reflections on what happened during the unit were short, with little chance to delve into their answers.

The reduced information provided by the teachers reveal how difficult it is to reflect on our own intervention as teachers or how unused we are to question our own experience (Chaverra-Fernández, 2017).

The teachers' general perception of their performance during the teaching unit was positive. Although it was difficult to accurately determine their teaching goals and assessment criteria during the study, they expressed satisfaction for having done a good job and for the achievements made by the students.

... the goals were achieved... I believe that many achievements were made, you are satisfied when the goals are met. (I.3.C.)

The teachers Juan and Pedro expressed their positive perception of teaching in their *pedagogical reflections*, where every teacher can make the comments they consider appropriate about the teaching unit development.

I finish with the feeling of having done a good job, but I also learnt many things from my students. (IF.J.)

... despite not being able to give lessons for a few days due to various institutional activities, the goals were achieved. (IF.P.)

A positive perception of performance is closely related to the perception that the students learnt, i.e. they considered the students learnt and, therefore, their self- assessment of their teaching performance was positive.

... I think the lesson was good, they learnt, they felt good, and therefore I feel good with what they learnt. (I.3.L.)

In general, the teachers stated that they conducted the assessment actions they had planned. Nevertheless, it was perceived from what they said that their reflections were based on both the unit that was just completed and other actions they had previously established in their teaching process. That consistency granted them security to ensure that the assessment actions were according to their expectations.

... this is what I had thought and how I assess, taking into account

participation, interest in the lesson and responsibility. (I.3.L.)

... I always do that... those are all the elements it [assessment] should contain: theoretical part, physical part, attitudinal part and their self-assessment. (I.3.C.)

Consequently, a positive assessment of the assessment action is based on the perception of having followed the established routines, but critical thinking to question whether those routines are actually the most appropriate to have a positive effect on the students' learning process is lacking. Likewise, reflection on the quality and adequateness of the learning goals is scarce.

Despite having met their own expectations and expressing satisfaction with the assessment process conducted, some teachers admitted that there were some aspects they could improve. In particular, Carlos and Diana mentioned two actions they would like to improve in future teaching units.

... something else I would add, and that I have always wanted to do, is theoretical assessment. (I.3.C.)

... I would promote greater awareness regarding assessment... not about the score, but the process. (I.3.D.)

The changes proposed, or the possibility of applying them, refer to formal assessment aspects, but they are not oriented to the assessment aim, contents or agents. No deep questioning was perceived in the participants as regards the formative value of the assessment conducted or how to improve it.

An aspect that the teachers mentioned superficially was the instruments used, not with the aim to modify them or apply new ones, but to confirm them. Pedro and María underlined the need of continuing to use the monitoring sheet as main instrument to record the scores, since it is an essential proof of the assessment for the student, their parents and the school. It is noteworthy that the teacher can record attendance and the scores of each lesson on this sheet, but it does not contain specific assessment criteria.

... we must keep working with the sheet, that cannot be modified. (I.3.M.)

... we need to use sheets because, when parents ask, we need to provide a score. (I.3.P.)

The use of monitoring sheets is, thus, a consequence of the institutionalisation of the assessment process and the need of justification to the school and families. The instrument itself is affected by that institutionalisation, but there was no questioning by the teachers regarding the sheet's content and its potential value within the formative assessment process. In fact, in some cases, pressure regarding the score was expressed, what did not contribute to a relaxed assessment, as María admitted. After critical reflection, she denounced the obsession with score caused by the rules on the use of the sheet:

Not very good (assessment during the unit)... there were moments when I gave scores because it was mandatory to do so... come rain or shine, you have to give a score, no matter if you teach the content as it is, or you don't, María, you have to give a score for standing, laughing, talking, playing, not playing, anything... (I.3.M.)

The only teacher who found one instrument to be a valuable addition to improve his work as a teacher was Juan. To him, the information provided by the student's notebook was useful to modify his action in future units.

... I strongly believe in those notebooks, because in the end they are the record of what they are doing... I review them and plan in advance: well, in the next unit I can do this or modify that in this year or with this group, I would say this was useful. (I.3.J.)

A comprehensive analysis of the information provided by the teachers suggests that the positive assessment of the assessment action was based on the perception of having fulfilled the assessment routines established years ago. Nonetheless, their comments revealed very limited critical attitude to question whether those routines are actually the most appropriate or whether they positively affect the students' learning process.

## **DISCUSSION AND CONCLUSIONS**

Reflection is a complex task and, in fact, the ideas explained by the participating teachers only reached the first level proposed by Van Manen (1977) or Zeichner's (1998) academic tradition, a technical level where thoughts focus on the means and not the ends of teaching. In this case, no reflection was detected on the purposes of assessment or its contribution to improve teaching, but their thoughts focused on the procedures implemented and their desire to change certain strategies or instruments.

The ideas expressed by the teachers revealed the lack of reflection on the assessment conducted. Undoubtedly, the ability to think about their own action is not something that appears sporadically after years, but it needs training and critical attitude that incline them to think about why they do what they do and help them acquire the skills to do it.

Initial and continuous training are deficient in these skills. As stated by Zeichner (2008), teacher education has done very little to promote reflection among teachers; it has forgotten to provide them with skills to learn from their experiences and to use that knowledge to become better in what they do along their teaching careers.

Tsangaridou (2005) stated that knowledge of the context, content and students are prerequisites to foster the reflection process in teachers. Nevertheless, the participants of this research had broad knowledge of the three elements, but it was not enough to observe deep reflection on their performance. This suggests

that there is one additional element needed: training on reflection that allows teachers to move from microreflection to macroreflection (Tsangaridou & O'Sullivan, 1997).

Besides, several studies have proved that applying a self-assessment instrument and participating in a process of theoretical reflection on assessment help teachers discover some key points to improve their assessment process from a formative perspective (Cano & Ruiz, 2019; Jiménez & Navarro, 2008; Jiménez et al., 2001; Navarro & Jiménez, 2012). In this regard, it may be possible to promote reflection among teachers by accompanying, training and encouraging them to find their own path and needs according to the context they work in.

In conclusion, it can be stated that meta-evaluation was not a motivating action to teachers, due to either lack of awareness or lack of the necessary skills to conduct it. The very limited teachers' reflection on assessment focused on the instruments used, but they did not refer to the purposes of the assessment or to how its analysis (meta-evaluation) could help them improve their teaching. Doubtlessly, it is necessary that teacher education programmes address not only the development of knowledge and skills to conduct a meta-evaluation process, but also teachers' attitude towards this essential practice to improve education and their own professional development.

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