

Do we really assess learning in physical education? Teachers' perceptions at different educational stages

¿Evaluamos realmente el aprendizaje en educación física? Percepción de los profesores en diferentes etapas educativas

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Abstract. Background: Assessment is connected to the way teachers approach and understand physical education. Purpose: To assess teachers' perceptions on assessment in different educational stages. Method: Seven experienced physical education teachers from each educational stage (Primary, Secondary and University), and eight Physical Education Teacher Education students participated. A qualitative research design was followed. Results: Primary education teachers advocated for an assessment based on games and play, and they believed that it was not necessary to involve pupils. Secondary education teachers confused assessment with grading, focusing on fitness and sport testing and advocated for an exclusive teacher implementation. University teachers linked assessment to learning and highlighted the need to be transparent. Finally, future physical education teachers encouraged a change, believed that assessment is a complex element of teaching and highlighted the context where assessment will be implemented. Conclusion: Assessment is viewed differently depending on the stage with no common traits.

Keywords: Assessment; Learning; Methodology; Teaching Role; Education.

Resumen. Antecedentes: La evaluación está relacionada con la forma en que los profesores abordan y entienden la educación física. Objetivo: Evaluar las percepciones de los profesores sobre la evaluación en diferentes etapas educativas. Método: Participaron siete profesores de educación física con experiencia en cada etapa educativa (Primaria, Secundaria y Universidad), y ocho estudiantes de Magisterio de Educación Física. Se siguió un diseño de investigación cualitativo. Resultados: Los profesores de Educación Primaria abogaban por una evaluación basada en el juego y la diversión, no considerando necesaria la participación de los alumnos en la misma. Los profesores de educación secundaria confundían la evaluación con la calificación, centrándose en las pruebas de aptitud física y deportiva y abogando por una aplicación exclusiva de la evaluación por parte del docente. Los profesores universitarios relacionaron la evaluación con el aprendizaje y destacaron la necesidad de ser transparentes en relación a su aplicación. Por último, los futuros profesores de educación física alentaron un cambio, considerando que la evaluación es un elemento complejo de la enseñanza y que el contexto en el que se aplique es determinante. Conclusión: La evaluación en la Educación Física se ve de forma diferente según la etapa, no existiendo elementos comunes en su puesta en práctica

Palabras clave: Evaluación; Aprendizaje; Metodología; Rol del docente; Educación.

Introduction

The benefits that physical education can provide to the students' overall development are unquestionable: promote physical activity habits, improve academic performance, increase self-esteem and physical self-concept, foster social links and personal skills... (Bailey, 2009). Although these could be considered fundamental physical education aims, there has not always been an agreement (Rink, 2014). Probably, because it is directly associated with the way a teacher understands and

approaches the subject; in many cases very different depending on the training received and the previous experiences (Tsangaridou, 2008; Sicilia-Camacho, 2003). The pedagogical framework used by the teacher is the most determining factor in the students' involvement, motivation, and perceptions of what they have learned (Moy et al., 2015), and assessment should be an integral part of it, because it is directly connected to the teaching and learning process (Black & Wiliam, 2018). Unfortunately, many times both are separated because assessment and grading (produce a final score or grade) are understood interchangeable. When this happens, assessment is not given a fully formative character, focusing teachers more on scoring a product than on the feedback needed to improve and learn (Chng &

Lund, 2018). Grading is necessary, but more important is assessment, which guarantees coherence to the teaching process (Black, 2013). Differentiating assessment from grading forces teachers to rethink their practices to make the first one a learning experience for their students (Sundaresan et al., 2017).

These ideas on assessment are rooted in three fundamental frameworks. The first one is *Assessment for Learning* (Hay, 2006), where the goal is to adapt teaching and learning to fit students' needs through five strategies: «(1) clarifying and sharing learning intentions with the students, (2) engineering effective classroom discussions, tasks and activities that elicit evidence of learning, (3) providing feedback that moves the learner forward, (4) activating students as learning resources for one another and (5) activating students as owners of their own learning (Tolgfors, 2018, p. 1211). The second framework is *Authentic Assessment*, which «pursues tasks and foci that are meaningful to students and that have value and meaning beyond the instructional context» (Hay & Penney, 2009, p. 394). The third concept linked to these two is *Formative Assessment*, which has been defined as: «frequent, interactive assessments of student progress and understanding to identify learning needs and adjust teaching appropriately» (Centre for Educational Research and Innovation, 2005, p. 21).

From this view of assessment (active teachers, involved students), it seems necessary to reflect on what students really learn in their classes and what role assessment plays in their learning. Assessment is a transversal curricular element (used in the different educational stages), and as such, it should impregnate physical education's educational goals. This directly influences how physical education is taught, regardless of the context (Hortigüela-Alcalá et al., 2021). Contents can change and the reflective mechanisms associated with assessment must be constantly questioned and revised (Tolgfors, 2018). To know the weight of assessment in the educational system, it is necessary to assess how it is conducted in the different educational stages, including future teachers (college). Previous research has showed that assessment can have a positive impact in teachers and students' learning, but it also has challenges (i.e., timing, proper instruments...) (Ni Chróinin & Caitriona, 2013). Furthermore, it can be a source of conflict among teachers. There is no consensus on the role it should play in the classroom and how it should be related to the teaching approach (Dinan-Thompson & Penney, 2015), but it is a fundamental element of the educational curriculum. Its understanding

and use are essential to ensure the quality of the teaching and learning process (Wiliam, 2011). The questions that this study brings are: What do physical education teachers think about assessment? How do future physical education teachers conceive and implement assessment? In the absence of previous literature on the subject, this research tries to contrast what are the perceptions that teachers at different educational stages have on assessment; thus, uncovering the convergent and divergent points of view to help in the search for alignments between assessment implementation and curricular policies. Addressing the perceptions of PE teachers at all stages of education, including that of future teachers, gives a global approach to such a relevant element as assessment. If assessment is to be used as a transversal learning tool in the subject, it is necessary to contrast how it is conceived, integrated, and used in their classes.

Assessment Approaches in Physical Education

Assessment in physical education, consciously or unconsciously, has always been associated to the teaching approach (Chng & Lund, 2018), and this is influenced by curricular and cultural factors, including misinterpretations between the aims of the subject and extracurricular sport (Holt et al., 2012). In addition, the different approaches have influenced physical educators' professional identity over the last three decades, perpetuating teaching models that in many cases have been socially considered as valid (Shelley & McCuaig, 2018). Teaching styles could be grouped in two categories: a) performance-oriented and b) participation-oriented, both related to how physical education is conceived, structured, and implemented under certain political and social ideas (Casey & Larsson, 2018). Assessment plays a different role on each discourse, being more controlled by the teacher and linked to grading in performance-oriented contexts, and more open and connected to assessment in participation-oriented. Regardless of the methodological approach used, there are two possibilities (Grajeda et al., 2019): a) Proficiency-based learning: provide opportunities for skill acquisition (assessment is not grading, but an opportunity for feedback); and b) Evidence-Based grading: describe the work that students must complete (providing specific guidance). Teachers must develop assessment instruments and procedures to integrate both.

Research has showed that physical education teachers hold different views on assessment, and they

acknowledge that there is a need to change involving students in the process (Leirhaug & Annerstedt, 2016; Bores-García et al., 2021; Bores-García et al., 2020). Unfortunately, within the close structure of national curriculums, the idea of using assessment as a learning tool is very limited (Dauenhauer et al., 2019). A recent review on assessment and learning standards (cognitive, motor and socio-affective) included in the physical education curriculum in Spain in Primary Education (Otero-Saborido et al., 2020) found that the dominant was the cognitive (39.42%), followed by the motor (30.94%), and the socio-affective (29.65%). Only 11.70% of the 3,357 assessment references used incorporated all three dimensions. Inferential analyses reflected how the standards associated with the motor dimension correlated with greater comprehensiveness. This in-depth analysis clearly reflected the orientation of physical education in Spain towards theoretical knowledge. As the authors of the study pointed out, this neoliberal character of the curricula moves away from approaches linked to student participation and development, and as a consequence, from their integral development. This curriculum clearly hinders the implementation of learning-oriented assessment. Education policies should set guidelines and resources that could help physical education teachers implement this type of assessment (MacPhail & Murphy, 2017).

Assessment in Physical Education as an Element of Rigor

Education cannot be understood without assessment, especially in an area like physical education where psychological, motivational, and bodily constructs are present (Ada et al., 2019). Assessment plays a transcendental role, advising, guiding, and training learners in the use of a tool that will be with them along their lives: the body. Therefore, under a broad vision of how to teach, assessment in physical education has to go beyond the number of motor or technical skills that one individual is able to perform, focusing on how one builds his/her body subjectivity, accepts his/her body, uses it in life and, above all, reflects on what he/she thinks (González-Calvo et al., 2020). Based on these ideas, assessment in Physical Education must be formative, transparent and, above all, it must allow students to be involved through self- and peer-to-peer assessment, analysing their perception of it (Hortigüela-Alcalá et al., 2015). Only through these processes, students become aware of what they have learned and transfer that knowledge into their day-to-day, showing

a positive impact on self-concept, self-esteem, and adherence to physical activity practice (Hortigüela-Alcalá et al., 2016; Çakoyun, 2018). Physical education will only be able to improve its academic status if what is taught in the gym is socially visible, thus involving families and the rest of the educational community. It can be a subject with high social relevance, but assessment has to be framed under a «learning prism», far from a simple final grade, in many cases irrelevant to the students' lives. Assessment in physical education has a strong socio-cultural influence, which affects the pedagogical connections between teachers and students (Hay & Penney, 2009). Therefore, tasks and assessment instruments should be aligned to produce learning evidence (Redelius & Hay, 2012). Unfortunately, there seems to be a mismatch between the expected learning outcomes and what teachers really value and assess (Borghouts et al., 2017).

Based on the aforementioned, the goals of this study were twofold: a) to assess Primary, Secondary and University teachers' perceptions on the role of assessment; and b) to assess what future teachers think about assessment and how they intend to address it in their future professional practice. This study represents a significant contribution to the existing literature on the subject since no research has been conducted comparing assessment in different educational stages. Results will allow physical educators to reflect on assessment.

Material and methods

Participants

A total of 21 experienced teachers (12 women, nine men), seven from each educational stage (Primary, Secondary and University) agreed to participate. All of them had a minimum of eight years of teaching experience. All Primary and Secondary teachers were physical education specialists, who had completed a similar training, but at different Spanish universities. All university teachers were doctors and worked in similar Physical Education Teacher Education training programs

Table 1

Participants: 21 teachers and eight preservice teachers.

21 teachers from three different educational levels (seven from each educational stage)	12 women and nine men
- Seven from Primary School (students from 6-12 years)	PE specialists
- Seven from Secondary School (students from 12-16 years)	PE specialists
- Seven from University (students over 18 years)	Doctors and worked in similar PE Teacher Education training programs at five different universities in central Spain
Eight PE Teacher Education students (preservice teachers)	Four women and four men, who were in their final year at a university in central Spain

Note. PE: Physical Education

at five different universities in central Spain. In addition, eight Physical Education Teacher Education students (four women, four men), who were in their final year at a university in central Spain, participated in the study. These were chosen at random from those who volunteered. This information is summarised in Table 1.

Primary school teachers worked with students from six to 12 years, both in rural and urban schools. Secondary school teachers taught students between the ages of 12 and 16 years in urban schools. University teachers had published research related to assessment and initial teacher training. The Physical Education Teacher Education students were certain about their desire to become physical education teachers in the near future. Including future physical education teachers as participants in the research makes a significant contribution, as it allows reflection on two fundamental aspects: a) checking how the initial training received at the university on assessment influences their professional identity; b) analysing how they intend to apply it in the classroom in the near future.

The Spanish curricula in Primary Education focuses on body awareness, inquiry and discovery through movement, basic motor skills development and play, while in Secondary Education the focus is on physical fitness and sports. In the two educational stages, specific assessment criteria and learning standards are set for each content block: physical condition, motor skills, sports, body expression. This standardisation may lead teachers to use assessment to pass physical tests rather than to provide feedback and make it a learning tool.

Instruments

All the data collection instruments used with each group of participants were structured around questions closely related to the goals of the study. They were directly linked to each of the categories of analysis.

Discussion groups. Three different discussion groups were conducted with each one of the three groups of teachers (primary, secondary, university), using the same semi-structured script (Table 2). Since the participating teachers worked in distant locations, the discussion groups were conducted on-line via skype and each session was recorded. Participation was encouraged, generating a climate of open and participative trust. This process was carried out independently in each discussion group, allowing researchers to collect information on each of the issues and then, use triangulation, purification, and saturation techniques, thus addressing context-specific

ethical issues (Ngozwana, 2018). The questions used were the same in each discussion group, thus ensuring specificity and agreement with the theme and objectives of the study.

Table 2

Basic script used for the three discussion groups (teachers).

Do you consider assessment to be important in the teaching and learning process? Why?
How should it be addressed in Physical Education at your educational stage?
What are the main errors made by teachers while assessing?
How should assessment be integrated into teaching?
What is the best way to teach motor skills through assessment?
What role of the student and the teacher should adopt in assessment?

Interviews. Semi-structured individual interviews were conducted with the participating future physical education teachers. Questions related to how they experienced assessment in Physical Education when they were students, and how they intend to address it in their professional future (Table 3). The goal was to deepen on to what extent the experiences lived in Secondary Education and during their university training influenced the construction of their professional identity.

Table 3

Basic script used for the semi-structured interviews (students).

What memories do you have of assessment in Physical Education during your schooling?
Has the assessment received at university made you rethink the approach?
What are the fundamental pillars of good assessment in Physical Education?
What changes would you make with respect to what you experienced as a student?
To what extent can the use of assessment make you reflect as a teacher?
What role should teachers and PE students play in assessment?

Theme linearity was maintained between the two data collection instruments, the goals of the study and the categories into which the results were structured, trying to provide reliability to the whole project (Swaminathan & Mulvihill, 2019).

Design and Procedure

The research was structured in four distinct phases throughout the 2018-2019 academic year: *Phase 1. Structuring of the study and planning of the intervention schedule:* the study arose from the authors' professional experience on assessment. Usefulness and possible contribution of the research were discussed, and a qualitative research design was selected to compare assessment in physical education among teachers from three different educational levels, as well as future teachers. Previous literature was reviewed to ensure that the study entailed a significant contribution to the research topic: assessment. The research code of ethics was approved by the first author's university. *Phase 2. Contact with teachers and discussion groups:* the research team's experience on educational research and pedagogical training made possible the connection with several physical education teachers. After several phone calls and/or emails, the days and hours for the three on-

line discussion groups were arranged. They were conducted via skype, seeing each other's faces, thus ensuring participation. They were all moderated by the first author, who tried to promote a balanced participation on each of the questions. Each discussion group lasted approximately 90 minutes and it was recorded for later transcript analysis. From the beginning, the importance of the participants' answers was highlighted, also guaranteeing anonymity. All the researchers took part in the focus groups, energising the responses in relation to the research objectives. *Phase 3. Conducting individual interviews with future Physical Education teachers:* before the end of the academic year, interviews were conducted with the future teachers. These students were in their fourth and final year. One of the members of the research team had been their teacher, so it was easy to establish contact with them. All individual interviews were conducted over a week in a faculty seminar. They lasted approximately 45 minutes each and they were all recorded in audio for later analysis. Interviews were conducted when the academic year was over to avoid any bias (i.e., responses influenced by the final grades). Students were encouraged to respond in the most reflective possible way. The interviews were conducted with a focus on how they would approach assessment in the future as part of their professional identity. *Phase 4. Data analysis and manuscript elaboration:* once the information from the discussion groups and the interviews was collected, all data obtained was transcribed and analysed with the help of WeftQDA software. It was used only to allocate the data obtained to each of the research categories. Through this procedure, it was possible to obtain the most recurrent ideas, favouring the processes of saturation and triangulation between the data collection instruments. However, the researchers carried out a detailed and exhaustive work of analysis, checking data reliability and validity according to the contribution to each category and the study goals. All the researchers, first individually and then as a group, analysed all the data as a whole, in order to ensure that they were assigned to each of the categories of analysis.

Data Analysis

A qualitative approach was adopted to understand, in depth, participants' views on assessment at the different educational stages. For this purpose, it was essential to obtain first-hand perceptions. Since the main data source were the experiences of those involved, it allowed us to approach the phenomenon under study in

a real and interpretative way (Rubel & Okech, 2017). A triangulation was made with the information obtained in the different data collection instrument to guarantee reliability, transferability, and credibility of the results. The most significant text extracts were coded in each of the instruments, using cross-matching patterns (Saldaña, 2009). The researchers took an active part in the fieldwork, reflecting throughout the process on the linearity between the results and the study's objectives. The information was articulated, grouped by thematic axes in the categories generated by means of a selective, open, axial coding (Strauss & Corbin, 2002).

Generation of categories and their categorization

Once the data from each instrument used was transcribed, the WEFT QDA computation and analysis program was used to help in the analysis. Through the saturation of texts and coinciding ideas and the treatment of thematic axes, the information was grouped into the three initial categories of the study:

1- *Goals of assessment in physical education:* the way teachers understand and implement assessment in their classes, its educational purposes and factors that influence their use.

2- *Instructional framework and assessment:* how assessment is matched with the instructional design used.

3- *Role of students and teachers on assessment:* roles each one must perform during the assessment process. These categories were used to structure the analysis of all data obtained.

They are related to the object under study (assessment) and the design of the research, thus respecting the criteria of specificity and coherence that all qualitative research should have (Le Roux, 2017).

Acronyms used for data identification

Different acronyms were used to match text extracts and instruments. In the discussion groups, DGPT was used for primary school teachers, DGST for secondary school teachers and DGUT for university teachers. Regarding the interviews, each participating student was assigned a number and the acronym SI.

Results

All the information extracted from the two data collection instruments was grouped into the three categories of the study, thus responding to the objectives of the research. In each one, the results of each data

collection instrument are presented (for each group of participants).

Goals of assessment in physical education (314 text extracts)

Teachers from the three educational stages had completely different ideas. While primary school teachers advocated for an assessment based on games and play, secondary school teachers linked it to physical condition and matched it to grading:

«I believe that assessment must have a playful end, allowing the child to enjoy our classes». «If we finish classes with the assessment and make it cognitive, we lose the movement, and this cannot be in the first stages of schooling [...]». «Assessment has to do with motor games». «Kids are going to have lots of fitness testing in secondary school, please, not in primary school» (DGPT).

«A lot of time is wasted on assessment. If we want to obtain objective data, it is necessary to score clearly from the beginning [...]». «Then, we complain about obesity, and we are not even able to make consistent physical condition tests to see the students' evolution [...] to know what the student has to improve». «My students have obesity problems; we must help reduce it through fitness testing» (DGST).

University teachers linked assessment to learning:

«Assessment has to be synonymous to learning, and the student must participate». «It is important that the assessment is transversal to all the contents to overcome the conflict with grading». «Only if assessment is transparent and favours students' involvement true learning will be generated. In physical education, feedback is fundamental, since the student will know what he/she is learning and what he/she needs to improve to connect future knowledge» (DGUT).

For their part, future teachers encouraged a change in the assessment practices they experienced as students:

«...when I was a student [...] we had physical tests, you passed them, and the rest of the time was free» (SI8). «I was never given the opportunity to be involved in my own assessment» (SI2). «I would like to change the assessment and make it more participatory so that they [students] learn» (SI5). «Above all, I remember that the assessment was unfair, and penalized those who were in the worst physical condition» (SI3).

Instructional framework and assessment (328 text extracts)

Responses showed that primary school teachers integrated assessment into their instructional framework, while secondary school teachers implemented it de-contextualized. It reflects the

difference between assessment in primary school and grading in secondary school:

«Assessment has to be in the teacher's day-to-day: giving feedback to the student, using the logbook [...]». «Assessment is linked to the way you understand the subject, and if you separate it from the content, it would be decontextualized». «It is fundamental to give students feedback on a daily basis, so that they learn from your comments» (DGPT). «In the end, we have to grade. We can use one or other methodology, but the number [grade] has to be as real as possible, depending on how hard the student has worked». «Sometimes, when you have to put the grade, you set aside the content, and focus on the student's effort». «I try to be as fair as possible; I match the grade to the mark obtained by the student» (DGST).

University teachers advocated for a close connection between instruction and assessment:

«Depending on the methodology used by the teacher, assessment will have one role or another in the teaching process». «Separating methodology from assessment reduces learning and makes us [teachers] lose rigor». «Grading without real assessment makes no sense; unfortunately, it is very common on Physical Education; the university is the place to change those wrong ideas». «Pedagogical models must be connected to assessment. It is necessary to know how to integrate them into the learning objectives and the content» (DGUT).

Future teachers believed that proper assessment was the most complex element of teaching:

«The coherent use of assessment in each context is the most complicated part of the teaching process» (SI1). «We know that it has to be integrated into the methodology, but this is not easy, and many traditional models must be broken» (SI4). «It is necessary to help students get used to new assessment procedures and teachers to new instruments, procedures [...]» (SI7).

Role of students and teachers on assessment: (307 text extracts)

Primary school teachers commented that it was not necessary to involve pupils in their assessment, and secondary school teachers went even further, they advocated for an exclusive teacher implementation:

«Involving students in the assessment process can be positive, as long as it does not make the subject too cognitive and loses its essence». «If the teacher is capable of evaluating the student and the student learns: why does the student have to take part? We must not forget that our subject is experiential». «It can be good to encourage feedback from students, but I don't think we should go as far as to involve them in their own assessment». (DGPT). «We must consider who the teacher is and who the student [...]. There's nothing wrong with the teacher being in charge of evaluating and grading... The teacher has the

knowledge... When I evaluate, students respect you more and there are less behavioural problems... It is important that both, teacher and students, know their roles in class, and evaluation clearly belongs to the teacher» (DGST).

University professors believed that assessment must always be transparent, to help students understand what they have learned:

«Transparency in assessment is a key aspect for learning... If students do not know how they are going to be assessed and graded, it is difficult to become aware of what is going to be learned... There is no problem with shared assessment, which should not be mistaken with the student having some kind of advantage... it has been used as a power and control tool by teachers. It is necessary to eliminate those practices» (DGUT).

Future teachers highlighted the context where assessment will be implemented as a key to be able to use the right approach:

«The context where we have to work is important, a school with students from a low social class is not the same as one with high-class students» (SI6). «When I was in my practicum, my tutor did absolutely nothing innovative in assessment» (SI5). «I think there is still a lot of progress to be made in assessment in physical education. The type of school where you work, and the content determine its possibilities» (SI8).

Discussion

The goals of this study were twofold: a) to assess primary, secondary and university teachers' perceptions on the role of assessment; and b) to assess what future teachers think about assessment and how they intend to address it in their future professional practice. Results showed very different perspectives. Primary education teachers advocated for an assessment based on games and play, they integrated assessment into their instructional framework, and they believed that it was not necessary to involve pupils in the assessment process. Secondary school teachers confused assessment with grading, focusing on fitness and sport testing, implemented it de-contextualized and advocated for an exclusive teacher implementation. University teachers linked assessment to learning, advocated for a close connection between instructional methods and assessment, and highlighted the need to be transparent, to help students understand what they have learned. Future Physical Education teachers encouraged a change in the assessment practices they experienced as students, they believed that conduct a proper assessment was the most complex element of teaching and highlighted the context as a key element to use the

right approach.

Globally, results showed that there is no consensus on what should be the goal of assessment in physical education. Results clearly indicated that it is viewed very differently depending on the educational stage, and that there is not a clear line of action that could drive the whole teaching-learning process and help physical education grow. Pedagogical practices at the primary stage revolve around play. This orientation can produce positive outcomes but, on the other hand, it has led to an excessive «gamification» of contents, which puts into question the generated learning (McKenzie et al., 2018; Pérez-Pueyo & Hortigüela-Alcalá, 2020). Moreover, the role of assessment focuses on external rewards to finish the tasks, which limits the generation of intrinsic motivation towards one's own practice (Williams & Weiss, 2018). Therefore, under this view, assessment is conducted in decontextualized and unstructured, undermining its effects on learning (Dinan-Thompson & Penney, 2015; Otero-Saborido et al., 2020).

Chng and Lund (2018) warned that assessment must be linked to the pedagogical approach adopted to be coherent and positively impact learning. When both are not aligned, there is an absence of clear goals and valid and reliable assessment instruments, which entails the use of the teacher's perceptions of the students' motor behaviour, sometimes subjective, to assess their learning (Hortigüela-Alcalá et al., 2020). Specific attention should be placed to the three fundamental pillars described in the introduction section: *Assessment for Learning* (Hay, 2006), *Authentic Assessment* (Hay & Penney, 2009) and *Formative Assessment* (Centre for Educational Research and Innovation, 2005). It is essential to integrate formative assessment into the methodology used by the physical education teachers to help them view it as a tool for true learning to be transferred beyond the classroom itself (Leirhaug et al., 2016). Proper assessment in physical education should include four stages: understanding, implementation, interpretation, and critical engagement (Hay & Penney, 2013). The results of the present research showed discrepancies among teachers in these four stages. They viewed the role of assessment differently, and consequently its implementation in the classroom included different approaches.

Assessment at the secondary stage was confused with grading. This view has an important impact on the teachers' underlying theoretical conceptions of physical education, driving it towards physical performance (Chng & Lund, 2018). It portrays a mechanist type of

assessment, instrumentalized and systematized through test batteries. The playful element of the subject remains in the background, focusing mainly on the grading of physical fitness and sports skills. Under this framework, each student is isolated from the rest during assessment, with the teacher being the only one who uses the grade as a tool of power (Leirhaug & MacPhail, 2015). This approach leads to a reduction in the students' decision making over their own physical practice and resulting in exclusion and lack of success of low-skilled students (Varol, 2016). To avoid these negative outcomes, it is essential to integrate *Assessment for Learning* (Hay, 2006) in physical education, because it generates: a) greater autonomy, b) participation in a community of practice, c) skill acquisition, c) compliance with criteria, and e) group development. Only if teachers adapt their teaching to the students and not the students to a set of standards/criteria, they will be connecting with *Authentic Assessment*, something that connects directly to the way physical education is conceived (Casey & Larsson 2018). This approach to assessment provides greater opportunities for learning, impacting one of physical education main purposes: to increase students' self-esteem (Çakoyun, 2018).

At the university level results showed that assessment in the initial teacher training focused on transferable learning. Formative and shared assessment came out in the participating teachers' comments, which linked assessment to something that has to be transparent and worked on intentionally throughout the whole teaching-learning process (Chng & Lund, 2019). This globalized approach, directed towards the acquisition of competencies, made future teachers reconsider the role of assessment in physical education and, thus, build professional identity (Fletcher & Kosnik, 2016; Hortigüela-Alcalá et al., 2019). Unfortunately, Vicianá & Mayorga-Vega (2017) found that there are still university teachers who maintain the more traditional approach used in secondary education (based on grading), far from an integrated assessment. This is negative for the future of physical education since these teachers reproduce a model which undermines students' reflective and critical development (Yildizer et al., 2018). It is therefore essential to establish training protocols in initial teacher training that use assessment as a methodological tool for task awareness and self-regulation (Hortigüela-Alcalá & Pérez-Pueyo, 2016; Hortigüela-Alcalá et al., 2015; Hortigüela-Alcalá et al., 2017). Results from the present study showed that future physical education teachers wanted to change the type

of assessment they experienced when they were students at the school, aligning with a more participatory and, above all, more pedagogical approach to assessment. In addition, they commented on the difficulties that implementing good assessment frameworks in physical education involve, which demand a clear understanding of proper assessment. This shows, again, the relevance of physical education teachers' initial training, which can transform future educational contexts through critical and reflective training. Future teachers acknowledged that it is important to make assessment more democratic to make it a tool that can generate learning. They highlighted the importance of using assessment instruments that could help students evaluate themselves and their peers, but also indicated that it is not an easy task. Recent research has also shown that the implementation of self and peer assessment is one of the main problems faced by future physical education teachers and suggested the use of mentors to help them (Macken et al., 2020). The «measurement» culture of physical education has limited the educational and social meanings and dimensions of assessment trying to understand and evaluate the whole teaching-learning process only via results (Otero-Saborido et al., 2020b). A true culture of educational assessment means knowing how the training processes are developed to improve the needed aspects and strengthen the positive ones, cultivating a learning culture in the class (MacPhail & Halbert, 2010). Results from the present study indicate that is necessary to reflect on the current curricular model in physical education, allowing the students to be involved in their own assessment process (López-Pastor et al., 2013; Redelius & Hay, 2012). Initiatives such as 'Project and Process' are necessary to provide more «orientations» and less «prescriptions» for physical education teachers (Larimer, 2016), because current and future teachers, like those that participated in the present study, need guidance. To this end, it is essential to integrate pedagogy and assessment into the physical education curricula and contextualize it cultural, social, and institutionally (Penney et al., 2009). It is necessary to view motor skills not only from a physical-sports performance view, but from an educational perspective, integrated in the other dimensions of learning: cognitive, social, and emotional. This integration not only increases curricular globality, but also more importantly, portrays an open curriculum model capable of adapting to different learning contexts (MacLean, 2018). In this sense, it is fundamental to establish the difference between assessment and grading, understanding grading

as the process of reflecting a grade at the end of a process. The score is not negative, it is necessary, but it must be associated with a previous assessment process that gives it relevance. Literacy on assessment among teachers is necessary (Stiggins, 2014) to help clarify this and other aspects.

Using the three pillars presented in the introduction section, *Formative Assessment, Assessment for Learning and Authentic Assessment*, and taking into account the results of the study: 1- There is a need to clearly differentiate assessment from grading in physical education and to use the first as a tool oriented to learning; 2- Assessment in physical education should be transparent and allow for student involvement, because it will help them self-regulate their learning; 3- Incorporate assessment intentionally in the teacher's methodology, not considering it something external without pedagogical treatment; 4- Assessment must go beyond the content taught or the educational stage, since the key thing is that it should be linked to students' positive corporal experiences; and 5- It is essential that physical education teachers continue to be trained and advance in open and participatory evaluation approaches. The results from the present study reflect the existing disparity of approaches among physical education teachers on how to implement assessment. These discrepancies can be associated to the limited guidance provided by the Spanish educational curricula, which focuses on learning standards linked to the cognitive dimension (Otero-Saborido et al., 2020a). It is essential to connect curricula, pedagogy, and assessment (Penney et al., 2009). Regardless of the content used or the educational stage, assessment in physical education must be formative and participative (Leirhaug & Annerstedt, 2016).

Conclusions

Assessment in physical education continues to generate debate and confusion among teachers from different educational stages since it is being conducted differently. This disparity questions the role that assessment should play in the teaching and learning process. This lack of consensus indicates the need to continue working on homogeneous criteria to understand and use assessment in physical education. Fortunately, there is still hope, because future physical education teachers manifested the will to change the assessment approach that they experienced as students, aiming at formative criteria, transparency, and student involvement. Unfortunately, they believed that it is

complex and have doubts about how to do it.

The main contribution of the study has been to contrast the perceptions of physical education teachers from all the educational stages on assessment; something that the literature has not covered yet. However, it also has some limitations, which opens future lines of research. First, all participants were experienced teachers. Novel teachers, in their early year of professional experience, could provide different perceptions. On the other hand, specific problems linked to the practical implementation of assessment procedures were not addressed, and they could help understand teachers' thoughts. It would also be interesting to analyse teachers' previous experiences when they were students: how they experienced assessment, in what teaching context... In this sense, it could be valuable to categorise the typology of the schools in which they teach, as well as the socio-economic level of the families, checking their incidence on the type of teaching and the assessment applied.

This article could be of special interest to all those Physical Education teachers concerned about the academic status of their subject and how assessment can help or hinder it. Also, for legislators responsible for developing educational curricula, willing to upgrade assessment as a transversal element in the teaching and learning process. Results from this study have shed light on how assessment directly affects the way Physical Education is viewed at the different educational stages. It seems necessary to continue researching on a relevant topic to improve teaching and learning in Physical Education.

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