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*Assessment and classroom learning: discontinuities
between theory and practice²*

ABSTRACT

Assessment literacy remains a major educational challenge, despite progress in this area. The literature shows the need to improve assessment literacy and the quality of teacher training in order to promote effective assessment knowledge and practice. The idea that assessment can improve students' learning has gained increasing acceptance but the systematic use of learning-focused assessment seems to be the exception rather than the rule. In our research in the Portuguese context, the use of assessment as a tool for learning is not indicated by the data collected from teachers.

KEYWORDS: Classroom learning, Assessment for learning, Assessment of learning, Assessment literacy, School teachers

1. *Introduction*

Assessment has been used in formal education since the 16th century, when exam techniques were first used as a tool to enhance oral competence through argument and the verbal challenge of ideas, and then evolving into written form. But assessment as we understand it today is closely linked to the expansion of public schools to the general population and, in that sense, has existed for just over a century³.

Nowadays, assessment is an increasingly consolidated scientific domain of great social importance and has taken a central place in the educational field, being present in different areas of school life. We assess in order to monitor the quality of education, to identify the strengths and weaknesses of educational programs and projects, and to monitor the progress of students or the performance of teachers.

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² This work was financed by FCT – Fundação para a Ciência e a Tecnologia (the Portuguese national funding agency for science, research and technology) with funding reference UIDB/04312/2020.

³ J. PINTO, L. SANTOS, *Modelos de avaliação das aprendizagens*, Universidade Aberta, Lisboa, 2006.

The assessment of students' learning has been increasingly studied since the 1990s and much has been written in this field of research. However, many of these articles often refer to the need to increase assessment literacy and improve training quality in this area, seeing these as the only ways to promote the theory and practice of assessment⁴.

In the literature, there is a continuing tendency to see the acts of teaching and learning as being separate from the act of assessing. The risk of assessment being detached from teaching and learning is strongest in the countries with the most prevalent and systematic use of tests and exams, where the focus tends to be on fulfilling the requirements of programs of study and preparing students for exams⁵ rather than supporting students in their learning.

Evidence to support the idea that assessment can improve students' learning has increased but the literature still shows that the systematic use of assessment to enhance learning has been the exception and not the rule. Wiliam⁶ considers that the lack of effective improvement of assessment practices in schools worldwide is related, at least in part, to the lack of consistency in the implementation of formative assessment.

This article addresses a need to better understand formative assessment in the Portuguese education system. We start by elucidating the way we understand assessment in the classroom and then present an analysis of data collected at the beginning of training courses that we developed for Portuguese teachers in primary and secondary education. We go on to consider how this research relates to other contexts.

2. *Assessment for learning*

The initial paradigm for systematic assessment was focused on learning outcomes and was driven by schools becoming more accessible to all sectors of society in the second half of the 18th century⁷. The assessment of students' learning is a recent development when compared to the measurement of learning outcomes.

Measure has been linked to assessment since it was transposed from the scientific method that flourished in mathematics and experimental sciences to the area of social sciences in the 19th century. Its application to education oc-

⁴ D.S. PACE, *Using collaborative action research (CAR) to investigate the beliefs-to-practice relationship about a pedagogy*, in *ISNITE 2019 Proceedings: International Symposium on New Issues in Teacher Education* (Valletta, University of Malta), 2020.

⁵ *Ibid.*

⁶ D. WILLIAM, *Assessment and learning: some reflections*, in «Assessment in Education: Principles, Policy & Practice», n. 24(3), 2017, pp. 394-403.

⁷ A.J. AFONSO, *Políticas educativas e avaliação educacional. Para uma análise sociológica da reforma educativa em Portugal (1985-1995)*, Instituto de Educação e Psicologia da Universidade do Minho, Braga, 1998.

curred when educational systems became more complex, with a rapid increase in students and a trend towards classifying normal and rational human behaviour. The development of psychometrics, with the elaboration of metric scales of intelligence, ended up influencing the use of tests in the pedagogical field⁸, tests that started to allow the measurement and quantification of learning, along with comparing and grading.

The 20th century saw the emergence of alternative assessment models that were more focused on the learning process than on learning outcomes. The term formative assessment was used for the first time in 1967 by Scriven⁹, who distinguished it from summative assessment in an analysis based on the link between assessment and the curriculum. Bloom, in 1969, also made use of this distinction in defending the use of tests with a purpose beyond mere classification, suggesting instead their use as an aid to the process of teaching and learning: «We have found that such formative evaluation procedures are most effective when they are separated from the grading process and are presented primarily as aids in the teaching-learning process»¹⁰.

Over the following decades, several studies were carried out with a focus on investigating ways of integrating assessment into pedagogical practice and considering the use of assessment to improve teaching and learning. In addition, several reviews of studies were also carried out to survey this new field of investigation. The review that had the most impact was that of Black and William, published in 1998, in which the authors analysed a great diversity of studies and realized that the systematic use of formative assessment led to significant gains in learning¹¹.

Various definitions of formative assessment have been proposed by different authors. In 1998, Black and William assigned great importance to feedback on the quality of learning and considered assessment to be the set of activities undertaken by teachers and students that provides information capable of modifying their teaching and learning activity. This type of assessment can be defined as formative if it is used to regulate and adapt teaching to students' needs. Cowie and Bell¹² add that if it is meant to increase learning, the process of recognizing and responding to the way students are learning must be done while the learning is taking place. The 2005 OECD¹³ report concludes that in

⁸ PINTO, SANTOS, *Modelos de avaliação das aprendizagens, op. cit.*

⁹ M. SCRIVEN, *The methodology of evaluation*, in R. Tyler, R. Gagné & M. Scriven (eds.), *Perspectives of Curriculum Evaluation* (AERA Monograph Series on Curriculum Evaluation, No. 1), Rand McNall Chicago, 1967, pp. 39-83.

¹⁰ B. BLOOM, *Some theoretical issues relating to educational evaluation*, in R.W. Tyler (ed.), *Education evaluation: New roles, new means*, t. II, vol. DXVIII, University of Chicago Press, Chicago, 1969, p. 49.

¹¹ P.J. BLACK, D. WILLIAM, *Inside the black box. Raising standards through classroom assessment*, King's College London School of Education, London, 1998.

¹² B. COWIE, B. BELL, *A model of formative assessment in science education*, in «Assessment in Education», n. 6, 1999, pp. 101-116.

¹³ OECD, *Formative assessment: Improving learning in secondary schools*, OECD, Paris, 2005.

several countries formative assessment is understood as a frequent and interactive process of assessing students' progress to understand and identify their learning needs in order to adequately adjust teaching.

In order to limit multiple interpretations of the term formative, researchers began to use the term 'assessment *for* learning' to increase the focus on the process of assessment and its distinction from 'assessment *of* learning' which is more focused on the final results. It was Stiggins in 2005 who popularized the expression 'assessment for learning' and established its difference to 'formative assessment':

«Assessment FOR learning is different from what historically has been referred to as formative assessment. If formative assessment is about more frequent, assessment FOR learning is about continuous. If formative assessment is about providing teachers with evidence, assessment FOR learning is about informing students about themselves. If formative assessment tells users who is and is not meeting state standards, assessment FOR learning tells them what progress each student is making toward meeting each standard while the learning is happening – when there's still time to be helpful»¹⁴.

Assessment for learning can thus be seen as a means to encourage students' self-regulation¹⁵ and at the same time provide a relevant aid for teachers in order to regulate their own teaching¹⁶.

Pintrich¹⁷ presents the concept of self-regulation as an active and constructive process, whereby students establish goals for their learning and then seek to monitor, regulate and control their cognition, motivation and behaviour, targeted and guided by the objectives and contextual characteristics of the environment. Basically, it is about learners being able to coordinate their cognitive resources, their emotions and actions and put them at the service of learning goals.

Assessment for learning and self-regulated learning turn out to be overlapping processes, since both involve setting goals, monitoring/assessing progress towards those goals, and reacting to feedback by adjusting teaching, learning and/or the activities carried out¹⁸.

¹⁴ R. STIGGINS, *Assessment for learning defined*, in *ETS/Assessment Training Institute's International Conference: Promoting Sound Assessment in Every Classroom*, Portland OR, 2005, September, pp. 1-2.

¹⁵ D. WILLIAM, *Formative assessment and contingency in the regulation of learning processes*, in *Symposium Toward a Theory of Classroom Assessment as the Regulation of Learning* (Annual Meeting of the American Educational Research Association), Philadelphia, PA, 2014.

¹⁶ L. ALLAL, *Régulations des apprentissages: orientations conceptuelles pour la recherche et la pratique en éducation*, in L. Allal, L. Mottier Lopez (eds.), *Régulation des apprentissages en situation scolaire et en formation*, De Boeck, Bruxelles, 2007, pp. 7-23.

¹⁷ P. PINTRICH, *The role of goal orientation in self-regulated learning*, in M. Boeckaerts, P. Pintrich, M. Zeidner (eds.), *Handbook of self-regulation*, Academic Press, San Diego, 2000, pp. 451-502.

¹⁸ H. ANDRADE, S.M. BROOKHART, *The role of classroom assessment in supporting self-regulated learning*, in D. Laveault, L. Allal (eds.), *Assessment for learning: Meeting the challenge of implementation*, Springer, Cham, Switzerland, 2016.

Assessment for learning therefore involves an active participation of both the teacher and the students in the assessment process and puts emphasis on interactions that favour learning and, as a result, even modifies the way students see themselves as learners¹⁹. Black and Wiliam²⁰ consider that the process is formative if evidence on the students' performance is collected, interpreted and used by teachers and students to make decisions about the next teaching and learning steps, leading to more appropriate actions that promote future learning. The authors conceptualize formative²¹ assessment based on three essential processes: a) identifying where students are in their learning; b) identifying where they must go; and, c) identifying the best way to get there²².

Considering the teacher, students and the role of peers in the process, Leahy, Lyon, Thompson and Wiliam²³ added a set of five key strategies that should be the basis of formative assessment²⁴: a) clarify, share and understand learning goals and success criteria; b) organize discussions, activities and tasks that make students' learning visible; c) provide feedback that allows students to progress in their learning; d) encourage students to become responsible for their own learning; and e) encourage students to carry out peer assessment activities and give feedback.

The idea is that evidence collected about learning is used to adjust teaching to students' needs. However, according to Wiliam²⁵, the key to the process is to organize learning environments that involve students, and both teachers and students need to commit to the process of assessment for learning.

When this assessment practice for learning is integrated into daily classroom activities, it produces significant improvements in student performance, which is confirmed by external summative assessments²⁶.

3. *Assessment for learning and assessment of learning*

The assessment of learning (summative), in contrast to the assessment for learning (formative), aims, according to Fernandes, «to sum up what students

¹⁹ B. COWIE, J. MORELAND, K. OTREL-CASS, *Expanding notions of assessment for learning: Inside science and technology primary classrooms*, Sense Publishers, Rotterdam, N.L., 2013.

²⁰ P.J. BLACK, D. WILIAM, *Developing the theory of formative assessment*, in «Educational Assessment, Evaluation and Accountability», n. 21(1), 2009, pp. 5-31.

²¹ Once the concept is operationalized, we will continue to use Black and Wiliam's term *formative assessment* once it is a common use designation in the literature and it tends to be used in the same sense of *assessment for learning*.

²² D. WILIAM, *Embedded formative assessment*, Solution Tree Press, Bloomington, 2011.

²³ S. LEAHY et al., *Classroom assessment: Minute-by-minute and day-by-day*, in «Educational Leadership», n. 63(3), 2005, pp. 18-24.

²⁴ WILIAM, *Embedded formative assessment*, *op. cit.*

²⁵ *Ibid.*

²⁶ P.J. BLACK et al., *Assessment for learning. Putting it into practice*, Open University Press, Berkshire, 2011; WILIAM, *op. cit.*

know and are capable of doing at a given moment», and is generally used for grading purposes, thus providing «summarised information intended to record and make public what appears to have been learned by the students»²⁷.

Assessment, in general terms, is used to investigate what people know and are capable of doing, in order to make decisions about whether or not they have learned what they were expected to learn. It is, therefore, an essential aspect in the educational process, and systematic processes for obtaining and interpreting data have been developed so that conclusions can be drawn about the learning undertaken. If assessment is seen simply as a process of obtaining valid information about the students, it makes no sense to present a conflict between formative and summative assessment²⁸.

In fact, considering formative and summative assessment as separate entities has been a source of confusion as assessment relates to the practices and instruments we use to invoke any information about knowledge, understanding and students' attitudes²⁹. Collected evidence can be interpreted and used for formative or summative purposes and it is the purpose for which it is used that differentiates it. An instrument can, however, be designed in such a way that is more useful for one purpose than for another, and this can lead to misunderstandings³⁰.

Assessment, whether formative or summative in nature, is a procedure for making inferences about learning³¹, with students performing tasks, teachers observing, and the outputs generating data that are interpreted to support these conclusions³². These inferences about learning outcomes imply intentionality in teaching and learning and strong interaction between teachers and students, with students able to present information to the teacher and to be comfortable working on the basis of the teacher's feedback. On the other hand, for these inferences to be effective and meaningful, the purpose of assessment must be clear to all involved³³.

Thus, as Black and Wiliam³⁴ point out, distinguishing formative from summative assessment corresponds to distinguishing the types of inferences resulting from

²⁷ D. FERNANDES, *Para uma teoria da avaliação no domínio das aprendizagens*, in «Estudos em Avaliação Educacional», n. 19(41), pp. 347-372, 2008, p. 358.

²⁸ P.J. BLACK, D. WILLIAM, *Classroom assessment and pedagogy*, in «Assessment in Education: Principles, Policy & Practice», n. 25(6), 2018, pp. 551-575.

²⁹ P. BLACK, *Pedagogy in theory and in practice: Formative and summative assessments in classrooms and in systems*, in D. Corrigan, R. Gunstone, A. Jones (eds.), *Valuing Assessment in Science Education: Pedagogy, Curriculum, Policy*, Springer, Dordrecht, New York, 2013, pp. 207-229.

³⁰ *Ibid.*

³¹ BLACK, WILLIAM, *Classroom assessment and pedagogy*, *op. cit.*

³² D. WILLIAM, *Assessment and learning: some reflections*, in «Assessment in Education: Principles, Policy & Practice», n. 24(3), 2017, pp. 394-403.

³³ PACE, *Using collaborative action research (CAR) to investigate the beliefs-to-practice relationship about a pedagogy*, *op. cit.*

³⁴ BLACK, WILLIAM, *Classroom assessment and pedagogy*, *op. cit.*

assessment. If these are related to the student's present state or his or her future potential, assessment has a summative function. If they relate to the type of actions that would help students to learn better, then assessment has a formative role.

In line with this, there should be no marked opposition between the two assessment modalities, indeed there can and should be synergies between them³⁵. The two cannot work simultaneously, as this would raise many difficulties, but can complement each other, as long as it is taken into account that not all assessment strategies allow this articulation, especially those of a more informal nature. Strategies that involve students in more than one assessment process work better for learning, but, as Santos³⁶ warns us, this may require profound changes in the existing assessment culture.

Promoting assessment for learning in the classroom and achieving a good articulation between the two modalities of assessment (of and for learning) is not a simple task as it requires a mastery of assessment processes, the ability to design teaching, learning and assessment in an integrated way and a good knowledge of students and learning contexts. These conditions require time with learners, openness to change and training.

4. *Teachers' views of assessment*

Our experience of developing in-service training for primary and secondary school teachers has allowed us to gather information about the points of view that trainees express about assessment of their pupils' learning. The courses begin with a written response to some diagnostic questions to assess the trainees' perceptions at the start of their training. For the purposes of this article, we consider the question: 'What words occur to you when you think about assessment? (Please indicate three)'.

Data on the words that teachers associate with assessment was collected over two years (2017-2019) and the results from 124 surveyed teachers are presented in Figure 1 (N = 540). We obtained 201 unique words and a great diversity of associations, with 71 words mentioned only once. Words that were only mentioned once include the following: qualitative, collect, inclusion, support, autonomy, collaboration, context, diverse, progress, interpretation, overcoming, teamwork.

³⁵ *Ibid.*

³⁶ L. SANTOS, *A articulação entre a avaliação somativa e a formativa, na prática pedagógica: uma impossibilidade ou um desafio?*, in «Ensaio: Avaliação e Políticas Públicas em Educação», n. 24(92), 2016, pp. 637-669.

The word 'knowledge' comes in second place. Although this term in itself doesn't indicate a preference for any one of the assessment modalities in question, we interpret it as meaning that facts, information, and subject content is a concern of teachers in terms of assessing their students' knowledge. It is common for teachers to place more emphasis on knowledge than on students' abilities and attitudes³⁷ and our survey bears this out: 'knowledge' was referred to by 30 teachers, 'abilities' by 6 and 'attitudes' by 5. We interpret these as associations referring to valid and useful knowledge to which assessment provides access to the reality of what students know and are capable of doing. In this regard, we wonder why none of the 124 teachers mentioned terms linked to student self-assessment, which involves students in knowledge construction and is fundamental to helping students appropriate assessment criteria and decisive in students' ability to generate knowledge and feedback for themselves.

The term 'learning' is mentioned by 23.4% of the teachers. This shows that our teachers have moved far from the pedagogical model of the 19th century where assessment took place at the end of a long teaching sequence as a strict verification of knowledge. As assessment, whether of a formative or summative nature, corresponds to a procedure to make inferences about the learning accomplished³⁸, we would expect the key words to imply that there is intentionality in teaching and learning and a strong interaction between teachers and students. Assessment in support of learning is based on an established consensus that refers us to this close link: a) assessment is addressed to the student and his or her own learning; b) the student is aware of learning barriers and facilitators; c) assessment is integrated into the learning process itself; d) assessment values what is observed and what information is collected rather than the results; e) assessment makes it possible to understand the causes of errors and learning difficulties; and f) useful information is gathered from assessment to guide learning³⁹.

The next most common words were 'test/exam', which have a direct connection to the assessment tools that are most commonly used in Portuguese schools. These terms reveal the high presence of tests and exams in the teachers' daily routine, and they are the only type of assessment instrument directly mentioned. Although we agree with Harlen⁴⁰ that it is not the instruments themselves that define the two assessment modalities, the fact is that tests and exams are generally used with a summary function and not for the purpose of helping students to learn. Portfolios, projects, rubrics, reports, reflections and debates, for example, are not mentioned by any of the teachers, even though these are instruments and techniques more favourable to formative assessment.

³⁷ A. MARTINS (coord.) et al., *Livro branco da Física e da Química: Diagnóstico 2000, Recomendações 2002*, Ministério da Educação, Departamento do Ensino Secundário, Lisboa, 2002.

³⁸ BLACK, WILIAM, *Classroom assessment and pedagogy*, op. cit.

³⁹ PINTO, SANTOS, *Modelos de avaliação das aprendizagens*, op. cit.

⁴⁰ W. HARLEN, *Teachers' summative practices and assessment for learning: Tensions and synergies*, in «The Curriculum Journal», n. 16(2), 2005, pp. 207-223.

‘Measure’, at last, was one of the keywords teachers came up with and is a term closely associated with the use of tests and exams, suggesting the association of assessment with its function of measuring and grading students’ learning. The assessment process, viewed from this perspective, corresponds essentially to a technical question and the idea is that by building good quality tests it is possible to measure students’ learning in an objective, impartial and rigorous way⁴¹. The resulting pedagogical model is centred on the teacher, making the assessment out of step with teaching and learning as it occurs at times specially created for the purposes of verification and control. The aim of this model is to select and certify what has been learned and express it, normally with the numerical value of a grade. Students are assessed through standardized procedures in order to differentiate them and the results are established according to the group average, constituting a normative referencing process⁴². Measurement is always part of the assessment process, but in our research, as the word ‘measure’ appeared as one of the most prevalent words associated with assessment, it may possibly be an indicator of its strong presence in the school’s daily life, especially as it appears at a similar frequency to ‘tests/exams’.

Taking into account these five main word associations, we can say that the respondents tended to add value to summative assessment functions, rather than to the monitoring and regulation of learning functions, since the terms ‘grades’, ‘tests/exams’ and ‘measure’ appear at the top of the table.

The words ‘improvement’, ‘training’ and ‘feedback’ were each mentioned by 8 teachers and the term ‘regulation’ by 4, which shows the concern of some of the teachers with definitive aspects of assessment for learning. We have to point out, however, the absence of terms referring to self-assessment, hetero-assessment and self-regulation, which are of primary importance in the process of students developing autonomy. In fact, educational research has shown that the improvement of classroom work is possible if a teacher believes in using key tools such as peer review, self-assessment and questioning, in addition to feedback⁴³.

5. *Implications and challenges*

The literature shows that increased assessment literacy, especially a higher quality of formative assessment, improves learning. As Black and Wiliam⁴⁴ have shown, the positive effect of formative assessment on results is consistent across ages, subjects and countries.

⁴¹ D. FERNANDES, *Avaliação das aprendizagens: desafios às teorias, práticas e políticas*, Texto Editores, Lisboa, 2005.

⁴² PINTO, SANTOS, *Modelos de avaliação das aprendizagens*, op. cit.

⁴³ P.J. BLACK et. al., *Working inside the black box. Assessment for learning in the classroom*, King’s College London Department of Education and Professional Studies, London, 2002.

⁴⁴ P.J. BLACK, D. WILLIAM, ‘In praise of educational research’: *formative assessment*, in «British Educational Research Journal», n. 29(5), pp. 624-637, 2003.

While there is little doubt that formative assessment works, it is important to think about how it can be a reality in the day-to-day routine of schools, knowing that the predominant teaching practices emphasize results, are focused on content and aim mainly to certify learning at the end of the year or semester⁴⁵.

In order to reduce discontinuities between theory and practice, it is not enough to change assessment methods, but also to change the way in which teaching and learning is organized. To do this, the different stakeholders with decision-making responsibilities, from government ministers to headteachers and school manager, need to be involved, and everyone has a role to play in making teaching-evaluation-learning integration a reality, so that assessment criteria are in articulation with the tasks to be performed by the students and the development of their learning.

The data from the present exploratory study confirms a trend for the dominance of summative practices⁴⁶ over formative ones, which are still rarely and inconsistently used, despite the conceptual value that teachers place on formative assessment⁴⁷. This is a situation that has been observed in several international studies, which continue to point to the intensive use of tests as the dominant practice, which encourages superficial learning and memorization⁴⁸.

The same conclusions were drawn by Evans et al.⁴⁹, who analysed the situation in a set of eight European education systems (Cyprus, Czech Republic, Denmark, France, Finland, Germany, Switzerland, and the United Kingdom) and found that although assessment practices differ from country to country, summative assessment is prioritized over formative assessment in all of them. The main inhibiting factors identified in these countries were the following: a) «teachers' beliefs about assessment as an instrument for generating grades and ranking students»; b) teachers consider formative assessment «laborious and difficult to implement»; c) existence of a dilemma when choosing between alternative assessment methods and evaluation so «students might not openly ex-

⁴⁵ M. CID, I. FIALHO, *Cr terios de avalia o. Da fundamenta o   operacionaliza o*, in I. Fialho, H. Salgueiro (orgs.), *TurmaMais e sucesso escolar. Contributos te ricos e pr ticos*, Centro de Investiga o em Educa o e Psicologia da Universidade de  vora,  vora, 2011, pp. 109-124.

⁴⁶ C. BARREIRA, J. PINTO, *A investiga o em Portugal sobre a avalia o das aprendizagens dos alunos (1990-2005)*, in «Investigar em Educa o», n. 4, 2005, pp. 21-105; D. FERNANDES,  . GASPAR, *Dez anos de investiga o em avalia o das aprendizagens (2001-2010): uma s ntese de teses de doutoramento*, in C. Tom s, C. Gon alves (orgs.), *VI Encontro do CIED – I Encontro Internacional em Estudos Educa ionais. Avalia o: Desafios e Riscos*, CIED, Escola Superior de Educa o, Lisboa, 2014, pp. 512-527.

⁴⁷ J. PINTO, *Avalia o formativa: uma pr tica para a aprendizagem*, in M.I. Ortig o, D. Fernandes, T. Pereira, L. Santos (orgs.), *Avaliar para aprender no Brasil e em Portugal: perspectivas te ricas, pr ticas e de desenvolvimento*, CRV, Curitiba, Brasil, 2019, pp. 19-43.

⁴⁸ *Ibid.*; BLACK et al., *Assessment for learning. Putting it into practice, op. cit.*

⁴⁹ R. EVANS et. al., *European educational systems and assessment practice*, in J. Dolin, R. Evans (eds.), *Transforming assessment through an interplay between practice, research and policy*, Springer, Cham, Switzerland, 2018, pp. 211-226.

press their ideas, opinions, and problems if they know they will be evaluated»; d) «lack of time and a lack of teacher competence to differentiate between different levels of proficiency with in a class»; e) «demands for summative assessment»⁵⁰. To overcome these obstacles Evans and colleagues point out the need for pre- and in-service teacher training, with an emphasis on the aspects of assessment related to how children learn, and support to improve assessment literacy, as well as to change teachers' beliefs about assessment.

Pre- and in-service teacher training is therefore essential, but this training cannot be restricted to increasing knowledge about assessment; other aspects must be taken into account, such as those highlighted by Nóvoa⁵¹, regarding the main principles guiding this training, of which we highlight the following:

- Teamwork – it is important to keep valuing the collective exercise of professional development, with the reinforcement of collaboration, intervention in school projects and building communities of practice that lead teachers to go beyond organizational limits.
- Social commitment – the principle of social responsibility is fundamental, with a focus on social inclusion and cultural diversity, and the facilitation of communication and professional participation in the public realm of education. It is important that teachers learn how to enable children to go beyond the boundaries of their personal and social backgrounds.
- Practical component – practice has to be focused on student learning and the study of concrete cases.

This practical component is also highlighted by Fernandes who argues that practice is the element that «contextualizes and gives real meaning to the whole set of theoretical perspectives and to the whole set of discussions and reflections that training should provide»⁵². On the other hand, taking into account that if the purpose of assessment is to help students learn, it will be desirable, according to the same author, «that any training in assessment should include teams of trainers in the curriculum, assessment and specific didactics»⁵³.

This focus on training resulting from a multifaceted approach should also be associated with research, not only to systematize knowledge, but because it can be used as a training strategy itself. If training incorporates teachers' participation in reflective processes, research is essential for understanding, questioning and changing teachers' practices, and everything must move within a collaborative strategy, which is fundamental for teachers' professional development.

⁵⁰ *Ibid.*, pp. 222-223.

⁵¹ A. NÓVOA, *Para una formación de profesores construida dentro de la profesión*, in «Revista de Educación», n. 350, 2009, pp. 203-218.

⁵² D. FERNANDES, *Avaliação das aprendizagens: uma agenda, muitos desafios*, Texto Editores, Lisboa, 2004, p. 51.

⁵³ *Ibid.*

We conclude with a definition of positive change from Nóvoa, which reinforces the importance of collaborative work and reflection and draws attention to one last point, that this training should preferably take place at school, so that theoretical knowledge can gain new meanings in the professional environment and with the participation of professional teaching communities:

«School metamorphosis happens whenever teachers get together as a group to think about the work, to build different pedagogical practices, to respond to the challenges posed by the end of the school model. In-service training should not dismiss any contribution from outside, especially the support of university and research groups, but it is in the school place that it is defined, enriched and thus can fulfil its role in the professional development of teachers»⁵⁴.

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