

FORMATIVE ASSESSMENT AND TEACHERS' PRACTICE: IMPLICATIONS FOR EDUCATIONAL RESEARCH AND PROFESSIONAL DEVELOPMENT

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Abstract

Within the last few years of the 21st century, the renewed interest in formative assessment has been matched with curricular reforms as well as the development of cognitive psychology. Actual studies provide a multidimensional image of assessment: the attempts to define the components of formative assessment are matched with the enquiries for the individuation of the interconnection modalities between assessment and the teaching-learning process. To arrange an assessment design aimed to guide students towards an even more accurate activity of exploration of one's own knowledge and abilities represents a difficult step. To obtain benefit from formative assessment new development should focus on conceptualising well-specified approaches built around process and methodology rooted within specific content domains. It is important to understand how formative assessment is intended and consequently implemented in a specific educative system. Starting from this assumption the present paper reports results of a survey aimed to investigate Italian primary teachers' representations on formative assessment.

Although the context of this paper is the Italian school system, we thought the paper highlights issues of formative assessment and forms of teacher training. It has relevance to international debate on teaching, learning, and formative assessment practices and artefacts.

KEYWORDS: formative assessment; teachers' representations; professional development.

Introduction and aim of the research

Formative assessment could be defined as the set of activities carried on by teachers and students in order to collect information useful to the implementation of the teaching and learning process. The key idea of formative assessment is that the collected material should be used in a way which is functional to learning. Rather than focusing on the indication of what has been learned, formative assessment will help drawing (like a video-sequence) the stage of learning, to identify and to provide information to fill the gap between the current state of the learner and the objectives to be achieved, and to anticipate future steps (Bennett & Gitomer, 2009).

In spite of the documented advantages especially connected to students' learning improvement (Hattie & Temperley, 2007; Black & William, 1998), this practice concretely appears to be less frequent than it may be supposed to be (Erickson, 2007). Empirical evidences justify such assumption by calling on several different reasons: mostly, the predominance of summative assessment and the unsystematic use of formative assessment during the teaching process (Matters, 2006; Louden et al., 2005; Stiggins & Conklin, 1992). Provocatively, Allal and Pelgrims Ducrey (2000) have reaffirmed that the interest for this subject, especially in the Anglo-Saxon field of educational research, has even diminished. But quite other elements obstacle research on formative assessment, which constitutes, quoting Erickson, an "understudied, currently under-described, and under-theorized" issue (2007, p. 12). First of all, the idea, which is largely widespread at a national and at an international level, that formative assessment improves learning abilities of students, only because it exercises a stronger effect when compared with other didactic strategies (Dorn, 2010; Shepard, 2005).

Across time, a view which has contributed to create a sort of "aura" of goodness and positivity around formative assessment, is the assumption that assessment in a sense could be a warrant in itself, thus being formative indeed. Further development of empirical research in this field is then now needed to provide evidences pro or contra this educational myth (Kingston & Nash, 2011; Bennett, 2011; Dunn & Mulvenon, 2009; Hattie & Temperley, 2007; Herman et al., 2006; Shepard, 2005). To this purpose, Shepard (2009) has recently recalled the relevance of the stream of research on teachers' assessment practices, on students' self perceptions with respect to their learning objectives, and on the discursive practices of teachers and the quality of the provided feedback. Secondly, the still embedded association, especially widespread in the Italian context (and confirmed by the data presented in this study), of formative assessment with a specific tool rather than with a set of practices, that generate and use the evidences, taken from different sources, to efficiently respond to the students' learning needs (Black et al., 2003; Shepard, 2000a).

Within the last few years of the 21st century, the renewed interest in formative assessment has been matched with curricular reforms as well as the development of cognitive psychology (Clarke, 2001; Perkins & Blythe, 1994; Bruner, 1996). A lot has been written and said about formative assessment, but the efforts to identify the effects connected to its didactic implementation are still derisory. It too often seems that teaching and learning work on parallel lines: teachers can not define exactly what students know and at which point of their learning progression they are. Actual studies (Noyce & Hickey, 2011), oriented to combine theoretical perspectives with the practical and operative ones, provide a multidimensional image of assessment: the attempts to define the components of formative assessment are matched with the enquiries for the individuation of the interconnection modalities between assessment and the teaching-learning process. One of the most followed tracks consists in the analysis of practices and strategies used by teachers for classroom assessment (Allal & Lopez, 2005; Brookhart, 2007; 2004). Teachers do not always appear to act in the manner indicated and supported by research and often demonstrate a very limited knowledge of assessment as a subject (Boyle & Charles, 2010; Gearhart & Osmundson, 2008; Gearhart et al., 2006; Matters, 2006; Christie et al., 1991).

In Italy, although slowly, it now begins to appear a renewed interest for assessment practices, brought in the heart of the class. Enquiries and studies still appear at an initial stage in this regard, in part depending on the lack of a widespread evaluative culture in Italian school (Castoldi, 2012), in part depending on the flattening, often transmitted by the same pedagogical-didactic research, on the structural dimension of assessment which has therefore enforced an extreme evaluative “poverty”, both in practices and in theoretical conceptions.

The need to side summative assessment with an assessment specifically designed and acted for promoting learning entails a revision of teachers’ practices during assessment. To arrange, in fact, an assessment design which, through effective and constant feedback, would be able to guide the student towards an even more accurate activity of exploration of one’s own knowledge and abilities represents, in didactic terms, a difficult step.

What does, on the other hand, the teacher know and think about assessment? Which aims does he/she persecute through it? How does assessment influence his/her didactic practice? To which strategies does he/she resort in order to collect reliable data? Which difficulties does he/she meet in evaluating? Does he/she know the strategies and techniques for promoting students’ learning through assessment? Starting from these considerations the study has investigated the following aspects: What do Italian teachers think about assessment in general, and about formative assessment, in particular? Do they know and do they distinguish, both at a theoretical and at an operative level, formative from summative assessment? These have been the research questions, which have guided the study.

Methods and methodologies

This exploratory survey was conducted through the administration of questionnaires to a selected sample target composed of teachers operating in primary school district of Bari in the South of Italy. Specifically, 27 schools were selected through cluster sampling. From the target, which was composed of 3.593 teachers, a sample dimension of 1.111 teachers (target mistake 2,4%) derived. From these questionnaires 1.060 resulted valid for data elaboration.

The questionnaire encompassed 23 questions, both with modality of open and closed questions (on a 4 point - Likert scale) and aimed to analyze four main concepts related to assessment:

- *Assessment and teaching.* How do teachers define assessment? What aims do they pursue? What kind of assessment do they activated in class and in the school? What elements do characterise their classroom assessment practice?
- *Assessment and students.* How do teachers think that their students perceived assessment during the teaching-learning process?
- *Assessment and learning.* Can teachers define formative and summative assessment? Do they distinguish features, tools and strategies used by teachers in order to assess in a summative or formative way?
- *Assessment and feedback.* How do teachers think to use the feedback? How do they perceive themselves with respect to learning outcomes?

A further section was constructed to collect socio-demographic data.

The questionnaire has been developed starting from the a review of the main scientific contributions on the topic (Heritage, 2013; Bennett, 2011; Black & Wiliam, 1998). It has been validated both through a

preliminary administration in 4 primary schools, and through a consequent peer-review. On the amount of data gathered, two referees have analysed the reliability of the items within the defined research programme. The items which were considered irrelevant, were cut, while the ones resulting ambiguous were re-elaborated in order to obtain greater clarity.

In addition to a descriptive analysis of variables (absolute and relative frequencies), principal components factorial analysis (varimax rotation) was performed with the aid of the software SPSS20. The criteria for extraction forecasted an eigenvalue for each component bigger than 1 (Kaiser-Guttman method) in a percentage of satisfactory variation and the use of a scree-plot graphics which suggested to extract those eigenvalues that lie above the elbow of the curve. On the basis of these criteria a two-factors structure was defined. The reliability was verified through the Cronbach's coefficient α calculated on individual factors

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Conclusions

Moving from the results of the present study, some important conclusions both for theory and practice could be drawn.

First of all, a latent confusion exists about assessment. The representation Italian teachers manifested is partially influenced by a traditional view of assessment, intended as an instrument, as a vehicle and not as a set of practices interconnected with the actions realized in classroom, during the teaching-learning process.

Secondly, relations between assessment and teaching practice are ambiguous. If, on one hand, teachers look to standardized tests and to the testing practices with skepticism; on the other hand, they seem not to attribute the same validity to alternative forms of assessment, in addition to those of controlling and verifying learning. Their representations tend to be extremely polarized: to the dimension of summative assessment in class correspond more "rigorous" aspects of control and technical components; to the formative dimension, conversely, the softer and more volatile aspects.

The chance to carry on an actual functional assessment aimed at promoting learning, although it is contemplated, still remains at an embryonic stage, surrounded by ideology and myth.

Which are, therefore, the steps which need to be made in the immediate future? It is important that the acknowledgement of the centrality of assessment in the Italian scholastic context would be declined starting from the micro level of the class (with a deep and significant revision of initial and in service teachers' formation programs) in order to achieve a coherent, continuous system which could include assessment also.

In conclusion, a key role is to be acknowledged to the educational research that will deal, also through methods and instruments different from those here proposed, with the identification of actions and strategies eligible to an effective integration of formative assessment with the teaching-learning process.

References

1. Allal, L., & Lopez, M. L. (2005). Formative assessment of learning: A review of publications in France. In J. Looney (Ed.), *Formative assessment: Improving learning in secondary classrooms* (pp. 241-264). Paris: OECD.
2. Allal, L., & Pelgrims Ducrey, G. (2000). Assessment of - or in - the zone of proximal development. *Learning and Instruction*, 10, 137-152.
3. Bennett, R. E. (2011). Formative assessment: A critical review. *Assessment in Education: Principles, Policy, & Practice*, 18(1), 5-25.
4. Bennett, R. E., & Gitomer, D. H. (2009). Transforming K-12 assessment: Integrating accountability testing, formative assessment and professional support. In C. Wyatt-Smith, J. J. Cumming (Eds.), *Educational assessment in the 21st century* (pp. 43-62). Dordrecht: Springer.
5. Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning: Putting it into practice*. Berkshire: McGraw-Hill Education.
6. Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability*, 21(1), 5-31.
7. Black, P., & Wiliam, D. (1998). *Inside the black box*. London: Kings College.
8. Boyle, B., & Charles, M. (2010). Defining ongoing assessment: The effective method for supporting teaching and learning in early years and primary education. *School Leadership and Management Journal*, 30(2), 285-300.

9. Brookhart, S. M. (2007). Expanding views about formative classroom assessment: A review of the literature. In J. H. McMillan (Ed.), *Formative classroom assessment: Research, theory and practice* (pp. 43-62). New York, NY: Teachers College Press.
10. Brookhart, S. M. (2004). *Grading*. Upper Saddle River, NJ: Merrill Prentice Hall.
11. Brown, G. T. L. (2004). Teachers' conceptions of assessment: implications for policy and professional development. *Assessment in Education*, 11(3), 301-318.
12. Bruner, J. (1996). *The Culture of education*. Cambridge, MA: Harvard University Press.
13. Castoldi, M. (2012). *Valutare a scuola*. Roma: Carocci.
14. Clarke, S. (2001). *Unlocking formative assessment: Practical strategies for enhancing pupils' learning in the primary classroom*. London: Hodder and Stoughton.
15. Christie, F., Devlin, B., Freebody, P., Luke, A., Martin, J. R., Threadgold, T. et al. (1991). *Teaching english literacy*. Canberra: Department of Employment, Education and Training.
16. Dorn, S. (2010). The political dilemmas of formative assessment. *Exceptional Children*, 76(3), 325-337.
17. Dunn, K. E., & Mulvenon, S. W. (2009). A critical review of research on formative assessment: The limited scientific evidence of the impact of formative assessment on education. *Practical Assessment, Research & Evaluation*, 14, 1-19.
18. Erickson, F. (2007). Some thoughts on "proximal" formative assessment of student learning. *Yearbook of the National Society for Study of Education*, 106(1), 186-216.
19. Fele, G., & Paoletti, I. (2003). *L'interazione in classe*. Bologna: il Mulino.
20. Filsecker, M., & Kerres, M. (2012). Repositioning formative assessment from an educational assessment perspective: A response to Dunn & Mulvenon (2009). *Practical Assessment, Research and Evaluation*, 17(16), 1-9.
21. Gearhart, M., & Osmundson, E. (2008). *Assessment portfolios as opportunities for teacher learning* (CRESST Report 736). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).
22. Gearhart, M., Nagashima, S., Pfothenauer, J., Clark, S., Schwab, C., Vendlinski, T., et al. (2006). Developing expertise with classroom assessment in K-12 science: Learning to interpret student work. *Educational Assessment*, 11, 237-263.
23. Giovannini, M. L., & Boni, M. (2010). Verso la valutazione a sostegno dell'apprendimento. Uno studio esplorativo nella scuola primaria. *Journal of Educational, Cultural and psychological studies*, 1, 161-178.
24. Hattie, J., & Temperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.
25. Heritage, M. (2013). *Formative assessment in practice. A process of inquiry and action*. Cambridge, MA: Harvard Press Education.
26. Heritage, M. (2010). *Formative assessment. Making it happen in the classroom*. Thousand Oaks: Corwin.
27. Herman, J. L., Osmundson, E., Ayala, C., Schneider, S., & Timms, M. (2006). *The nature and impact of teachers' formative assessment practices*, (CSE Tech Rep. No. 703). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).
28. Kingston, N., & Nash, B. (2011). Formative assessment: A meta-analysis and a call for research. *Educational Measurement: Issues and Practice*, 30(4), 28-37.
29. Louden, W., Rohl, M., Gore, J., McIntosh, A., Greaves, D., Wright, R. et al. (2005). *Prepared to teach: An investigation into the preparation of teachers to teach literacy and numeracy*. Canberra: Department of Education, Training and Youth Affairs.
30. Matters, G. (2006). *Assessment approaches in Queensland senior science syllabuses. A report to Queensland Studies Authority*. Brisbane: ACER.
31. Noyce, P. E., & Hickey, D. T. (Eds.) (2011). *New frontiers in formative assessment*. Cambridge, MA: Harvard Education Press.
32. Pastore, S. (2012). Formative assessment e pratica didattica: per una valutazione "ready to use". In G. Elia, A. Chionna (Eds.), *Un itinerario di ricerca della pedagogia* (pp. 427-443). Lecce: PensaMultimedia.
33. Perkins, D., & Blythe, T. (1994). Putting understanding up front. *Educational Leadership*, 51(5), 4-7.
34. Shepard, L. (2009). Commentary: evaluating the validity of formative and interim assessment. *Educational Measurement: Issues and Practice*, 23(3), 32-37.
35. Shepard, L. (2005). Linking formative assessment to scaffolding. *Educational Leadership*, 63(3), 66-71.
36. Shepard, L. (2000a). The role of assessment in a learning culture. *Educational Researcher*, 29(7), 4-14.
37. Shepard, L. (2000b). The role of classroom assessment in teaching and learning. *CSE Technical Report*, 517. CRESST/ University of Colorado at Boulder.
38. Stiggins, R. J., & Conklin N. F. (1992). *In teachers' hands: Investigating the practices of classroom assessment*. Albany, NY: State University of New York Press.

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S o m m a i r e

L'évaluation formative peut être définie comme l'ensemble des activités exercées par les enseignants et les étudiants, afin de recueillir des informations utiles à la mise en œuvre du processus d'enseignement et d'apprentissage.

L'idée clé de l'évaluation formative est que le matériel collecté doit être utilisé en manière que doit être fonctionnel à l'apprentissage. L'idée clé de l'évaluation formative est de rendre le matériel collecte fonctionnel à l'apprentissage. Plutôt que de se concentrer sur l'indication de ce qui a été appris, l'évaluation formative aidera à dessiner (comme une séquence vidéo) l'étape de l'apprentissage, afin d'identifier et de fournir des informations à combler l'écart entre l'état actuel de l'apprenant et les objectifs à être atteint, et d'anticiper les prochaines étapes (Bennett & Gitomer, 2009).

En dépit des avantages documentés liées en particulier à l'amélioration de l'apprentissage des élèves (Hattie et Temperley, 2007; Black & William, 1998), cette pratique apparaît concrètement à être moins fréquente (Erickson, 2007).

À travers le temps, une vue qui a contribué à créer une sorte de “aura” de la bonté et de la positivité dans l'évaluation formative, est l'hypothèse que l'évaluation pourrait être un mandat en lui-même, étant ainsi formative en effet. Poursuite du développement de la recherche empirique dans ce domaine est alors maintenant nécessaire pour fournir des preuves pour ou contre ce mythe de l'éducation (Kingston & Nash, 2011; Bennett, 2011). A cette fin, Shepard (2009) a récemment rappelé la pertinence du courant de la recherche sur les enseignants des pratiques de l'évaluation, sur l'auto perception des élèves à l'égard de leurs objectifs d'apprentissage, et sur les pratiques discursives des enseignants et la qualité de la rétroaction fournie. Deuxièmement, il y a encore l'association, particulièrement répandue dans le contexte italien (et confirmé par les données présentées dans cette étude), de l'évaluation formative comme un outil spécifique plutôt que un ensemble des pratiques, qui génèrent et utilisent les preuves, prises des différentes sources, afin de répondre efficacement aux besoins d'apprentissage des élèves (Black *et al.*, 2003; Shepard, 2000).

La nécessité de soutenir l'évaluation sommative avec une évaluation spécialement conçu et agi pour promouvoir l'apprentissage implique un examen des pratiques des enseignants lors de l'évaluation. Pour avoir, en effet, un modèle d'évaluation qui, grâce à la rétroaction constante et efficace, est capable de guider l'étudiant à une activité encore plus précise de l'exploration de leurs connaissances et compétences, représente, en termes didactiques, une étape difficile. (?) Pour obtenir un avantage de l'évaluation formative, un nouveau développement devrait se concentrer sur la conceptualisation des approches spécifiques construites autour d'un processus et une méthodologie ancrés dans les contenus d'un domaine spécifique. Il est important de comprendre comment l'évaluation formative est entendue et, par conséquent, mis en œuvre dans un système éducatif spécifique.

Que savent et pensent les enseignants de l'évaluation? Quels sont les objectifs recherchés à travers elle? Comment l'évaluation influe sur leur pratique didactique? Quelles stratégies ont recours à recueillir des données fiables? Quelles sont les difficultés rencontrées dans l'évaluation? Connaissent-ils les stratégies et techniques pour promouvoir l'apprentissage des élèves grâce à l'évaluation? Sur la base de ces considérations, l'étude a examiné les aspects suivants: Qu'est-ce que les enseignants italiens pensent de l'évaluation en général, et de l'évaluation formative, en particulier? Connus et distingués, à la fois théorique et au niveau opérationnel, l'évaluation formative et l'évaluation sommative?

Cette étude a été menée avec l'administration des questionnaires à un échantillon sélectionné, composé des enseignants travaillant dans les écoles primaires de la région de Bari dans le sud de l'Italie.

En plus d'une analyse descriptive des variables (fréquences absolues et relatives) une analyse des composantes principales a été réalisée (analyse factorielle avec rotation varimax) effectuée à l'aide du logiciel SPSS20. Les critères pour l'extraction prédit une valeur propre pour chaque composant supérieur à 1 (méthode de Kaiser-Guttman) dans une pourcentage de variance satisfaisante et l'utilisation du graphique d'éboullis (scree plot) que suggère d'extraire les facteurs avec valeurs propres qui sont dessus de l'axe de la courbe. La base de ces critères a été défini comme une structure à deux facteurs. La fiabilité a été évaluée par le coefficient α de Cronbach calculé sur les facteurs individuels.

Vous pourriez en tirer des conclusions à la fois théorique et pratique.

Tout d'abord, il y a une confusion latente sur l'évaluation. Les représentations des enseignants sont en partie influencés par la vision traditionnelle de l'évaluation, conçu comme un outil, comme un véhicule et non pas comme un ensemble de pratiques interconnectés avec les actions prises dans la salle de classe au cours du processus de l'enseignement-apprentissage.

Deuxièmement, la relation entre l'évaluation et la pratique de l'enseignement est ambiguë. Si, d'une part, les enseignants regardent les tests standardisés et les pratiques de test avec scepticisme, d'autre part, ne semblent pas d'accorder la même validité aux autres formes d'évaluation, en plus de ceux de la surveillance et de la vérification de l'apprentissage.

En conclusion, la reconnaissance pour la recherche qui portera sur l'identification des actions et des stratégies nécessaires à l'intégration effective de l'évaluation formative dans le processus de l'enseignement-apprentissage joue un rôle essentiel.