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Peer feedback and technology-enhanced assessment as critical issues to foster student learning

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Il **Giornale Italiano della Ricerca Educativa**, organo ufficiale della **Società Italiana di Ricerca Didattica (SIRD)**, è dedicato alle metodologie della ricerca educativa e alla ricerca valutativa in educazione.

Le aree di ricerca riguardano: lo sviluppo dei curricoli, la formazione degli insegnanti, l'istruzione scolastica, universitaria e professionale, l'organizzazione e progettazione didattica, le tecnologie educative e l'e-learning, le didattiche disciplinari, la didattica per l'educazione inclusiva, le metodologie per la formazione continua, la docimologia, la valutazione e la certificazione delle competenze, la valutazione dei processi formativi, la valutazione e qualità dei sistemi formativi. La rivista è rivolta a ricercatori, educatori, formatori e insegnanti; pubblica lavori di ricerca empirica originali, casi studio ed esperienze, studi critici e sistematici, insieme ad editoriali e brevi report relativi ai recenti sviluppi nei settori. L'obiettivo è diffondere la cultura scientifica e metodologica, incoraggiare il dibattito e stimolare nuova ricerca.

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VALENTINA GRION, ANNA SERBATI, ETTORE FELISATTI &amp; LAN LI

## Peer feedback and technology-enhanced assessment as critical issues to foster student learning

### Feedback fra pari e tecnologie come elementi centrali per supportare la valutazione orientata all'apprendimento

The measurement community, of which I am a member, also has missed an essential point. For decades, our priorities have manifested the belief that our job is to discover ever more sophisticated and efficient ways of generating valid and reliable test scores. Again, to be sure, accurate scores are essential. But there remains an unasked prior question: How can we maximize the positive impact of our scores on learners? Put another way, how can we be sure that our assessment instruments, procedures, and scores serve to help learners want to learn and feel able to learn? (Stiggins, 2002).

These words written by Richard Stiggins, a researcher and founder of the Assessment Training Institute that designs instruments to assess students' learning and performance in the United States, are particularly relevant in higher education today. They send a clear message to all researchers in the area of educational assessment and evaluation that we need to undertake new reflections and new research pathways, with the consideration that assessment is not only a tool to measure learning, but above all a useful means to support and encourage learning. Indeed, a few years ago, a research group at the University of Padova established a program that is aimed at investigating assessment in higher education in line with this perspective suggested by the well-known American scholar, Richard Stiggins.

Following the scientific and innovative legacy of Luciano Galliani and the Paduan school, and inspired by the work of distinguished international colleagues such as Sally Brown, Lan Li, David Nicol, Phil Race and Kay Sambell, the Paduan research group has been carrying out a series of pro-



jects that aim at researching the central roles of students in the assessment processes to improve learning. One of such initiatives conducted by researchers in the group (Felisatti & Serbati, 2017) involved a large number of professors at the University of Padova in a project aimed at investigating their practices, beliefs and needs in order to tailor staff development activities. The results of the project suggested that assessment appears crucial, but also quite problematic and challenging in the teaching and learning process. The findings of this project, as well as the work yielded from collaborations with distinguished foreign colleagues encouraged the Paduan group to begin a broad theoretical reflection. The group has designed and developed multiple empirical research projects aiming at exploring various perspectives of *assessment for learning* (Sambell et al, 2013) and *Sustainable Assessment* (Boud, 2000; Boud & Soler, 2016; Grion, Serbati, Tino, Nicol, 2017). These collaborations and activities have led to the establishment of the international research group “PAFIR” (*Peer Assessment and Feedback International Research group*). A previous article published in this journal in 2017 (Grion, Serbati, Tino, Nicol, 2017) and the work shared in this special issue present this group’s research results and scientific reflection.

Much of the PAFIR group’s research is built upon the belief that students’ more active engagement in their assessment process leads to higher student achievement. It has manifested in various studies (Boud & Molloy, 2013; Li, Liu, & Steckelberg, 2010; Nicol & Macfarlane-Dick, 2006; Nicol, 2010; Nicol, Thomson & Breslin, 2014) that performing active roles of assessors and assessees in peer assessment would engage students in analytical and reflective processes, which may generate positive impacts on students’ work, reinforce disciplinary knowledge, and encourage the development of self-assessment skills. Additionally, engaging students in reviewing each other’s work may help students develop one of the most crucial soft skills that affect students’ future personal and professional life: the ability to formulate evaluative judgments, namely, to create, use, and apply evaluation criteria in order to make appropriate and educated decisions (Boud & Soler, 2016; Boud, Ajjawi, Dawson, Tai, 2018).

In the everchanging landscape of assessment and evaluation, technology has played a big role in speeding up the transformations (Grion, Serbati, Nicol, 2018; 2019). Digital technological advancement is reshaping the field of assessment and leading to new perspectives, approaches and contexts in the area of teaching, learning and assessment towards an *assessment as learning* perspective (Trincherò, 2018).

All of these interesting topics discussed above have been widely studied and well documented in higher education settings (Grion, Serbati, Tino, & Nicol, 2017; Grion, & Tino, 2018; Li, & Grion, in press;

Nicol, Serbati, & Tracchi, in press). We are happy to see that the Paduan group has recently extended this line of research to the primary and secondary contexts by examining the potential impact of peer review on primary and secondary students and teachers.

This current special issue is a result of this multi-year process of reflection and research. The SIRD, Italian Society for Educational Research, that has been focusing on the research of assessment and evaluation in Italy for decades, enthusiastically welcomed us to share our research findings and to open debates on these topics to the Italian scientific community.

Some articles in this special issue derive from the international conference “*Promuovere l'apprendimento attraverso la valutazione: feedback e technology-enhanced assessment all'università*”, held in Padova on 13th and 14th of November 2018. This conference offered keynote speeches from invited experts as well as presentations from domestic researchers, and thus constituted a moment for fruitful discussion among Italian and international scholars interested in technology-facilitated assessment and feedback.

As the readers will appreciate, the results of the research presented here encourage us to consider peer assessment and feedback together as a crucial teaching and learning method and a key strategy to develop students' assessment literacy, which is important for their future personal and professional life. As Boud pointed out almost twenty years ago:

Assessment therefore needs to be seen as an indispensable aspect of lifelong learning. This means that it has to move from the exclusive domain of assessors into the hands of learners. [...] in order for students to become effective lifelong learners, they need to be prepared to perform tasks in their lives (2000, p. 151).

Boud's refined and recalibrated definition of assessment has inspired researchers to participate in the Padua conference and, afterwards, to share their works in this special issue. These works cover various assessment-related issues. Some deepen our understanding of the concept of “assessment for learning” from theoretical perspectives; others examine effects of approaches that engage students in the assessment process on students' learning and perceptions.

The first section of the special issue, called “Studi”, is dedicated to

1 <https://www.fisppa.unipd.it/promuovere-lapprendimento-attraverso-valutazione-feedback-technology-enhanced-assessment>





theoretical research perspectives. The section begins with an overview of assessment and evaluation in higher education offered by Ettore Felisatti, which then is followed by contributions from Debora Aquario, Kay Sambell, Sally Brown, Phil Race, and Lan Li. Aquario, in her paper, highlights the elements of what she calls “assessment identity”. Kay Sambell, Sally Brown, Phil Race, as well as Lan Li, in their papers, present assessment as a locus of engagement and describe a set of principles and a model to inspire and involve students in the assessment process to support their learning. The last two articles in this section focus on one of the most significant aspects of assessment for learning – feedback. David Nicol reconceptualizes feedback as an internal process, whereas Massimo Marcuccio & Liliana Silva offer a systematic review of empirical research on peer feedback as assessment practice in doctoral programs. At the end of the section, Luciano Galliani reviews all these themes through a bio-bibliographic narrative that highlights the links between assessment and technology, and details his own relevant contribution to the national research development on these topics.

The second section of this special issue, “Ricerche”, is dedicated to empirical research. This section first presents three studies that examine the impact of peer assessment and feedback as key strategies to empower students and to develop their assessment literacy. The findings of the first study presented by Anna Serbati, Valentina Grion, and Marinella Fanti suggest that involving students in assessment may empower students to develop evaluative judgement skills. The second article by Nadia Sansone & Donatella Cesareni demonstrates that a peer feedback activity inspired by the Trialogical Learning Approach supports the development of students’ critical and evaluative skills. The third article by Elisa Truffelli and Alessandra Rosa analyses students’ perceptions of peer feedback and implies that students in general recognize benefits of providing peer feedback to each other.

The second section continues with a case-study by Emilia Restiglian and Valentina Grion that extends peer feedback research from higher education to a primary school context. The article highlights strengths and critical points of utilizing peer feedback with young pupils. Laura Carlotta Foschi and Graziano Cecchinato utilize technology in their peer- and self-assessment study, which tests validity and reliability of peer grading during in-service teacher training. Their empirical findings report a close correspondence between peer grading and course trainers’ grading. This interesting discovery seems to suggest that peer-generated grading is a valid and reliable means of assessment in the field of in-service teacher training.

The great value of an assessment-for-learning approach is highlighted

by Massimo Margottini and Francesca Rossi in their paper that focuses on students' strategic competences in self-assessment processes. The last three articles of this second section report how assessment is being reformulated as a result of technological developments. More specifically, Antonio Marzano and Sergio Miranda look at how dynamics (i.e. automatic assessment and remediation processes) function to enhance students' learning. Their results confirm that the environment allow students to assume a significant role to initiate and activate remediation experiences. The paper by Corrado Petrucco presents a pilot study on students' perceptions about Student Response Systems (SRSs) as a tool for formative assessment. The results of the study show that students greatly appreciate SRSs and have a very positive perception of the feedback provided by the teacher through the system. Teacher provided feedback helps students gain a better understanding of the most important concepts of the topics learned during the study. The last article of this section, by Michele Biasutti, offers a comparative analysis of two online tools – online forum and wiki – to promote online collaborative learning and assessment. The findings suggest that both platforms have complementary functions and should be organized to support each other for scaffolding students' self-regulated strategies and learning. The results are discussed in the context of selecting proper tools in order to facilitate collaborative assessment activities.

The special issue concludes with one contribution in the section “Esperienze” proposed by Alessia Bevilacqua. This article describes a practice using *assessment as learning* approach in an online environment. We would like to thank all authors and reviewers for their commitment in contributing to this special issue. Moreover, our gratitude goes to the Ph.D. students Denise Tonelli, Laura Carlotta Foschi and Ignacio Pais, who supported us during the review process.

We hope this special issue could not only represent an inspiring reading for researchers and educationalists interested in assessment, but also stimulate the starting of new research directions aimed at promoting an active role of students in the assessment process.

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