

Reconfiguring Assessment for the 21st Century

The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.

Alvin Toffler, in 'Future Shock', 1970¹

Our students have changed radically. Today's students are no longer the people our educational system was designed to teach.

Mark Prensky, Inventor of the term 'Digital Native', 2001

Today, schools need to prepare students for more rapid economic and social change than ever before, for jobs that have not yet been created, to use technologies that have not yet been invented, and to solve social problems that we don't yet know will arise.

Andreas Schleicher, OECD Education Directorate, 2014.²

Educational assessment models should parallel our complex cognitive, sociocultural models of learning. If we are successful in our efforts, then the future of assessment should look more like every-day real-world interactions than our typical notion of an educational test.

Gorin, 2012, pp.24-25

The tired old battles about assessment will limp along, as they always do.

Phillips, 2024³

In the last decade of the 20th century Caroline Gipps - international authority on educational assessment, wrote the seminal treatise "Beyond Testing: Towards a theory of educational assessment", which she described as "part of the attempt to reconceptualize assessment in education in the 1990s." (Gipps, 1994, p.1). By examining the technical issues of the effect of assessment on curriculum and teaching, and the relationship with learning criterion and teacher and performance assessment, Gipps (1994) offered a framework for educational assessment.

¹ This reference is actually Toffler quoting psychologist Herbert Gerjuoy on page 414 of the Bantam paperback edition.

² <https://oecdeditoday.com/educating-for-the-21st-century/>

³ <https://www.forbes.com/sites/vickiphillips/2024/01/03/in-2024-5-big-issues-will-shape-education>

A multi-disciplinary research project – undertaken some thirty years later, seeks to take up the baton offered by Gipps.⁴ This latest research - considering recent developments affecting assessment practice and developments in thinking about education and assessment - has provided insights into some of the lessons learned over the last twenty-five years and suggests a potential future approach to assessment. The scope of the research has necessitated the need to bring together a wide range of sources and academic disciplines – including, in addition to education and assessment, psychology, public policy, information technology, law, science and moral philosophy. Such synthesis is required as the issues are essentially interdisciplinary, as is the real world in which they are situated.

The changing educational landscape

At the end of the 20th century, there was much reflection about the state of education, and of educational assessment in particular. Assessment was changing and a number of significant factors appeared to have been driving the change including economic change, increased participation in schooling and in university education, “credentialism” and the increase in jobs requiring a degree together with the fast pace of technological development (OECD, 2018). The first quarter of the 21st century has witnessed changes in priorities and in the underlying feelings reflected in public and academic discourse about society and education. These include:

- developments in our understanding of knowledge, learning, and the brain;
- changes to patterns of life and work, both in post-industrial societies and in developing countries;
- changing - and conflicting – cultural, ideological, and political views about society, education, and assessment;
- changes to thinking about equality, fairness, inclusion, and diversity;
- technological advances enabling vast amounts of information to be gathered and analysed and sophisticated devices which can be afforded and used by teachers and students;

⁴ Nisbet & Shaw (forthcoming). Educational Assessment in a Changing World: Lessons Learned and the Path Ahead.

- the potential for Artificial Intelligence to support and inform assessment;
- the impact of the cognitive sciences and the science of learning on educational assessment;
- the prominence of concern about climate change and the rapidity of global warming;
- increasing prominence of wellbeing and mental health as important objectives of education; and
- the onslaught of a global pandemic.

Shifting contexts and global drivers have inevitably highlighted key concerns:

- How have these contextual changes driven how we view assessment and how assessment should/might be reconceptualised for the remainder of the 21st century?
- What principles should inform its development looking forward?
- What practical steps do we recommend for good assessment supporting good education and meeting the legitimate expectations of a critical public?

Lessons learned from the first twenty-five years of the 21st century

Three main lessons have emerged from the research:

- The first - perhaps the most important lesson to be learned from critical theory - is that context always matters. Context determines views on the purposes and practicalities of education and challenges approaches to teaching, learning or assessment which seek to disregard context. This is a difficult lesson for some traditional approaches to assessment, based on eliminating construct-irrelevant context.
- The second lesson is a lack of fit between constructs for assessment which are deemed relevant to the 21st century and traditional methods of assessment. Particular examples depend on the view taken (from the many available) about knowledge, skills and competences required for life and work in the decades ahead. But the tension remains for many of these views, which prompt the question “How can we assess *that?*”

- The third lesson is a challenge to the traditional caution and risk-nervousness of the assessment world, particularly shown by authorities and organisations concerned with summative assessments which determine the futures of those who sit them.

Future assessment approaches

There is an underlying tension which must be faced by assessment in the future. It is between two approaches.

The first, common to much thinking and practice in the psychometric tradition and to highly regulated national or state assessments, can be labelled “analytic and narrow”. Assessments are tightly defined and quality controlled. Reliability and comparability are highly valued and perceived as fair - in the sense that all candidates are treated the same in relevant respects - and often command public confidence. This approach is particularly good for assessments that are used to decide between applicants for a highly competitive benefit, such as a top job or a high-prestige university course.⁵

In contrast, the other approach can be labelled “synthetic and wide”. Its aim is to make evidence-based judgements on each candidate which produce as rich and informative an account of them as possible. Different kinds or amounts of evidence may be available for each candidate. Context can be taken into account at all stages – marking is not “blind” – and assessors may take into account the (different) circumstances in which the evidence was produced. This approach may be seen as good for validity, but less good for reliability and definitely poor on comparability. There are question marks about perceived (relational) fairness and public confidence. However, it can be particularly helpful for such purposes as identifying people who would benefit from a particular college course or looking for the right person for a particular job.

⁵ See Nisbet & Shaw (2020) on “relational fairness” as opposed, for example, to “retributive fairness” where each individual candidate is seen to get what he or she deserves.

Whilst it is appropriate to acknowledge the strengths of the narrow approach there is an argument for a move towards the wider approach.

Reconfiguring assessment for the future

Assessment theoreticians will need to develop a new approach to modelling the “assessment argument”, in order to accommodate the wider, more synthetic, approach. This will carry forward the thinking of Gorin (2014) and others and set a theoretical backdrop for assessment in the next quarter century.

Gorin (2012, 2014) argues that assessments able to draw upon multiple, more novel evidence sources derived from rich situated learning environments offer a more fully-developed articulation of “assessment”. Such assessments will enhance capacity to make more valid, accurate decisions about student learning and pedagogy. The kinds of unconventional data that can potentially contribute to an assessment argument, listed in Gorin (2012) and elsewhere (e.g. Bennett, 2023⁶), include the use of digitally-enhanced assessments that reinforce assessment arguments by generating a task environment that elicit skills and processes designed to reflect 21st century thinking – for example, student engagement, motivation, opportunity-to-learn, and socio-cultural experiences.

The path ahead for work on assessment in the 21st century should include theoretical work to adapt the assessment argument to apply to assessments that use more of the synthetic/wider approach and allow for the relevance of context at all stages. Context should be able to affect the evidence used, the rules or warrants applied to it, the resulting claim, and the way that it is used. Despite the interesting thinking by Gorin and others about novel sources of evidence, the formulation of the argument needs to be able to allow for different contextual factors to affect (otherwise similar) evidence, the rubrics applied to it, the resultant claim, and the uses to which it is put.

⁶ Bennett (2023) offers a rationale and theory of socioculturally responsive assessment and suggests principles that might serve to guide design of appropriate assessments thereby. Socioculturally responsive assessment is, according to Bennet (2023), “assessment that people can see and affirm themselves in and from which they can learn” (p.96).

The second quarter of the 21st century may also require a rethink of the concept of validity as applied to assessment. The wider, synthetic approach to assessment requires the balance between reliability and validity to be tilted more towards validity, as more individualised approaches and variable uses of evidence can come at the cost of aspects of reliability. The suggested approach puts an increased weight on the importance of validity - the fit between different components of the assessment, and between the assessment as a whole and its interpretation and use.

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