

Smarter Learning

Using next-generation assessment

Hamish Coates

Melbourne, November 2024

engage@hefl.net

www.hefl.net



Executive brief

Smarter learning enables, enriches and augments traditional collegial assessment practices.

- As higher learning becomes more valuable and widespread it is essential to innovate assessment to ensure integrity, authenticity and productivity.
- Next-generation assessment reform has produced smarter forms of learning.
- Next-generation learning is education-led by people, deploying technology and process improvement to improve experiences and outcomes.

As demand grows, interest in learning has grown well beyond class-based interactions between teachers and students. Assessment plays a huge role in learning – articulating what learners already know, helping people learn, and spotlighting what learners need to learn.

But much assessment is still being done today as it was a century ago. Technology is one tool, not the brains, for making progress.

Learning is smarter when next-generation assessment is reformed in ways that enhance integrity and productivity. Next-generation assessment reform means pushing beyond traditional assessment which is costly and fragile when scaled.

Spurring next-generation assessment rests on education-led design, robust platforms, and careful reconfiguration of management and business processes.

Recent years have marked an inflection point when assessment has become harder for universities than for students.

Improving learning

- **Interest in learning has grown well beyond class-based interactions between teachers and students.** Global population growth keeps spurring an increasing need for higher education to reach more people than ever before.
- **Assessment plays a huge role in learning.** Done well, assessment plays a core role in articulating what learners already know, in helping people learn, and in spotlighting what learners need to learn. Done poorly or without reflection, assessment can waste time and money, spur anxiety and distaste for learning, provide misleading information, and generate adverse outcomes.
- **Here lies a problem, for despite the crucial role it plays in higher education, assessment has yet to have its transformational moment.** Online learning and workforce changes have transformed curriculum and teaching. Major platforms and business transformations have disrupted and reconfigured admissions and broader forms of student management. Yet much assessment is still being done today as it was a century ago, despite multiple growing reasons to reform.

Smarter learning

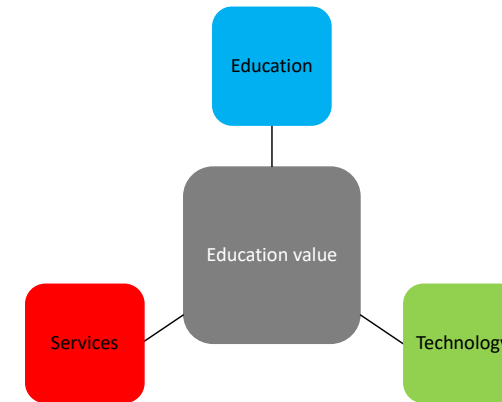
- **‘Smarter learning’ is the idea that ‘learning is smarter’ when next-generation assessment is reformed in ways that enhance integrity and productivity.** This means going beyond incremental change in faculty practice, beyond tinkering with platform settings, and well beyond using smart language.
- **The integrity of assessment is driven by a range of technical criteria.** Gleaned from a century of measurement science research, such criteria ultimately go to spotlighting and emphasising different forms of validity.
- **What does it mean to make assessment more productive – to make quality-informed advances in efficiency?** Enhancing the productivity of assessment necessitates a different production function, ideally in which assessment is woven into an engaging student experience.



Standards	Prompt questions
Coverage	Does the task cover sufficient range and depth of content and all relevant material?
Authenticity	Does the task seem relevant and real? Does it appear useful and meaningful?
Criterion	Does the task correlate with other indicators of similar topics?
Discrimination	Does the task distinguish varying performance levels?
Practicality	Is it easy for students to engage with the task? Is the task ‘user friendly’?
Efficiency	Is the task efficient for staff to implement and use standard equipment and procedures?
Responsiveness	Does the task yield timely feedback for students? Does it support lively learning?
Interpretability	Are task requirements understood by all students? Is task language easy to read?
Transparency	Are task requirements and expectations clear to students?
Educational	Does the task prompt students to learn and contribute seamlessly to the experience?
Consequential	Does feedback have expected consequences and promote improvement?
Production	Are task materials produced to a high standard? Have they been designed and proofed?
Clearance	Have relevant legal and cultural approvals have been secured for the task?
Consistency	Does the task perform consistently across people, time and contexts?
Alignment	Does the task align with students, curriculum, teaching and outcomes?
Distinctiveness	Is the task sufficiently distinctive and does it add unique value and insights?
Scoring	Do rubrics enable sound and generalisable scoring?
Validation	Have task materials been validated and improved by students?

Next-generation reform

- **Achieving smarter learning hinges on next-generation assessment reform.** This means overhauling traditional approaches to bring about more robust and productive solutions. Three general models help frame change.
- Traditional approaches are highly individual and collegial in nature. **Traditional assessment is costly when scaled, and quality suffers, often the breaking point.** Much of this growth has been expansionary rather than transformative in nature.
- **Shifting to next-generation assessment, by definition and design, represents the kind of reformed assessment which carries potential to undergird 'smarter' forms of learning.**
- Assessment value chain analysis helps spotlight areas for change. Ultimately, spurring next-generation assessment rests on deft education design, robust platforms and careful reconfiguration of management and business processes

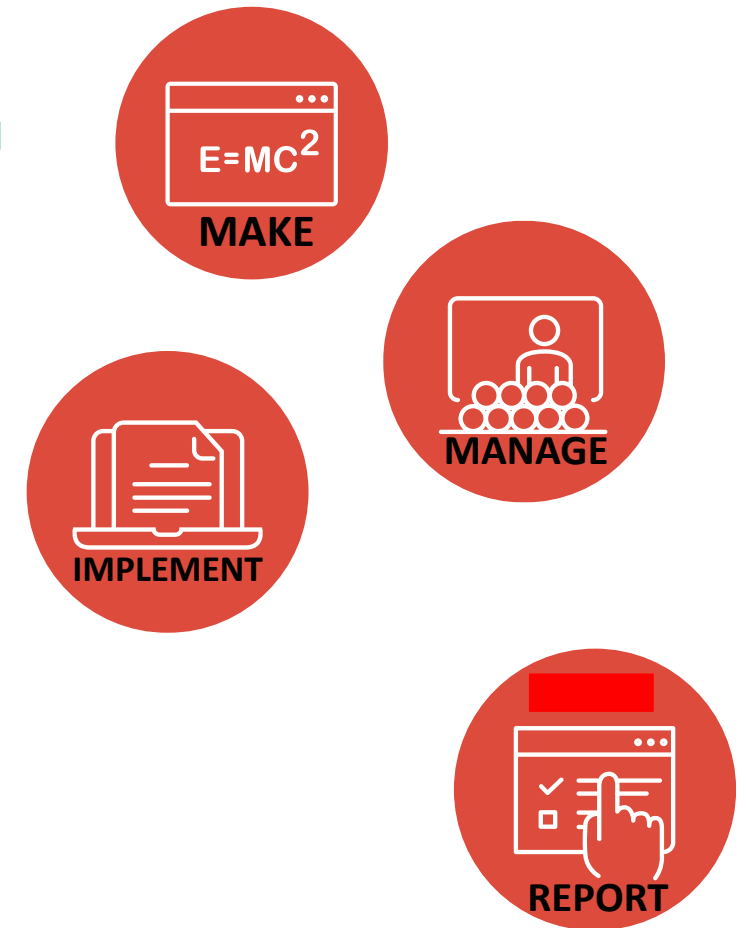


Plan	Develop	Implement	Analyse	Report
<ul style="list-style-type: none"> • Governance • Leadership • Management 	<ul style="list-style-type: none"> • Mapping resources • Specifying outcomes • Selecting task formats • Drafting materials • Qualitative review • Quantitative review • Material production 	<ul style="list-style-type: none"> • Designing administration • Organising facilities • Managing students • Administering assessments • Resolving problems 	<ul style="list-style-type: none"> • Collating results • Marking and verifying • Producing data • Cross-validating results 	<ul style="list-style-type: none"> • Producing grades • Analysing and commenting • Reporting and benchmarking • Reviewing and improving

	Traditional	Stretched	Next-generation
Timeframe	1990s and before...	1990s to 2020	...2020s and after
Authority	University	University or regulator	Shared
Production	Solo academics	Academic teams	Co-creation
Format	Paper	Paper and online	Online
Location	Campus	Campus and online	Online
Implementation	Universities	Universities	Engineers
Scoring	Solo academics	Moderated practice	Automated
Reporting	Generic	Contextualised	Customised

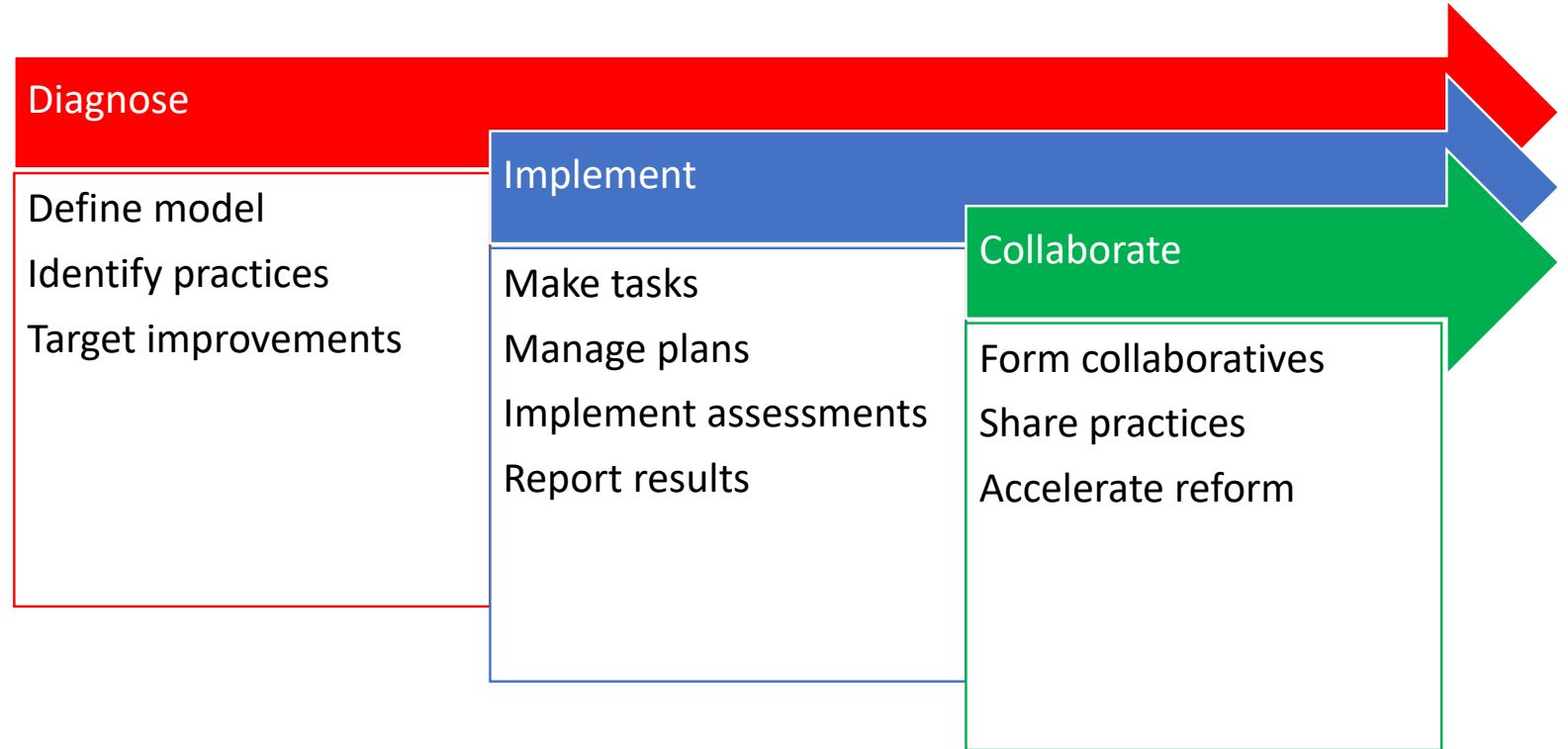
Delving into change

- Making assessment hence learning improve rests on four distinct phases. **These include making tasks, managing administrations, implementing and proctoring, and marking and reporting.**
- Making assessment tasks involves creating, validating, aligning and optimizing online or paper-based tasks. Academics have been making assessment tasks forever, though in traditional ways and not necessarily in ways which optimize educational, practical or technological resources. **Shifting away from individual or ad hoc task development and adopting task authoring tools boosts the integrity.**
- Managing assessment administrations is about scheduling people, infrastructure and resources. **Dedicated scheduling software helps institutions and learners reduce assessment risks and costs by managing schedules, rostering staff and absences, coordinating paper delivery and third-party logistics, logging and investigating incidents, and handling special needs and situations.**
- **Next-generation assessment entails implementation reform, and to the extent required, changes to proctoring arrangements.** Particularly when linked with more intentional assessment design, step-change improvements in delivery and security become feasible.
- Marking and reporting is the final cluster of assessment phases and activities. **Huge quality dividends can be derived from collaborative marking and from sufficiently anonymised benchmarking.**



Developing transformation

- Three developments work together to spur transformation.
- First, there is a need to evaluate, diagnose and re-design prevailing assessment arrangements.
- Second, there is a need for teachers, institutions and students to engage with sufficiently sophisticated assessment platforms.
- Third, the activation of localised solutions is a precondition for realising perhaps the broadest value of assessment reform, being the formation of academic collaboratives.



Beyond the tipping point

- These are interesting ideas, but also ideas which have been proven. **Research has affirmed the value of education-informed assessment reform in terms of improvements to quality and productivity.**
- **Recent years have marked an inflection point when assessment has become harder for universities than for students.**
- Every day, hundreds of millions of people in the world's 20,000-plus institutions engage in unproductive assessment of learning. This costs time and money, hinders learning, and squanders the capacity for higher education to prove its social, economic and professional contribution.
- **This briefing articulates how smarter learning spurs next-generation assessment. Smarter learning makes possible step-change advance which enhances the sustainability and prosperity of higher education.**



Further reading for inquiring minds

- Bennett, R. (2015). The Changing Nature of Educational Assessment. *Review of Research in Education*, 39(1), 370-407.
- Cantwell, B. Coates, H. & King, R. (Eds.) (2018). *Handbook on the Politics of Higher Education*. Cheltenham: Edward Elgar.
- Coates, H. & Richardson, S. (2012). An international assessment of bachelor degree graduates' learning outcomes. *Higher Education Management and Policy*, 23(3), 51-69.
- Coates, H. (2016). Assessing student learning outcomes internationally: Insights and frontiers. *Assessment and Evaluation in Higher Education* 41(5), 662-676.
- Coates, H. (2017). *The Market for Learning: Leading transparent higher education*. Dordrecht: Springer.
- Coates, H. (2018). *Next Generation Assessment*. Melbourne: Online Education Services.
- Coates, H. (2020). *Higher Education Design: Big deal partnerships, technologies and capabilities*. Singapore: Palgrave Macmillan.
- Coates, H. (Ed.) (2014). *Higher Education Learning Outcomes Assessment*. Frankfurt: Peter Lang.
- Coates, H., Xie, Z. & Hong, X. (2020). *Engaging transformed fundamentals to design global hybrid higher education*. *Studies in Higher Education*.
- Genix Ventures (2021). *Examina+*. Accessed from: <https://examinaplus.com>.
- Hazelkorn, E., Coates, H. & McCormick, A. (Eds.) (2018). *Research Handbook on Quality, Performance and Accountability in Higher Education*. Cheltenham: Edward Elgar.

Next steps

1. What three actions can you take from this briefing?
2. What work is already underway?
3. Connect to engage:
www.hefl.net
engage@hefl.net

