



The Gordon Commission  
on the Future of Assessment in K-12 Education

# Gordon Commission Fellow Synthesis Paper

Jordan Morris

University of California, Los Angeles

Bereiter, Carl and Scardamalia, Marlene (2012). *What will it mean to be an educated person in mid 21<sup>st</sup> century?*

### Summary

According to Bereiter and Scardamalia (2012), advancements in technology and communication in the 21<sup>st</sup> century have significantly changed what it means to be a knowledgeable person. In our current society, being an educated person requires navigating diverse global cultures and ideas, as people must now become citizens of the world. This change necessitates the importance of knowledge creation, working with abstractions, systems thinking, and collective cognitive responsibility. These abilities are further elaborated through the need for individuals to develop the following competencies: cosmopolitanism, media literacy, moral reasoning, rational thought and emotionality, and thinking and learning skills.

For educational assessment to align itself with these new competencies, the authors suggest moving away from standardized tests, which do not have the ability to measure critical thinking and other higher-order skills. The authors also highlight a concern with knowledge assessment, as communication is becoming fragmented and overflowing with information; thus, assessing depth of knowledge may become more difficult. Ultimately, Bereiter and Scardamalia (2012) advocate using technology to combine project-based, problem-based, and knowledge-building pedagogy to assist 21<sup>st</sup> century education in achieving the goals described throughout the paper.

### Comments and Recommendations

Bereiter and Scardamalia (2012) provide an outline for looking ahead at what may be required from students and citizens as we progress through this globalized and technological era. The competencies the authors describe appear to be already established competencies the 20<sup>th</sup> century educational system failed to advance that can now be applied to a new technological era,

rather than new competencies that individuals need to be developed; further explanation of this would be helpful. Additional acknowledgement of the existence of the New London Group (1996) proposals of new aptitudes required to excel in this digital age would have bolstered the arguments put forth in this paper.

Gergen, Kenneth and Dixon-Roman, Ezekiel (2012). *Epistemology in Measurement- Part II. Social Epistemology and the Pragmatics of Assessment.*

### Summary

The current empiricist/positivist assessment paradigms have promoted marketplace ideologies, which foster distrust and alienation, create divisive hierarchies of worth, undermine pluralistic values, and erode the capacities for local self-direction. Gergen and Dixon-Roman (2012) advocate for educational assessment to move toward a social constructionist conception of science, where knowledge is a byproduct of negotiated agreements among people, and promotes that knowledge and the skills required for productive and meaningful participation as a citizen. This change in belief systems encourages being more open and innovate to new testing practices and policies, rather than adjusting current ones.

The authors recommend using alternative assessments that favor pluralism, localism, democratic process, qualitative understanding, and processes of improvement over product. Empowerment, dialogic, appreciative, and situative evaluations are proposed. Additionally, the authors provide broad recommendations on testing practices: 1) making standardized tests available and not mandatory, 2) expanding the kinds of tests available to schools for evaluating students, 3) expanding the range of tests available to schools and school districts for evaluating their own development, and 4) offering educational services, which enable schools to generate effective practices of participatory evaluation.

### Comments & Recommendations

The Gergen and Dixon-Roman (2012) article advances the groundwork for stakeholders to understand how the empiricist epistemological framework created many difficulties within the current educational assessment system. The authors advise delinking assessment from this framework in order to reconsider how a social constructivist view can guide the future of educational assessment. Although the article does provide some concrete examples of alternative assessment techniques (e.g., empowerment evaluations), the final recommendations about broad changes in the testing field appear undeveloped. Expanding on these ideas and how they can be implemented would provide readers with a stronger visual of the future changes in testing.

Mendoza-Denton, Rodolfo (2012). *A social psychological perspective on the achievement gap in standardized test performance between White and minority students: Implications for assessment*.

### Summary

Mendoza-Denton (2012) summarizes the persistence of the achievement gap between white and black students and its relation to issues of academic motivation and social identity issues. Ogbu's concept of oppositional cultures (Fordham and Ogbu, 1986; Ogbu, 1997) attributional ambiguity (Crocker, Voelkl, Testa, and Major, 1991), and stereotype threat (Steele and Aronson, 1995) are addressed as causes of academic disengagement. The emergent theme that binds these theories is that discrimination produces mistrust and thus lowers individuals' expectations of fairness and respect, and interpersonal valuation.

Mendoza-Denton (2012) subsequently outlines how future assessment instruments and practices can be made more responsive to the diversity in the contexts by fostering educational environments to reduce stigmatized identities. Admittedly addressing these concerns within the

testing field is a difficult task, as threats to social identity have less to do with test biases, and more to do with context and environmental factors. Nevertheless, the author argues for the testing field to promote changes in test development procedures, such as, renaming tests to lessen stereotype threat, and working backwards examining the outcomes of assessments, which do not show bias and then constructing test items that index these outcomes. Further, structural changes are put forth by, for instance, adjusting attitudes about fixed intellectual ability to incremental theory of intelligence, advocating against tracking, and increasing diversity within testing organizations.

### **Comments & Recommendations**

In fostering a new educational assessment paradigm, identifying the needs of those *failed* by the system is an important aspect to confront. The Gergen and Dixon-Roman (2012) article highlighted these ideas, but Mednoza-Denton (2012) provides a solid historical background of issues of cultural identity and the assessment realm. In conjunction with the new social constructivist viewpoint of assessment, testing organizations should collaborate with a variety of stakeholders to ensure their assessments are accessible, and capture differences in competence and qualifications for all future test takers.

Mislevy, Robert (2012). *Four Metaphors We Need to Understand Assessment*.

### **Summary**

A major contention within educational assessment is defining the underlying principles; Mislevy's article (2012) proposes four major metaphors in order to provide a working framework to clarify these issues with assessment. First, assessment as practice, seeks to match real world situations, in order to strengthen the inferences from assessment. Second, assessment

as a feedback loop, values assessment data from the perspective of who's using the data and what do they need it for. Third, assessment as evidentiary argument looks for evidence that a student has been able to organize resources to act in productive ways in the targeted situations. Fourth, assessment of measurement, proposes viewing measurement as a framework to reason about patterns of information within a context, rather than literally measuring existing traits.

Mislevy further provides four additional metaphors, to highlight various aspects within the four larger metaphors: tests as contest, assessment design as engineering, examination as an exercise of power, and assessment as inquiry. These additional metaphors seek to address the missteps within the current educational assessment climate, and push for creating assessments that promote “intellective competence,” or ways of using knowledge, techniques, and values of an individual solve an array of problems. Examples of gaming and the use of portfolio assessments help to promote this competency.

### **Comments & Recommendations**

This article aids readers' conceptualization of what educational assessment means in a number of different contexts. In order to create more appropriate assessment designs for future, applying the four metaphors can provide an essential starting place for policymakers, educators, and employers to begin to think about the various purposes and uses of assessment. Further in-depth explanation of the “minor” four metaphors would be useful to contribute identifying overlaps between the larger metaphors and how they can be improved to make assessments more useful for all stakeholders.

Gorin, Joanna (2012). *Assessment as Evidential Reasoning*.

### Summary

Gorin (2012) builds upon Mislavy's (2012) ideas of assessment as evidentiary argument, to examine the limitations of utilizing only standardized test scores to assess student learning. Gorin (2012) proposes, "working backwards," to make claims about the usefulness of data in order to re-conceptualizing assessments and promote indicators of intellectual character and competence. From a policy perspective this means using evidence, which makes claims to the kind of skillset employers have interest in.

Gorin (2012) anticipates the use of multiple evidentiary sources using technological advances will make more valid and reliable claims about student learning than the current standardized test scores. Examples of assessments, which collect more complex item types (i.e., simulations), data sources (i.e., sensory data), and complex statistical modeling are suggested. Moreover, examples of already established tools that use multi-source evidence-based reasoning, such as psycho-educational assessments, alternative educational assessments, information technology management, and medical assessments are discussed.

### Comments & Recommendations

Although this paper is still being formulated it begins to ask and answer the question of what we will need from educational assessment to build upon the metaphor of assessment evidentiary argument. Along with further explanation of the ways in which technology can help re-conceptualize evidence, it would be useful to see the expanded sections of the areas already using multiplied and varied evidence to provide a framework for the way educational assessment can be attuned.

Eleanor Armour-Thomas, Eleanor and Gordon, Edmund W. (2012). *Toward an understanding of assessment as a dynamic component of pedagogy*.

### Summary

Within Armour-Thomas and Gordon's (2012) vision of the future of assessment, the improvement of learning is its central purpose, which requires involvement from both the teacher and the learner to guide future teaching and learning. Armour-Thomas and Gordon (2012) define this concept as dynamic pedagogy; a form of teaching that integrates assessment, curriculum, and instruction. The assessment strand promotes on-line and metacognitive probes in order to provide iterative dynamic feedback to promote higher order thinking and inform adaptive instruction. The curriculum strand uses multiple resources to engage students to think about concepts and procedures in multiple ways, promoting the likelihood that students will learn more deeply about the content of a discipline. The instructional strand promotes scaffolding techniques and critical thinking skills. The three components work together as a type of dynamic assessment to advance intellectual competence for all students.

The authors further support their views that assessment can inform and improve both the processes and outcomes of teaching and learning transactions, by advancing methods to assist in organizing decision making about assessment as part of their vision of the teaching-learning process: 1) make learning-centered assessments count in the evaluation of learning and teaching, 2) use computer technologies to develop learning-centered assessments, 3) ensure the validity and fairness of learning-centered assessments, and 4) prepare teachers for using learning-centered assessments.

### Comments & Recommendations

In supporting the re-conceptualizing of educational assessments, this paper promotes the importance of integrating assessment, curriculum, and instruction to foster student learning.



Dynamic pedagogy promotes intellectual competence as key component for all 21<sup>st</sup> learners. Providing more detailed implementation produces are necessary to strengthen the arguments and give readers with a practical vision of how dynamic pedagogy can work in an educational setting.

Behrens, John T. and DiCerbo, Kristen E. (2012). *Technological Implications for Assessment Ecosystems: Opportunities for Digital Technology to Advance Assessment*.

### Summary

Behrens and DiCerbo (2012) emphasize the intersection of assessment theory and the use of digital technologies to understand and advance learning, instruction, and assessment. Specifically, this work seeks to enhance feedback about student capabilities to improve student learning. The use of new digital technologies allows for greater possibilities for understanding, exploring, simulating and recording activity and thus creates the potential for rethinking assessment and learning activities.

Three main affordances of digital technologies are articulated: 1) digital tools allow the extension of human ability, 2) digital devices can collect, store, and transmit data ubiquitously and unobtrusively, and 3) digital technologies allow mapping back into key representations at the core of human communication. Digital technologies further allow assessment and learning activities to shift from 1) a discrete item paradigm to an to integrated activities providing multi-dimensional information 2) a individual paradigm to a social paradigm, to adapt to the collaborative nature of digital environments, and 3) using assessment in isolation to educational unification, where information gathering is integrated into the process of teaching and learning rather than as a separate isolated event.

### Comments & Recommendations

The article outlines many opportunities to work with digital technologies in future assessment practices, and provide the aforementioned concrete examples of the ways technology and the concept of dynamic pedagogy can be implemented in an educational setting. Although this paper highlights the many affordances of digital technologies, the reader is still left questioning how schools will afford the hardware and software to promote these new assessments, how much training will be required of teachers and other educators, and who will presumably use these technologies on a day-to-day basis.

Hill, Clifford (2012). *Assessment in the Service of Teaching and Learning*.

### Summary

Hill (2012) primarily focuses on two models of digital assessment, but begins the article by examining the various forms that testing has taken in different societies, in order to shed light on the complex ways in which cultural values and available technologies have shaped assessment practices and thus help us imagine new directions for the future. Next, Hill presents The Digital Project Model (DPM) and Digital Testing Models (DTM). These digital assessments incorporate scaffolding techniques, use multiple measures and learning-centered assessments, and assess skills and knowledge that transfer across learning contexts, teacher's roles. Both models stress the importance of collecting multiple data points and digital archival systems. The article also recognized the costly nature of implementing the DPM and DTM, and assessments like it, which is a major concern for many public educational institutions.

### **Comments & Recommendations**

Hill (2012) provides a comprehensive description of the DPM and DTM assessments in order to promote student learning, most notably the use of multiple literacies, and various evaluation techniques used within each model. The article also describes the affordances of digital technologies and their ability to log data. The digital revolutions ability to store and manipulate data in a streamlined fashion creates the potential for greater use of student portfolios that can be transferred to different educational settings. Hill's acknowledgment of the difficulty of implementing such models, as they require new forms of teacher education and technologies in every classroom, is also addressed.

### **Future of K-12 Assessment**

#### **Being Educated in the 21<sup>st</sup> Century**

The aforementioned commissioned papers encourage a new narrative about what being educated will mean as global geopolitics and technological shifts weigh heavily on schooling. Reoccurring themes in Armour-Thomas and Gordon (2012), Behrens and DiCerbo (2012), Bereiter and Scardamalia (2012), and Hill (2012) support the importance of higher order thinking, analysis, evaluation and creativity, and relational and extended abstractions, essentially, altering the educational paradigm from predominately content based with little emphasis on process to predominately process based with embedded content. None of the authors specifically address the types of content knowledge students will require, but do provide a broad picture of academic competencies that can be applied across several learning areas, and will be applicable to real-life situations.

The previously mentioned abilities align with Gordon's (2012) notion of "intellective competence," "the development of student abilities and dispositions to adaptively and efficiently

use knowledge, technique and values in mental processes to engage and solve both common and novel problems,” (p. 8) an essential factor to being a well-educated person in the 21<sup>st</sup> century. Gordon’s definition of intellectual competence has close practical applications and ties with the New London Group’s (1996) idea of multi-literacy as a key competency for the 21<sup>st</sup> century. The New London Group (1996) recommended students become literate in all representations of “meaning” including, linguistic, visual, audio, spacial, gestural, and multimodal through a balanced classroom design of situated practice, overt instruction, critical framing, and transformed practice. This framework, as previously mentioned, is also very much in line with Bereiter and Scardamalia (2012), but provides more concrete examples of what is needed and how schools can go about achieving the goal of educating our students in a new way.

### **Evolving Educational Assessments**

The current standards-based accountability system in education appears to be creating an environment in exact opposition to our emergent 21<sup>st</sup> century economies that require individuals to become more divergent thinkers. At present educational assessments alienate students and educators by constricting creativity and flexibility in teaching and learning, leaving students unprepared for the competitive world they face. The current system was designed and conceived in a different age, thus shifts are required to transform the current industrial educational paradigm focus from assessing knowledge to assessing intellectual skills (Gergen and Dixon-Roman, 2012).

New learning objectives and competencies dictate a greater collaboration between the empiricist and constructivist epistemologies, and thus initiating alterations in educational assessments. In order to re-conceptualize assessments, Armour-Thomas and Gordon (2012), Gergen and Dixon-Roman (2012), and Gorin (2012) stress the importance of the contextual

value for the learner, greater use of formative assessments with selected summative aspects, and the notion that assessment in education should be continuous to inform teaching and learning processes and outcomes. Educators and policymakers should address Mislevy (2012) and Gorin (2012) to conceptualize what types of assessments are most appropriate for the new educational environment.

Ultimately, there is not one distinct route for accomplishing these goals, but the authors do agree assessments must use multiple forms of data using portfolio-type assessments in order to provide a greater understanding of student performance. The key aspect in retrieving these multiple data points comes from the advances in technology. Armour-Thomas and Gordon (2012) and Gorin (2012) theorize where digital technologies can provide new ways of assessing students using various computer software programs to make assessments more multimodal and promote digital archiving systems which allow for streamlining of collect data collection, recording, and transmission. The Behrens and DiCerbo (2012) and Hill (2012) articles provide detailed examples of what this looks like in real-world settings. Though all commissioned papers advocate for greater use of new technologies in educational assessment, they often fall short of fully conceptualizing how these technologies can be effectively implemented into an educational setting. In order to move forward on many of these proposed ideas, addressing how schools will be able to afford the expensive technological hardware, software, and teacher training will be essential.

### **Next Steps in Educational Assessment**

The National Academy of Education's working group on standards, assessments, and accountability (Shepard, Hannaway, and Baker, 2009) recommends the federal government redesign content and performance standards and support research and development to create new

performance assessments linked to new content standards and curricula. In accordance with this idea, pushing the federal government to work with testing agencies to create a large database of new digital technologies in assessment and use the strengths of the economy to foster the educational system will further advance this recommendation.

The federal government should be working with educational testing organizations to gather research on the types of new digital technologies and to explore the ways in which digital technologies can transform educational assessment. As suggested by Mendoza-Denton (2012), greater collaboration with the federal government and testing agencies can provide input in developing assessments that are more responsive to diverse contexts. Next, build a national digital archival system, similar to the database systems recommended by Hill (2012) and Gorin (2012), which are most prominently used in public health. This database can provide schools with reliable and valid options for assessment, which can then be transferred or compared to other educational institutions, as students move schools or advance in schooling.

The most crucial step is addressing the concern that schools will not be able to afford the many innovations discussed throughout the commissioned papers without massive intervention. The escalating challenges brought by technology to society in general and education specifically require a more agile approach to edification. A complementary relationship between educational standards defined by the federal government and innovative development by leading companies assuages both their concerns. For example, promoting collaboration with testing organizations like ETS and technology companies to assist in getting technological hardware into the classrooms, creating new educational assessment applications, and creating open software platforms are excellent ideas for getting the assessment paradigm out of the industrial age of education and into the 21<sup>st</sup> century technological age.

## References

- Armour-Thomas, E. & Gordon, E.W. (2012). *Toward an Understanding of Assessment as a Dynamic Component of Pedagogy*. Unpublished Manuscript.
- Behrens, J.T. & DiCerbo, K.E. (2012) *Technological Implications for Assessment Ecosystems: Opportunities for Digital Technology to Advance Assessment*. Unpublished Manuscript.
- Bereiter, C. & Scardamalia, M. (2012). *What Will It Mean To Be An Educated Person in Mid- 21st Century?* Unpublished Manuscript.
- Crocker, J., Voelkl, K., Testa, M. & Major, B. (1991). *Social stigma: The affective consequences of attributional ambiguity*. *Journal of Personality and Social Psychology*, 60, 218-228.
- Fordham, S., & Ogbu, J. U. (1986). *Black students' school success: Coping with "the burden of 'acting White.'"* *Urban Review*, 18, 176–206.
- Gergen, K.J. & Dixon-Roman, E.J. (2012). *Epistemology and Measurement: Paradigms and Practices II Social Epistemology and the Pragmatics of Assessment*. Unpublished Manuscript.
- Gorin, J. (2012). *Assessment as Evidential Reasoning*. Unpublished Manuscript.
- Mendoza-Denton, R. (2012). *A social psychological perspective on the achievement gap in standardized test performance between White and minority students: Implications for assessment*. Unpublished Manuscript.
- Mislevy, R. (2012). *Four Metaphors We Need to Understand Assessment*. Unpublished Manuscript.
- National Academy of Education. (2009). *Standards, Assessments, and Accountability*. National Academy of Education Working Group on Standards, Assessments, and Accountability. Shepard, L., Hannaway, J., and Baker, E. (Eds). Education Policy White Paper. Washington, DC: National Academy of Education.
- The New London Group (1996). *A Pedagogy of Multiliteracies: Designing Social Futures*. *Harvard Educational Review*, 66, 60-92.
- Ogbu, J. (1997). *African American education: A Cultural-Ecological Perspective*. In Harriette Pipes McAdoo (Ed.) *Black families*. Thousand, Oaks California: Sage Publications (pgs. 234-250.)
- Steele, C.M. & Aronson, J. (1995). *Stereotype threat and the intellectual performance of African Americans*. *Journal of Personality and Social Psychology*, 69, 797-811.