The design space of student learning: Who is accountable and accountable for what?

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Editorial

The Design Space of Student Learning: Who is Accountable, and Accountable for what?

It is tempting to reduce complexities to simple propositions, for example: "Teachers should be held accountable for student learning." An aspect of this proposition is valid, of course, because teacher quality matters to student learning.

The value of a highly able teacher and the decrement due to a poor teacher have been quantified in the US: "… a teacher one standard deviation above the mean effectiveness annually generates marginal gains of over $400,000 in present value of student future earnings with a class size of 20 and proportionately higher with larger class sizes. Alternatively, replacing the bottom 5–8 percent of teachers with average teachers could move the U.S. near the top of international math and science rankings with a present value of $100 trillion" (Hanushek 2011, p. 466).

Stated in terms of gains on student learning as measured by standardized tests, Hanushek and Rivkin (2010, p. 268) summarized the findings, thus: "For example, the math results imply that having a teacher at the twenty-fifth percentile as compared to the seventy-fifth percentile of the quality distribution would mean a difference in learning gains of roughly 0.2 standard deviations in a single year. This would move a student at the middle of the achievement distribution to the fifty-eighth percentile. The magnitude of such an effect is large both relative to typical measures of black-white or income achievement gaps of 0.7–1 standard deviation and compared to methodologically compelling estimates of the effects of a ten student reduction in class size of 0.1–0.3 standard deviations."

Teacher quality clearly matters. The goal of this special issue of *Irish Educational Studies* is to start a conversation about how to ascertain teacher quality and how to enhance it. These findings and the set of papers in this special issue should be read in the context of ongoing work by various bodies in Ireland, by the Government (including the Teaching Council), and a large study on measuring teacher effectiveness being conducted in the US by the Gates Foundation (http://www.metproject.org/).

Before we explore the proposition that teachers are accountable for student achievement, it is important to not prematurely restrict the design space in which questions about learning and responsibility may be raised and addressed. The larger question is to keep in focus our goals for education, and within a comprehensive view ask where responsibility for such goals lie.

A growing global view is to define student learning primarily in terms of gain scores on standardized tests (e.g., Conway & Murphy this issue). This move is attractive because such scores can be economically obtained, and group level descriptions have a certain statistical objectivity. Whatever the merits of this approach, we need to recognize that it restricts the goals for learning to those that are captured by measures of academic achievement, but may blind us to goals that are no less of value for their subjectivity.

The general curricular design model for Ireland's primary and secondary students and teachers may be found at the National Council for Curriculum and Assessment (NCCA): http://www.ncca.ie/en/. The set of educational goals of the Council is not narrow. For example, NCCA Senior level key skills include: "critical and creative thinking, communicating, information processing, being personally effective and working with others." The skills are reminiscent of global efforts promoting "21st Century Skills.[1]"

Outside of skill sets, and recognizing Ireland's growing pluralism, we can expand on this set of outcomes of schooling and consider the educational goals of Alberta, Canada (http://education.alberta.ca/admin/funding/accountability/works.aspx), especially towards its First Nation, Métis and Inuit populations[2]. And, we could expand the set of educational outcomes to include the Finnish goals of sustainable development[3]. For that matter, consider outcomes of happiness and other indicators of quality of life as goals of education[4].

In short, as the Irish educational system considers models of teacher accountability for education, it is important not to rush to standardized test scores as an indicator of the (added) value of teachers without realizing the necessary limiting of the goals of education that such a move entails. It is important, periodically, to re-ask the question: "What are the shared and democratic goals for education in the ongoing development of Ireland and the Irish character?"

The Policy Outlook

We are honored to have in introduction to the special issue by the Minister of Education and Skills, Ruari Quinn. His thoughtful remarks lay a framework for the articles in the special issue. His observations are broad ranging and represent a careful consideration of trends in teacher and student evaluation, globally, tempered by the recent economic crisis in Ireland. The

[1] For a recent review:
http://www.pearsonassessments.com/hai/images/tmrs/Assessing_21st_Century_Skills_NCME.pdf
[2] http://education.alberta.ca/teachers/fnmi/policies/fnmipolicy/measures.aspx
[3] http://web.abo.fi/fc/bup/Finnish_Min_of_Educ_strategy_for_sust_dev.pdf
[4] http://www.oecd.org/site/worldforum06/38303200.pdf

Minister's remarks should be read in the context of the related reports that it cites, including one on the future of teacher preparation in Ireland[5].

A Perfect Storm on Accountability

Conway and Murphy examine the emergence of new accountabilities in teacher education in Ireland. The authors provide an historical backdrop to the landscape of accountability in education in Ireland by using the structures outlined by Anderson (2005) within which to situate examples of the three main approaches to accountability that have been prevalent over the last 150 years. They then move on to discuss the underlying assumptions of accountability and advise that while we should remain cognizant of the impact of neo-liberalism on current accountability efforts; we should not consider neo-liberalism a homogeneous concept nor the only ideology influencing accountability movements. They provide a useful contrast between high stakes accountability of the global education reform movement and the more restrained, low stakes, approach to accountability that is indicative of the Finnish 'intelligent accountability' system (Sahlberg 2007). This framing is then used as a backdrop to focus their gaze on the 'rising tide' of accountability in teacher education in Ireland. Their utilisation of the Levitt et al. (2008) classification of accountability to document examples of accountability provides a systematic and cogent account of the emerging accountabilities and reporting requirements in teacher education in Ireland from 1997-2012. They argue that the socio-political context in Ireland towards the end of this period (2012-2012) provided a convergence of factors leading to an education policy 'perfect storm' (see also Hislop 2011; Looney 2012) in which compliance-focused accountabilities were intensified and supplemented by results-driven accountability. Conway and Murphy provide a convincing argument that these events alongside new accountabilities such as the Literacy and Numeracy Strategy[6] indicate a systemic move towards the global education reform movement. The authors caution against the potential negative impact that such reforms may have on teaching and learning and on the practices and identities of both teachers and students.

In Assessing Teacher Quality, What is Valued in Value-Added Models?

In this special issue, two articles examine claims to determine what teachers "add" to student learning (Sloane, Oloff-Lewis & Kim, this issue; Gorard, this issue). Both articles review what are termed "value added models" (VAM) for teaching. According to Sloane et al., (this issue), "In essence, the distinguishing characteristics of any VAM model are that: 1) it studies change in the performance of individual students, and 2) it seeks to determine to what extent changes in student performance may be attributed to particular schools and teachers." Value-added models for teacher were proposed over 40 years ago (Hanushek 1971). In the US, these models came to national prominence when VAM scores for teachers in Los Angeles were

[5] http://www.education.ie/en/Press-Events/Press-Releases/2012-Press-Releases/Report-of-the-International-Review-Panel-on-the-Structure-of-Initial-Teacher-Education-Provision-in-Ireland.pdf

[6] http://www.education.ie/en/Publications/Policy-Reports/lit_num_strategy_full.pdf

published as league tables on teacher effectiveness (http://www.latimes.com/news/local/teachers-investigation/). This use of VAM data was criticized by Baker et al. (2010) and Rothstein (2011).

The Sloane et al., article (this issue) reviews the current models of VAM that are in use in US schools. He describes the characteristics of each model and discusses their implications for judgments about teacher effectiveness. Sloane ends his article by pointing to emerging work on VAM, but remains skeptical of their value for judging teacher effectiveness.

In his article, Gorard (this issue) also examines VAM models critically. He argues that limitations due to problems of missing data, and the non-random loss of such data pose serious factors for interpreting the meaning of VAM scores. On judging teacher quality, he points, instead, to pupils' perceptions of teachers as an alternative source of judgment on teacher differential effects[7], but the relationship of measures of student and VAM scores is left largely unexplored. The above mentioned study by the Gates Foundation includes student evaluation of teachers in its desired model of measuring teacher effectiveness; and, the data indicate that students are reliable judges of their teacher's abilities. To this source of data, it adds classroom observations, teachers' pedagogical content knowledge and school working conditions, all, in combination, related to growth in student achievement[8]. To this list, we could add the contribution to local school leadership. School principals also contribute to student achievement. Branch, Hanushek & Rivkin (2012) have explored value-added models for school principals.

Summarizing the literature on VAM, Hanushek and Rivkin (2010, pp. 269-270) noted that while clear differences in teacher effectiveness exist, the use of current value-added models to determine, "compensation, employment, promotion, or assignment decisions. . . a limited set of outcomes raise worries about the use of value added estimates in education personnel and policy decisions. Many of the possible drawbacks are related to the measurement and estimation issues discussed above, but there are also concerns about incentives to cheat, adopt teaching methods that teach narrowly to tests, and ignore non-tested subjects."

Supporting the wariness about use of VAM as a sole source of evidence on teacher effectiveness, Briggs and Dominque (2011) showed that the Gates alternative measures correlated poorly with state standardized assessments, which undergird such models.

What Teachers Value

In this special issue, Devine, Fahie & McGillicuddy report on the outcomes of the mixed methods study carried out by supplement the dearth of research in Ireland relating to pedagogy and teacher effectiveness. Unique to this study is the authors' emphasis on giving voice to teachers' perspectives on what constitutes 'good teaching' thereby shedding valuable insights into teacher beliefs. By coordinating multiple perspectives gained from merging responses on

[7] On this point, see the Irish Teaching Council standards for teachers: http://www.teachingcouncil.ie/_fileupload/Professional%20Standards/code_of_conduct_2012_web%2019June2012.pdf

[8] http://www.metproject.org/downloads/met-framing-paper.pdf

questionnaire data, teacher observations and interviews, the authors shed light on the multitude of considerations that are taken into account in Irish teacher's constructs of good teaching. Responses of 126 primary and secondary teachers, representing a range of school types in terms of gender and social class, are mined for what constitutes a 'good teacher'. The five factors that emerged reflect considerations of the different yet complementary roles played by cognitive, academic, social and personal factors. Specifically, Irish teachers believe that passion, reflection, planning, love for children and the social and moral dimensions are critical considerations of 'effective' teaching. The centrality of teacher beliefs to practice in the classroom is a significant finding. The authors report on the strong affective component of these beliefs as revealed in interviews with teachers. These insights into teacher beliefs help frame our understandings and inform our interpretation of Irish teacher practices and expectations, and how they differ both from espoused beliefs and between school contexts, and how they are mediated as a result of contextual and socio-cultural factors.

Teachers and Students and Creativity

The special issue rounds out with a paper by Hamilton. While a proponent of accountability for teachers and students when students are in serious danger of leaving school innumerate and illiterate, Hamilton is a unique voice in drawing upon the best and most creative aspects of teachers and students to engage growth in learning as a growth in shared creativity. This creativity he sees as uniquely engendered by recent and radical changes in social learning made possible by mobile technologies and the internet. In Hamilton's view, accountability is owed to a deeper and higher-order understanding of the subject matter itself (in this paper the content is mathematics). In his model, the teacher adds value not to some external standard against which the teacher is judged defective; rather, the teacher and student celebrate the satisfaction of learning as a true achievement.

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Editors

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