An Analysis of the Failure of *Evidence* in Educational Research and Practice: In Response to Kirschner, Sweller and Clark

Kirschner, Sweller, & Clark’s (2006) paper in the Educational Psychologist* generated strong waves across the educational technology community. “Evidence for the superiority of guided instruction” (Kirschner, Sweller & Clark, 2006, p. 75) is the general agenda of the paper. The politics of evidence surface as the authors try to align their conceptual argument with the authority of evidence-based inquiry over “minimally guided instructional approaches [that] are very popular [but not proven] and intuitively appealing” (Ibid).

With respects to different learning goals and corresponding learning performance support, this presentation critically examines the premises and assumptions of the Kirschner, Sweller and Clark paper, ‘Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching’*. A provocative title, yes, which serves to create space for a very engaging and relevant debate among those in attendance at this year’s AECT conference. Many different parties lay claim to *evidence* to support findings in educational research as it will be applied to educational practice, and yet it appears that these bodies of research are not talking to one another. We will therefore be looking at the failure of evidence in light of how it is understood and utilized by both researchers and practitioners in their attempts to promote particular learning theories and methods of instruction.

Too often, it is said, educational research produces results that are inconclusive or contradictory, perhaps best summed up in 1966 by Senator Robert Kennedy’s reaction to the impact of literacy reforms for socio-economically disadvantaged students: “Do you mean that you spent a billion dollars and you don’t know whether they can read or not?” (Cited in Wiliam, 2002, p.2)

Concerns have been raised over the apparent lack of rigor in much of educational research for the development of and contribution to learning theories. As Slavin (2002) so eloquently expressed, research in education should not be subject to the “usual pendulum swings of opinion and fashion” (p. 20). Instead, research must guide practitioners to the larger questions about effective educational practices for “what works” (Hargreaves, 1997; Slavin, 2002; Whitehurst, 2003). However agreeable, the quest for “what works” still depends on how we define the object of our quest and how we conceptualize learning. Therefore, a discussion on the problem of evidence as it relates to learning theories and resulting educational practices is warranted.

Evidence-based practice, at once both ill-defined and under-studied in the field of education, nonetheless lends authority to claims by Kirschner, Sweller and Clark (2006) that ‘learning’ is nothing more than its end-result: retention and long-term memory. Close at the heels of the health sciences, education has been trying to emulate clinical
approaches in the measurement of learning outcomes through experimental and quasi-experimental research. Medical training, which gave us problem-based learning, is also coming under pressure to adopt more measurable methodological practices, namely, guided-instruction, which has been touted by evidence-based inquiry as the only reliable teaching strategy. In response to a recent and controversial analysis of the ‘failure’ of constructivist, discovery, problem-based, experiential, and inquiry-based instruction by Kirschner et al. (2006), this presentation stops to ask if, in fact, these refuted approaches to teaching are dealing with the same learning objectives and learning taxonomies, and if there is any solid ground for a meaningful comparison between them and so-called evidence-based practice.

Calls have been made to develop a broader and more inclusive view of evidence that includes but is not limited to the “gold standard” of experimental and quasi-experimental research designs (Cochran-Smith, 2006). Placing emphasis on methodological pluralism, Davis (1999), Davis and Nutley (2001), Sebba (2004), and Wiliam (2002), posit that the field of education is in quest of complementary contributions from different research designs, thus developing a wider researching framework that is both inclusive and ruled by the kinds of questions it is seeking to explain.

Ambiguity continues to surround definitions for the use of evidence in education, however (McNamara, 2002; Hammersley, 2004; Cochran-Smith, 2006). Unfortunately, the debate on the appropriateness of evidence-based practice in education is simply narrowed by some to the antagonism between quantitative and qualitative research paradigms. This is all too often extended to the notion of opposing theories on how we learn, whereby think camps that are identified as behavioral, cognitive and constructivist are by definition pitted against one another. Arguably, it would be desirable to understand that different learning goals – whether to change behaviors (behaviorism), to change cognitive processes (cognitivism), to promote the development of mental models through meaning making (constructivism), or adaptation to environments and affordances (situated approaches) - necessitate different learning performance support. Following on from this argument would be the acceptance that different learning objectives require different forms of assessment and most notably different means for measuring the successfulness of any given instruction.

Yet, there exists another aspect to the “evidence” problem. Hammersley (2004) points to the illegitimacy of privileging any one type of research evidence over evidence that comes from professional teaching practice. Likewise, McNamara (2002) argues that internal professional judgment based on the practitioners’ “soft” data or tacit knowledge such as practical evidence, understandings of local contexts, educational values and beliefs, and intuitive experiences cannot be taken apart from the “evidence” mix. The appearance of new terms reflects these broad intentions. For example, to make important the judgment of a potential user in the process of evidence utilization the term “evidence-informed practice” was adopted by Hargreaves (1999) and Sebba (2004). Similarly, in the health sciences paramount importance is placed on contextual factors in decision making resulting in the origination of the term “context-sensitive” medicine (Greenhalgh et al.,
Finally, the term “practice-based evidence” is used to name the process of using evidence to reach professional decisions (Eraut, 2004; Simons, 2003).

Attendees at this presentation should therefore expect to come away with not only a more inclusive definition for ‘evidence’ but a finely tuned understanding of its composite parts as they continue to shape-shift through complementary findings from evolving research designs. We the presenters would also like those in attendance to consider shifting their focus away from Kirschner, Sweller, and Clark’s perceived failure of constructivist teaching methods and minimal guidance toward a more useful understanding of appropriate learning performance support as it traverses the possible range of learning theories, learning goals, learning activities, learning content, learning and teaching participants, learning expectations, and learning assessment.