Review of *A Research Reader In Universal Design for Learning*


ISBN: 1612505015
Pages: 288

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Please cite this article as:

Universal Design for Learning (UDL) responds to the increased calls for differentiation and individualization of the curriculum in order to leverage student success. The UDL framework draws on Robert Mace's architectural ideas about designing buildings that are accessible and functional both for people with and without disabilities. Ramps, for example, are necessary for people in wheelchairs, but they also offer significant advantages for people with strollers and for cyclists. Similarly, the Universal Design for Learning framework takes into account the variations in student competency, and instead of conceptualizing those differences in performance as weaknesses, the UDL framework promotes multiple avenues for teaching, learning, and demonstrating new skills. Further, UDL conceptualizes both the student and the student's environment as dynamic entities transacting in the enterprise of learning. In essence, UDL advocates three core precepts:

1. Multiple means of representation
2. Multiple means of expression and action
3. Multiple means of engagement (p. 4)

As such, "the UDL framework ...holds that neither the child nor the curriculum is disabled. Instead, they are two limits on the same system, where learning occurs in the interaction between the child and the context" (p. 6). The book's title is apt: this is a selection of research with strong suggestions for future research, and thus offers very little by way of practical suggestions for practitioners.

Scope
Rappolt-Schlichtmann, Daley, and Rose have chosen six articles by authors from various positions in cognitive and developmental psychology and educational theory. Each article is preceded by a conversation with the author (or the person who selected the article, if, as in the case of John Dewey, the author is no longer living). These brief conversations provide helpful insight for the reader who may be familiar with Paul van Geert and Marijn van Dijk's research on variance in developmental psychology (p. 182-228), or who may not see a connection between John Dewey's "The Child and the Curriculum" (1902) and UDL. The resulting collection is an interdisciplinary approach to UDL that is selective rather than exhaustive, and that builds logically from the themes in the first chapter to the last.

Contents
The first article in the book is, appropriately, "The Child and the Curriculum" (1902) by John Dewey. The article was suggested by Jeremy Roschelle, whose research has focused on galvanizing social and collaborative learning in science and math. According to Roschelle, Dewey's impassioned advocacy for practical and meaningful experiences in the service of education had a profound impact on Roschelle's early development as a scholar. Dewey's elaboration of the intersection of the child and curriculum continues to be useful in the context of UDL because of UDL’s insistence on the importance of the environment and multiple avenues for successful teaching and learning.

A synthesis of a conversation with Howard Gardner and an essay adapted from chapter two of his book The Unschooled Mind (1995), "Why Even the Best Students in the Best Schools May
Not Understand," seamlessly follows "The Child and the Curriculum." Gardner keenly elucidates how schools often fail to educate for understanding, with the result that even very successful students may not be able to apply what they have learned in the confines of the classroom to similar situations in other environments. As an alternative, he endorses schooling that takes advantage of apprenticeships and children's museums to leverage authentic experiences into scholastic achievement. Gardner's work serves to underline UDL's promotion of meaningful tasks and multiple paths to success. His deft creation of varied examples is a reminder of the utility of multiple means of representation to allow all students to make the most of what they are learning.

In the third chapter, the book turns more toward UDL's roots in developmental and cognitive psychology. "On the Interdependence of Cognition and Emotion" (originally published as Storbeck and Clore, 2007), challenges the notion that emotion and cognition are separate or separable processes. On the contrary, the two processes are powerfully interconnected, so educators must "think extensively about how a student's emotion and cognition will relate dynamically in the context of a UDL-designed lesson, tool, curriculum, or educational environment" (p. 58).

The fourth chapter opens with a discussion about the work of Kurt W. Fischer, a developmental theorist whose work focuses on the role of supports or scaffolding in developing competence. The article, "The Dynamics of Competence: How Context Contributes Directly to Skill" (Fischer, Bullock, Rotenberg, Raya, originally published in 1993), details an experiment wherein children were asked to recount a story, sometimes with support, sometimes without. The results suggest that skill is not static. In other words, depending on the context where the skill is deployed, a person may be more or less competent. This is the major take-away for those interested in the UDL framework: context, appropriate scaffolding, and multiple means of expression, representation, and action all have major implications for students and how their level of competency is evaluated.

"On the Roles of External Knowledge Representation in Assessment Design" (Mislevy et al., originally published in 2010) uses the study of outliers and the potential of digital technology to improve conceptions of assessment and learning to leverage better outcomes for students. The underlying idea is that by studying outliers, for example on opposing ends of test scores, we can gain valuable understanding about the nature of learning that benefits all learners. The authors conclude that a strong knowledge of outliers will be beneficial for crafting lessons and environments with multiple means of representation, expression, and evaluation built in.

The final chapter was originally published in 2002 by Paul Van Geert and Marijn Van Dijk. "Focus on Variability: New Tools to Study Intra-Individual Variability in Developmental Data" explores a new way to understand ability. Instead of seeing variance within an individual as an error and seeing the average as an approximation of the truth, Van Geert and Van Dijk propose that inter-individual variance is equally important as intra-individual variance. Van Geert and Van Dijk use dynamic systems theory to explore infants’ utterances and to examine the range of ability demonstrated by each child. They argue that championing "high intra-individual variability... is the best way to shift a whole population toward excellence [because] students will be more likely to explore areas where they are not talented as well as areas where they are" (p.
Conclusion and Critique

A Research Reader in Universal Design for Learning is very cleverly organized and flows seamlessly from one article to the next. The conversations with researchers from related fields preceding each chapter make the articles accessible to readers from a variety of backgrounds in education and psychology. The organization and input from a variety of disciplines also promote a multidisciplinary approach to UDL and to future research within the framework.

The afterward, written by David H. Rose, is beautifully crafted and full of optimism for the potential of UDL to make a difference in classrooms across the spectrum of schooling.

Each article focuses more and more specifically on the individual and how context relates to the individual. Dewey's article discussed the child and the curriculum; Gardner's elaborated how to teach for understanding so that more children can become divergent-thinking experts; Storbeck and Clore detailed the interrelationship of cognition and emotion; Fischer et al. explored how an individual's abilities vary with the context; Van Geert and Van Dijk analyzed how variation in an individual is an important topic of inquiry. Mislevy et al.'s explication of assessment as knowledge representation and the study of outliers to improve assessment focused on making assessment more accurate for more individual students.

The UDL framework emphasizes scientifically researched-based roots in cognitive psychology and the understanding that the student and the environment interact dynamically to produce better educational outcomes for all students. However, the narrow focus of these six articles on students and (presumably) their classroom environments seems to place too much of the onus for creating multiple means of representation, engagement, and expression on teachers. If the educational environment does not change to encompass concepts undergirding the UDL framework, the extent to which individual teachers can implement such changes is limited at best.

The calls for more research will likely yield interesting results, but the divide between research and implementation still leaves a significant gap between change at the policy level and action within classrooms.