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Gathering Evidence for Distance Education[1]

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Abstract

A technology for evaluating computer-based distance education curricula for children and people working with children is described. The technology originated from a model of evaluation described by Markle (1967). The components were elaborated through data-based decisions reported in technical reports for a reading acquisition program, two math programs, a curriculum for people with autism, and a professional development program for clinicians working with children and adolescents. The article integrates single-case and group evaluation strategies, and draws attention to the need for better data in evidence-based decisions, and the use of data in continuous improvement efforts. Details concerning the individual learner at the developmental level of evaluation are emphasized, including an illustration of an e-learning rubric assisting this level of evaluation.

Keywords: E-learning, Distance Education, Evidence-based curricula, Evaluation, Single-case Research, Rubrics, Expert Review

Juntando Evidencia para la Educación a Distancia

Resumen

Se describe una tecnología por computadora para evaluar curricula para la educación a distancia para niños y personas que trabajan con niños. La tecnología se originó de un modelo de evaluación descrito por Markle (1967). Los componentes se elaboraron a través de decisiones basadas en datos, publicadas en reportes técnicos sobre un programa de adquisición de la lectura, dos programas de matemáticas, un curriculum para personas con autismo y en el desarrollo de un programa para clínicos que estaban trabajando con niños y adolescentes. El artículo integra estrategias de evaluación de un solo caso y de grupos y hace hincapié en la necesidad de obtener mejores datos para la toma de decisiones basada en evidencia y para el continuo mejoramiento de los esfuerzos. Se enfatizan los detalles relativos al aprendiz individual a un cierto nivel de desarrollo y evaluación, incluyendo una ilustración de una rúbrica de un e-aprendiz asistiendo este nivel de evaluación.

Palabras Clave: E-aprendizaje, Educación a Distancia, Curricula Basada en Evidencia, Investigación de un Solo Caso, Rúbricas, Revisión por Expertos

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This article describes issues that have arisen while developing a technology for evaluating computer-based distance education curricula for children and people working with children. The article extends a series of editorials I wrote for the *Current Repertoire,* the newsletter for the Cambridge Center for Behavioral Studies between the winter of 2008 and the spring of 2010 (Cambridge Center for Behavioral Studies, 2014). The article also uses data collected and reported in technical reports for a reading acquisition program, two math programs, a curriculum for people with autism, and a professional development program for clinicians working with children and adolescents. My goal is to report on best practices for evaluating e-learning from a behavior analytic perspective.

A New Dawn for Behavior Analysis

A new dawn has risen for behavior analysts. We have a wonderful opportunity to accomplish many things today because so many people are responding positively to our science. Parents, pediatricians, psychologists, and teachers opt for behavioral treatment plans for people with autism and other developmental disabilities. Zoos and pet owners hire behavior analysts to solve significant problems related to human interaction with other species. Managers, front-line supervisors, workers, and unions recognize the importance of behavioral safety. Record numbers of people attending behavioral conferences attest to these positive reactions from the culture at large. These successes have positioned behavior analysis to have an impact on other areas of human concern involving learning, like the development of e-learning or distance education.

I suggest that we should tread carefully. Behavior analysts have squandered their influence on education before. The history of two significant educational innovations by behavior analysts, Programmed Instruction (PI) and the Personalized System of Instruction (PSI) are informative (Bernstein & Chase, 2012). Both PI and PSI were successful for short periods of time in the main culture. Despite the best efforts of researchers and curriculum designers like Donald Cook, Francis Mechner, Susan Markle, James Holland, Beth Sulzer-Azaroff, and others, quality control lapsed, and so did PI. Similarly, despite the work of many who showed repeatedly that PSI was superior to lectures (e.g., Johnson & Ruskin, 1977; Kulik, Kulik, & Cohen, 1979), adopting the structure of PSI without integrating thorough evaluation did not change the modal method of teaching in universities: we still lecture. Even many forms of distance education try to maintain features of the lecture method, e.g., Harvard's HBX Live (Lavelle & Ziomek, 2013).

I submit that our greatest care should come from assuring that we do not give short shrift to quality control: collecting and communicating the evidence behind our successes. One of the primary technologies of behavior analysis is the technology of gathering evidence about behavior change. In what follows, I will address evidence-based practices in the development of curricula. I will describe some of the general strategies with details--the tactics being developed through our work -- that turn practices into technological solutions to curriculum problems. Like most technologies, behavioral technologies are tied to the critical feedback