Utilizing Curriculum Strategies for Curriculum Design

Why Is This Strategy Useful?

Researchers suggest that database technology can support teachers as they address the multifaceted challenge of designing, managing, and implementing differentiated instruction in the classroom. Software and databases can be used to store differentiated materials, to link lesson plans and assessment and evaluation activities, to develop assignments at different levels, and to plan and deliver instruction that is differentiated by achievement level. Multiple teaching aids and resources such as the grade book, the bulletin board, the day planner, the handouts, the books, and links to relevant websites can be integrated into a single technology tool that connects the purpose and function of the various information pieces, thereby improving the quality of curriculum design and the integrity of implementation.

Description of Strategy

School and district administrators should consider training teachers to use online resources and computer software in a manner that links together various aspects of curriculum planning, including tools for curriculum-based management, management of materials, lesson planning, and the design of differentiated instruction. Utilizing technology for curriculum planning should strive to connect teachers to online resources about research-based practices, create a repository of tools sorted by grade level, content area, and instructional practice, and planning templates for the design of lesson plans. In addition, school administrators should create opportunities for teacher collaboration and mentoring around technology tools through team meetings, mentoring, and identification of additional multimedia and learning resources. Finally, schools need to track the use of technology tools and monitor the impact on teacher satisfaction and curriculum planning practices.

Research Evidence

One case study of 30 teachers in one small private high school provides support for this strategy. The study followed the practices and instruction of math, science, English, history, ESL, and LOTE teachers over a time period of 2.5 years. Results indicated that teachers who routinely utilizing computer software provided by the researchers implemented the pedagogies associated with the curriculum with higher level of fidelity throughout the duration of the study. Differences were found between users and non-users but not between moderate- and high-users of the software.

Sample Studies Supporting This Strategy


The purpose of this study was to investigate the longitudinal application of a suite of curriculum authoring tools (CATs) to inclusive classroom teaching practice in a secondary school setting. The study sought to establish whether the incorporation of the CATs into the teachers'
curriculum development and implementation covaried with improved implementation integrity of classroom teaching practice over time. A repeated measures design was used to establish whether those teachers with high levels of tool use also recorded higher levels of implementation integrity in their use of specific inclusive teaching practices. The effects of the tools were measured using 578 50-minute classroom observations gathered over a 2.5-year period. The results indicated that higher levels of implementation integrity in classroom practice covaried with the extent to which the tools were used for the design and implementation of curriculum. Copyright needs to be requested from Blackwell Publishing Limited.