

'e-Learning' report shows online professional development aids teachers and students

August 16 2010

English and math teachers who took professional development courses online improved their instructional practices and boosted their subject knowledge scores, producing modest performance gains for their students, report Boston College researchers in one of the first large-scale randomized experiments to study the impact of online professional development for educators.

As teacher performance comes under increased scrutiny, the findings point to online [professional development](#) as a powerful option to improve teacher quality, according to the report from the Technology and Assessment Study Collaborative, a unit of BC's Lynch School of Education and its Center for the Study of Testing, Evaluation and Educational Policy (CSTEED).

"A series of online professional development courses that focus on specific content and target student learning needs can have positive effects on teacher knowledge and instructional practices," said Boston College Associate Professor of Education Laura O'Dwyer. "The studies also show that teacher participation in online professional development can translate into improvements in targeted student outcomes."

The four studies were conducted in waves over a period of three years and involved approximately 330 teachers and 7,000 students across 13 states. During the course of three school semesters, teachers randomly assigned to the treatment group completed three online courses - each led by a trainer specifically prepared to teach each unit - and put in an

average of 100 hours of training focused on three areas: content knowledge, incorporating that knowledge into instruction, and classroom skills. Teachers who received the training and their students were compared to teachers who were randomly assigned to the control group and their students.

"As states are discussing the implications of common education standards proposed by the U.S. Department of Education, the findings from these four randomized trials suggest that online professional development may be a viable and cost effective means of improving teacher knowledge and ultimately student outcomes" said O'Dwyer.

The researchers found improvement in instructional practices and content knowledge across all groups of teachers in the subjects of fourth and seventh grade English and fifth and eighth grade mathematics, according to the team, which included O'Dwyer, Professor Michael Russell, and research associates Jessica Masters, Sheralyn Dash, Raquel Magidin De Kramer, and Andrea Humez.

However, gains for students were not quite so uniform. For instance, fourth grade English teachers showed improvement in teaching practices in the sub areas of writing, vocabulary and reading comprehension. But while students of these teachers showed modest overall gains in their English subject knowledge, they did not make significant gains in the sub areas of reading comprehension and writing.

The reasons behind the spotty student results could be tied to the timing of the data collection and the degree to which teachers had time to implement the knowledge and classroom practices they acquired through the online professional development.

Russell, the study director, said the findings show e-learning for educators should be looked at as an option to assisting teachers in remote

settings and to help schools build capacity in subjects plagued by a shortage of highly qualified teachers.

"This set of studies included educators working in a variety of settings and demonstrates that on-line professional development is an effective approach for improving teaching and learning in remote areas and high-need schools," said Russell. "Given the positive effects found across these studies, it is reasonable to expect that on-line professional development is an effective strategy for supporting teaching in difficult-to-staff content areas, like mathematics and science."

Provided by Boston College

Citation: 'e-Learning' report shows online professional development aids teachers and students (2010, August 16) retrieved 29 January 2023 from <https://phys.org/news/2010-08-e-learning-online-professional-aids-teachers.html>

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