

CAIS Poster: Not All Borders Are Global: Exploring Teacher-Librarian Collaboration in Math and Science

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Abstract

This poster reports the results of four focus groups held with high school math and science teachers and school and public librarians to explore how teachers and librarians can collaborate most effectively to help students develop 21st Century Skills in order to prepare them for STEM-related jobs.

Résumé

1. Background

“Multiple literacies, including digital, visual, textual, and technological, have now joined information literacy as crucial skills for this century” (AASL 2007, 3). The development of these literacies, particularly in STEM areas, continues to be a growing area of focus in education. Multiple frameworks in librarianship and education point to this need and include the American Association of School Librarians’ *Standards for 21st Century Learners* (AASL 2007), the Association of College and Research Libraries’ *Information Literacy Competency Standards for Higher Education* (2000), the Framework for 21st Century Skills (Partnership for 21st Century Skills 2009), and the Common Core State Standards Initiative (NGA Center & CCSSO 2012). Research has demonstrated that the presence of a librarian in school has a positive impact on student achievement and that librarians have much to offer teachers in terms of helping them to equip students with multiple literacies and to integrate technology into class assignments (Lance & Russell 2004; Scholastic 2008).

However, librarians face several barriers to collaboration with teachers and the attitudes teachers and principals have towards librarian teacher partnerships are an important independent variable in determining the potential success or failure of the school librarian efforts to collaborate with teachers (Johnson 2012).

This project focuses on how high school STEM teachers and both school and public librarians can collaborate most effectively to help students develop 21st Century Skills in order to prepare them to be “full participants” in their communities and our society, and to be significant contributors to the workforce, particularly in the area of STEM-related jobs. It is exploring both in-person as well as virtual collaboration strategies, with the goal of best serving a wide diversity of students in high school. This project is unique in that it includes:

- both public and school librarians,
- both virtual and face-to-face collaboration,
- a STEM focus in relation to 21st Century Skills development,

- the perceptions of STEM teachers.

2. Project Goals

The goals of this project are to:

- Investigate the perceptions and experiences and advice of professional librarians and teachers regarding establishing and maintaining collaborative relationships
- Explore the perceptions of professional librarians and teachers of the relevance of 21st Century skills to the teaching of math and science
- Explore the perceptions and experiences and ideas of professional librarians and teachers in terms of collaborations that can support and foster teaching and learning of 21st Century skills in the content areas of math and science.

The problem of how librarians can initiate and sustain collaborative relationships with teachers is one that has received much attention from LIS. Numerous articles over the last twenty years have bemoaned the difficulties collaboration with teachers present (Hartzell 1997; Lance 2010; Miller & Shontz 1993; Williams 1996). Likewise, successful collaboration with teachers in implementing 21st Century Skills and in STEM content areas has been the subject of many LIS publications (e.g., McGriff 2012; Schmidt, Kowalski, & Nevins 2010; Schultz-Jones 2010; O’Sullivan & Dallas 2010). Examples of projects that have sought to teach collaboration include Harada’s (2001) year-long professional development course that brought together teachers and librarians, taught them to work together to develop lesson plans that they then delivered in their classrooms and her subsequent IMLS PEARL grant, which extended this work (University of Hawaii at Manoa 2009). In New York, Small (2002) reported on the need for library educators to collaborate with colleagues in education and efforts undertaken at Syracuse University to get faculty from the two disciplines to work together. Montiel-Overall studied librarian and teacher collaboration with IMLS support in the form of an Early Career Grant. Her work looks focused on collaboration on science information literacy and Latino students. This work has made a significant contribution to the area including the development of a model of librarian and teacher collaboration (2008; 2010). The current proposal expands the view of librarian and teacher collaboration to include public librarians and virtual as well as face-to-face collaboration.

This topic has not received much attention, however, in Education literature (Montiel-Overall 2010). As Cooper and Bray note, “to a great extent the vision of Information Power has remained within the School library media community itself” (2011, 48) and Lance, Rodney, and Schwarz assert that, “Administrators value librarian-teacher collaboration but both classroom teachers and teacher-librarians indicate that it is far from commonplace” (2010, 31). Montiel-Overall concludes, “the role of librarians as collaborators is still not widely understood by teachers/educators and that teacher/educators do not yet clearly understand the potential for integrating skills taught by school librarians” (2010, 48). Montiel-Overall (2010) further notes that the Education literature contains little information about teacher-librarian collaboration. Literature searches performed over the last two years by our team were also unable to locate research on librarian teacher collaboration in the Education literature.

The result is that currently there is no model of best practice for librarian teacher collaboration that has been widely adopted by professionals in the field and by educators in LIS and Education programs, particularly with respect to STEM education.

Collaboration requires participation on the part of all players and, as impassioned as librarians are, successful integration into the classroom cannot be achieved if teachers are unaware of the benefits of collaboration. An integrated professional model of librarian and teacher collaboration is needed that facilitates the establishment of and continued support for partnerships in practice and that can be taught in pre-service programs as well as in continuing education venues.

3. Data Collection

Focus groups are being conducted at four national conferences—American Library Association Midwinter (January), focusing on school librarians; Public Library Association (March); National Science Teachers Association (April); and National Council of Teachers of Mathematics (April)—for the purposes of gathering baseline data about perceptions of and experiences with teacher/librarian collaboration for the promotion of 21st Century Skills. Each focus group will be asked about:

- Their perceptions of and experiences with establishing and maintaining teacher-librarian collaborative relationships
- Their perceptions of the relevance of 21st Century skills to the teaching of math and science
- Their perceptions of, experiences with, and/or ideas about teacher-librarian collaborations that can support and foster teaching and learning of 21st Century skills in the content areas of math and science.

Each focus group will consist of approximately 10-12 participants. The focus groups will be recorded and transcribed. Using a grounded theory approach, data gathered in the focus groups will be analyzed for common themes as well as divergent themes and perspectives.

4. Results

The focus groups will be held in January, March, and April. The researchers will have completed a preliminary analysis of the focus group data by mid-May, and preliminary results will be presented at the CAIS Conference.

5. Connection to Conference Themes

This project extends the reach of information studies as a discipline by involving partners both within and outside of IS, including school and public librarians, high school math and science teachers, and IS and Education faculty. It will also build a base of evidence for guiding information science practice, as related specifically to STEM teacher-librarian collaboration. And it will investigate the challenges and opportunities associated with collaborating in virtual environments.

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