

IMPLEMENTING AND RESEARCHING MATHEMATICS CONTENT-FOCUSED COACHING MODELS

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In this new working group, we will bring together those interested in sharing knowledge, information, insights, and current work related to implementing and researching content-focused coaching in mathematics. There are many variations of content-focused coaching currently referenced in the field which has led to a lack of clarity about how this coaching model is being implemented and researched. This working group is an opportunity for those engaged in the work of developing and/or researching coaching models to collectively explore (a) variations of content-focused coaching, (b) challenges in implementing content-focused coaching, including ways to support coaches, and (c) needs and future work for content-focused coaching in mathematics. We intend for this working group to continue into future PME-NA conferences as we build on this initial collaboration to impact our individual work and the field at large.

Keywords: Teacher Education-Inservice/Professional, Instructional Leadership, Research Methods

Content-focused Coaching in Mathematics

Coaching has become a widespread method of professional development for teachers (Campbell & Griffin, 2017). One particular form of coaching, content-focused coaching, has been shown to be a promising practice to impact teachers' instructional practices and student learning (e.g., Gibbons & Cobb, 2016; West & Staub, 2003). Content-focused coaching has two primary goals: (a) increasing the teacher's knowledge of a specific content area, such as mathematics, and (b) building the teacher's knowledge of effective instructional practices related to a specific content idea through a personalized, embedded program (Cobb & Jackson, 2011).

Researchers in multiple countries have highlighted the benefits of content-focused coaching (e.g. Becker, Waldis, & Staub, 2019; Gibbons & Cobb, 2016; Kreis, 2012; Kreis & Staub, 2011; Murawski, 2019). In Switzerland, for example, researchers found content-focused coaching to be beneficial for both prospective and practicing teachers, emphasizing the applicability of the model to other contexts (Becker et al., 2019, Kreis, 2012; Kreis & Staub, 2011). Similar coaching models have been used in Canada (e.g. Bengo, 2016), showing positive influences on teacher practice. The variability of contexts in which content-focused coaching is implemented in terms of demographics, teaching conditions, and teaching experience, highlights the need for collective exploration of content-focused coaching.

In addition, there is not a shared understanding in the field about how to define content-focused coaching, how to implement and support content-focused coaching programs, and how to study the actions of content-focused coaches and impact on teachers' practice. As a result, there are high-levels of variability in the ways mathematics coaches interact with teachers (e.g. Ellington, Whitenack, & Edwards, 2017) and inconsistent empirical findings when researching the effectiveness of coaching (e.g. Campbell & Griffin, 2017).

As a collective team, the proposal authors have extensive experience implementing content-focused coaching as a part of larger professional learning programs for teachers. The team has developed and supported content-focused coaches in both face-to-face and online contexts. We are currently researching the actions of content-focused coaches in an online environment and the impact of these actions on teachers' practices (see Author, 2019).

The intent of this working group is to build on and connect the knowledge and experiences of participants in order to establish a more robust understanding of content-focused coaching and to identify opportunities for future work. Participants will have an opportunity to collectively explore three themes: (a) variations of content-focused coaching, (b) challenges in implementing content-focused coaching, including ways to support coaches, and (c) needs and future work for content-focused coaching in mathematics.

Working Group Organization and Strategy

Each session of the working group will draw on the experiences of the authors and the participants related to content-focused coaching, with a different focus for each session based on the themes noted above.

The first session will invite discussion on two of the three themes: exploring variations of content-focused coaching to generate a common understanding, and exploring challenges in implementing content-focused coaching, including ways to support coaches. We will launch the session with the authors sharing their background and experiences to provide a foundation for discussion related to what constitutes content-focused coaching. We will then engage participants in small and full group discussions with the goal of generating a more cohesive understanding of the critical components of content-focused coaching. Attendees will then work in small groups to identify challenges in implementing content-focused coaching. We will share and discuss current work to overcome these challenges with the goal of networking around effective implementation of content-focused coaching.

Session Two will include brief presentations from several participants' work related to content-focused coaching. Participants will then engage in small group discussions on the third theme - what more needs to be known about content-focused coaching. Specifically, discussions will be guided by the following: (a) what has been/is being studied related to mathematics content-focused coaching, and, (b) what are areas of need for further contributions to the field. These discussions will culminate with groups creating questions relating to common research challenges and possible future research based on gaps in the literature. These questions will provide an extended opportunity for discussion with an *Open Space Protocol* structure. The Open Space Protocol provides time and space for participants to generate new knowledge about a particular question with which they find relevant. The process draws on the talent that will be in the room and positions participants to discuss questions important to their work within a supportive and structured environment.

In Session Three, we will use the Open Space Protocol to continue the conversations from the previous day in two more rounds of small group discussions. Attendees will be encouraged to move groups, if they desire, at the end of each round. To support follow-up and ongoing collaboration of participants, group notes and documents will be shared and distributed via a Google Folder that will be set up for this working group. This shared folder will provide a shared space for future collaborations and writing projects within the working group members.

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