The purpose of this study was to investigate how face-to-face (F2F) coaching and online mentoring influences teacher professional development and learning. “A TIME for Physics First” (PF) is a 5-year National Science Foundation (NSF) funded project, which focuses on developing 9th grade science teachers to become teacher leaders and build physics content knowledge integrated with inquiry, modeling, and technology. The PF project provides coaching (F2F) and mentoring (online) to support to improve teaching and learning. The overarching question guiding this study is: What affordances do F2F and online venues provide to a professional development project in terms of mentoring? The primary data were interview and field observation. Secondary data included the teacher self-reflection form, the classroom observation Form, monthly blogs, and artifacts.

Based on the cross-case analysis of the two cases, I made the following assertions: (1) the types of questions that were asked in F2F and online post-observation discussion were very similar. The quality of those discussions is influenced by the venue and the context, (2) classroom observation is an essential component for coaching and mentoring designs, (3) effective coaching or mentoring includes time for meaningful post-observation discussions, and (4) A hybrid design, employing both F2F and online venues, provides efficient support of teachers. The hybrid mentoring and PLC design include: (1) online pre-observation report, (2) F2F classroom observation, (3) online post-observation discussion with a Mentor Observation Form and a Teacher Reflection Form, and (4) online PLC meetings with periodic F2F meetings. Evidence from the data suggests that hybrid design provides the flexibility and opportunities to optimize high quality professional development, while overcoming the limitations of single venue forms of support provided by coaching and mentoring.