From Science to Civil Rights: Examining Teachers' Experiences Conducting Site-Based Professional Development

Madelyn Torkelson, Kendall Fording, UNC Charlotte
Scott Gartlan, Charlotte Teachers Institute

Introduction

Previous research identified seven features of effective teacher professional development: is content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and expert support, offers feedback and reflection, and is of sustained duration (Darling-Hammond et al., 2017). Previous research also identifies that high-quality professional development improves teaching practice (Poekert, 2012). However, less is known about *how* these features interact. This study utilizes a Grounded Theory approach to examine the relationships between these seven features and their impact on student learning. It moved beyond evaluating individual elements or participation patterns by exploring how these features work in combination within diverse professional development models. Three summer professional development programs designed for public school classroom teachers were reviewed in this study: (1) a chemist-led program at a large, urban research university for two public school teachers with a graduate student mentor, (2) a similar program at a small liberal arts institution for two public school teachers, and (3) a history-focused program led by a retired history teacher for 35 public school teachers who visited historical American southern cities and museums. Eight participants were interviewed using a semi-structured protocol.

Research Questions

(1) How does site-based teacher professional development enhance learning and strengthen the teaching of public school teachers?

(2) How do teachers implement understanding from these professional development experiences into the classroom?

Method

Grounded Theory

Utilizing the grounded theory enables theories to emerge directly from the qualitative data collected and then coded. The grounded theory method (Crotty, 1998) and the constant comparison method (Crotty, 1998) was utilized to code, categorize, and extract the thematic elements present across the eight interviews conducted. Initial codes were identified to investigate qualitative interview data. Subsequently, the codes were categorized and ultimately translated into emerging themes present across an interview. NVivo 14 software was utilized for coding and categorizing the interviews from eight teachers varying in grade level and subject area, including science, social studies, and exceptional children. Ultimately, revealing patterns to inform theoretical understandings of site-based professional development.

Direct Quotes From Teachers

"We had a wonderful **griot** of sorts, of **historians** to get on the bus with us, take us around montgomery, **share lots of information** with us regarding historical figures… It was like riding with Rosa Parks or Dr. King with her, because it was like she was there every moment with them, **the way she described things.**" - Middle School CTE, Theme AL

"There were teachers from **all grade levels** from preschool to high school, which was awesome because in terms of **gaining perspective from other people**, it was a great variety of people to discuss those questions with, **discuss our experiences** with, and have conversation." - Middle School Exceptional Children, Theme C

"When I was in school, there wasn't a lot of collaboration when it came to **sharing information**…now they [the teacher's mentors] are willing to share their information and **collaborate** with each other. I used to not have access to that, so it has been just great." - High School Biology, Theme C

"He [the teacher's mentor] was **teaching us** how to break down the math and get the molarity of the different elements and different ingredients we were gonna use to make our biodiesel for the classroom. It was just a **teaching moment** in that moment itself. **I was no longer the teacher.** - Middle School Science, Theme MS

Results

Qualitative data from eight interviews was collected and analyzed. Through comparative analysis, 2,195 codes were created. These codes were sorted into categories where several, varying themes emerged. The results below answer the research questions with four major themes across all eight interviews. These findings emphasize the vital role of collaboration, mentorship, experiential nature, and active learning in effective site-based teacher professional development programs. These results from this research push further the previous research that has been conducted as well as offers new, additional, critical components of professional development such as "experiential."

Effective site-based professional development includes these four themes:

1. C: They are **collaborative**
2. MS: They are **mentor supported**
3. E: They are **experiential**
4. AL: They include **active learning**

Alongside these emerging themes for effective professional development, the teachers presented ideas of the implementation of their learning into the classroom:

University Research Lab Experience	Civil Rights Trip Experience
• Viscosity race • Production of biodiesel • Projects requiring research • Exploration of scientific journals	• Guest Speakers • Personal social justice projects • Personal pictures as historical context • Primary documents as historical context

Freedom Monument Sculpture Park in Montgomery, Alabama

Teachers participating in collaborative lab meeting.

Conclusions

Our grounded theory analysis suggests that teachers are effective and benefit most from professional development programs where they gain content knowledge within the field. Results from this study extend this theory by suggesting teachers thrive in an environment that requires experiences and tasks that fall slightly outside their current content-knowledge, leading to inquiry, an essential feature in learning. Our emergent theory posits that with inquiry present, teachers benefit from experiences that are collaborative and experiential guided by expert mentors through the learning process. Previous research has identified that collaborative professional development paired with meaningful feedback on instructional practice can improve classroom teaching (Poekert, 2012). Collaboration and feedback then led teachers to identify opportunities to incorporate new knowledge and skills into their classrooms. This emergent theory includes key features from previous research on effective teacher professional development, namely that it is content focused, supports collaboration, and includes expert mentors (Darling-Hammond et al., 2017). More research is needed to explore how these findings can directly impact PK-12 students.

References

Crotty, M. (1998). The foundations of social research : meaning and perspective in the research process. Sage Publications.

Darling-Hammond, L. Hyler, M.E. and Gardner, M. (2017). Effective Teacher Professional Development. Learning Policy Institute . https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf

Poekert, P. E. (2012). Examining the Impact of Collaborative Professional Development on Teacher Practice. *Teacher Education Quarterly, 39*(4), 97–118. http://www.jstor.org/stable/23479654