Professionally Isolated Teachers in Tennessee's Rural Schools: Professional Learning Experiences, Improvement Trajectories, and Labor Market Decisions

Susan Kemper Patrick
J. Edward Guthrie

Vanderbilt University

Background

Teachers regularly describe their colleagues as one of their most valuable resources (Drury & Baer, 2011; Johnston & Tsai, 2018; Markow & Pieteres, 2009). In particular, teachers report seeking out other teachers who teach the same grade or subject in order to get advice or to work together to plan instruction (Frank, 2009; Spillane, Hopkins, & Sweet, 2015; Spillane, Kim, & Frank, 2012). Those studying teacher development conclude that professional learning opportunities are most fruitful when they are content-specific, job-embedded, and collaborative (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017; Desimone, 2011; Hawley & Valli, 1999). Many improvement efforts revolve around creating professional communities of teachers who teach the same curriculum, materials, or standards (McLaughlin & Talbert, 2006; Supovitz, 2002; Vescio, Ross, & Adams, 2008).

However, not all teachers work in close proximity to these colleagues and may instead work in isolation as the only one in their school in a particular teaching assignment. Teachers in rural school settings are more likely to face this structural barrier to collaboration, and it may represent one of most significant professional distinctions between teaching in a rural setting versus urban or suburban settings. Many of the challenges inherent to rural schools—such as restricted access to broadband, limited labor markets for recruiting teachers, and less efficient economies of scale—are difficult to identify and measure using administrative data. This limits the ability of researchers and leaders to determine the practical impact they have on the experiences of teachers and students in rural schools. This gap between conceptual definitions and practical implications represents a critical barrier. We attempt to address this barrier by introducing a measure of professional isolation and demonstrating both its prevalence and significance within rural schools.

Research Objective

Our study defines, identifies, and closely examines the experiences of *professional isolated teachers.* We define these teachers as being the only teacher in their school (for school isolation) or in their district (for district isolation) in a specific teaching assignment (e.g., 4th grade English Language Arts, 7th grade science, Algebra II, visual arts). We posit that this isolation has implications for the professional experiences and development of teachers.

Using statewide longitudinal data from Tennessee, we first identify professional isolation based on teaching assignments. We examine the prevalence of these professionally isolated teachers and the distribution of professional isolation across different types of schools and districts over time. We then address the following research questions:

1) How does the frequency and nature of collaboration differ for professionally isolated teachers?
2) How do rates of teacher transfer and exit differ for professionally isolated teachers?
3) How do returns to experience (as measured by teacher value-added measures) differ for professionally isolated teachers?

For each question, we compare outcomes across teachers who are fully isolated, partially isolated, or have colleagues in the same grade and subject for every course they teach.

Data and Methods

We use state-wide survey and administrative data collected through a partnership between the Tennessee Department of Education (TDOE) and the Tennessee Education Research Alliance (TERA). Our analyses focus on the most recent eight years of data (2011-2012 to 2018-2019). To capture teaching assignment and identify professionally isolated teachers, we use accountability files for teachers in the tested subjects and course files for teachers in non-tested subjects. Professional isolation serves as the primary predictor variable in all of our analyses. We construct measures of teacher collaboration using survey responses from the annual Tennessee Educator Survey.

To estimate the relationships between professional isolation and collaboration and the relationship between isolation and retention respectively, we first examine descriptive comparisons between professionally isolated teachers and their non-isolated peers. We then use OLS regression to test whether any statistically significant relationships exist while controlling for other predictors of collaboration or attrition. To estimate the relationship between professional isolation and returns to experience, we first examine descriptive comparisons of the estimated returns to experience among novice (1st-3rd years of teaching), early career (4th-10th years of teaching), and veteran (11th year and beyond) teachers using value-added measures of teacher effectiveness. We then test the statistical significance of any observed differences by regressing teacher value-added on years of experience, a binary indicator for professional isolation, and an interaction term between years of experience and professional isolation, with the coefficient on the interaction term representing the difference in annual improvement between professionally isolated teachers and their non-isolated peers.

Preliminary Results

Based on the most recent data, approximately one-fifth of Tennessee teachers were professionally isolated within their schools. Professionally isolated teachers are found in every type of school and school district in Tennessee but professional isolationism is most common in K-12 and K-8 schools, in rural school districts, and in small school districts.

Our preliminary findings address the first research question. Professionally isolated teachers report less frequent and less helpful professional development and instructionally-focused collaborative activities (e.g., common lesson planning, getting or giving instructional feedback, looking at student data). The descriptive differences between teachers who are professionally isolated and those who are not are often quite large (ranging from 0.2-0.6 sd) and remain statistically significant in models that account for teacher characteristics and school fixed effects. Forthcoming analyses will estimate the effects of professional isolation on teachers' improvement trajectories and on labor market decisions such as transfer or exit.

Discussion

Recent work has highlighted the importance of attending to geographic isolation in education research and policymaking (Curran & Kitchin, 2019; Mann & Saultz, 2019). We argue that professional isolation may represent the most important professional challenge facing teachers as a result of geographic isolation, working in rural settings, or working in small schools. This study aims to make a significant contribution to the creation of empirical contours around the concept of rural education and what working in these settings means for educators. Importantly, our consideration and discussion of results will focus on actionable guidance for state and district policymakers seeking to support the needs of educators and learners in all school settings.

References

Curran, F. C., & Kitchin, J. (2019). Documenting Geographic Isolation of Schools and Examining the Implications for Education Policy. *Educational Policy*, 0895904819864445. https://doi.org/10.1177/0895904819864445

Darling-Hammond, L., Hyler, M. E., Gardner, M., & Espinoza, D. (2017). *Effective Teacher Professional Development* (p. 76). Palo Alto, CA: Learning Policy Institute.

Desimone, L. M. (2011). A primer on effective professional development. *Phi Delta Kappan*, *92*(6), 68–71.

Drury, D., & Baer, J. (2011). *The American Public School Teacher: Past, Present, and Future*. Cambridge, MA: Harvard Education Press.

Frank, K. A. (2009). Quasi-ties: Directing resources to members of a collective. *American Behavioral Scientist*, *52*(12), 1613–1645.

Hawley, W. D., & Valli, L. (1999). The essentials of effective professional development: A new consensus. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (Vol. 127). San Francisco, CA: John Wiley & Sons.

Johnston, W. R., & Tsai, T. (2018). The Prevalence of Collaboration Among American Teachers. Washington, D.C.: RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RR2217.html

Mann, B., & Saultz, A. (2019). The Role of Place, Geography, and Geographic Information Systems in Educational Research. *AERA Open*, *5*(3), 2332858419869340. https://doi.org/10.1177/2332858419869340

Markow, D., & Pieteres, A. (2009). *The MetLife survey of the American teacher: Collaborating for student success*. New York:, NY: MetLife, Inc.

McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. New York, NY: Teachers College Press.

Spillane, J. P., Hopkins, M., & Sweet, T. M. (2015). Intra- and Interschool Interactions about Instruction: Exploring the Conditions for Social Capital Development. *American Journal of Education*, *122*(1), 71–110. https://doi.org/10.1086/683292

Spillane, J. P., Kim, C. M., & Frank, K. A. (2012). Instructional advice and information providing and receiving behavior in elementary schools: Exploring tie formation as a building block in social capital development. *American Educational Research Journal*, *49*(6), 1112–1145.

Supovitz, J. A. (2002). Developing communities of instructional practice. *Teachers College Record*, *104*(8), 1591–1626.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, *24*(1), 80–91.