

First Paper: Abstract Title Page

Title: Teachers' Lives in Context: A Framework for Understanding Barriers to High Quality Teaching within Resource Deprived Settings

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Abstract Body

Background / Context:

Within low-income communities in low- and high-resource countries, there is a profound need for more effective schools that are better able to foster child and youth development and support student learning. In Peru, Saudi Arabia, Brazil, Morocco, South Africa, Botswana, and Ghana over 60% of youth who attend school do not achieve basic literacy in math and science (Hanushek & Wößmann, 2008). These countries likely still outperform those not participating in international tests such as the Democratic Republic of Congo (DRC), where in the Katanga province nearly 80% of fourth graders were unable to correctly answer a single item on a subtest measuring initial sound identification in reading (Aber et al., 2013). Within the United States, despite mandated K-12 education, over 50% of public school eighth graders are below basic proficiency in math in seven major U.S. cities (U.S. Department of Education, 2011). In Detroit, where the poverty rate is just shy of 40% (U.S. Census Bureau, 2009-2013), this number is 71%. Given the potential of education and skill acquisition to act as agents of economic growth at the country level and poverty reduction at the individual level, it is critical that we better understand how to effectively strengthen schools in resource deprived settings throughout the world.

Teachers are a central and proximal contributor to student learning. Large scale meta-analyses conducted in low- and middle-income countries compare a wide range of educational interventions and find that programs including teacher training and support have been found most effective at increasing students' academic learning (Conn, 2014; McEwan, 2013). This, combined with research from a wide range of countries indicating that teaching quality is the strongest predictor of student academic outcomes of any school-level measure (Frost & Little, 2014; Hanushek, 2011, OECD, 2005), has spurred a global focus on teacher effectiveness. However, much of the domestic and international literature on teacher performance has focused narrowly on incentives and accountability (e.g. Bruns, Filmer, & Patrinos, 2011; Cochran-Smith, Piazza, & Power, 2013; Woessmann, 2011). There is a dearth of research looking at teachers' own professional and personal experiences and how these may influence their teaching ability.

Purpose / Objective / Research Question / Focus of Study:

This paper presents a theoretical framework for understanding the role of teacher ecology in influencing teacher effectiveness and, through this, classroom learning. *Teacher ecology* refers to teachers' own characteristics and well-being as they pertain to, and are influenced by, their proximal environments (Bronfenbrenner & Morris, 2006). This paper focuses on three aspects of teacher ecology: (1) teachers' skills, abilities, and knowledge; (2) teachers' own poverty, stress, and health; and (3) structural (e.g. school/government policies around payment) and cultural (e.g. social norms around teaching) supports for / barriers to teaching. These three aspects were selected because surveys (e.g. UNESCO, 2014) and available literature (e.g. Bennell, 2004; Borman & Dowling, 2008; Lee, Goodman, Dandapani, & Kekahio, 2015) identify them as being central to teacher effectiveness in low-income communities. We discuss how these three aspects influence two elements of teacher effectiveness: teacher attendance (N.B. this encompasses both daily attendance and longer term teacher stability within schools) and teacher classroom performance. We separate these elements to highlight the substantial role of teacher absenteeism and turnover in impeding effective teaching (see Chaudhury, Hammer, Kremer, Muralidharan, & Rogers, 2006; Clotfelter, Ladd, & Vigdor, 2009) and to highlight how each aspect of teacher ecology may differentially influence their classroom performance and, thus, student learning.

Setting:

The model presented in this paper focuses on teaching within resource deprived settings and much of the literature reviewed in this paper is drawn from low- and middle-income countries such as Kenya, Nigeria, Benin, India, Peru, Malawi, and China. This said, the theoretical model is a broad-gauged and is simultaneously informed by and has implications for research and practice in low- and middle-income countries and low-income communities within higher-income countries. As such, literature is also drawn from high poverty areas in wealthy countries like the United States.

Significance / Novelty of study:

This paper argues that attempts to improve school quality and increase student learning in resource deprived areas have been hindered by a lack of attention to teachers' lives, the barriers they face, and the supports they need – inside and outside of school. Where these factors have been examined, findings have not been synthesized into a larger theory of how teachers' well-being may influence teaching quality and, through this, school quality. For example, there is a wide body of work on associations between teacher salary and teaching quality but much of it focuses on whether or not higher salaries can entice (or are associated with) better teachers (e.g. Dolton & Marcenaro-Gutierrez, 2011; Leigh, 2012). This literature does not, by and large, consider factors such as teachers' own experiences of poverty, financial stress, or related phenomena as potential contributors to teachers' effectiveness and ability to advance students' academic learning. In presenting the below theoretical model (see Figure 1), this paper addresses this gap in the literature and seeks to provide a counter-perspective to the prevailing narrow focus on accountability and external motivation (e.g. Bruns, Filmer, & Patrinos, 2011; Cochran-Smith, Piazza, & Power, 2013; Woessmann, 2011).

Theoretical Model:

The model presented (see Figure 1) is adapted from Tseng and Seidman's (2007) systems framework for understanding youth social settings. Key changes from the original model include: 1) magnifying the role of resources to reflect that in areas without a minimum threshold of resources, interventions and policies may not work without accompanying resource support (see Carnoy, Ngware, & Oketch, 2015; Lockheed & Levin, 2012); and 2) emphasizing the role of the central human resource at schools – the teacher.

In this model, teacher ecology mirrors the process, person, context, time framework presented by Bronfenbrenner and Morris (2006). It refers to teachers as developing persons, whose individual characteristics are of central importance, while nesting them within systems, structures, and policies (context). This dynamic context interacts with their individual attributes (process) and over time act as (often repetitive and reinforcing) supports or barriers to both their well-being (person) and their capability to effectively teach (process). In alignment with this, teacher ecology, as depicted in Figure 1, includes the school context (e.g. professional development provided by the school) but also extends beyond it (e.g. family finances as influenced by both teacher salary and extra-school factors).

Within teacher ecology, we highlight three key aspects. The first, teachers' skills, abilities, and knowledge, refers to content knowledge, pedagogical content knowledge, and common or general pedagogical knowledge (see König, Blömeke, Paine, Schmidt, & Hsieh, 2014). In a review of research from 1990 to 2010, Glewwe and colleagues (2011) identify teacher subject knowledge as one of the few variables consistently associated with significant effects on

student learning in developing countries. Yet nearly 50% of well-studied educational interventions in developing countries over the past 45 years have targeted incentives, not core knowledge or teaching ability (McEwan, 2013). This is despite substantial evidence that: 1) teacher knowledge and skills matter to student outcomes (Baumert et al., 2010; Blömeke & Delaney, 2014); 2) these effects are likely magnified in low-income settings because families have fewer resources to compensate for inadequate teaching quality (Conn, 2014; Downey, von Hippel, & Broh, 2004); and 3) there is a deficit in teacher skills in many highly under-resourced settings (UNESCO, 2014). For example, in Kano, Nigeria, a full 78% of teachers teaching in English have limited English proficiency. Examining teacher training more broadly, in 1 out of 3 countries, fewer than 75% of teachers have received any training. These numbers are even lower for primary grade teachers (e.g. 20% in Ethiopia) and conflict-affected areas (e.g. 2% of teachers in the refugee communities in Dadaab, Kenya: UNESCO, 2014).

The second key aspect is teachers' own poverty, stress, and health. Teachers in resource poor schools are more likely to both encounter significant poverty among their students (see Benito, Alegre, & González-Balletbò, 2014; Ladd, 2012) and experience its effects on a personal level (Bennell & Akyeampong, 2007; UNESCO, 2014; UN, 2010). Poverty is in turn associated with increased stress (see Santiago, Wadsworth, & Stump, 2011) and acute and occupational stress is associated with decreased physical and mental health (Gallagher & Whiteley, 2013; Hart & Cooper, 2001; Schneiderman, Ironson, & Siegel, 2005). Among teachers, increased stress and decreased health are associated with lower attendance (i.e. higher attrition, turnover, and absenteeism). Occupational stress generally (Hart & Cooper, 2001) and teachers' stress specifically (Montgomery & Rupp, 2005; Yu, Wang, Zhai, Dai, & Yang, 2014) have also been linked to job burnout, lower job satisfaction, and decreased job performance. In Borman and Dowling's (2008) meta-analytic review of teacher attrition and retention in the U.S., all 14 studies that include teacher salary as a moderator of teacher turnover show significant findings. Lee and colleagues (2015), in their review of international research, find a persistent link between days away from school and compensation. It is also quite likely that stress and poor health, especially mental health, are associated with decreased teacher performance. Research in Portugal finds correlations between presenteeism (being physical present but functionally impaired) and job burnout (i.e. emotional exhaustion, job cynicism, and decreased professional efficacy) among teachers, with both measures significantly higher among public school teachers (Ferreira & Martinez, 2012). Where conditions are poor enough to necessitate a second job (see Lambert, 2004; UNESCO, 2014), teachers may be additionally coping with the impacts of sleep deprivation as well as poverty all while trying to manage and teach a classroom.

The third element of teacher ecology in this framework is the structural and cultural barriers and supports to teaching. Structural supports and barriers include elements of the school system such as missing class in order to perform official non-teaching duties (see Alcázar et al., 2006) or pick up one's paycheck (UNESCO, 2014), as well as local conditions such as access to a paved road. Kremer and colleagues (2005) found that, in parts of India where absence rates are particularly high, access to a paved road is one of the top three correlates of higher teacher attendance. Cultural supports and barriers refer to elements such as the "norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures" of the school (National School Climate Council, 2007). To exemplify the potency of such norms, research indicates that when teachers move from a school with fewer absences to a school with more their own absences increase (Bradley, Green, & Leevs, 2007).

Usefulness / Applicability of Method:

The framework presented in this paper suggests a number of next steps for researchers seeking to better support teacher effectiveness. First, there is a need for more descriptive research on the individual, school and societal influences on teachers' attendance, mobility, and classroom performance in varying low-income communities. Some of the aspects identified in this paper are likely to have no bearing in specific communities and others may be hugely influential but overlooked in current education policies. Second, the field would benefit from a better understanding of how, for whom, and under what conditions different educational initiatives work (or don't work). Third, this contextual work should be incorporated into process evaluations in advance of selecting an intervention for implementation; and the implementation plan itself should leave space for altering the intervention post baseline descriptive findings. To illustrate, using monitoring to try to increase teacher attendance in a community where teachers are missing school due to district policies is unlikely to yield the desired results. Fourth, impact evaluations should seek to increase the breadth of baseline community measures collected pre-intervention. Such measures can inform why an intervention may not be working as well as for whom and under what conditions it is working. Finally, quantitative researchers should, where possible, include open-ended measures in their studies to better understand teachers' experiences as well as the supports and barriers they encounter.

This framework also has implications for practice and policy. Practitioners seeking to influence learning outcomes and not just attendance need to think carefully about classroom social processes and how what they are proposing does or does not affect those processes. At the same time, under conditions of extreme resource deprivation, we must be careful not to assume capacity that is not there. Increasing engagement and participation if few know the material on which learning measures will be assessed is unlikely to lead to increased learning. In more resourced settings, it is often most effective to target classroom processes directly; doing so in resource deprived settings may not result in the desired outcomes. Specific communities should be assessed for sufficient resources to support the proposed intervention. Lastly, interventions would benefit from applying our contextual knowledge about how students and adults fare under hardship (poverty, health conditions, stress, and structural barriers) in order to better support teachers facing these same conditions.

Conclusions:

The framework presented in this paper provides an ecological and global way of thinking about teacher effectiveness, and recommendations for supporting quality teaching in light of resource deprivation and community-wide poverty. In doing so it sheds light on the findings from impact evaluations conducted over the past few decades while laying a pathway for much needed future research. Most importantly, it challenges researchers and practitioners to take a broader view of the teachers on whom so much of educational quality, and educational equity for low-income students, depends. It is not enough to mandate or incentivize quality, we must figure out how to support and foster it even, and especially, within resource deprived, low-income settings and the wide-range of difficulties such settings frequently present for students and educators alike.

Appendices

Appendix A. References

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Appendix B. Tables and Figures

Figure 1

