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Using an Ecojustice Perspective to Inform Science Teacher Recruitment and Retention in the Rural Black Belt Region of Georgia

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This article highlights the significance of using ecojustice theory in scholarly discussions regarding issues of science teaching and learning in rural communities of the Southeastern United States. We offer an explanation of how ecojustice theory provides a new way to look at often studied issues surrounding education in rural communities. This article specifically addresses the issue of science teacher recruitment and retention and draws attention to some of the emerging tensions faced by educators in the Black Belt region of Georgia.

Rural communities, as Edmondson (2003) pointed out in her ethnography of a Midwestern community, have undergone significant changes in the past several decades that require special attention. Referring to rural areas in the United States as “The Rural American Ghetto,” Edmondson wrote:

Rather than realizing economic independence and prospering, rural residents too often find their main streets boarded up and corporate interests consuming their family farms, while federal policies increasingly work to serve the interests of large communities, large schools, large-scale farms, and agribusiness (p. 23).

Within the Plantation Belt of Georgia, also known as the Black Belt region or cotton counties, the poverty rates consistently pass the rest of the state and nation (Levernier & White, 1998). In the 21st century, cycles of intergenerational poverty continue to persist in this region. Poverty in the Black Belt is 41% higher than Southern cities not located in this region. Although some areas in Georgia prosper educationally and economically, researchers explain that the “new south” encompasses prosperous urban areas such as Atlanta, Dallas and Houston, while rural areas lag behind socially, politically, economically, and educationally. Educationally, the Black Belt, a rural area characterized by a high African American population, remains an understudied, often ignored area, in spite of a drastically high drop out rate and an exceptionally high rate of teacher attrition (Arnold, 2005; Morris, 2009; Young, 2003). Jerome Morris contends that the majority of researchers understand African American schooling in the

rural South in a historical manner, focusing on enslavement and the subsequent disenfranchisement of African American people and ignoring the importance of studying African American schooling *now* in the South (Morris, 2009).

Using an ecojustice perspective, researchers (Hodges, Tippins and Oliver) are studying science teaching and learning in four contiguous counties of the Black Belt region. Drawing on a variety of methodologies and techniques (i.e., life history interviews, participant observation and focus groups, document collection and analysis, photoessay) they have generated conversations focusing on the day to day tensions of teaching science in a rural setting characterized by high poverty rates and a population consisting of 60%-90% African American. Ecojustice theory has enabled these researchers to recognize deeply embedded assumptions and tensions that significantly impact science teaching and learning in these rural Black Belt communities.

Using Ecojustice Theory to Understand Science Teacher Recruitment and Retention in Rural Communities

Ecojustice is a holistic lens that privileges both social and environmental justice. This framework acknowledges and understands present ecological issues such as global warming and fossil fuel dependency that adversely affect the Earth. Consonantly, ecojustice theory illuminates consumer dependence, local poverty and the interconnectedness of families, communities and the natural environment (Mueller, 2008; Bowers, 2004). In C.A. Bowers’ seminal work *Cultural Literacy for Freedom*, Bowers argued that students must understand the cultural assumptions that lead people to overshoot the capacity of a natural system, which

contributes to severe ecological degradation (Mueller, 2008). Central to understanding ecojustice theory is the development of an understanding of the commons.

Bowers defines the commons in a diverse manner, consisting of the Earth's natural systems as well as the cultural systems that people share without cost. These range from the oceans, rivers, deserts and air to the arts, crafts and ceremonies shared by people (Bowers, 2004; 2006). Mueller deepens this definition by explaining the commons as "ensuring civil liberties, social justice, and mentoring relationships" (p. 2). Explicit in Bowers' writings on the commons is an understanding that language and knowledge within a community carries forward root metaphors that reproduce certain cultural ways of knowing as evidenced by human relationships with the Earth. When applied to the Black Belt region of Georgia, ecojustice theory reveals tensions influencing educational issues such as teacher recruitment and retention. These tensions reflect a moral imperative to revitalize rural communities in ways where teachers and students play a significant role. As teachers share responsibility for becoming informed, participating more fully in local decisions and advocating for the community people and resources, they develop commitments to protecting intergenerational knowledges, beliefs and values and place-based narratives which make it more likely that they will remain in the community.

Multiple researchers (Borman & Dowling, 2008; Guarino et al., 2006; Ingersoll, 2004; Johnson & Birkeland, 2003) have studied the phenomenon of teacher recruitment and retention from diverse perspectives. Similarly, many reports including the *Glenn Commission on Mathematics and Science Teaching for the 21st Century* and reports from the *National Research Council* and the *National Academy of Sciences* illuminate the shortages specifically in mathematics and science education. Ingersoll (2006) explains that although turnover of science teachers approximates that of other subjects, such as English or social studies, science does not have an overabundance of new teachers to replace those lost, complicating the issues surrounding recruitment and retention. While most research stops here, an ecojustice perspective provides a more in-depth, bottom-up, contextually sensitive look at the issue in relation to rural schooling. Ecojustice theory is premised on ecological pragmatist philosophy which embraces uncertainty thinking and the need for multiple perspectives. When applied to the analysis of science teacher recruitment and retention issues in rural Black Belt schools, ecojustice theory has illuminated several tensions.

Tension # 1: Structural Inequalities

Science teachers in all four county schools described tensions surrounding the practices associated with "contract time." Unlike the suburban schools that surround the area, the Black Belt schools did not begin contract discussions until the end of March. The suburban and urban schools in

Georgia typically begin this process in January, securing highly qualified teachers before this rural region even begins to look for teachers, causing severe staffing dilemmas. Similarly, most suburban schools practice mentoring in some capacity, whereas none of these rural schools had any type of mentoring for new teachers, increasing the isolation felt by new teachers. Finally, with the exception of one school, the remainder explained that they had never experienced in-field professional development.

Tension # 2: The Illusion of Desegregation

Although each school experienced de jure desegregation, they remain highly segregated spaces. Two of the schools have populations characterized by a 90% African American population, which is one third higher than the county demographics, due to the use of private schools in the area. The remaining two schools do not 'track,' but due to mathematics course alignment, classes remain between 80%-90% Caucasian or African American. Since the schools are so small, each course is taught only once a day, so if a student takes a high level mathematics course, the rest of his/her schedule revolves around that one course, implicitly tracking the students. This creates challenges for new teachers who are overwhelmed with multiple preparations. But perhaps, more importantly, from an ecojustice perspective, new teachers may struggle to find their place within the community such that they can become informed decision makers and advocates for individuals and local resources.

Tension # 3: The Power of One

In these Black Belt schools the "power of one" is magnified immeasurably which emanates in both positive and negative ways. A new superintendent, who placed high priority on standards, used the power of one to take away programs that he found unnecessary. For example, a thriving horticulture program in which students grew fresh, organic vegetables and other plants enriched the lives of both students and community members for years in one county. When the new superintendent arrived, he shut down the program, believing it did not directly align with state standards. A highly qualified science teacher who was deeply committed to the program left, finding a new school where she felt valued. Similarly, test results in the neighboring school district were posted on the front page of the local newspaper with a column explaining how low the physical science test scores were, in comparison with the previous semester. Since only one teacher, a new teacher, taught physical science the whole county knew who to blame.

Tension # 4: The Tension of Inherent Progress

As the discourses of standards, accountability and technology become more prevalent in these rural communities an implicit message is conveyed: local knowledge is inferior to decontextualized scientific knowledge. As a consequence, local knowledge is seldom a part of the science classroom, and as Tippins & Mueller (2009) point out, this may reinforce the notion that “it is not okay to be where you are.” This message may, in turn, contribute to a notion of teacher recruitment and retention that measures success in terms of leaving a particular school or community.

Some final reflections

An ecojustice framework is enabling us, as researchers, to “see” multiple tensions associated with science teacher recruitment and retention in these culturally rich communities. By listening to the stories of teachers and situating them in their given social context, the problem of rural recruitment and retention begins to make more sense. A superficial look at the issue could get researchers caught up in the cultural myths of rural Georgia, which emphasize only deficits such as the lack of materials or a lack of qualified teachers, when in fact, these are myths in this context. These schools have plenty of science materials and well equipped laboratory spaces and 91% of the science teachers are qualified (according to the criteria of No Child Left Behind) in their respective fields. The issues of recruitment and retention are embedded in the interplay between the particularities of individuals’ lives and broader social, cultural, historical, political and economic contexts, and have solutions within the community commons.

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