Fracking for Funding in Appalachian Ohio: Power and Powerlessness

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Abstract

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Fracking for Funding in Appalachian Ohio: Power and Powerlessness

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The shale gas rush, commonly called the fracking boom, began in Appalachian Ohio in 2010. The region was of interest to oil and gas companies that wanted to invest in the Marcellus and Utica shale located beneath many of the state’s 32 Appalachian counties. This qualitative study took place in seven of these counties—Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe, and Noble—where many public school districts decided to lease district owned property to oil and gas companies for exploration and drilling. This study considers how Appalachian Ohio superintendents and treasurers navigated the pressures and responsibilities of entering into legally binding agreements with natural gas companies.

Semi-structured interviews with 20 superintendents, treasurers, and educational service center administrators were conducted along with document analysis of 52 financial documents: 24 independent audits from fiscal years 2010 and 2015; 23 five-year forecast assumptions from fiscal years 2010 and 2016; and five performance audits conducted between 2004-2015.

Participants in the study reported that the decision to lease was first, and foremost, financial, depicting it as a way to pay down debt or invest in capital outlay and academics. Six major findings emerged from the study: 1) Participants reported they were moderate pro-actionists who were cognizant that fracking is a boom to bust industry.
2) Revenue earned by school districts from leasing deals and value-added opportunities is a stopgap. 3) Value-added opportunities (e.g. ad-valorem taxes) provided revenue opportunities beyond initial leasing deals. 4) Participants were able to engage new initiatives focused on educating-in, or reversing the propagation of what some scholars call the rural brain drain. 5) Revenue from fracking was invested with the bigger financial picture in mind. 6) As the fracking boom was unfolding, the potential for long-term powerlessness loomed for many districts and their surrounding communities.

Leasing deals seldom proved to significantly enhance the power of school districts to operate with a greater financial autonomy. Instead, participants in this study often employed mētis, or local practical knowledge, to gain alternate forms of power for their school districts and communities.
Dedication

To my dad, Mike Bartels, for reminding me now and in my youth that the best races are still ahead. Thanks for coming along on this run—every step of the way. In memory of my grandfather, Bill Bartels, who believed in public education, and took seriously his commitment to the rural schools he served. The fruits of your labor in our local schools have made my own work possible.
Acknowledgments

A former seventh grade student once commended my bravery at baring my face to the world: “Mrs. Yahn, I love that you are not afraid to not wear make-up.” I think often about this note, which still makes me laugh in that deep soulful way that forces tears to spring forth—not to worry of course since my lashes are typically sans mascara. When pressed for time I elect to stop for coffee rather than apply bronzer and blush. Every Single. Time. Fortunately, caffeine does not win the sole acclaim for fueling the work that unfolds in the following pages. Not only have I enjoyed the unconditional support of family, friends, and colleagues, but also their unyielding tolerance of my bare faced approach to the world.

Dr. Frans Doppen deserves much more than a few lines in an acknowledgement section. Throughout our work together, I was humbled by his steadfast belief in the importance of this study, along with his genuine trust in my vision for this dissertation. Few doctoral students are able to find a chair as insightful and committed as Dr. Doppen has been these last two years.

Working alongside Dr. Doppen were three committee members who lent their acumen to this project, ensuring that my proposal transformed into dissertation. Dr. Bill Larson has supported me since my earliest coursework. His knowledge of school administration positioned him to help me refine my explanation of the problem this study addresses. Dr. Chuck Lowery’s keen insight on the concept of métis resulted in his much-needed encouragement to my pursuing its connections to this study. Dr. Geoffrey Buckley recognized the importance of exploring the influence of resource extraction on
school finance, and was influential in the attention I paid to multiple forms of data. I am incredibly thankful for my committee’s support and patience, as well as their generous donation of time and expertise.

Dr. Aimee Howley saw the potential in this study, and in me, from the very start, while Dr. Craig Howley has never failed to supply me with a reading list. It was Craig who introduced me to the work of James Scott and C. Wright Mills, who both informed this study in no small way. Aimee and Craig’s devotion to the rural lifeworld and their care for those of us fortunate enough to count them as part of our own lifeworlds is unmatched.

I also would like to thank Dr. Jerry Johnson and Dr. John Henning for assisting me in finding the right program of study that fit my aspirations to research and work in rural places. Additionally, I am grateful to Dr. Dwan Robinson who aided and encouraged me at a critical time in my work towards completing my degree.

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To our families who welcomed us home nearly four years ago and saw the potential in our new homestead and career choices. Thank you to the entire Yahn family. My in-laws Debbie and Gary Yahn have nourished our ambitions. I admire you both for how completely you love your children, and I am so thankful you extended that love to me when I joined the family nine years ago.

To the whole Bartels clan, who believe in public education and work alongside me in the field. I am proud to count my brother Michael and his wife Anne amongst my closest friends. I love you both. My Nana and Pap Kennedy have passed away, but the memories we shared supply me with a form of love that eludes most people. For my Grandma Bartels, who made sure I had Dysart Woods as my childhood backyard and instilled in me the importance of a love for family and place.

This work is possible because my parents Mike and Janet Bartels made “rules for rules” growing up in an effort to ensure I recognized that life is not a dress rehearsal. My mom and Nana taught me through their own actions to be unafraid of baring my face to the world. I know myself worth because I was raised amongst strong women who knew theirs. My dad is there for his children in every imaginable way (scrapping wall paper, road trips, and locating social security cards to name a few). He loves my brother and me
fiercely, without judgment. It is not an exaggeration to say that without him as my road-trip partner, not only this research, but also my coursework would have been lonely, if not altogether impossible. His devotion to rural schools, particularly the one he taught in for 35 years is an inspiration. Never pretentious, he likely does not recognize that it is his classroom and professional disposition I aspire to emulate.

Finally, to my husband Chris, who affords me the space to work, but reminds me of the irreplaceable role family and friends play in one’s life. I love you because you put our families at the forefront of our lives. And you have never minded that I am “not afraid to not wear make-up.”
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Chapter 1: Introduction

This dissertation study took place in Appalachian Ohio (see Figure 1) where the shale gas rush is restructuring both the regional economy and landscape. I narrowed my focus to seven counties—Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe and Noble—that are experiencing an unprecedented amount of unconventional natural gas exploration and extraction (see e.g. Ohio Department of Natural Resources, 2014; Ohio Oil and Gas Association, 2015). This qualitative interview study sought to assess how rural and small town superintendents and treasurers navigate the pressures and responsibilities of entering into legally binding agreements with natural gas companies. The signing bonuses and royalty payments that districts are collecting from these leases are projected to alleviate much of the financial burdens the rural schools in this study have carried for years (see e.g. Burleson & Cooke, 2013; Krassen & Warnock, 2011). Throughout this study I explore the extent to which these financial possibilities are being realized by rural school districts, while calling into question the limitations of relying on agreements based on natural resource exploitation as a means of financial stability.

Background

The year is 1976. Jimmy Carter defeats sitting president Gerald Ford in the national election while Paul Simon tops the Billboard charts by doling out his advice on “50 Ways to Leave Your Lover.” Far from the polished steps of the Capital City one of Ohio’s Appalachian river towns passes an operating levy to increase funding for its local school district. In a nation that reserves its national publication space for rare successes
like chart topping songs and bestselling books, such an event seems unremarkable. But not for Bellaire, Ohio, the town that achieved this small feat.

Forty years later, an active board member needs no memory tricks to recall the victory. At a local meeting he reminds those present that it is rather easy for him to remember. After all, it was the same year he graduated high school. This was the last time the school district passed an operating levy, meaning the district’s most substantial source of funding has not seen an increase in nearly four decades. Financially, for the Bellaire Village School District it is still 1976.

![Figure 1. Map of Appalachian Ohio Local Development Districts](source)

Source: Ohio Office of Community Development (2012).
Ohio’s Appalachian Schools and the search for equity. The state audits and five year forecast assumptions reviewed for this study reveal that the majority of the districts represented in this study passed their last operating levy sometime between 1970-1995 (Auditor of the State of Ohio, 2016; Ohio Department of Education, 2016). As Stabile (2015) explains, House Bill 920, enacted to temper the impact on taxpayers when residential property values increased in the 1970s, prohibits a district’s levy from accounting for inflation without receiving voter approval. Stabile points out that while this is advantageous for homeowners, it can be troublesome to school districts for a couple of reasons: 1) HB 920 limits a district’s ability to reap new tax dollars without voter approval. Therefore levies passed decades ago may no longer position the district to collect enough tax dollars at the local level to keep pace with the cost of unfunded mandates; cost of living raises for their faculty and staff; and academic and capital outlay costs, 2) In some regions of Ohio, property valuation decreases because of economic factors at the state and local level, meaning the tax bills of local residents actually decrease.

Returning to the Bellaire Village School District’s “1976 budget,” what is most alarming is that it is just one anecdotal example of many from the biography of Ohio’s Appalachian schools and their struggle to find equity. In fact, one of the most contentious legal battles over Ohio’s school funding formula, *DeRolph vs. the State of Ohio*, began in the region in 1991 when five school districts filed a lawsuit in the Perry County Common Pleas Court against the state for failing to meet its obligation to fund its schools in a “thorough and efficient manner” (Harden, 2009a; Stabile, 2015).
Harden (2009a) explains the lawsuit originated when Nathan DeRolph brought to light the subpar conditions of Sheridan High School in Perry County. At Sheridan, DeRolph and his fellow classmates learned in classrooms where the roof leaked into trashcans and the encyclopedias dated back to 1957. Occasionally, a student was left standing because of a shortage of desks. By the time the case went to court in 1993, the Ohio Coalition for Equity and Adequacy of School Funding had joined in the fight identifying over 500 additional districts to serve as plaintiffs in the case (Harden, 2009b; Maxwell & Sweetland, 2013; Milcetich, 2011).

The DeRolph litigation was waged for a decade and heard before Ohio’s Supreme Court, which ultimately ruled the formula unconstitutional, four times (Stabile, 2015). The state legislature, charged with overhauling the system, has found it difficult to devise a formula that diminishes the inequities created by variations in property valuation that disadvantage regions of the state prone to economic decline (Maxwell & Sweetland, 2013; McKinley, 2005; Milcetich, 2011; Stabile, 2015; Sweetland, 2014). As a consequence, financial reprieve has yet to come to the school districts where low property values and median income agitate equity issues. In such areas, it is nearly impossible for local residents to approve tax levies that will adequately support the operating costs for their local school district.

Appalachian Ohio is home to a disproportionate number of districts that fit the aforementioned description. What is more, deindustrialization throughout the 1980s and the Great Recession that began in 2008 further weakened the region’s local economies, making it increasingly difficult for the region’s schools to generate the additional funds
needed to finance the recent spike in unfunded state and federal mandates (Horton, 
Howley, & Ladd, 2012; Maxwell & Sweetland, 2013; Stabile, 2015; Sweetland, 2014; 
Thomas Fordham Institute, 2011).

In the decades following the initiation of the DeRolph lawsuit educational 
stakeholders throughout Ohio’s 32 Appalachian counties have become some of the most 
vehement opponents of the state’s overreliance on local property taxes as the main source 
of public school funding (Edlefson & Barrow, 2001; McKinley & Phillis, 2008; Phillis, 
2005). This dissertation examines a curious new development in Appalachian Ohio, 
where a number of rural and small town schools continue their search for equity. Beneath 
seven counties nestled within the region—Belmont, Carroll, Columbiana, Guernsey, 
Harrison, Monroe, and Noble—rest substantial portions of the Marcellus and Utica shale 
(see Figure 2). This rock formation holds the untapped energy of natural gas, deemed the 
game changing fuel in America’s energy needs (Gold, 2014; Hughes, 2013; 
Prud’Homme, 2014; Wilber, 2012). And as schools throughout these counties have 
quickly learned, when leased to private drilling companies, this rock formation becomes a 
form of equity (Burleson & Cooke, 2013; Krassen & Warnock, 2011). In other words, 
rural schools throughout these counties are now hydraulic fracturing, or fracking, for 
funding. Fracking is a controversial method that is part of the horizontal drilling process. 
It involves injecting fluid into deep-rock formations to release oil and gas (Prud’Homme, 
2014).
Figure 2. Areas of Marcellus and Utica Shale Potential in Ohio

Justification for the Study

In this qualitative interview study (Merriam, 1998; Weiss, 1994) I gather insight from superintendents and treasurers who must navigate the financial impacts and long-term financial planning concerns associated with entering into natural gas lease agreements with private drilling companies. Such agreements are not without contention. The region has a long history with what has been infamously dubbed the “resource curse” (see e.g. Douglas & Walker 2013; Fraley, 2011). Appalachia’s resource curse is linked to the extraordinary amount of natural resource wealth throughout a thirteen state region.
that includes an abundance of coal, timber, oil, and natural gas (Batteau, 1990; Eller, 1982; Raitz & Ulack, 1984; Whisnant, 1994). Scholars have found that natural resource wealth has generally weakened Appalachia’s economy (Buckley, 2004; Eller, 1982; Gaventa, 1980; Reece, 2006; Salstrom, 1994; Scott, 2010). Many sections of the region were left worse off after extractive industries gained control of the natural resources. This control enabled private corporations to exploit the local labor forces and extract valuable resources cheaply by employing industrial practices that leave zones of sacrifice in their wake (Douglas & Walker, 2013; Eller, 2008; Gaventa, 1980; Hedges & Sacco, 2012; Lewis, Johnson, & Askins, 1978).

The decades of economic struggle brought on by the deindustrialization that began in the 1980s in Ohio’s Appalachian region have made it difficult for the region’s schools to achieve educational equity. In this study I explore how rural superintendents and treasurers in Appalachian Ohio navigate natural gas leasing agreements as well as how they manage the subsequent funds generated from said agreements. Inevitably, how superintendents and treasurers invest the money from natural gas leases will either enhance or hinder the district’s future capability to serve its citizens. This is a rare opportunity to consider administrative responses during the boom rather than the bust years of an economic cycle.

This study matters because as noted economist Hazlitt (1946/1996) once pointed out, today’s economic decisions will be reflected in tomorrow’s weak or strong civil state. Equally important, rural scholars (Carr & Kefalas, 2009; Corbett 2007; DeYoung, 1991; Duncan 1999; Sherman & Sage 2011; Tieken, 2014) find that for rural locales,
public education becomes either an investment in the region’s vitality or the cause of its slow demise. Underscoring the importance of this study is that it makes a unique addition to two bodies of research literature: 1) the work on Ohio school finance, and, 2) the work focusing on the socioeconomic impacts of the fracking boom.

Turning to private corporations as a viable source of school funding for rural and small town districts is a new twist in the Ohio school-funding saga. Likewise, most of the researchers that investigate the socioeconomic implications of fracking have focused on the community at large, giving only minimal attention to the boom’s direct impact on public schools (see e.g. Andreson & Theodori, 2009; Christopherson & Rightor, 2012; Jacquet, 2009; Liscomb, Yongsheng, & Kilpatrick, 2012; Multi-Shale Research Collaborative, 2014; Perry, 2012; Weigle, 2011). Schafft, Glenna, Borlu, & Green (2012) have been one of the few research teams to focus specifically on fracking’s impact on the organizational structure and budgets of public schools. Therefore, this study will not only fill a gap in the growing body of research on the socioeconomic impact of the fracking boom, it will also provide new insight into how a section of Ohio’s rural and small town schools are making a new attempt to resolve their long-standing funding issues.

**Overview of the Chapter**

The introductory paragraphs of this chapter provide a background and justification for the study. What immediately follows is a description of the financial struggles the rural and small town schools that are the focus of this study have long endured. I then describe how the shale gas rush that has come to the communities these schools serve has resulted in an unexpected financial option for districts: the offer by
drilling companies to lease school lands for oil and gas exploration and exploitation.

Following this discussion is a statement of the research problem and research questions. The chapter culminates with a discussion of the significance of the study and an overview of the study’s methodological framework. A definition of terms immediately follows the chapter.

**Between a Rock and a Hard Place**

By 1996 while *DeRolph vs. the State of Ohio* was making its way to the Ohio Supreme Court, Bill Moyers (Hayden & Cauthen, 1996/2004) reported on the inadequate school facilities that dotted much of Ohio’s rural and urban landscapes. In a documentary titled *Children in America’s Schools*, documentarians traveled to parts of Ohio’s Appalachian region. On their journey they found a high school in Vinton County that was still heated by coal furnaces and an elementary school in Belmont County where students had to put on winter coats to access restroom facilities located in an adjacent building.

In the documentary (Hayden & Cauthen, 1996/2004) Dan Mumma, then superintendent of Union Local Schools in Belmont County, offered insight into why local voters could not afford taxes comparable to those paid by their suburban counterparts. Mumma described the local economy as being in a downward spiral, pointing to the closure of several local coalmines and the shuttering of the steel mills that once offered employment along the region’s riverbanks. As Mumma saw it, it was not that the local public did not want to pay its share to assure its children earned a “thorough and efficient education.” He asserted that instead, the reality was that financially these families could not afford the tax rates common in Ohio’s more affluent counties.
The overarching point of *Children in America’s Schools* (Hayden & Cauthen, 1996/2004) was that school funding formulas that are based primarily on local property taxes geographically ostracize a disproportionate number of public school students. At the time the documentary was released, it was estimated that in Ohio rural and urban districts with the lowest property valuations were able to spend only $3,000 per student in contrast to the approximately $12,000 per student spent in affluent regions of the state, with much higher property values. At the time, Ohio came to serve as an example of the way local wealth disparities force the nation’s most disadvantaged children into a life of poverty by denying them a “thorough and efficient” education.

**Arriving at the hard place.** The filing of the *DeRolph* case and the airing of *Children in America’s Schools* impacted state policies to a significant degree (Edlesfos & Barrow, 2001). As Stabile (2015) explains, in the spring of 1997 the Ohio School Facilities Commission (OSFC) was established. The OSFC took on classroom facilities assistance as its key initiative, granting state funds to be allocated to the building of new school facilities throughout the state. The OSFC ranks the state’s public schools by priority; high poverty districts are first on the list to receive a chance at state assistance. The state assistance only covers a part of the cost of the new facilities costs, therefore grants are not awarded until the majority of local voters agree to support their share of the cost. Stabile reports that by the summer of 2014, 254 school districts had enjoyed the benefits of classroom facilities assistance.

One problem with OSFC’s efforts, as several school finance scholars (McKinley, 2005; Milcetich, 2011; Phillis, 2005; Sweetland, 2014) have observed, is that the
Commission’s focus on school facilities does not actually fix the state’s unconstitutional school funding model. School finance scholars (Dayton, 2003; Fleeter, 2014; McKinley, 2005; Sweetland, 2014) find that the financial stressors for socioeconomically disadvantaged rural and urban schools are actually increasing. The effect of building new facilities to replace dilapidated school buildings in Ohio’s Appalachian counties and inner-city neighborhoods is similar to that of using a Band-Aid to cover a wound that clearly needs stitches. When the Band-Aid is peeled back, the wound is still bleeding, maybe even infected.

Replacing dilapidated buildings does nothing to alleviate the financial stress of a school funding formula that remains reliant on local property taxes to account for nearly 47% of a local school district’s budget (Maxwell & Sweetland, 2013; Phillis, 2005; Stabile, 2015; Sweetland, 2002). Worse, it is possible that new facilities will further burden district budgets, with Beallsville High School in Monroe County serving as just one such example (Runion, 2015).

For the Switzerland of Ohio School District the cost of operating Beallsville’s new school facilities built with OSFC assistance is more than the district can afford. The Beallsville case has resulted in a contentious battle within the district over the high school’s closure. Ironically, if Beallsville High School closes, residents will still continue to pay the taxes they approved to build the new school facilities despite the fact their children will be bused miles away to attend one of the two remaining high schools in the district (Runion, 2015).
A number of the school districts in this study educate students in facilities that, similar to Beallsville High School, were constructed with funds from OSFC grants. At the time these facilities were being built, legislation to mandate standards and accountability testing was making its way through Congress before landing on President George W. Bush’s desk. From the *No Child Left Behind Act* to the adoption of the Common Core State Standards, the cost of unfunded federal mandates is billed to the treasury of local schools (Darling-Hammond, 2014; Mehta, 2013; Meier & Wood; Ravitch, 2014). Meanwhile, in Appalachian Ohio the deindustrialization that began in the 1980s substantially weakened the region’s local tax base, with the Great Recession inflicting additional financial harm. As a result, funding newly constructed facilities and emerging educational reforms comes at a high cost to the rural and small town school districts in this study. Since the local tax base makes up nearly half of the districts’ respective budgets, the rural schools in this study continue to struggle to achieve both financial and academic equity (Maxwell & Sweetland, 2013; Stabile, 2015).

**Schoolhouses above the rock.** The rural and small town schools in this study are located across seven of Ohio’s Appalachian counties—Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe, and Noble—that rest atop what is thought to be the most lucrative section of the state’s Marcellus and Utica shale (Burleson & Cooke, 2013; Erenpreiss, et al. 2011; Ohio Department of Natural Resources, 2014; Ohio Oil & Gas Association, 2015). With no sign of a legislative fix for Ohio’s school funding formula, the rural and small town school districts in this study are typically left with three options: share services amongst districts; return to the ballot for more funding; or consolidate
multiple school districts (Milcetich, 2011). But the school’s geographic locale now offers a fourth option: enter into legally binding agreements with private oil and gas companies whose aim is to exploit two of the most abundant shale formations in the nation.

When the shale gas rush began in these counties, landmen, men and women who negotiate land leases, began to approach public school districts about leasing their natural gas rights to oil and gas companies that wanted to gain access to the untapped oil and gas trapped in the shale formations beneath school lands (Burleson & Cooke, 2013). Like private properties throughout the region, these rural schools sit atop sections of the Marcellus and Utica shale that can provide the school with millions of dollars in the form of signing bonuses and royalty payments (Krassen & Warnock, 2011). Not unlike many of the region’s citizens, the public schools have announced that they will use these dollars to pay outstanding bills and fund new initiatives (see, e.g. News 9, 2014; Stanley, 2013, 2014).

Today, most of the rural and small town schools throughout the seven counties in this study have entered into these legally binding agreements. The Heartland Institute (Burleson & Cooke, 2013), a nonprofit organization that promotes free market solutions to pressing economic problems in the U.S., projects that these leases will provide some modicum of financial reprieve to cash-strapped rural schools. However, local superintendents, treasurers, and boards of education do not work in a context free from the burdens that mounted during the region’s extended period of economic depression. What is more, Ohio’s school funding formula remains unconstitutional while the cost of
schooling in the state continues to rise. In a very literal sense, the rural and small town schools in this study are positioned between a rock and a hard place.

**Statement of the Problem**

This qualitative study (Merriam, 1998; Weiss, 1994) took place in Appalachian Ohio where the shale gas rush is rapidly restructuring the landscape and resurging the local economy. The boundaries of the study are narrowed to the seven Appalachian counties that have the highest level of unconventional oil and gas activity within the state’s Appalachian region (Ohio Department of Natural Resources, 2014; Ohio Oil and Gas Association, 2015). This dissertation is concerned with the following problem that the fracking boom poses for these counties rural school districts:

Nestled within a state that over relies on local property taxes for school funding, rural and small town schools throughout Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe, and Noble counties are in need of additional funding sources. These economically distressed counties are home to rural and small town school districts that struggle with the aftermath of deindustrialization in the rural hinterlands. Today, many of the rural and small town schools in these seven counties have entered into the legally binding agreements the nation’s shale gas rush has become famous for (see, e.g. Wilber, 2012). The signing bonuses and royalty payments that districts are collecting from these leases are projected to alleviate much of the financial burden the rural schools in this study have carried for years. However, the region’s historical experiences with industrialization and prior resource extraction booms makes scholars from various disciplines wary of
the short and long term economic, environmental, and social impacts of the fracking boom (see, e.g. Barth, 2013; Bishop, Lampe, Okey, Wilber, & Aronwitt, 2012; Hughes, 2013; Yahn, 2016). Through this research I explored the extent to which these financial possibilities are realized by rural and small town school districts, while calling into question the limitations of relying on agreements based on natural resource exploitation as a means of financial stability.

**Research Question**

Stake (1995) recommends framing research using issue questions that emphasize “a possible problem that is being represented” (p. 18). According to Stake issue questions provide guidelines for creating data collection tools (e.g. interview guide) and collecting meaningful data. In this qualitative study I sought to understand the ways in which rural school superintendents and treasurers navigate the impact of entering into legally binding agreements with oil and gas companies. The four research questions that guided this study are:

1) How do superintendents and treasurers in Ohio located on the Marcellus and Utica shale respond to the option of entering into natural gas leases?

2) How does increased revenue from natural gas leases inform short and long-term financial and organizational planning for the school district?

3) Do revenues from natural gas leases enhance a district’s ability to respond to demands for accountability?

4) Do superintendents and treasurers perceive limitations on the short and long-term possibilities the fracking boom has for their district?
Overview of Methodological Framework

The methodological framework for this study was inspired by Scott’s (1998) treatise on mētis (practical local knowledge) in Seeing Like a State. This framework attends to the specific local knowledge held by superintendents and treasurers. The current fracking boom is place-based phenomenon. In this study, I used a qualitative interview approach (Merriam, 1998; Weiss, 1994) to explore the responses of superintendents and treasurers across seven Appalachian counties in Ohio where the shale gas rush is rapidly transitioning the local economy and landscape. Qualitative methods were selected for this study because they allow for consideration of how a place’s politics, culture, and economics are interconnected (Merriam, 1998). The use of semi-structured interviews served as the primary research method to gain insights from local education experts that cannot be learned through other methods of inquiry (Patton, 2002).

Significance of the Study

The central questions driving this study are inspired by a phenomenon—the shale gas rush—that is taking place across Appalachian Ohio. The problem this dissertation examined is deeply rooted in the history of the industrialization of Appalachia and the centralization of America’s public schools.

Many researchers have examined the response of local school districts situated in resource extraction economies during the bust years (Carr & Kefalas, 2009; Corbett, 2007; DeYoung, 1991; DeYoung, 1995b; Sherman & Sage, 2011; Tieken, 2014). However, how do they respond during the boom years? How does an economic boom
impact administrative decisions? Does it actually provide financial opportunities for a school district? To what extent do superintendents and treasurers respond to the economic boom as they develop current and future plans for their school district? Such questions are critical as today’s economy is a reflection of yesterday’s economic choices (Haizlett, 1946/1996).

This study examines what Johnson (2014) refers to as “rural community viability and economics” (p. 325). This issue has been addressed in the rural literature throughout the past several decades (see, e.g. Carr & Kefalas, 2009; Corbett, 2007; Davidson, 1996; Duncan, 1999; Gaventa, 1980; Howley, 2013; Morrone & Buckley, 2011; Reece, 2006; Scott, 2010; Sherman, 2009; Theobald & Campbell, 2014; Tieken, 2014). Amongst these studies emerges the finding that it is becoming increasingly difficult for rural communities to remain sustainable in a nation that promotes unlimited growth. Too often it is the case that a rural community’s natural resources and local labor force are exhausted during the rush to extract natural resources to fuel the nation’s growth.

Schafft and Biddle (2014) point out that the organizational and financial state of schools enmeshed in the shale gas rush serves as a strong indicator of the impacts fracking is having upon communities. They recognize that school leaders—superintendents, treasurers, board of education members, principals, and curriculum supervisors—are forced to grapple with the dilemmas that arise in these 21st century boomtowns. In this study, I push this idea forward by examining how superintendents and treasurers navigate the unknown territory of relying on agreements with private companies to fund public schools.
Summary

The public schools in Appalachia are place-based, not place-less. Their financial and organizational structures are reflective of the economic and political trends in the region, trends arguably influenced by a powerful nation-state enmeshed within the free market. For this reason, research on the ways in which superintendents and treasurers respond to the economic impact associated with the fracking boom must begin with an account of their local economic, political, and cultural history.

In Chapter 2, I move this discussion forward with a review of the extant literature. I begin with a careful examination of how history intersected with biography in the setting of this study, creating a complex financial dilemma that the study’s participants were forced to navigate. Chapter 3 describes a methodological framework that employs a qualitative interview approach to learn how superintendents and treasurers respond to the financial implications of leasing a school district’s natural gas rights to oil and gas companies.

Chapter 4 will bring the voices of the participants to the forefront of the manuscript, as I review the research findings of this study. Finally Chapter 5 offers lessons for current and future practices of rural and small schools dealing with the contemporary dilemmas of resource exploitation in their home communities.

Definition of Terms

Appalachian Ohio: The Appalachian Regional Commission identifies 32 Ohio counties beginning with Clermont County in Southern Ohio, and extending to Ashtabula County in Northern Ohio (Ohio Office of Community Development, 2012).
Fracking Boom: The shale-gas rush associated with the use of unconventional natural gas drilling (hydraulic fracturing) is frequently called the fracking boom in the local regions in which it is occurring (e.g. Northern Appalachia; North Dakota; South Dakota). The fracking boom, or shale gas rush, is often cited as an effort to energy independence for the United States, an idea some scholars call into question (Binns, 2012; Huges, 2013; Prud’Homme, 2014).

Fracking: A controversial technique that uses high-volume pressure to inject fluid into a rock. When used as part of the horizontal drilling process, fracking releases oil and gas from shale (Binns, 2012; McGraw, 2011a; Prud’Homme, 2014).

Landmen: Men and women who approach private citizens and public institutions about land leases in shale rich regions of the United States on behalf of oil and gas corporations (e.g. Chesapeake, Rice Energy, and Gulf Port). In most cases, landmen negotiate leases on behalf their respective companies (see e.g. McGraw, 2011b; Wilber, 2012).

Oil and Gas Lease: A lease that outlines the terms and conditions of the lease of oil and gas rights by a property owner to a corporation. Leases delineate what forms of extractive activity is permitted on as well as beneath the surface. Leases also determine the signing bonus and royalty percentages that will be paid to the property owner.

Rural and Small Town Schools: In this study, rural and small town schools are identified using the Ohio Department of Education (2013) typology codes 1-4: rural, high student poverty (1); rural, average student poverty (2); small town, low student poverty (3); small town, high student poverty (4). Schools labeled as rural are identified by factors such as: low population density, low enrollment, small tax base, and significant
agricultural tax base. Schools labeled as small town are identified by factors such as: low population density, average population and enrollment, and a mix of agricultural and professional employment.
Chapter 2: Literature Review

This study examined how Appalachian Ohio superintendents and treasurers navigated the pressures and responsibilities of entering into legally binding agreements with natural gas companies. This phenomenon is one of the consequences of the present shale gas rush that is unfolding across northern portions of the greater Appalachian region. This chapter situates the study within the relevant bodies of literature that provide insight into why these agreements are met with both applause and skepticism from community members, educational stakeholders, policy makers, and scholars. I begin with Mills’ (1959/2000) intersection of history and biography in present day Appalachian Ohio, before providing insight into what happens when the fracking industry arrives in communities. Following these sections is a discussion of the impacts of exploitation schemes in the Appalachian region. Next is a synopsis of the role and responsibilities of both the rural superintendent and treasurer, which includes a discussion of their relationship with the board of education. The chapter concludes with a critique of state and federal school funding norms that pose unique challenges for rural schools.

The Cash Cow

In 2013, just as September was settling in, bringing with it a shortness of daylight hours that mark Ohio’s descent into fall, the Belmont County junior fair grand champion market steer stood underneath the fluorescent lights of the show arena unimpressed by the fact it had just been sold to Rice Energy for $31,000 in a demonstration of the company’s financial prowess. Like a scene in a movie there were gasps abounding from the audience, reporters frantically scribbling down the details of the sale, and a teenage
girl, the one who raised the steer, absorbing the shock of that moment. Sitting high in the bleachers the bidders, dressed neatly in pressed polo shirts and slacks received a smattering of applause that echoed throughout the show arena before drifting outwards to the surrounding Belmont County Fairgrounds.

Appalachian Ohio’s present circumstance is illustrated by the record-breaking sale of that steer. Twain once remarked, “The lack of money is the root of all evil” (Mark Twain Quotes, n.d.). Since the deindustrialization that took hold of the region in the 1980s, much of Appalachian Ohio has lacked the capital a stable job sector brings to small communities. But by all outward appearances for the shale rich counties included in this study this is rapidly changing as the region ascends into a boom attributed to its geological fortunes. What the first several sections of this literature review beckon readers to consider is to what extent a previous lack of money causes problems even in a prosperous present. Are the problems the region has faced, specifically its schools, isolated to the times when money is sparse, or do they carry over to the present? A $31,000 grand champion steer is quite the sale, but is there a debt to pay off, and if so, what profit is left once your expenses are settled? Is natural gas the region’s cash cow, or instead, is the region the metaphorical cash cow of an energy hungry nation?

The Intersection of History and Biography in Appalachian Ohio

C. Wright Mills (1959/2000) surmised that humans “do not usually define the troubles they endure in terms of historical change and institutional contradiction” (p. 3). As Mills saw it, researchers often fail to recognize the full extent to which historical events shape the current struggles of humankind. Accordingly, Mills emphasized the
relevance of the intersection of history and biography to the problems that interest social scientists. It is fitting then that studies of issues in America’s public schools must have historical hindsight, acknowledging that the nation’s public school system—its purposes and its structure—has been shaped by America’s economic, social, and political histories.

The Appalachian Ohio school districts in this study are a part of, not apart from, a larger global economy that for nearly two centuries has promoted the widespread use of natural resource and labor exploitation as an efficient means for fueling economic growth. It is with this in mind that I use Mills’ (1959/2000) intersection of history and biography to frame the historical background for this dissertation. I suggest that the financial state of Ohio’s Appalachian schools in this study is shaped by two seemingly disparate histories: 1) the industrialization of Appalachia and 2) the centralization of America’s public schools. Throughout the section that immediately follows, I discuss how the U. S. involvement in the free market has led to the industrialization of Appalachia that resulted in a weakening of Appalachia’s economy in the latter decades of the 20th century. I then point out that centralized school reforms, seemingly designed to enhance the value of schooling for students, disadvantage a significant number of rural schools because of the reforms’ cosmopolitan characteristics. The section concludes by explaining that Ohio’s Appalachian region began to deindustrialize in the 1980s just as the cost of school reforms linked to standardization began to increase. For Ohio’s Appalachian counties, the aftermath of industrialization intersected with the costs of centralizing the nation’s schools, creating long-term financial hardships across institutions of public education.
The Industrialization of Appalachia

Appalachian scholars collectively agree that America’s transition to the free market following the Civil War marks a pivotal moment in the region’s economic history, marking the point in time when the region’s land and labor garnered the interest of America’s entrepreneurs (Deiterich-Ward, 2016; Drake, 2001; Dunaway, 1996; Eller, 1982; Lewis, 1998; Ramussen, 1994; Salstrom, 1994). Polanyi (1944) referred to this time period during which first Europe and then America transitioned from agriculture to industrialization, giving rise to the free market, as The Great Transformation, authoring one of the most prolific studies of this transition. One of the things Polanyi emphatically hoped for his readers to understand was that for the first time in the history of the world the economy became separate from society as central governments monetized land and labor while mobilizing trade.

What matters most to the scope of the discussion in this dissertation is Polanyi’s (1944) observation that this economic scheme, built upon the utopian idea that the free market could remain unregulated by the nation-state, failed. This failure forced western nation-states to intervene in order to protect their people from the threats of widespread unemployment, displacement, poverty, and starvation. The new identity that western nation-states were required to assume during the free market decline of the 20th century (known in the United States as the Great Depression) inevitably enhanced the central government’s power, and, subsequently, its control over economic matters.

The Great Depression led to a series of reform policies known as the New Deal. The New Deal repositioned the nation-state as the protector of the people, a role it still
maintains (Kennedy, 1999; Thomas, 1998). As Kennedy (1999) explains, the changes the New Deal brought to sections of rural America underscores its significance to the country’s economic history. These changes included electrification; increased funding for schooling and construction of school facilities; road construction; and social welfare programs. Although the New Deal officially ended in 1938, it is credited with inspiring many of the government-led welfare efforts that followed, such as the War on Poverty and the Elementary and Secondary Schools Act of 1965.

What is beyond the purview of Polanyi’s (1944) work is the specific impact of the Great Transformation across the Appalachian region. The region played a remarkable role in America’s transition to the free market, providing the resources and labor forces needed to build America into an empire (Biggers, 2006; Dieterich-Ward, 2016; Eller, 1982; Hurst, 2006; Zinn, 1980/2005). The region’s abundant natural resources—coal, oil, timber, and natural gas—attracted industrial capitalists interested in turning the region’s natural resources and labor into a profit (Batteau, 1991; Drake, 2001; Shapiro, 1978; Whisnant, 1994). By the late 19th century, the region was becoming a popular place for industrialization, with portions of the region becoming home to textile manufacturers, steel and iron mills, coal mines, logging companies, and oil and gas fields (Raitz & Ulack, 1984).

As regional historians explain, development schemes in Appalachia have most often focused on efficient methods of resource extraction; the building of transportation infrastructure to carry exports of raw materials to the nation’s burgeoning cities; industrialization of the region’s small towns and cities; and securing cheap labor from the
local citizenry (Dieterich-Ward, 2016; Dunaway, 1996; Eller, 1982, 2008; Lewis, 1998; Rasmussen, 1994; Whisnant, 1994). These development schemes permanently restructured Appalachia’s economy, rendering large sections of the region to the unpredictability of boom to bust economic cycles. Within this economic model, resource rich sections of the region and their inhabitants have become particularly vulnerable. As a result, long-term economic, environmental, and social issues have taken hold of communities throughout this section of the United States (see, e.g. Douglas & Walker, 2013; Duncan, 1992; Eller, 2008; Lewis et al., 1978; Papyrakis & Gerlagh, 2006; Scott, 2010).

Over time, many of Appalachia’s communities have been economically restructured, leaving them dependent on outside corporations as their primary source of employment (Black, 2011; Dieterich-Ward, 2010; Hedges & Sacco, 2012; Hurst, 2006; Tickamyer & Duncan, 1990; Scott, 2010). This is problematic, given that during the late 20th and early 21st century the free market’s volatility has encouraged efficiency efforts in Appalachia’s industries (Eller, 2008; Krannich, Gentry, Luloff, & Robertson, 2014). Appalachia’s most well-known industry, coal, has seen staggering job losses associated with the introduction of the continuous miner, along with other mechanizations, that lessened the need for underground miners (Betz, Patridge, Farren, & Loba, 2015; Black, McKinnish, & Sanders, 2005; Tallichet, 2014). Coal mining’s mechanization has also brought with it strip mining practices, including the infamous Mountain Top Removal (MTR), a practice that uses explosives to blow the tops of mountains in an effort to expedite the extraction process, which consequently lowers the cost of labor (Reece,
Similarly, some regions have lost their industries completely in the wake of stark competition from global competitors (see e.g. Dieterich-Ward, 2010; Javersak, 1999; Martin, 2015; Hurst, 2006). Northern Appalachia’s bygone steel industry serves as perhaps one of the starkest examples, with the once prosperous Pittsburgh region losing 44% of its factory jobs between 1980 and 1986 (Hurst, 2006).

Today, Appalachia stands as an example of the struggles Polanyi (1944) linked to separating people from the land, and monetizing labor. The object of the capitalist is to extract resources in the most efficient manner in order to maximize profits. The aims of these entrepreneurs are situated within the competition of the global market, but ironically, the capitalist class cannot achieve its goals without the acquisition of place-based natural resources and the assistance of local labor forces. In fact, scholars have observed that throughout the history of Appalachia, corporate elites have regularly used propaganda tactics that include portraying local sacrifices as a patriotic act, a means of securing the nation’s prosperity and freedom (Batteau, 1990; Buckley, 2004; Hedges & Sacco, 2012; Howley, 1996; Javersak, 1999; Scott, 2010). In all actuality it is a rather perverse take on the “think global, act local” initiative.

**The Centralization of America’s Public Schools**

It is more than an eerie coincidence that the history of the nation’s transition to the free market parallels the history of the mass organization of public schools. Schooling has always had economic implications for the nation (DeYoung, 1989). As Callahan (1962) observed in his classic text on the issue, *Education and the Cult of Efficiency*, by the turn of the 20th century, organizing the public education system appeared to be
imperative to maximizing the output of schools, and securing order in the nation’s labor force and growing cities. Tyack (1974) has depicted this centralization of the nation’s public school system as the search for “the one best system,” while Mehta (2013) has suggested in his work, The Allure of Order, that following the Civil War, Americans have repeatedly rationalized schooling, resulting in large-scale federal reform efforts.

Tye’s (2002) discussion of the organization of public schools in Hard Truths suggests that this quest for order has created a “deep structure”, meaning that the organization of the public schools has come to be based upon commonly held conventional beliefs amongst the majority of citizens. Tye’s explanation helps contextualize the monumental school reforms that took place during the 20th century, indicating that the government’s increased attention to the structure of public schools was influenced by the need to secure order and protect the American way of life. As Tye asserts, the transformational changes in the public schools take place on the heels of economic and historical events (wars, depressions, social catastrophes, etc.) that alter conventional wisdom.

School improvement comes to Washington. Educational historians find that the Great Depression in particular had a significant impact on American schooling (Butts & Cremin, 1953; Mehta, 2013; Ravitch, 1983; Tyack & Cuban, 1995). The depression posed the dire threat of destabilization in 1930s America, and brought with it widespread joblessness and increased poverty in the nation’s most vulnerable locales. In response to these threats, the Roosevelt administration developed the New Deal, extending forms of federal relief (e.g. job creation, medical aid, training programs, educational aid, and so
forth) that individual states could not muster. As Kennedy (1999) points out, the New Deal offered a form of security previously unattainable to millions of Americans. For public education, this burgeoning of federal power is significant because it marks the point in American history when states began to more regularly rely on federal funding and oversight in matters such as education that were previously seen as state issues.

The role of public education in national security was again brought to the forefront following World War II, as troops returned home with a new perception of the ideological threats abroad, chief amongst them communism. As Ravitch (1983) points out in her text *The Troubled Crusade*, by the time Sputnik launched, the American public was disenchanted with the perceived failings of its public schools. With the majority of Americans believing reform was necessary, state governments were able to take more control in matters such as curriculum, organizational structure, and attendance laws (Cremin, 1962; DeYoung, 1989; Mehta, 2013; Ravitch, 1983; Theobald, 2009; Tyack & Cuban, 1995).

Mehta (2013) surmises that the release of *A Nation at Risk* proliferated the federal government’s sense of responsibility in matters of public school reform. *A Nation at Risk* listed ominous findings such as inept teachers, inadequate course offerings in math and science, and low standards for achievement in high schools and colleges nationwide (National Center for Excellence in Education, 1983). From this point forward, the fate of America’s economy was depicted as being contingent on the success of its public school system (DeYoung, 1989).

*A Nation at Risk* gave momentum to the standards and accountability
movements that were proposed jointly by the nation’s leading educational experts and prominent politicians; these movements now dictate the educational policies that inform the organization and purposes of public schools (DeYoung, 1989; Mehta, 2013; Meier & Wood, 2004; Ravitch, 2014; Theobald, 2009). In January of 2002, content standards and accountability testing officially became part of the federal government’s purview when President George W. Bush signed into law the *No Child Left Behind Act of 2001* institutionalizing school improvement. The NCLB (2001) is most commonly known for the resulting increase in standardized testing, particularly in English Language Arts and mathematics. However, NCLB has encouraged school vouchers and open enrollment, positioning school districts to compete for students as one means of securing fiscal stability (Meier & Wood, 2004). The law has also placed increasing pressures on states to enforce statistical methods, such as value-added models, to determine teacher effectiveness. Such methods have been regularly criticized for their statistical flaws and disregard of the student’s responsibilities in the learning process (Darling-Hammond, 2010).

In recent years, two additional federal initiatives, Race to the Top and Common Core have created numerous cases of outright tension between the federal and state governments, and in some cases the federal government and local school districts (Ryck, 2014; Stern, 2013). Chief amongst these tensions are frustrations with Race to the Top’s businesslike model that promotes competition that is disturbingly similar to the way corporations compete in the free market (Darling-Hammond, 2010; Ravitch, 2014; Stern, 2013). Similarly, conflicts surrounding the Common Core have ranged from various
states expressing an aversion to a uniform national curriculum to the realities of the fiscal burden of transitioning resources to align with the new curriculum and standardized tests (Murphy & Torff, 2014; Ravitch, 2014; Ryck 2014).

**Unmistakably Appalachian**

Howley (2009) has suggested that if you are studying a rural place you should turn to its writers who offer an insight that often cannot be mined from the pages of formal research. The counties in this study are part of the sub-region of Appalachia where Ohio and West Virginia are separated by the Ohio River that connects the region’s industries to the Pittsburgh Metropolitan Area. Marc Harshman (2012), the current poet laureate of West Virginia has spent his adult life in this region, and in a recent collection of poetry he describes Martins Ferry, one of the region’s few cities as “unmistakably Appalachian.” Harshman writes of “the crowded squeeze of houses between hill and river, between factory and rock, between coal and smoke, the kind of place that you want to leave but never do,” finally lamenting that “small towns like this hold on forever” (p. 83).

Harshman (2012), in this poetical excerpt captures the manner in which the region’s history informs the dilemmas the local school districts in this study are grappling with. The communities that make up the counties in this dissertation have been “holding on forever,” as the industries within them—namely coal and steel—continue to decline (Boothe, 2011; Dieterich-Ward, 2016; Hoer, 1988; Rhodes, 2008). By 1982, Ohio’s unemployment rate reached 14.2% (Hurt, 1992). Ohio was never to recover in these industries. A decade later in the introduction to the *Ohio Almanac* Hurt (1992) described
the state as being in “the process of a major cultural adjustment caused by economic factors beyond the control of the people” (p. 12).

Home to a rugged terrain that prevented the use of development strategies more familiar in the flatlands, the region’s geography has made it resistant to some of the popular forms of development that took place in the nation’s suburbs, and cities as the nation transitioned to a post-industrial economy near the end of the 20th century (Dieterich-Ward, 2010, Javersak, 1999; Raitz & Ulack, 1984) The most fertile lands along the riverbanks were identified early as a place of industry and commerce, pushing the region’s residents into the hillsides, and giving external corporations indefinite power over the region’s approximation to the Ohio River and geological gems such as coal, timber, oil and gas (Belmont County Homemakers Council and Citizens Committee, 1990; Dieterich-Ward, 2010, 2016; Javersak, 1999; Pickenpaugh, 1991; Raitz & Ulack, 1984; Tanks, 1987/1995).

The schools in this region, like their communities, have been holding on. Their treasuries were strained over the course of many years when the value of land was weakened by the physical and economic impacts of deindustrialization; an issue complicated by the local population’s resistance to further tax hikes (Fleeter, 2014; Maxwell & Sweetland, 2013; Woodrum, 2004). During this same period of industrial decline in the region, the publication of A Nation at Risk instigated the oncoming wave of unfunded federal and state mandates that have over the course of nearly three decades further weakened the financial coffers of the public schools in Ohio. At present, these two histories—the industrialization of Appalachia and the centralization of America’s public
school system—are informing the manner in which Ohio’s Appalachian schools experience the transformational shift in the organization of the state’s public education system. This shift includes a move to a uniform teacher and administrative evaluation system, adoption of new P-12 curriculum, and the changeover to an online high-stakes testing model. Consequently, Ohio’s mandates are in alignment with changes in federal education policy, but the burden of cost is passed on to the local district (Horton, Howley, & Ladd, 2012; Maxwell & Sweetland, 2013; Thomas Fordham Institute, 2011, 2013).

**When Fracking Comes to Town**

DeYoung (1991) recognized the impact the health of the local economy has on school finance and organization. This is particularly true across the Appalachian region, which has a lengthy history with boom to bust industries that place local schools in precarious financial positions by creating both an unstable local economy that lacks diversity in job options, and a weak tax base that said industries are often excused from contributing too (Dieterich-Ward, 2016; Douglas & Walker, 2013; O’Leary & Boettner, 2011). In his text *Struggling With Their Histories*, DeYoung (1991) recounts his study of four Appalachian school districts located in the states of Kentucky, Tennessee, Virginia, and West Virginia, finding that each of the four districts’ long-term financial stability was inevitably jeopardized by the regional economy which was perpetually indebted to extractive industries and manufacture. Comparatively, Sherman and Sage (2011) found in their study of the impact of the failing timber industry on residents in one Northern California County that a divisive relationship existed between the community and the school. The tension was closely related to the local school district’s struggle to prepare
students for a life beyond the timber industry, one that often meant leaving the community and thus placing it in opposition to the community and family values inherent to the local culture.

The shale gas rush that is sweeping across the Ohio Appalachian counties that are the focus of this study, like the aforementioned industries, is known to be a boom-to-bust industry, implying it may impose results similar to the ones DeYoung (1991) and Sherman and Sage (2011) found. Nevertheless, in its current phase, it holds economic promise that was until recently unfathomable to the section of the Appalachian region where it has now established a dominant presence (Bishop et al., 2012; McGraw, 2011b; Wilber, 2012). Consequently, local leaders in frack zones, such as the superintendents and treasurers participating in this study, are making immediate decisions, that inevitably have unforeseen long-term consequences. What follows, is a review of the literature on fracking that highlights the magnitude of this circumstance. The literature reviewed in this section answers essential questions such as: What is fracking? Why is fracking a critical issue? What are the potential consequences of the shale gas rush? And finally, what does it have to do with Ohio’s Appalachian schools?

**What is fracking?** The term fracking comes from the technical term hydraulic fracturing, which refers to the use of high volume pressure to inject a fluid mixture made up of sand, chemicals, and water, into shale beds (Binns, 2012). When combined with vertical and horizontal drilling techniques, hydraulic fracturing forms the unconventional drilling process that is presently being used to gain access to shale plays scattered throughout the United States (Hughes, 2013; Prud’Homme, 2014). Hydraulic fracturing
is the specific step in the larger process of unconventional drilling that literally cracks open shale, providing access to what is estimated to be upwards to 100 years worth of fuel for the United States (Aagard, Englender, Wiseman, 2011; Binns, 2012; U.S. Department of Energy, 2009, Yergin, 2011). Shale plays are located in states as disparate as Texas, North Dakota, Pennsylvania, and Ohio. The shale harbors a significant amount of oil and gas previously deemed too costly to access until hydraulic fracturing was perfected.

The American public has widely adopted the term *fracking* to describe the unconventional drilling process employed to extract oil and gas from America and Canada’s shale-bearing regions (Prud’Homme, 2014). Unlike the conventional forms of oil and gas drilling that became familiar to the American public as early as the 1800s, unconventional drilling stands out for its intensity in both the physical impact on the land and the economic impact on communities that rest atop shale plays (Bishop et al., 2012). Unconventional drilling, which combines vertical and horizontal drilling with a technique called hydraulic fracturing, has been the focus of numerous oil and gas drilling experiments since the 1940s, with research magnifying during the onset of the 1970s energy crisis (Gold, 2014; Golden & Wiseman, 2015; McGraw, 2011b; Yergin, 2011). However, its high cost factor meant it was used sparingly and therefore was of little interest to the general public until the beginning of the 21st Century.

While some industry personnel do use the term *fraccing* as a form of insider shorthand for hydraulic fracturing, the term *fracking*, differentiated by the use of the letter *k* in the spelling, is commonly treated by the industry as layperson’s terminology
(Bamberger & Oswald, 2014; Gold, 2014). Whereas companies such as Range Resources and Chesapeake Energy define *fracking* as just one phase of unconventional drilling, the media and the general public frequently use the term *fracking* to refer to everything from land excavation to horizontal drilling, hydraulic fracturing, and waste water disposal (Prud’Homme, 2014). For the purposes of this study, I use the term *fracking* to refer more broadly to the multi-step process that has made possible the shale gas rush sweeping the nation. Similar to fellow researchers and journalists who are exploring the shale gas rush (see e.g. Bamberger & Oswald, 2014; Hudgins, 2013; Wilbur, 2012), I find that it provides an accessible term to give readers a more complete sense of the process and its physical and economic impact on the context.

Why is fracking a critical issue? Personified, unconventional drilling is the iconoclast of the energy industry. Much like, say, Sean Combs (Puff Daddy) and Stefani Joanne Angelina Germanotta (Lady Gaga), it has a stage name—fracking—and enjoys both negative and positive publicity from nearly every mass media outlet in the country. It is both glorified for the excessive wealth it promises to create, and vilified for the environmental waste that is a direct result of the process. Amongst the positive publicity it has received is the assertion that the nation’s shale plays may house enough natural gas to supply the nation anywhere from 100-160 years at current consumption rates (Barrett, 2011; Binns, 2012; Jansen, 2013; McGraw, 2011a). However, fracking demands that communities within shale plays permanently sacrifice land and fresh water for each wellhead that is constructed. The following quantification illustrates the impact of these sacrifices across just one county:
5-10 acres of land per well site (Bamberger & Oswald, 2014; McGraw, 2011; Wilber, 2012)

• 200-300 wells per county in areas of highest activity (Meixsell, 2010; Ohio Oil and Gas Association, 2015; Woodrum, 2014)

• 2-5 million gallons of water used to frack each well (Bamberger & Oswald, 2014; McGraw, 2011a; Powers, 2013)

What is more, many of the counties where fracking is most prevalent are economically distressed, making the residents particularly vulnerable to sacrificing their long-term health and economic needs for immediate financial reprieve (Fish, 2011; Herzenberg, Polson, & Price, 2014; Hudgins, 2013; Perry, 2012; Woodrum, 2014). Studies now show landmen regularly offer leases of $2,000-$5,000 per acre of land (Fish, 2011; O’Leary, 2014; Roberts, 2013) with an additional percentage offered for royalty payments, usually no less than 12%—the minimum in states such as Pennsylvania (Gold, 2014; Wilber, 2012). Yet, a number of ethnographic studies reveal that in actuality, it becomes a handful of a county’s largest property owners that control the fate of their neighbors, while achieving upward mobility into a small elite group that makes substantial money from the industry’s presence (Ohio Organizing Collaborative, 2014; O’Leary, 2014; Perry, 2012; Roberts, 2013). Further complicating the issue, are state laws that tend to significantly disadvantage residents who resist the industry. Such laws promote forced-pulling, prohibit cities and towns from instituting zoning laws, and offer the industry tax relief options that often delay the flow of needed monies to a county’s

The idea that the shale gas rush will undoubtedly result in energy independence has largely taken hold of the nation’s conscience. This notion is bolstered by the claim that America could free itself from its reliance on the volatile oil fields of the Middle East, hints at the restoration of political prowess not enjoyed by the nation since the onset of the 1970s energy crisis, giving those who Powers (2013) calls the “shale promoters” leverage in the political sphere. Scholars have called these claims into question, pointing out that they are based on technically recoverable gas, meaning some of the reserves included in the calculation will never be accessed due to cost of extraction or legal and geological limitations (Aagard et al., 2011; Barth, 2013; Weinstein & Partridge, 2011).

Evensen (2015) argues that what makes fracking such a critical issue is that more is at stake than just economic and political gain. He calls for a rethinking of the moral obligation researchers and policy makers have in interpreting current research. To this point, he suggests a substantial amount of research funded by the companies that have the most to gain is being used to rationalize decisions. Equally worrisome, he suggests some environmental groups are countering this research with equally unreliable studies. He calls for policy makers to become savvier at considering which claims justify further research before impulsive nation-altering decisions are made.

**What are the potential consequences for local communities?** A common theme that runs through otherwise disparate studies on the multiple facets of fracking (economic, legal, environmental, etc.) is that the most intense aspects of the process are
experienced at the local level (see, e.g. Anderson & Theodori, 2009; Bamberger & Oswald, 2014; Barth, 2013; Lange, 2013; Ohio Organizing Collaborative, 2014). What researchers make abundantly clear is that it is undeniable that both the short-term intensity of the process such as increased road damage from hauling heavy equipment, as well as the long-term consequences such as permanent alterations to the local landscape, are matters that specific locales are left to grapple with long after the industry moves on.

One consequence that is immediately noticeable is the construction of well pads, which requires heavy equipment that is often hauled to and from remote sites by diesel trucks—accounting for the numerous mentions of truck traffic in studies of the impact of fracking (Anderson & Theodori, 2009; Brasier, et al., 2011; Herzenberg et al., 2014; Hudgins, 2013). Sometimes roads are widened to accommodate this heavy load, and often traffic patterns have to be established to avoid school buses and truck traffic from colliding. Truck traffic and road damage is one of the more substantial complaints researchers hear from interview and survey participants. Economic studies shed some light on why repair of roads is often significantly delayed, finding that counties are often not seeing an increase from severance taxes in a timely manner, preventing them from making necessary repairs to local roads (Alexander & Haggerty, 2008; Haggerty, 2014; Jacquet, 2009; Weinstein & Patridge, 2011).

One of the lures of fracking is the promise of the economic surge it is purported to bring to local economies and to private landowners. Researchers find that changes spread throughout the workforce rather rapidly when drilling companies become situated in communities (Herzenberg et al., 2014; Ward, Polson, & Price, 2014). One of the most
notable issues such research identifies is that local businesses, retail centers, and public service agencies struggle to stay well staffed as a portion of applicants vie for the higher paying jobs in the oil and gas industry (Alexander & Haggerty, 2008). Curiously, however, the substantial increase of high paying jobs has not been found to materialize in shale rich communities, where researchers actually find the job growth falls substantially short of what was projected (Maura, Wood, Mattingly, Price, Herzenberg, & Ward, 2013; Weinstein & Patridge, 2011).

Another issue that works against the economic promise of fracking is the unanticipated financial stress of a transient population. Scholars find that many local communities’ safety services, healthcare providers, education facilities, and transportation departments become financially stressed as they attempt to operate at a capacity beyond their financial means (Anderson & Theodori, 2009; Jacquet, 2009; Ward et al., 2014). Some communities take efforts to add infrastructure and increase public service personnel in an effort to gain economically and accommodate the burgeoning workforce (Jacquet, 2009; Weinstein & Patridge). However, this is a problematic response to increased demands since the shale gas boom is dependent on efficiency, and the actual period of intense industrial activity—building new infrastructure and fracking wells-- is short, with much of the industry’s permanent workforce identified as transient, meaning the revenue they bring is fleeting (Golden & Wiseman, 2015).

As for landowners, Roberts’ (2013) study of Ritchie County, West Virginia finds that residents experiencing the current gas rush have more autonomy and political savvy, making for a less dichotomous power relationship between the corporation and the
landowner. Likewise, several economic studies of the shale gas rush suggest that landowners stand to benefit the most financially in the long-term (Liscomb et al., 2012; Ward et al., 2014; Weinstein & Partridge, 2011). However, landowners do become increasingly vulnerable over time due to the impact of decreasing royalties, post-production, costs, and environmental trauma to their land (Bishop et al., 2012; Weidner, 2013). And while some of these unanticipated bills associated with damage to property or unfair post-production costs can be avoided during leasing agreements, it is impossible for landowners to circumnavigate irreparable damage that renders land and water supplies permanently contaminated (Bamberger & Oswald, 2014).

A substantial number of local residents never benefit from fracking in terms of employment or personal financial gain (Christopherson & Rightor, 2012; Liscomb et al., 2012; Weinstein & Patridge, 2011). Instead, during the latter stages of fracking, these residents experience permanent decline in property values, displacement, and elevated long-term health risks associated with air and water pollutants from fracking sites (Bamberger & Oswald, 2014; Jacquet, 2009; Wilber, 2012).

For communities to continue to benefit from fracking, they must proactively put in place an economic plan (Multi-Shale Research Collaborative, 2016). If not, they are more likely to be subject to issues with inflated housing prices, vacant properties, and a decline in local business that was dependent upon the industry. Booming economies subside as the industry’s presence declines, beginning with the loss of local jobs by those employed by the industry (Jacquet, 2009; Maura et al., 2013). Less diversified local economies feel more intense economic impacts because of the decrease in their customer
base (Alexander & Haggerty, 2008). Equally troublesome is the loss of tenants who once filled local rental properties, attributed to not only the departure of the transient workforce, but also the displacement of low and fixed income residents during the boom’s peak (Jacquet, 2009).

**What does fracking mean for Appalachian Ohio Schools?** Fracking’s appeal from the vantage point of schools is the financial possibilities of property leases from which the revenue earned would go directly to the district’s general fund (Howley, Howley, Rhodes, & Yahn, 2014; Krassen & Warnock, 2011). According to the Heartland Institute, Ohio schools can earn upwards of $5,000 per acre signing bonuses and 20% royalties (Burleson & Cooke, 2013). Krassen & Warnock (2011), who work for the Bricker and Eckler law firm that deals with leases in this portion of the Marcellus and Utica Shale, advise that schools must take into consideration that they will encounter similar responsibilities and issues relevant to private landowners, meaning they should plan for insurance and environmental issues; decide if they will permit well-heads on the property; and how they will handle royalty tracking.

One limit to fracking’s appeal is the potential long-term impact it will have on the property values in the respective school district. Although leasing school properties brings an immediate cash flow, the district is still mainly reliant on the local tax base under Ohio’s current school funding formula. A substantial body of research on the fracking industry to date indicates it has an adverse long-term impact on local property values, which could pose long-term problems for the schools in Appalachian Ohio (see, e.g. Christopherson & Rightor, 2012; Kennedy, 2014; Liscomb et al., 2012). Schafft et al.
(2012) found that school administrators in Pennsylvania hypothesized that fracking’s presence in the community would also require an increase in school spending to accommodate a burgeoning student body; revise curriculum to align with the needs of the local workforce; and offer more competitive salaries to personnel who might otherwise seek employment in the industry (e.g. bus drivers).

Aside from the current literature on the fracking boom, previous work on extraction industries’ impact on local schools hints at things that at the very least need to be considered when projecting what it might mean for Ohio’s schools. Papyrakis and Gerlagh (2006) along with Albrecht and Albrecht (2010) find that resource abundant communities invest less in education than communities with a more diverse job sector. In contrast, LeCompte and Nicol (2005) found in their study of the history of East Texas oil field schools that these schools were built off funds generated from the 1930s oil boom in the region, creating the wealthiest rural school district in the nation at the time. However, the eventual bust made it impossible to maintain this standard of education funding, dwindling the public school system to a skeleton of its former self.

Finally, research also provides insight as to the previous impact extractive industries have had on schooling throughout the Appalachian region. In addition to DeYoung’s (1991, 1995b) findings of how the decline of extraction can influence school consolidation or account for widespread curriculum and programming cuts in districts, other scholarship observes that the industries may also seek control in the ideologies promoted by the school (Batteau, 1990; Eller, 2008; Perry, 2011; Reece, 2006; Scott, 2010). For example, Scott’s (2010) study of MTR in southern West Virginia revealed
coal company sponsorship of field trips to local mining sites and kid-friendly seminars on the dangers of trespassing on MTR lands, which were once considered commons of the community. Hints that the natural gas industry may make similar efforts can be found in press releases that announce the industry allocating funds to educate teachers on the drilling process (see e.g., Moskowitz, 2014).

**Appalachia, the Land Where History Rhymes**

In the spring of 2012 the Appalachian Studies Conference was held in Indiana, Pennsylvania, far north of the Mason Dixon Line, in an attempt to acknowledge the wide reach of Appalachia’s physical landscape. The conference featured a roundtable on the coming of fracking to Appalachia’s northernmost lands (Bishop et al., 2012). Attendees were quickly reminded that history has nearly always rhymed in Appalachia, and that the rhyme scheme includes the repetition of *taking place*, a deed repeatedly accomplished through land acquisition, labor exploitation, and economic entrapment. The panel suggested that fracking would be no exception, bringing with it new issues of land and labor exploitation. Not only was exploitation of the region happening again, this time it was linked to a promise of independence from Middle Eastern oil fields, with natural gas being marketed as the holdover fuel until renewable energy could be used nationwide. By the closure of the panel, one was left with the sense that fracking was undeniably the latest act of taking place imposed upon the already embattled Appalachian region.

**Taking place.** What I call *taking place* is the common practice of natural resource and human labor exploitation employed by western nation states as they sought to expand their power and strengthen their role in the burgeoning market economy. Taking place
involves a permanent extraction of exhaustible resources; an acquisition of valuable land by absentee companies or governments; and a restructuring of the local citizenry and economy. It appears the genius of the taking place throughout America has been the state and corporations’ ability to continuously position the working class to exploit their own homeplaces, forever sacrificing their long-term best interests (Barbier, 2005, 2011; Davidson, 1996; Eller, 1982; Gaventa, 1980; Said, 1993; Wright & Rogers, 2011; Zinn, 1980/2005). However, the act of taking place—land, labor, and natural resources—away from citizens in what is reported to be the most egalitarian nation on earth, and justifying it as an act of patriotism, continues to elicit a mix of disbelief, resistance, and political critique. What is suspect to many is why in one of the world’s most democratic and liberated nations the majority succumbs to an elite minority that is clearly profiting from taking place away from the people? Why has America, a nation of people that became the first to institutionalize the rights of man into their governing framework, accommodate the taking of those rights, chief amongst them property ownership, from Appalachia, as well as other portions of the nation? Diamond (1999) asserted that the nation-sate is ultimately revered or loathed based on how it exercises its power. Cabrales and Hauk’s (2011) work supports Diamond’s assertion, finding that nation states such as America that offer and in turn protect a wide variety of rights for its citizens are more widely supported by the mass population. In contrast, states that appear to hoard resources and wealth, reserving it for the elite regime, are characterized as authoritarian and hegemonic.
As Berry (1977) observes the American people have historically accepted the widespread exploitation of their own place on this earth, and it is rooted in the history of the making of the nation. A nation that in fact began when colonizers forcefully took the “new world” they discovered from its native people, annihilating them through warfare or sickening them with disease (Zinn, 1980/2005). The irony, Berry (1977) suggests, is that eventually, many Americans themselves came to be exploited by the very government they helped to create, their own lands taken and redistributed to the dominant class.

In his book, *Happiness: A History*, McMahon (2006) points out that perhaps more than any other official document in human history, the *Declaration of Independence* simultaneously democratized happiness and made it a ward of the state. As McMahon sees it, whereas happiness was once viewed as a spiritual pursuit achieved as earning entrance to eternity at the culmination of pious life, it came to be more regularly seen as a birthright of humankind. Consequently, such a birthright requires protection, and thus has become the rationalization for state-led warfare, exploitation of resources, and the authorization of power to central governments.

As Wright (1978) and Zinn (1980/2005) in separate accounts suggest, taking place requires support at the local level. In their explanation of this role the middle class that grew out of the Industrial Revolution, the class that came for a time to represent an educated class that lived in relative comfort was given a middle level power position in society. Practicing as doctors, lawyers, teachers, professors, small business owners, local and state politicians, this class had reason to maintain that status quo. While this societal group did not reap near the benefits of the elite, they maintained a reasonable level of
comfort at the expense of the working class. Wright (1978) has specifically called this a *contradictory class location*. The contradiction is found in the fact that those supporting the status quo established by the elites are shortsighted in the long-term implications of their position as a go-between of the working and elite class. Many of their actions have long-term disadvantages that they fail to see or ignore in order to maintain their short-term comforts.

**Appalachia’s Contradictory Class.** The existence of the contradictory class role has been identified in multiple studies of Appalachia. In his work on the decline of mining and the persistent poverty of Central Appalachia Gaventa (1980) found powerlessness was imposed on local residents who in every day acts of civic participation, such as voting, were at risk of losing favor of the dominant local class who consequently controlled the area’s land and job market. Duncan (1992) came to a similar understanding in her work in the Appalachian coal fields, where participants reported that the local school system, one of the largest employers in the area employed nepotistic hiring practices, and that the wrong last name could make you virtually unemployable throughout the local job sector.

Appalachians who fill the contradictory class role may also work in positions that give them power over the education of the region’s youth, with public school systems being one of the largest employers in much of Appalachia. Inarguably, the public school system is designed to promote the economic interests of the nation, meaning educators and administrators are often positioned to promote the value system of the middle-class (Berger & Fisher, 2013; Darling-Hammond, 2010; DeYoung, 1989; Theobald, 2009). In
his study of resistance to state mandated testing in Southeastern Ohio, Woodrum (2004) found that parents often saw the school as the enemy, employing teachers and administrators who were more concerned about preparing their students for a life somewhere else, seeing the local area as permanently blighted. Similarly, Howley’s (2006) study of the relationship between schooling and place in Appalachia found that while parents did not necessarily vilify the school, they recognized that its faculty was most concerned with preparing their children to lead adult lives elsewhere. From these studies one sees that the contradictory class may promote a form of taking place that extracts a region’s most capable inhabitants so that they can fill an economic purpose in the global economy.

In her work on the long-term impacts of MTR—one of the most egregious acts of taking place—on Southern West Virginia’s citizens, physical landscape, and economy, Scott (2010) makes an observation about how Americans’ relationship with their nation-state has allowed many of those outside Appalachia to imagine that the environmental and economic atrocities are of little consequence. She suggests that many sections of Appalachia symbolize a “failed whiteness” to the rest of the United States. Her point is that for much of the cosmopolitan class, Appalachia’s poverty can be explained away by positioning it as the result of a deficient local citizenry that is either unable or unwilling to embrace modernization, and therefore fails to capitalize on their bounty of natural resources to achieve the upward mobility that is fondly called the “American Dream.” Scott is suggesting, if Appalachia’s struggles are depicted as the end result of resistance and poor choices, the greater American public is more easily able to ignore that much of
the present day Appalachian landscape reflects the dark side of industrialization, the irreversible destruction incurred during the nation’s quest for cosmopolitan pleasures.

**Taking more of Appalachia.** America rose to power not by sending its place-takers to foreign lands (that would come later), but by keeping them close to home. Turning back the pages of history, one finds these place-takers digging the coal from beneath their ancestral lands; timbering the forests they had once set out to settle in; and drilling into the earth they had once farmed. Given that a disproportionate amount of these resources and labor came from Appalachia, it is ahistorical to feign surprise at just how easy it has been for the promoters of the shale gas rush to take resources and labor from Appalachia once again. The federal government’s remarkable support of the current shale gas rush might most reasonably be attributed to the fact that the American government “sees like a state.” As Scott (1998) explains, this foresight is one in which order is maintained from a macro perspective that favors schemes that seemingly improve the human condition, making sacrifices of land or displacement of citizens seem reasonable if not completely justifiable.

However, it is unfair to surmise that all permission for the newest act of taking place—fracking—in Appalachia is permitted by the state. A growing body of work provides insight into the way those in the contradictory class have promoted the industry’s increasing presence in Appalachia (see e.g. Bamberger & Oswald, 2014; Cosgrove, LaFave, Dissanayake, Donihue, 2015; Hudgins, 2013; Jacquet, 2009; Perry, 2012; Powers, 2013). In her recent study of fracking in Ritchie County, West Virginia, Roberts (2013) found the community’s largest landholders scrambling to acquire the
majority of their mineral rights and then setting a precedent for leasing agreements. Once these landholders lease the majority of the county’s viable lands, there is little small landholders or renters can do to resist the subsequent infiltration of drilling companies. Similar scenarios were uncovered during the Ohio Shale Listening Project, which focused primarily on Carroll County as well as examinations of the early days of the shale gas rush in western Pennsylvania (McGraw, 2011b; Ohio Organizing Collaborative, 2014; Wilber, 2012). In contrast, the moratoriums placed on fracking throughout southern New York state near the Catskill Mountains has largely been attributed to political pressures by upper middle class landowners as well as national celebrities who own vacation properties nearby (Cosgrove et al., 2015; Wilber, 2012). Collectively, this research indicates that those who are place bound, having the most to lose from the threat of displacement and irreparable environmental damage that brings with it long-term health and quality of life implications, have the least amount of voice.

The Unique Role of the Rural Superintendent and Treasurers

Rural schools and their communities, including those in this study, are positioned within, not apart from, 21st century globalized society. Therefore, the meanings that emerge from a study of rural schools should pull from previous empirical and theoretical work that focuses on how globalization has shaped the circumstances of rural communities and their schools. This was the aim of the previous sections of this review, while this section moves with an examination of the unique role of the rural superintendent and treasurer, thus providing insight into how both attempt to navigate their district within the global order. Studies find that rural superintendents in particular,
face unique challenges (Farmer, 2009; Harmon & Schafft, 2009; Howley et al. 2014; Lamkin 2006). While not an exhaustive list, common challenges in public education throughout rural America include: pressure to consolidate; dwindling local tax bases; outmigration; tension between community values and standardized educational practices; pressure to enforce accountability mandates; and accountability to local voters. As Budge (2006) surmises, the leaders of rural school districts are positioned to balance the values and cultural norms of local communities with the economic aims and academic goals of the nation-state.

The rural superintendency. Unsurprisingly, researchers find that place specific matters, rooted in local cultural norms and values influence the decision making process of rural superintendents grappling with the aforementioned dilemmas (Budge, 2006; Copeland, 2013; DeYoung, 1995a; Jenkins, 2007). Their success seemingly hinges on how well they know the places they serve. In fact, scholars find that tenured rural superintendents possess an intimate knowledge of place that complements their professional training and allows them to navigate the tensions that arise surrounding issues such as school finance, personnel decisions, and local media influence (Copeland, 2013; DeYoung, 1995a; Jenkins, 2007). Subsequently, this knowledge of place empowers successful superintendents by garnering majority support and establishing them as an indispensable member of the local community at large. This form of awareness is what Scott (1998) calls métis, a form of local knowledge indigenous to place and gained from an intimate understanding of the context and problem.
While, the rural superintendency has been depicted as idyllic in comparison to filling this administrative role in an urban or suburban district, this view is mostly romantic. This belief negates the fact that since the turn of the 20th century rural schools have been positioned as a problem that needs to be solved, depicted as representing backward practices and having a disproportionate number of deficient students (Kannapel & DeYoung, 1999; Meyer et al. 1979; Steffes, 2008; Tyack, 1974). And although rural America is home to approximately a quarter of the nation’s public school children, it receives paltry political representation, and suffers substantially from financial policies that favor property-rich suburbs and redirect state and federal monies to urban districts (Mathis, 2003).

The rural superintendent also bears the responsibility of managing limited tax dollars, a particularly stressful charge in the wake of the unfunded mandates that have accompanied NCLB and the Common Core (Farmer, 2009; Pascopella, 2005; Tekniepe, 2015; Ward, 2003). The precariousness of this situation is illustrated in recent research that indicates rural schools are positioned to promote state and federal education policies that work to “hollow out” rural communities. Scholars find that the best and brightest students are encouraged to seek post-secondary opportunities away from local communities and select career paths for which there are few to no employment opportunities in their home communities (Carr & Kefalas, 2009; Corbett, 2007; Howley, 2006; Sherman & Sage, 2011; Woodrum, 2004). Rural scholars surmise that what is often dubbed “the brain drain,” comes as a result of the economic circumstances of the vast majority of rural communities—limited jobs and industry—and the upper middle class
ideology that dominates much of the school reform narrative such as Payne’s infamous pedagogy of poverty (Budge, 2006; Howley & Howley, 2010; Mitra, Movit & Frick, 2008; Theobald & Campbell, 2014).

In contrast to suburban and urban superintendents who maintain a lower level of visibility, the smallness of rural schools and communities means their superintendents are often the best known and politically affluent members of the small communities they serve (Budge, 2006; Farmer, 2009; Pascopella, 2005; Tekniepe, 2015). In many ways, their role and pay grade places them within the contradictory class discussed in the previous section of this literature review. In rural America, and particularly in Appalachia, those within the contradictory class location hold substantial power. As DeYoung (1995a) and Jenkins (2007) both found, this can position superintendents to advocate on behalf of the community, and encourage educational progress that might otherwise go by the wayside. In contrast, it can provide a platform for cronyism and widespread paternalism. Such practices were identified by Patterson, Koëngs, Mohn and Rasmussen (2005) in their study of one Midwestern town, where they observed that the superintendent and school board instituted draconian practices in their efforts to reallocate resources from the highly successful rural elementary schools in the district to the schools in town in an outward effort to shut-down the schools and grow the clout of the in-town facilities.

**Superintendents, treasurers, and the board of education.** As Maxwell and Sweetland (2013) explain, in Ohio, the school treasurer works closely with the superintendent to manage the district’s funds. Superintendents depend on treasurers to
provide keen insight into the best ways to manage the district’s operating cost. Both are beholden to their respective district’s board of education. According to Hess and Meek’s (2011) study the board of education is made up of elected officials from the local public, who are more often male than female, and Caucasian as opposed to another race. Board members also typically represent the prominent families in their local community, with family lineage, not just extensive financial coffers attributing to this prominence.

School boards often receive praise as a bastion of democratic control in local societies and a buffer to top-down reforms from state and federal governments (Meier & Wood, 2004; Ravitch, 2010; Tieken, 2014). In contrast, they have been accused of cronyism and indifference to local needs (Duncan, 1992; Patterson et al., 2005; Perry, 2011). For example, in their well-known study, Hollowing out the Middle, of one midwestern Iowa school district, Carr and Kefalas (2009) reflect that they were stunned to find the board of education members were hardly surprised the researchers had found the district had promoted educational practices that encouraged the school’s high achievers to plan for a life elsewhere. In fact, the board explained that not only were they aware of this practice, but also saw it as a necessary, ensuring the most prominent families in town were appeased, and thus continued to support the public school.

Research indicates that the rural superintendent is particularly isolated in his/her position, with relatively few to no additional administrative assistance (Farmer, 2009; Tekniepe, 2015). This reinforces the importance of the superintendent’s relationship with the school treasurer, who provides vital financial guidance. Moreover the treasurer can also assist the superintendent in his/her communications with the board of education and
local community (Maxwell & Sweetland, 2013). Similarly, tenured superintendents are found to have amicable relationships with their boards of education, with turnover of the superintendent being closely associated with superintendents who frequently express opinions that oppose the majority view of the board of education (Eaton & Sharp, 1996; Tekniepe, 2015).

**A Critique of School Finance in the United States**

In much of the current literature on school finance in the state of Ohio researchers narrow the historical context of the study to that of the state (see, e.g. Dayton, 2003; Edlefon & Barrow, 2001; McKinley, 2005; McKinley & Phillis, 2008; Milcetich, 2011; Phillis, 2005; Sweetland, 2002, 2014). The limitation of this framework is that it does not take into account that Ohio’s economy and public schools have been impacted by nationwide efforts to strengthen the United States’ international power and domestic wealth. Yet it is important to recognize that the financial and organizational changes, carefully chronicled by educational historians, reveal that the nation’s school system is governed by policies that are rooted in a cosmopolitan ethos (Cremin, 1988; DeYoung, 1987, 1989; Mehta, 2013; Meyer et al., 1979; Ravitch 1983; Theobald, 1997; Tyack, 1974). Moreover, it is arguable that this continued push for the centralization of public schooling is part of an effort in large-scale development by the corporate elite, intended to lead to systematic forms of order, with those in charge often far removed from local spaces (Ravitch, 2014).

To a great extent, the centralization of the nation’s public school system has been characterized as a benevolent effort to amass America’s children in classrooms where
equal opportunities will then be distributed via standardized curriculum and uniform pedagogy (Cremin, 1962; Darling-Hammond, 2010; Ravitch, 1983; Tyack & Cuban, 1995). However, some scholars call this into question, suggesting that this depiction masks the darker side of centralizing the nation’s schools and their purposes (see, e.g. Meier & Wood, 2004; Ravitch, 2010, 2014; Theobald, 2009). As Howley and Howley (2010) explain, many education reforms are often cosmopolitan-centric, espousing a middle class ideology that favors the right of individuals to pursue pleasure, even if it is to the distinct disadvantage of specific geographic places. As a result, educational reforms have allowed the public schools to become a marketplace where corporations are able to sell their wares and institutionalize corporate ideologies, juxtaposing the democratic purposes of a free and just public education (Howley & Howley, 2015; Ravitch, 2014; Theobald & Campbell, 2014).

When mentioned at all, rural and Appalachian schools are presented as places riddled with problems that can only be resolved by outsiders who are immune to the politics of local life (Kannapel & DeYoung, 1999; Schafft & Jackson, 2010). This outlook distinctly disadvantages rural school districts, fostering reforms that promote educational policies that disregard the nuances of place and its impact on schooling. In The Allure of Order, Mehta (2013) calls the transition from local to national control of schooling “the rationalization of schooling,” asserting that transition reflects a series of educational equity efforts gone awry. For rural schools, this rationalization has become particularly problematic, glorying the cosmopolitan mind-set which has become obsessed with fueling economic growth by extracting what is left of the nation’s finite natural
resources at the lowest possible cost. Given that much of these natural resources, as well as the labor to extract them, come from rural areas, rural Americans are positioned as the noble sacrificants of place in the name of nationalism (Berry, 1977; Theobald & Campbell, 2014).

The Appalachian schools in this study reflect the issues that arise when a nation places unfailing faith in unlimited growth. For Ohio’s Appalachian counties, the aftermath of industrialization intersected with the rising costs of centralizing the nation’s public school systems. Across the Ohio Appalachian region this has created long-term financial hardships for institutions of K-12 public education. In America it has become common to institute economic polices that benefit a few, with the expenses being charged to the many. The debts that these schools are struggling to pay are the costs of overlooking what Haizlett (1946/1996) called “secondary consequences.” In the case of nation building, the secondary consequences for Appalachian schools include socioeconomic disparities that place limits on educational attainment by the region’s students.

Summary

Appalachian and rural scholars have long been interested in the impact rural industries (e.g. mining, farming, oil and gas, manufacturing) have on the vitality of the rural communities (see, e.g. Davison, 1996; Duncan, 1999; Gaventa, 1980; Hobbs, 1987; Salstrom, 1994; Stephens, 1988b). Studies have found that for the communities hosting these industries, long-term vitality becomes increasingly difficult to achieve because rural industries are driven by the competition of the free market (see e.g. Billings & Blee,
Corporations base their decisions on efficiency methods, seeing negative consequences to local employees, the surrounding environment, and the local economy as a necessary expense of doing business (Hedges & Sacco, 2012; Theobald & Campbell, 2014). To quote John Prine, whose song *Paradise* grieves the use of strip mining in Kentucky, essentially these corporations write off their indiscretions “as the progress of man.”

For the Appalachian region, the continuous loss of industry and the intensity of the environmental problems left behind, have, until recently, made the study of an economic boom nonsensical if not altogether impossible. The shale gas rush in northern Appalachia, arguably one of the most understudied sections of the region is a game changer in the Appalachian studies industry. As an increase of new studies (Bishop et al., 2012; Braiser et al., 2011; Jacquet, 2009; Multi-Shale Research Collaborative, 2014; Schafft, et al. 2010; Weigle, 2010) indicate, studying the boom’s impact on the region is necessary for short and long-term economic planning.

This dissertation focused on one facet of the boom that has received scant attention: the decision by Ohio’s Appalachian schools to enter into legally binding leasing agreements with drilling companies. The purpose of this chapter was to provide a robust overview of the literature that helps frame the findings of this study reported in Chapter 4 and discussed in Chapter 5. In the next chapter, I outline the methodology that guided the data collection of this study.
Chapter 3: Methodology

From this qualitative study an interpretation emerged from within one particular section of the Appalachian region rather than from outside of it. Rural schools are much too often the subject of research that dismisses the importance of local knowledge to decisions made in rural schooling and policy (for discussions of this see White & Corbett, 2014). In contrast, this study purposefully examines the acumen exercised by the superintendents and treasurers throughout seven Appalachian Ohio counties that are experiencing the shale gas rush. This study focused on the fracking boom’s impact on school finance in this portion of Ohio. Interviews with superintendents and treasurers (Seidlman, 1998; Weiss, 1994) were conducted along with document analysis (McCulloch, 2004) of the respective districts’ five-year forecast assumptions and independent financial audits. This triangulation led to a more complete understanding of how superintendents and treasurers respond to the financial implications of entering into legally binding agreements with extraction companies.

Inarguably there is a shortage of educational research that adequately addresses dilemmas prevalent in America’s rural school districts (DeYoung, 1987; Howley, Howley, & Yahn, 2014; Schafft & Biddle, 2014a). The Appalachian Ohio schools in this study have been further marginalized by the financial constraints that came on the heels of the Upper Ohio Valley’s deindustrialization during the 1980s, which intersected with the intensification of largely unfunded state and federal mandates that have further centralized the power structure of America’s public school system. Research in marginalized settings, as Gaventa (1978) reminds us, requires a commitment between the
researcher and the community she studies. This commitment enriches the research, giving it relevance beyond the academy. Other scholars join Gaventa by affirming that rural and Appalachian research issues are of most worth when they contribute to these lifeworlds (see, e.g. Billings, 1974; Coladarci, 2007; Howley, 1997; Yahn, 2014).

In this chapter I discuss the methodological framework for this dissertation study. First I give specific attention to what makes the study’s design appropriate for research in a rural context. I explain my rationale for using a qualitative interview study approach (Merriam, 1998; Mishler, 1988; Seidman, 1998; Weiss 1994) within a “bounded” context (Miles & Huberman, 1994) to examine the fracking boom’s financial impact on schools in Appalachian Ohio. Next, I describe the design of the study; define the study’s boundaries; and discuss the identification of participants. I follow this discussion with the steps I employed during the study’s data collection and data analysis periods. I conclude with a discussion of the study’s validity, reliability, and limitations. A definition of terms is provided at the culmination of the chapter.

Rationale for Research Design

Qualitative inquiry lends itself to studies of issues that are not easily separated from their context (Creswell, 2009; Merriam, 1998; Mishler, 1979; Patton, 2002). This

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1 Recently, I was co-researcher on a research project that examined the substantial increase from 1987-2012 of dissertations taking place at the intersection of rural and curriculum and instruction (Howley, Howley, & Yahn, 2014). Alarmingly, a number of dissertations claimed to be rural, but did not engage the body of rural literature, nor give any specific attention to the uniqueness of the rural context. Yet, this disengagement from the rural setting and literature base did not stop researchers from making recommendations to rural schools. Coladarci (2007) discusses the importance of making the rural argument, and points out the problems with producing research that falsely purports to be rural. As he affirms, this can afflict rural schools that are already chronically misrepresented in much of the educational literature.
qualitative study took place within Appalachian Ohio where the fracking boom is restructuring the local economy and landscape. Here, rural and small schools throughout the region were presented with the option to lease their natural gas rights to extraction companies, earning signing bonuses and royalty payments that could contribute to alleviating long term financial stresses these districts have grappled with for decades (Burleson & Cooke, 2013; Howley et al., 2014; Krassen & Warnock, 2011)

Mills’ (1959/2000) discussion of the intersection of history and biography and Scott’s (1998) treatise on the value of métis informed the design of this study. Mills surmised that people fail to notice how history shapes current struggles in society. As he recommends, my sociological imagination informed the design of this study ensuring attention was given in Chapter 2 to the “the larger historical scene” (p. 5). Scott (1998) is more specifically concerned with how humans respond to problems occurring in their local contexts. Scott’s focus is on the value of practical local knowledge, or what the ancient Greeks called métis. Too often these societal planners see their knowledge as superior to that of local people in an effort to “improve the human condition.” Scott argues that it is a misstep to devalue the practical knowledge (mêtis) acquired by those who have intimate understandings of how to solve the problem of note.

The métis of the superintendents and treasurers in rural schools is the primary focus of this study. I am specifically concerned with how local knowledge is employed to navigate the leasing of school properties to private companies during the fracking boom. For this reason, this study is purposefully designed to account for how meaning emerges
from context, not separate from it (see, e.g. Bruner, 1990; Godfrey-Smith, 2014; Mills, 1959/2000; Mishler, 1979, 1986).

**Rural by design.** Studies are not rural simply because they occur in a rural setting. A researcher has to make the rural argument (Coladarci, 2007; Howley, 1997; White & Corbett, 2014). This study of one facet of the fracking boom is *rural* because it purposefully engages the local perspective. My focus is on how participants are employing their practical local knowledge to navigate a circumstance that is unique to their region. Throughout my research, I positioned myself to consider how this circumstance is connected to the region’s history and our nation’s aim for centralized forms of order.

I used qualitative methods to explore the research problem in its natural setting. The methodological framework for this study is part of what Glesne (2011) calls the interpretive paradigm. The interpretative paradigm is appropriate for a research problem that is place-based, or unique to the context. As a researcher working within this paradigm, I sought to understand the research problem within the immediate context of the study (Appalachian Ohio) as well as within the national (the United States) context (Glesne, 2011). In this study qualitative interviews serve as a way to learn from participants “those things that we cannot directly observe” (Patton, 2002, p. 340) by speaking directly with the public school district’s superintendent and treasurer. Equally important, the document analysis of the districts’ five-year forecast assumptions and independent audits provided a means of verifying the accuracy of the participants’ responses (McCulloch, 2004).
The methodological framework matters in rural studies because as others and I have discussed elsewhere (see, e.g. Coladarci, 2007; Howley et al. 2014; White & Corbett, 2014) the rural place must factor into the design. Extricating place from the research framework disengages the study from its most defining rural aspect—its geographic space. Much of the educational literature positions public schools as placeless intuitions designed to fill a role in nation building. As many rural education researchers affirm (see, e.g. Coladarci 2007; Howley, 1997; Johnson, 2014; Schafft & Biddle, 2014a; Theobald & Campbell 2014) this is a misstep. When scholars fail to consider that rural schools are influenced by their immediate surroundings and their role within a cosmopolitan nation, they short-change the recipients of their research.

**Research Design**

According to Merriam (1998) qualitative methods position the researcher to consider how “reality is constructed within the social world” (p. 6). Mishler (1986) believed that qualitative interviews could be designed to account for meaning in context, rather than “stripping” the context from the meaning. Similarly, both Merriam (1998) and Patton (2002) recommend the use of qualitative interviews to gather multiple perspectives on complex educational issues that are enmeshed within the politics, culture, and economics of the context. As Weiss (1994) explains, by using interviewing as a primary form of data collection researchers are able to “provide readers with a fuller understanding of the experiences of [their] respondents” (p. 3).

The fracking boom’s impact on school finance in Appalachian Ohio is the primary interest of this study. The study’s key participants, superintendents and
treasurers, have a unique understanding of this research problem. These school
administrators were able to offer rare insight into how they are attempting to navigate the
boom years in a region that has for decades been described as deindustrialized and
rusting. For these rural and small town school districts school finance and organization is
primarily the responsibility of superintendents, treasurers, and boards of education.
Superintendents and treasurers have an intimate connection to their school districts that
contrasts with what is typical for their urban and suburban peers (for discussion of this

Merriam (1998) sees qualitative interviews as residing within a continuum that
ranges from highly structured to highly unstructured. Semi-structured interviews in
particular allow for a blend of closed and open-ended questions (Creswell, 2009;
guide to maintain reasonable uniformity across interviews with participants, arguing it
will enhance the study’s credibility. Merriam (1998) and Mishler (1986) suggest that the
interview’s purpose should inform the level of structure.

For this study an interview guide with semi-structured questions has been created
for interviews with the study’s participants: superintendents and treasurers (see
Appendices A and B). This interview guide was designed to learn from the expertise of
the superintendents and treasurers participating in the study, and was used throughout
each semi-structured interview.

The questions created for the interview guide were inspired by several categories
described by Patton (2002, pp. 350-351) including: “knowledge questions” (facts and
information about the leasing process and fiscal management of new funds); “opinion and value questions” (viewpoints on the fracking boom); and “background and demographic questions” (focused on school district background). I also applied Merriam’s (1998, p. 77) suggestion to design questions categorized as “devil’s advocate questions” (challenges commonly held positions); “hypothetical questions” (what if or futuristic) and “interpretative questions” (to clarify what the participant is conveying).

While it is not unusual for one method to take precedence in a study, qualitative studies benefit from multiple forms of data collection that enhance the study’s validity (Creswell, 2009; Merriam, 1998; Patton, 2002; Stake, 2010). In this study semi-structured interviews with participants were complemented with document analysis of participating districts’ independent audits from fiscal years 2010 and 2015, and the districts’ five-year forecast assumptions for fiscal years 2010 and 2016. Additionally, if a performance audit had been conducted for a district between 2000-2015, it was also analyzed.

Much like Mills (1959/2000) imagined, McCulloch (2004) suggests that document analysis is a way for researchers to ensure they are engaging in the type of social science that fully considers the impact of history on participants’ current actions. McCulloch, observes that documents track both monumental and subtle shifts over time. In the case of this study, analyzing documentation of schools’ financial status prior to the fracking boom (2010 and performance audits) and then documents compiled during the fracking boom (2015, 2016) allowed me to better consider such shifts, while including external and internal financial documentation engaged multiple vantage points of districts’ financial health. I also kept a research journal (Glesne, 2011; Merriam 1998;
Mills, 1959/2000) in which I chronicled my research activities and my reactions and impressions throughout the study, creating what Merriam (1998) dubs an “audit trail.”

**Boundaries of the study.** Stake (2010) recommends that a researcher imagine the aim of her study as “the thing” in the effort to be more specific about what she is studying. Miles and Huberman (1994) describe a case as “a phenomenon of sort occurring in a bounded context” (p. 25). In both instances, the authors are remarking that it is important for qualitative researchers to narrow their study’s focus and context.

In this study “the thing” is the financial implications for Appalachian Ohio schools of entering into legally binding agreements with extraction companies. Appalachian Ohio includes 32 counties in the eastern and southeastern sections of the state (Ohio Office of Community Development, 2013). The bounded context of this study is narrowed to the public school districts and career centers that reside within the boundaries of seven counties in Appalachian Ohio that are reporting unprecedented amounts of unconventional oil and gas drilling: Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe, and Noble counties. All of the schools included within this radius are identified as rural or small town schools by the Ohio Department of Education’s typology codes (Ohio Department of Education, 2013).

These seven counties were selected because they are ranked consistently within the ten “most active” counties in Ohio for unconventional oil and gas activity (Ohio Department of Natural Resources, 2014; Ohio Oil and Gas Association, 2015). Several lists were cross-referenced to ensure the accuracy of this decision including ODNR’s (2014) list of the “ten most active counties” based on number of wells (p. 8). I also
referenced the Ohio Oil and Gas Association’s (2015) list of “most-active counties” for “completion” and “percentage of horizontal wells” (p. 14) and “footage” (p. 18). Additionally, I referenced the Ohio Oil and Gas Association’s (2015) records for number of wells permitted, but not yet drilled, to take into consideration whether a high-level of oil and gas activity was likely to continue in these seven counties (p. 6). The counties identified for this study appeared on each of these lists, solidifying my selection.

**Identification of participants.** The sample for this study was purposeful. The sample’s key participants included superintendents and treasurers working for rural and small town public school districts and career centers as well as educational service center administrators in seven Ohio Appalachian counties that are ranked as one of the top ten most active counties for oil and gas activity. I used purposeful sampling to intentionally identify participants who either worked for a district that had entered into an oil and gas lease, or, in the case of educational service center administrators, provided services to a number of districts that had entered into leases. The aim was to identify participants who have specific knowledge about the research problem and can make specific contributions to the study (Creswell, 2009; Merriam, 1998; Patton, 2002; Stake, 2010). Based on these criteria, superintendents, treasurers, and educational service center superintendents representing 18 public schools, one career center, and four educational service centers were eligible for inclusion in this study. These participants comprise what Weiss (1994) calls a representational sample. According to Weiss, samples are representational when “together [the participants] can adequately represent the experiences of a larger group” (p. 21).
Twenty superintendents and treasurers representing 12 school districts and two educational service centers that service sections of five of the seven counties in the study, participated in the study. These interviews were complemented with the analysis of 24 independent audits, five performance audits, and 23 five-year forecast assumptions. Purposeful sampling made it possible to recruit participants from all seven of the counties that were within the boundary of this study.

**Data Collection**

My role as an educational professional in the Ohio Valley allowed me to gradually enter the field (Glesne, 2011). I was able to informally introduce my study to potential participants within the course of relevant conversations. I obtained permission from Ohio University’s Institutional Review Board to begin my study, which was approved as exempt status. At this time, I began to recruit participants and make my study more widely known during my interactions with local educational stakeholders. Given the potential usefulness of this study to stakeholders in the local region, this form of contact served as a way of strengthening the study by generating interest and creating the potential for a purposeful sample of participants from counties throughout the defined boundaries of the study. This form of transparency was essential as I sought permission to do educational work, research or otherwise, in the identified counties.

**Procedures.** In qualitative studies data collection is organized and planned, while still allowing for the flexibility required when researching in a natural setting (Bogdan and Biklen, 1998; Merriam, 1998; Patton, 2002; Stake, 2010). To track my research process, I kept a research journal using the Microsoft application OneNote, an electronic
notebook that syncs across the multiple electronic devices I use. The research journal included a chronicle of the data collection and analysis I engaged in throughout the study as well as my personal reactions and reflections over the course of my research. This journal was a concerted effort to ensure researcher reflexivity throughout the study (Glesne, 2011) and create an audit trail to confirm the validity of my methods (Merriam, 1998).

The primary form of data collection consisted of semi-structured interviews with superintendents and treasurers. As recommended by Patton (2002) an interview guide was used for all interviews as a means of maintaining reasonable consistency between the two groups of interview participants (i.e. superintendents and treasurers). Interviews were conducted in 2016 from May to August and varied in length from as short as forty minutes to as long as two hours. In three instances the superintendent and treasurer suggested they be interviewed together, while in one circumstance a superintendent asked to email his responses. Aside from the participant who requested to communicate by email, all other respondents allowed me to audio record the interview and elected for an interview either by phone or in-person. All participants were provided with a copy of the consent form and gave verbal consent before beginning the interview. In-person interviews took place either at the respective district’s central office or my office at Ohio University Eastern. The aforementioned accommodations were made to maximize participation in the study. This decision was in accordance with the advice of experienced qualitative methodologists (Creswell, 2009; Glesne, 2011; Merriam 1998; Patton, 2002; Stake 2010).
Recorded interviews were transferred to my personal computer and then transcribed during the interview period of the study (May-August). The audio files were uploaded, labeled, and stored on both my laptop and in my Dropbox account, which are both password protected. Transcribed interview files were also labeled, filed, and stored in the same manner.

Document analysis was also an essential form of data collection. The documents assessed for this study are public record and did not require special permission to access. Independent yearly audits for fiscal years 2010 and 2015 as well as performance audits from 2000-2016 were downloaded from the auditor of the State of Ohio’s database, whereas districts’ five year-forecast assumptions for 2010 and 2016 where downloaded from the Ohio Department of Education’s database. As with interview files, the audits and five-year forecast assumptions were uploaded, labeled, and stored on both my laptop and in my Dropbox.

Data Analysis

The purpose of this study was to understand how Appalachian Ohio superintendents and treasurers navigate the pressures and responsibilities of entering into legally binding agreements with extraction companies. Purposeful sampling methods allowed me to engage multiple perspectives and examine numerous contexts across seven of Ohio’s counties that are currently experiencing an unprecedented shale gas rush. Moreover, by collecting and analyzing financial data from fiscal year 2010 I was better able to consider how deindustrialization and the Great Recession had financially impacted schools prior to the fracking boom, thus possibly informing their ultimate
decision to lease their natural gas rights. Equally important were the financial data available from fiscal years 2015 and 2016 that provided me with further insight as to the shale gas rush’s actual economic impact on the schools highlighted in this study.

Weiss (1994) suggests that when researchers seek to merge multiple perspectives on a phenomenon in order to develop a more complete answer to a research question they employ what he calls issue-based analysis:

An analysis whose aim is issue focused would concern itself with what could be learned about specific issues—or events or processes—from any and all respondents. Some respondents might contribute more to the analysis, others less (pp. 153-154).

I further employed Weiss’ suggestions by moving through his series of suggested steps for data analysis: coding, sorting, local integration, and inclusive integration. In other words, as Stake (2010) notes, my analysis eventually turned into synthesis as I neared the end of the study and began to author my final chapters.

In the same vein as other qualitative researchers (Creswell, 2009; Glesne, 2011, Merriam, 1998; Miles and Huberman, 1994; Stake, 2010), the preliminary stages of data analysis began at the initiation of interviews, with the analysis gaining momentum as the interview process came to a close and I began to partake in the more demanding task of coding each of the interview transcripts, independent audits, and five-year forecast assumptions. At the conclusion of inductive coding, I moved forward to local integration, uniting codes to form potential mini-theories. In the final stages of data analysis, synthesis became a means for accomplishing the inclusive integration Weiss (1994)
describes. I worked to refine the aforementioned mini-theories (what some researchers call themes) from the data and merged them into a “single coherent story” (Weiss, 1994, p. 60). These steps of data analysis are elaborated upon in the subsections below.

**Interviews, transcriptions, and preliminary coding.** I began noting potential codes in my research journal after each respective interview. When I began to transcribe interviews, I further expounded upon this initial list. Eventually, this list became more concrete as I began to read through interview transcripts and test the validity of codes, checking to see if evidence could be found across multiple interviews and authoring more complete definitions for each emerging code. Ultimately, I identified and defined 28 codes (this list was further modified as coding intensified in the next stage of data analysis).

The codebook for this study was created and updated in OneNote throughout the duration of the study. Both Miles and Huberman (1994) and Bogdan and Biklen (1998) suggest organizing codes by “clustering” or into “coding families.” Prior to my second stage of data analysis—coding and sorting—the 28 identified codes were grouped into four coding families that were inextricably linked to the four questions guiding my study:

- **Setting:** Four codes originally made up this coding family that helped explain the context of the study and its impact on administrators and their respective school districts and communities.
  - Examples of codes included: contemporary issues and place matters.
- **Process:** Ten codes originally comprised this coding family. Expounding upon Bogdan and Biklen’s (1998) definition of process codes, these codes were used to
identify information about how schools navigated the oil and gas leasing process as well as how the districts’ managed the new funds.

- Examples of codes included: catalysts for leasing, secondary benefits, and organizational maneuvers.

- Research Question Link: *How do superintendents and treasurers in Ohio located on the Marcellus and Utica shale respond to the option of entering into natural gas leases?*

- **Planning:** Six codes were compiled to form this coding family. Building again upon Bogdan and Biklen’s (1998) original definition of strategy codes, planning codes made it possible to search within the data for information as to how schools plan for the short and long-term future, making decisions about how to use the revenue they are acquiring.

  - Examples included: short-term planning, long-term planning, and gains and losses.

  - Research Question Link: *How does increased revenue from natural gas leases inform short and long-term financial and organizational planning for the school district?*

- **Perception:** This final coding family included eight codes. These codes were used to identify and gauge the perceptions held by participants in regards to the overall benefits and limitations of the shale gas rush, as well as their viewpoints on environmental, health, social, and financial risks for their respective districts and communities.
Examples included: community efficacy, the lull, and tensions.

Research Question Links: Do revenues from natural gas leases enhance a district’s ability to respond to demands for accountability? Do superintendents and treasurers perceive limitations on the short and long-term possibilities the fracking boom has for their district?

**Coding and sorting.** Interviewing and transcribing began in May and concluded in August of 2016. During this period I also collected independent audits and five-year forecast assumptions for the district of each administrator participating in my study. These files were grouped by district by placing them into sub folders on both my laptop and in my Dropbox account. Next, I created a second notebook in OneNote that contained sections for each district. Each section was further organized with subpages for each coding family. Throughout the second stage of data analysis I coded the data for each district, working through one district at a time. First, I coded (marked up) the original document and then I transferred the coded information to the appropriate section of my OneNote notebook.

During this phase of data analysis, I continuously coded and sorted information in a manner that positioned me to test the accuracy of my codes and respective definitions, narrowing my list of 28 codes to 22 codes. I was also able to quantify the presence of codes across the subsets of data, as well as identify important outliers. This extensive sorting and labeling ensured that I considered whether a code was truly present across my data sets, and if it was not, question why such was the case. This became imperative to the decision making process of local integration, when I began to unite codes and form
Local integration and the formation of mini-theories. The term *local integration* is borrowed from Weiss (1994). Local integration is a way of merging evidence compiled during coding into mini-theories, or preliminary interpretations of research findings.

To begin local integration, I created a third notebook in OneNote that contained four sections (one for each coding family): setting, process, planning, and perception. In each section, I created subpages for each respective code, and merged evidence from the data sets. During this phase I was able to read intensively through all the evidence for each code, further merging codes and evidence as appropriate, while simultaneously identifying contrasts, what Miles and Huberman (1994) label as “partitioning variables” in an effort to avoid “premature parsimony” (p. 224). I wrote summaries of the evidence collected for each code, and made notes about the manner in which the evidence provided answers to my guiding research questions and connected to prior research reviewed in my literature review.

During this third phase of data analysis, the synthesis Stake (2010) describes began to occur, and I formed and tested preliminary mini-theories, or possible explanations that might provide answers to my guiding research questions. For example, I began to consider a mini-theory that accounted for the way administrators described the position their school districts were in at the onset of the shale gas rush and how this subsequently informed their decision to move forward with leasing. The purpose of this phase was to merge evidence from across the data sets so that a more comprehensive...
explanation of how administrators responded to the financial implications of the shale gas rush could take shape.

**Inclusive integration.** Inclusive integration is also a term borrowed from Weiss (1994), referring to the “coherent story” that forms from data. To achieve this integration, I created a fourth notebook in OneNote. In this notebook, I created a list of potential mini-theories with tentative explanations. To test the accuracy of my theories, I merged evidence from respective codes that applied to the theory. This led to keeping the theory, revising the theory, merging with theories, or eliminating a theory. These theories were then refined into relevant issues, and the evidence for the issue was reread. For each issue, I developed a summary of the evidence, and then a discussion that interpreted this evidence. The summaries and discussions were eventually revised into a comprehensive review of my findings, presented in Chapter 4 of this dissertation.

**Authoring a coherent report and meaningful recommendations.** Throughout the interview process, I was surprised at how often participants asked when my data would be available and if I would be willing to share my results with groups of administrators they were a part of. At one local meeting, a state representative, who had learned about my research from a superintendent, approached me about compiling a report that might inform his input on the upcoming biennial budget. These interactions made me increasingly aware that my role as a researcher was what Glesne defines as a “translator/interpreter” who “works to understand the others’ world and then translate the text of lived actions into a meaningful account” (p. 218). As Stake (2010) recommended,
I made attempts to anticipate what information my readers needed to inform future decision making in their respective settings.

During the final phase of data analysis, I engaged in a form of inclusive integration that allowed me to review the evidence gathered to answer my research questions and transition them into mini-theories that worked together to form a more comprehensive interpretation of the results. Glesne (2011) recommends a host of organization options for subsequent reports. The option she labels “separation of narrative and interpretation” became the guidelines for the discussion of my findings in Chapter 4. The chapter begins with a narrative overview of the place where this study emerged, informed by evidence collected from codes within the setting family as well as my research notes and initial literature review. The chapter then transitions into an interpretation of my findings, divided into a series of issues that were found with subsequent discussion of each. Chapter 5 expounds upon these findings by returning to the overarching research question before presenting recommendations for invested stakeholders.

Validity and Reliability

Qualitative research positions the researcher as a part of not apart from the data collection (Creswell, 2009; Merriam, 1998; Stake, 2010). As Stake (2010) affirms, the researcher is responsible for ensuring that data collection methods are both ethical and reliable. Researchers are also responsible for communicating with participants and minimizing to the extent possible the risk they incur from their participation in the study (Merriam, 1998; Weiss, 1994). Protection of research participants was accounted for in
both the IRB and through measures (e.g. interview locations and range of counties included in the study) taken to protect participants’ anonymity. Although the counties included in this study will be identified, participants’ identities and the schools they represent will not be disclosed.

Validity. Qualitative interview studies that use purposeful sampling allow for a design that can minimize bias. One way this is accomplished is through identifying participants who are positioned to have different perspectives on the issue this study explores: superintendents, treasurers, and educational service center administrators. By making an effort to include participants from multiple counties, who represent multiple vantage points of the financial implications of the shale gas rush on rural and small schools, and by analyzing both external and internal financial documents I was able to achieve a more complete understanding of the research problem. These methods also served as a more authentic form of triangulation, positioning me to constantly check to determine whether ample evidence from multiple sources supported the emerging issues that would inform my findings and recommendations (Creswell, 2009; Merriam 1998; Stake, 2010). As Miles and Huberman (1994) explain:

> Triangulation is not so much a tactic as a way of life. If you self-consciously set out to collect and double-check findings, using multiple sources and modes of evidence, the verification process will largely be built into data collection as you go (p. 263).

Finally, my research journal also provides an audit trail (Merriam, 1998) of my data collection and analysis steps further verifying the thoroughness of my research methods.
Reliability. I have previous experience with qualitative interviewing and transcription. I also have experience with content analysis, coding, and visual displays, working as a researcher on a recently published study concerned with the increase of rural dissertations at the intersection of curriculum and instruction (Howley et al., 2014). I also gained experience with interview transcription and inductive coding during my action research project, conducted during the final stages of my master’s degree.

In anticipation of this dissertation, I engaged in an independent study during the 2012 academic year with two senior researchers in rural education, Aimee and Craig Howley, to refine my understanding of qualitative interview techniques and data collection and analysis. Equally useful was my research for a book chapter I recently authored titled “Frackonomics” on the short and long-term economic implications of the shale gas rush in Appalachia for the book Appalachia Revisited (Yahn, 2016). The research required for this chapter became much of the preliminary reading for my dissertation proposal. I have also co-authored an article on contemporary dilemmas for rural superintendents, within my section of the article I focused on resource extraction’s (specifically fracking) impact on rural schools (see Howley et al., 2014).

Limitations. Qualitative work is particularistic (Merriam, 1998; Patton, 2002; Stake, 2010). According to Stake (2010) most qualitative work generates micro-interpretations of the intricacies of the problem as opposed to macro-interpretations found in quantitative work. In fact the inclination to overgeneralize educational research findings has been particularly problematic for rural schools (see, e.g. Kannapel & DeYoung, 1995; White & Corbett, 2014). It is most appropriate to use the findings of this
study to inform the design of future studies focused on the impacts fracking and other rural industries have on rural schools and communities. Additionally, this study can enhance our overall understanding of what the fracking boom means for rural America by adding to the currently meager literature base that addresses this topic.

**Summary**

Curiously, little attention is given to the position of public schools within extractive communities (Howley, et al., 2014; Schafft & Biddle, 2014b). Yet, as Schafft and Biddle point out in their work on educational leaders in Pennsylvania’s Marcellus shale region, “schools represent especially instructive lenses through which to observe and assess rural community change, and the ways in which communities demonstrate agency to change” (p. 672). Subsequently, this study’s importance extends beyond institutional hallways. The results of this research will provide stakeholders in rural school districts and communities with insight into how similar districts in the region are navigating the financial boon associated with the shale gas rush, as well as provide insight to communities experiencing various types of resource extraction. The study may also identify common issues districts are grappling with as they work through this unique financial situation. Such insight has implications for both short and long-term financial and organizational planning. This is of importance to these rural and small school districts that have historically struggled with the state’s funding model and its disadvantages for Ohio’s Appalachian schools (Horton, Howley, & Ladd, 2012; Sweetland, 2014).
This study is rural by design. In Chapter 1 of this proposal I introduced the problem and the research questions. In Chapter 2, I discussed the theoretical framework of this study, which helps to explain why centralized improvement schemes have frequently disadvantaged the Appalachian region and its citizens. Chapter 2 also included a discussion of the volatile relationship between rural industries and rural communities. In this chapter I described the study’s methodological framework and discussed its appropriateness for a study in a rural setting. Chapter 4 will present my findings, giving specific attention to the common issues that were identified in my data analysis. Finally, Chapter 5 will begin with a discussion of the manner in which mētis informed the decision making process of administrators who found themselves confronted with a phenomenon unique to the geography and history of their region before concluding with recommendations to relevant educational stakeholders and policy makers.

**Definition of Terms**

*Document Analysis:* Document analysis is a form of qualitative research that allows researchers to use valuable information documented by respective institutions. Documents should be verified for their accuracy and authenticity. Moreover, researchers should clearly be able to explain how analyzing selected documents enhances the credibility of their study, and provides for triangulation of data (McCulloch, 2004).

*Five-Year Forecast Assumptions:* Treasurers for public school districts in the state of Ohio are required to compile a five-year forecast and accompanying assumptions that discuss the district’s financial health over the last three fiscal years as well as predict the future financial stability of the school district for the next five years. The forecast is
presented to the district’s board of education and uploaded to the state database by October 31st of each fiscal year, and updated by May 31st of the same fiscal year (Stabile, 2015).

Independent Audits: Either the auditor of the state of Ohio or an independent auditor (hired by the public school district) conducts a yearly independent audit of each of Ohio’s public school districts’ finances. These audits are stored in the state database (Stabile, 2015).

OneNote: OneNote is a Microsoft application that allows users to create electronic notebooks that can be compartmentalized into sections. Each respective section can include pages and subpages. OneNote is password protected, syncs across multiple devices, and can also be accessed on the Internet. For the data analysis of this study, OneNote was used to create notebooks for organizing the data collected and analyzed during each of the four major phases, as well as for creating a research journal that was kept throughout the duration of the study.

Performance Audit: Public schools in Ohio that are declared in a state of fiscal emergency are subject to an independent performance audit. Auditors assess the district’s expenditures and makes recommendations in regards to improving the district’s long-term financial health.

Semi-Structured Interviews: Semi-structured interviews include mostly open-ended questions and allow follow-up probes and clarifications (Merriam, 1998; Patton, 2002).
Chapter 4: Findings

In the analysis that follows, I bring to you the voices of 20 administrators and treasurers representing 12 public school districts and two educational service centers scattered throughout the Shale Valley-- a moniker assigned by local politicians and businesspeople to the region that includes the boundaries of this study (WTRF-TV, 2016a). Beginning in 2010, the participants in this study were approached by landmen representing companies such as Chesapeake Energy. Landmen offered the participants’ respective districts the option to lease their properties for exploration of the Marcellus and Utica shale that rests beneath their school buildings and sport facilities. Leasing deals netted districts signing bonuses that ranged from $132,000--$1,000,000. The agreements also gave districts the right to earn a percentage of royalties—ranging from 15-20%-- on any oil or gas extracted from the property.

Participants overwhelmingly agreed their respective district’s decision to lease was linked to pressing financial issues. Participants also depicted leasing as a way to gratify a voting public that approved just 45% of the school issues placed on the ballot between 2003-2016 (Ohio School Board Association, 2016). Tim, a superintendent whose district had experienced numerous failures at the ballot box suggested that the community expected his district to lease. He conjectured,

I think our taxpayers would believe that we had an obligation to do that [lease] because we could do things without taxing them. (Tim, personal communication, June, 20, 2016)
Chapter Overview

Chapter 4 begins with a narrative introduction and then transitions to interpretation (Glesne, 2011). Part one begins with a description of the Shale Valley that is followed by a discussion of its position within the state of Ohio. Next, I introduce readers to the participants in this study who are what Mills (1959/2000) called “social and historical actors” working at the “intersection of history and biography.” In this narrative, I examine how participants’ perceived historical and contemporary issues as informing their responses to the fracking boom. Part two, the interpretation section of the chapter, aligns the results of the issue-focused analysis to the four research questions that framed this study (Weiss, 1994). The chapter culminates with a synthesis of what the issues collectively reveal about participants’ responses to the option to frack for funding.

Part I: Narrative Introduction

In an effort to understand how Appalachian Ohio superintendents and treasurers navigated the pressures and responsibilities of entering into legally binding agreements with drilling companies, I conducted 20 semi-structured interviews and reviewed 52 financial documents: 24 independent audits from fiscal years 2010 and 2015; 23 five-year forecast assumptions from fiscal years 2010 and 2016; and five performance audits conducted between 2004-2015. Throughout this research, I learned what happened as the large-scale fracking boom echoed throughout the Shale Valley, replacing the initial rumblings of the infamous white trucks of landmen. The narrative introduction reflects what I learned from all interview participants and respective financial documentation,
providing the opportunity to discern how history and biography intersected to inform superintendent and treasurer responses to the fracking boom.

**The Shale Valley**

Traveling east on Interstate 70 from Columbus, Ohio—the epicenter of policy making in the state—one treks into the Appalachian Ohio counties that form the boundaries of this study. These counties are unified by their proximity to the Ohio River and cities of Pittsburgh, Steubenville, and Wheeling. Beneath their foothills, ridges, and river valleys is a geologic savings account that converted to the raw materials needed to create the steel mills, coal mines, oil and gas wells, manufacturing, and pottery industries (Raitz & Ulack, 1984). In their prime, these rural industries employed the local masses creating a rural industrial hinterland whose populace was disadvantaged by the globalization of the 1980s and ‘90s that began to rewrite trade policies that subsequently impacted domestic steel production, manufacturing, and energy production (Dietrich-Ward, 2016; Hurst, 2006; Hurt, 1992; Martin, 2015).

The participants in this study represent 12 public school districts and two educational service centers that are located across seven of the Appalachian Ohio counties that form these rural industrial outskirts of Eastern Ohio: Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe and Noble. Throughout these counties fracking’s fancy footwork is visibly making a mark upon the landscape and regional economy. By 2013, 412 wells were completed across the 3,244.7 square miles of land encompassed by these counties (Ohio Department of Natural Resources, 2014). In 2014, another 1,303 permits were filed for new wells (Ohio Oil and Gas Association, 2015).
Natural resource extraction is not a stranger in these Ohio counties, many of which are also part of Appalachia’s coal country. In fact, in 2012, Belmont and Harrison counties were still one and three respectively on the list of Ohio’s top coal producing counties, with Belmont County producing 15.2 million tons of coal (Ohio Legislative Service Commission, 2014). By 2014, however, natural gas dethroned coal’s long reign as the state’s top mineral resource. While Belmont County continued to be the state’s top coal producer, Carroll County rose to prominence in oil and gas production, topping the state’s production charts (Ohio Legislative Commission, 2016).

The participants’ experiences in regards to leasing mineral rights on behalf of their school districts represents a larger phenomenon of energy companies becoming unlikely bedfellows with Appalachian Ohio’s public schools. Of the 28 public schools and two career centers located across these seven counties, 18 schools and one career center had entered into leasing agreements before data collection for this study commenced. From what I could determine from documentation and discussion with knowledgeable administrators, the untethered districts had not been asked to lease, with one district losing the option because it sold its rights many years ago. In other words, no one could point to a district that had rejected an opportunity to lease. Participants in this study remembered an eager majority of community members in favor of leasing. I often inquired about dissent, but participants asserted that economic need overshadowed anti-fracking sentiments. Jim, a generational resident of the region, and leader of one of the educational service centers responded to my query about dissent:
I don’t see a whole lot. You don’t see a whole lot of groups [anti-fracking activists], quite frankly because these companies pay everybody to lease their lands up. (Jim, personal communication, June 2, 2016)

The fracking boom is also receiving support from local businesspeople who are depicting it as a chance for the region to rebrand itself as the Shale Valley. This idea was introduced in a two-part panel discussion produced and televised during the spring of 2016 by WTRF (2016a, 2016b), a local broadcasting station. Panelists focused on the economic potential of the construction of three ethane cracker plants in Beaver County, Pennsylvania, Belmont County, Ohio, and Wood County, West Virginia. According to panelists the construction of one or more of these crackers would position this section of Appalachia to boom, not just in fracking, but also in manufacturing. One panelist explained ethylene (which is produced from oil and gas) is “the largest-volume petrochemical in the world,” frequently found in everyday items. The panelists maintained that ethane crackers would fend off the projected bust by diversifying the regional economy and creating jobs that could sustain beyond the initial shale gas rush.

None of this is to say fracking had not met an adversary or two in the region. Chief amongst the holdouts was the region’s coal baron, Bob Murray, who spoke vehemently from his administrative offices in Belmont County against both the Obama administration and the national fervor for the shale gas rush (Yahn, 2016). However, in the fall of 2016 Murray himself profiteered from the rush, selling approximately 5,900 acres in Belmont and Monroe counties for $63.8 million (Ali, 2016). In contrast to Murray’s frustration that oil and gas was projected to replace coal, other groups like the
Carroll County Concerned Citizens, pushed back at the idea that fracking was of no real risk to public health and safety (Ohio Organizing Collaborative, 2014). And during the summer of 2016, as I collected data for this study, Yale University researchers came to Belmont County to study the impact of fracking on local water sources (Junkins, 2016).

Turning back to the decision of schools to lease their lands, many participants explained that opposition towards fracking in their respective communities, if expressed at all, was done so by those who did not stand to financially benefit. Moreover, when asked about community response to leasing school lands, participants noted that no one attended board meetings to protest the lease of lands. This led participants to rationalize that since the majority of the public appeared to be amiable towards this economic upturn, it normalized their district’s decision to lease school grounds to drilling companies to pay off debt or allocate to new expenses. As Heidi, a treasurer, observed, local landowners were leasing, so “then why not the school?” (Heidi, personal communication, June 20, 2016)

**East of Eden?** One could mistakenly equate the participants’ acceptance of fracking as a means for accruing revenue for the local schools and the community as a sign of complete trust in the industry. Participants demonstrated a distinct awareness of both fracking’s monetary limitations, as well as the industry’s potential to exacerbate environmental and economic issues already present in the region. They reported their respective district’s decision to lease was related to the need to remain financially solvent, describing leasing as one of the few ways their district could secure additional revenue. Superintendents in particular believed that letting the lease option pass by was
negligent given the perpetual uncertainty of the state budget and its impact on school funding. Many treasurers affirmed this fear was not inflated. Sarah, who had worked as a treasurer for 22 years, characterized how state decisions created problems at the local level,

   You hold your breath when it is time for that cycle to end. The other problem I have seen over the years with the biennial budget is if they are not able to come to an agreement in Columbus, we may start the school year not knowing what the true amount is that is going to be in place. One year we were clear into September and October and they just kept extending it, and extending it until we actually knew what we had for our fiscal year. (Sarah, personal communication, May 25, 2016)

   At the commencement of each interview participants had the chance to discuss the issues their school district was experiencing in regards to funding. In their responses, many participants related their district’s issues to the state legislature’s inaction on the DeRolph I-IV rulings. Still the state of Ohio reports allocating a disproportionate share of funding to districts whose wealth index reflects the local capacity to fund public schools is less than that of more affluent areas in the state. The Ohio Legislative Committee (2014) reports the state has taken measures to close the gap: In 1991, as the DeRolph case gained momentum, “76% of the variation in per pupil revenue could be explained by the variation in per pupil property value” (p. 57). By 2013, this had decreased to 36%. Equally relevant, the commission reports that during the years following the Great Recession, rural properties were the only real estate in the state that did not experience
decline, as agricultural properties experienced increased valuation. In contrast urban property values declined by 14%, while suburban properties declined by 7.4%.

Yet, participants explained these facts reflect a macro-interpretation that omits insights that more clearly illustrate what their districts and communities actually experience at the local level. For example, as a number of independent audits reviewed for the study affirmed that HB 920 prevents districts from benefitting from property valuation increases without returning to the voting polls for approval. The following excerpt from a 2010 audit quantifies the issue:

As the result of legislation enacted in 1976, the overall revenue generated by the levy will not increase solely as a result of inflation. As an example, a homeowner with a home valued at $100,000 and taxed at 1.0 mill would pay $35.00 annually in taxes. If three years later the home were reappraised and increased to $200,000 (and this inflationary increase in value is comparable to other property owners) the effective tax rate would become .5 mills and the owner would still pay $35.00.

(Auditor of the State of Ohio, 2016)

Participants agreed that the state legislature was making some positive changes to the funding formula. Yet participants countered that at the same time the legislature was signing into law unfunded mandates that increased the costs of public education.

Superintendents also reported a need to add advertising to their budgets. This is a consequence of the Ohio Department of Education promoting school choice in the form of open enrollment and community school vouchers. Jim reported districts serviced by
his ESC spent approximately $25,000 on advertising (Jim, personal communication, June 2, 2016).

Likewise, much of participants’ skepticism in regards to the fracking boom was also linked to state-led actions that had instigated further distrust. This sentiment was first expressed in an interview with Holden, who reported his district had seen little benefit beyond the initial signing bonus, writing to me in an email: “The BOOM is in Columbus” (Holden, personal communication, May 27, 2016). While Brady a superintendent in a nearby district surmised,

There seems to be some back door deals that have prohibited some of this money from staying locally. (Brady, personal communication, May 31, 2016).

A shale report card issued by the Multi-Shale Research Collaborative (2016) indicates these accusations have merit. Ohio earned a D for its severance tax, having an “unreasonably low” severance tax in comparison to most of the nation’s oil and gas producing states. Moreover, the report issued an F to Ohio for its inattention to the boom-bust cycle attributed to oil and gas. The report found that the state government was not imposing taxes that would garner a profit from this exhaustible resource. According to this report, the boom was theoretically not even reaching Columbus, with Ohio’s mere .3% combined severance tax for oil and gas allocated solely to ODNR for oversight.

Other participants made poignant observations about the state government’s push for local responsibility on matters of school funding being antithetical to their paternal stance towards Eastern Ohio’s mineral wealth. Sam, an ESC superintendent remarked that it was a curious thing that the state dismissed wealth redistribution amongst schools
considering it had no qualms with the principle when it related to natural resources. He questioned,

Why is it not okay when they talk about public education? But now when the talk is about the wealth that comes from the ground in Eastern Ohio, why is it okay to redistribute that wealth and let the state decide how to distribute that wealth?

(Sam, personal communication, June 17, 2016)

**Social and Historical Actors in the Shale Valley’s Public Schools**

The schools in this study are identified by the Ohio Department of Education (2013) as rural and small town schools where student poverty ranges from high to low. Schools labeled as rural are identified by factors such as: low population density, low enrollment, small tax base, significant agricultural tax base, and low parental academic attainment. Schools labeled as small town are identified by factors such as: low population density, average population and enrollment, a mix of agricultural and professional employment, and average parental academic attainment. Although all seven counties shared similar economic histories and school district topographies, data collection (interviews and document analysis) revealed differences in the historical and contemporary issues the districts faced proved to be contingent on the geographic locale within respective counties. In other words, place matters.

As the narrative to this point indicates, untangling the multitude of insights expressed in interviews into an intelligible analysis required pushing back at oversimplified explanations. For example, writing the state of Ohio off as the adversary of rural schools or depicting public school administrators in Appalachian Ohio as hapless
victims of economic decline distracts from a more accurate interpretation of the unique phenomenon unfolding across the hilltops and along the riverbanks in this part of the state. For this reason, I return to Mills and his intersection of history and biography.

Mills (1959/2000) observed that men and women, like the participants in this study, are social and historical actors “who must be understood, if at all, in close and intricate interplay with social and historical structures” (p. 158). Participants in this study characterized their reactions to the fracking boom as not just a consequence of history, but also a rebuttal to contemporary social pressures in their communities and the surrounding region. Many participants also lamented that their respective district’s financial position prior to the boom limited their ability to do much more than use one-time monies earned from leasing agreements to stabilize the district’s general fund. While participants collectively agreed that the shale gas rush had been a financial boon to some extent, they remained concerned with how long it would last, wary of new issues fracking seemed to be creating.

**Historical issues.** The external and internal histories of the respective districts entwined to shape their financial statuses as the fracking boom began to creep into the region in 2010. Participants frequently cited the impact of school finance legislation as a stop block to generating the revenue necessary to fund district operations. Independent audits frequently reiterated this point, with multiple audits reviewed in the study noting,

The DeRolph III decision has not eliminated the dependence on property taxes. The unique nature of property taxes in Ohio creates the need to routinely seek voter approval for operating funds. (Auditor of the State of Ohio, 2016)
Current economic issues in the region date back to the downturn in the steel and manufacturing industry that began in the 1980s, and increased as coal production also began to decline, compound the issues incurred from problematic legislation. The Great Recession had further weakened the state government’s ability to offer aid. The following excerpt from a 2010 audit identifies this issue:

The general state of the economy is in a time of instability. The economy has a direct impact upon tax collections both locally and at the state level, which in turn affects the school district’s revenues. (Auditor of the State of Ohio, 2016)

The inextricable link between community vitality and local schools created internal stressors for districts. Five districts were assigned fiscal caution status between 2004-2015, with one remaining in fiscal caution as of the culmination of the data collection for this study. All participants in the study reported budget cuts that often included a pay freeze, building closures, and a reduction in force (RIF). Lisa, a treasurer from a district that had weathered fiscal caution, remembered struggling to make payroll. She recalled, “We had tax anticipation notes I think three different times to meet payroll” (Lisa, personal communication, June 30, 2016).

Analysis of internal histories also indicated reluctance on the part of local taxpayers. Voters frequently denied school districts’ efforts to legislate an increase in funding at the local level. According to the Ohio School Board Association (2016), which tracks election results, only 91 of the 200 issues placed on the ballot between 2004-2016 were approved. Heidi described her community’s traditional perspective towards school funding seemed to be “make do with what you have and keep it up”
(Heidi, personal communication, June 20, 2016). She further related this to the district’s status as the largest employer in the county, remarking, “They expect us to be good stewards of their money” (Heidi, personal communication, June 20, 2016). Independent audits from 2010 and 2015 confirmed that taxpayer fatigue was a problem for schools. As stated in one audit:

The district does not receive strong support from the residents of the school district in the form of local tax issues. The School District currently has an effective millage rate of 20 mills, which is the lowest allowed by law. The last operating levy passed by the residents was in November 1977. Numerous bond issues and one permanent improvement levy in recent years were all voted down by approximately 60 percent. (Auditor of the State of Ohio, 2016)

**Contemporary issues.** History intersected with biography to foster the contemporary issues participants reported. These contemporary issues were cited as influencing the decisions made in the wake of the fracking boom. When asked about the most pressing issues their district was currently facing the participants most common responses were: the limits of the state’s funding formula for public schools; school competition; declining enrollment; and the increasing costs of capital outlay and academic programming.

Seven districts in the study were reliant on “the guarantee,” which is the state’s assurance that the district will not receive less money than the previous fiscal year. This is an indication that these districts continue to experience declines in enrollment. The other five districts were dependent on categorical aid to provide funding that alleviated
issues associated with a lower local wealth capacity. Respondents from all 12 districts expressed dismay with the state’s funding formula iterations. Treasurers who participated in the study gave particular attention to the specifics of the problem. The overreaching message was not that the formula never worked in their respective district’s favor, but that the formula varied so much it was nearly impossible to plan for the long-term. As Simon, a treasurer whose district was currently benefiting from the guarantee explained,

You know in one particular model the revenue model may be very beneficial for your district. In another it may be less advantageous . . . We can’t just assume that the funding is going to be the same one that we had two years ago, or the same one that we had four years ago. It’s constantly being tweaked, and there are winners and losers in that game. (Simon, personal communication, July 2, 2016)

Tim, a superintendent whose district was also on the guarantee explained, assistance from the state was not necessarily comforting because it left districts vulnerable to political whims and economic volatility. He framed the need for the guarantee as a contemporary issue because it would be devastating if these funds were taken away (Tim, personal communication, June 20, 2016). Heidi, the treasurer of the district quantified the potential impact:

General fund budget we will say is about 9 million; well, fiscal year 2015 we had 10.9 million dollar revenue. So taking away 1.3 million [approximate amount the district receives from the guarantee] of that would mean teachers out of the classroom. (Heidi, personal communication, June 20, 2016)
In addition to declining enrollment, audits from fiscal years 2010 and 2015 reveal that school competition exacerbates enrollment issues. Ohio schools receive per-pupil funding, so when a student leaves the district, the dollars go with the child to the new district or community school. The following excerpt from a 2015 audit provides an example of the impact:

Enrollment plays a major role in the finances of the School District and enrollment has been declining over the past several years. A large portion of the decline in enrollment is due to open enrollment. The School District experienced a net loss in the amount of $1,112,684 as a result of a greater number of students leaving to attend other school districts as compared to incoming students from other school districts. (Auditor of the State of Ohio, 2016)

In regards to expenses such as capital outlay, the issue was divided related either to the upkeep of aging buildings or conversely the expenses of newly built facilities. Academic costs were pinpointed as being related to unfunded mandates, the need for new technologies, and curriculum materials that needed to be replaced to align with the new curriculum initiated at the state level.

**Part I: Summary**

History, as Mills (1959/2000) asserts, is explanatory. It offers a context, and as Mishler (1979) remarked, context is the threshold of meaning making. In the context of the Shale Valley historical and contemporary issues intersected, cajoling districts to lease their properties in an attempt to benefit from the fracking boom. Still, social scientists who rely on history for context must be alert as Zinn (1980/2005) affirms, that to be
retold, history must be morphed into an accessible narrative, the objective of which is to simplify the complexities of the sagas of the human race. The aim of this study is to peer more closely into the seemingly diminutive acts of school administrators ensconced within a fracking boom deemed to be the key to a nation’s energy independence. This was accomplished through the issue-focused analysis that follows in the interpretation section of this chapter.

**Part II: Issue-Focused Analysis**

This section of the chapter discusses the six issues identified during data analysis that reflect what I learned from all interview participants and respective financial documentation (Weiss, 1994). Of the 20 participants interviewed, all but two had more than a decade of professional experience in the region and were from generational families. Although participants were positioned to respond from the weaker position, one should not mistake this as being a naïve position. The issue-focused analysis indicates that participants not only understood that the boom had failed to eradicate old financial stressors, they also anticipated future costs. What is unique in regards to how participants navigated the fracking boom—the leasing agreements and other financial and academic possibilities that materialized—is their employment of *mētis*. Scott explains that “broadly understood, mētis represents a wide array of practical skills and acquired intelligence in responding to a constantly changing natural human environment” (p. 313).

**Metis Responds from Zeus’s belly.** In Greek mythology Zeus, the supreme god, desires to become infallible. In order to ensure he can not be dethroned by his offspring, he needs to acquire a form of intelligence that will supply him with the wit to respond to
unpredictable circumstances and unanticipated maneuvers of his enemies: Zeus desires mētis. To acquire mētis, Zeus tricks his first wife Metis, the goddess of wisdom (who possesses this coveted intelligence) into morphing into a form that he can swallow (Vernant, 2001).

This study’s objective is not to understand how a modern-day Zeus subjugated its conquest; instead the aim is to examine the response from within Zeus’ belly. Scott (1998), Certeau (1988), and Detienne and Vernant (1991) interpret mētis as an act so circumstantial in nature meaning it is often difficult to recognize its occurrence. Moreover, they do not see it as a strictly noble act. Participants in this study were motivated by a concern for their local places, but this does not mean their actions were inherently altruistic. As the six forthcoming issues indicate, rather than remaining mute in Zeus’ belly, participants used leasing and other financial opportunities that arose as a tactic for defiance, exercising a beguiling intelligence on behalf of their institutions.

**Question 1: Responding to the Option to Lease School Property**

The first of four guiding questions for this study inquired: How do Appalachian Ohio superintendents and treasurers respond to the option of entering into natural gas leases? Participants unanimously and unabashedly supported fracking as an acceptable way to boost the region’s economy. Participants depicted themselves as social and historical actors whose responses to this phenomenon were shaped by the internal and external histories of their districts and surrounding communities. Contemporary issues further positioned participants and their districts to welcome the chance to secure extra revenue. Still, they were not apathetic to the danger of fracking, overtly tempering their
pro-action mindsets with poignant observations about the long-term economic risk of fracking. Thoughtful remarks were made about the risk to the environment and health of the people and landscapes.

**Issue 1: Moderate pro-actionists.** The name of this issue is an amalgamation of two mindsets—pro-actionary and pre-cautionary—discussed in Briggle’s (2015) work *The Field Philosopher’s Guide to Fracking*, throughout which Briggle examined the real-time responses to fracking in Denton, Texas. Briggle concludes the two mindsets accurately represent the polarized response to fracking. While the pre-cautionary thinker urges for a confirmation of the facts and thorough empirical testing of the consequences prior to wholesale implementation, the pro-actionist dismisses this as a stop-block to progress, and believes that ill-consequences of new technologies are worthshouldering in the effort to better the human condition.

During interviews I learned that fracking companies handled leasing across these seven counties similar to how Zeus manipulated Metis. While, the companies are venerated for their financial position, technological savvy, and government support, they lack the local practical knowledge needed to assuage the most influential inhabitants of the communities that reside above the shale they aimed to frack.

The participants in this study were not obtuse to the companies’ tactics, bringing to my attention how companies overcame the aforementioned obstacle. Many local school district properties were of interest to landmen because the parcels of land would add to “grids” of acreage. Fracking companies use horizontal drilling to tap the shale reserves of adjacent properties from centrally located wellheads. The process of acquiring
these grids of land positions landowners to exert unique forms of pressure on one another. For example, Simon recalled officials from the village surrounding his district becoming irritated when the district’s board of education held out for better leasing terms, prolonging the acquisition of land, and signing bonus payments (Simon, personal communication, July 6, 2016). Sarah pointed out school districts in the region were often “boxed in,” a reference to the Ohio law that allows forced pulling from properties, even if owners refuse to lease. She explained,

At that time in this area, with a lot of property owners it was either you were going to negotiate and get something out of it or you are not going to negotiate and sit on a lot of property and they are going to pull from it anyway. (Sarah, personal communication, May 25, 2016)

Without fail, every participant in the study cited financial need as the primary catalyst for leasing. Comments such as: "well, you can't ignore the financial perspective"; "well, the reason was money"; and "well, it’s strictly economical," dot my transcripts in response to the question: What were the motivating factors for entering into a lease agreement? As Scott, a superintendent, succinctly stated, “It’s pretty simple, it is additional revenue” (Scott, personal communication, June 13, 2016).

Participants also often discussed their willingness to pursue leasing options for their district. Amy, a treasurer, credited the superintendent in her respective district for exercising a remarkable amount of persistence in ensuring the district got the option to lease. Furthermore, she questioned whether the lease would have occurred otherwise:
Our superintendent was very vocal in contacting Chesapeake and in getting the lease. But if he had not contacted them as much as he had, I am pretty sure we never would have even gotten a lease in the first place. (Amy, personal communication, June 2, 2016)

Participants measured community resistance to the leasing of school grounds in terms of attendance at board meetings or other direct forms of communication with the district. Administrators of all but one district surveyed noted that one of the few stipulations the board of education and local residents insisted on was a no wellhead on district property” clause in the lease. Several districts reported substantial community support, with six districts joining landowners groups, and two districts reporting community members had brought to their attention additional district properties that could be leased.

Few participants were flippant towards the possibility that fracking would lead to future environmental and economic degradation across these counties. Nine districts represented had taken action to protect school grounds from noise, truck traffic, water contamination, and explosions. Notably, participants also discussed health and safety concerns they had for the surrounding community. Most frequently cited were concerns about water contamination since a number of the districts had large populations of constituents that are reliant on well water. Many of these residents lived on isolated rural properties where it would be hard to tap into an alternate water source, should their existing one fail. Scott described the effort to protect the school and village’s water source,
We banded together with a bunch of local school districts, and entities, and farmers that had land who were all coming together, one of the most sensitive pieces was the environmental piece on water. So it was clear that we were protecting certain areas from the water supply being potentially damaged and impacted. (Scott, personal communication, June 13, 2016)

Although participants in this study willingly acknowledged fracking’s potential to incur long-term environmental degradation, they seemingly acquiesced to the economic pressures that positioned themselves and other local leaders to prioritize revenue sources over environmental threats. As Jim explained,

Here is what I would tell you: In our Rust Belt area, jobs supersede the environment. I think there is a direct correlation. It was just last week a report came out and Jefferson County was like second out of 88 counties in unemployment; Belmont County was fifth, and Harrison County was like seventh. And I am talking worst, second worst! What I am saying to you right now jobs supersede the environmental impact at this point. Plus we have been positioned with coal, and steel, and pottery. (Jim, personal communication, June 2, 2016)

And while many participants recognized there were outliers who were vehemently opposed to fracking in their respective communities, ultimately their districts had held steadfast in their decision to prioritize revenue. Scott, the superintendent who had actively worked to ensure the village water source was protected, described his decision:

To me, you know being the CEO for the district, that being said, I’m all in after that. As long as the water sources are being protected. Are you going to have
some potential problems with fracking? Possibly. Are you going to have some earthquake movements and what not? Possibly. Again the education piece from the oil and gas industry telling you what they do and how they do and then you have to weigh all those things. (Scott, personal communication, June 13, 2016)

**Question 1: Summary of Findings**

Certeau (1988) suggests that métis is employed by those in the weaker position. The weak engage in tactics to manipulate unfavorable circumstances in a manner that better serves their interests. As the first issue observed illustrates, these administrators recognized the precariousness of entering into legally binding agreements with companies using controversial techniques. Yet, they surmised they were “boxed-in,” not just geographically, but in terms of the expectations of the popular majority in their communities. Participants linked their pro-action responses to the economic needs of their school districts and local communities. When concerns were expressed, they were from the position of an allegiance to place. What I found is that administrators believed that by exercising what one participant dubbed “cautious optimism” they could simultaneously reap benefits while protecting their districts from unnecessary harm. Luke, the superintendent who coined this phrase, remarked,

Not getting too carried away with what we have. Keeping in balance with our needs and trying to match that up with what the future holds. (Luke, personal communication, June 2, 2016)
As the next issue will further explore, the revenue from leasing was treated within their budgets the same way an employee should handle the earnings from an end of the year bonus.

**Question 2: Short and Long Term Financial Planning**

The second question guiding data analysis asked: How does increased revenue from natural gas leases inform short and long-term financial and organizational planning for the school district? Mêtis is a response to unanticipated events and is employed as a means of adapting to a changing environment (Scott, 1998). And it is precisely this type of environment that fracking creates. Mêtis became a necessary tool for participants as fracking emerged in the communities their schools serve. Three of the six issues that emerged across interview and financial documentation data provide insight into how school district leaders attempted to leverage their mineral wealth to alleviate stressors they attributed to both the instability of the regional economy and the inadequacy of school funding legislation. The point of analyzing these actions is not to issue unbridled admiration to the employment of mêtis, but to critique its use within this context.

**Issue 2: Stopgap.** More than 4 million dollars in signing bonuses was paid to the 12 districts represented in this study. The participants in this study characterized the oil and gas leases they signed as a stopgap, challenging the idea that the actual leasing of natural gas rights in and of itself was any type of long-term boon for their respective district. Participants reported this revenue provided a temporary way to replace funding lost to state budget cuts, enrollment decline, and dwindling tax bases. It was impermanent.
In response to my questions about the leasing process, spending of revenue, and setbacks, all 20 participants emphasized that lease agreements resulted in “one time monies,” referring specifically to the signing bonuses. When I pressed about royalties, which should be paid over time if oil or gas was extracted from the property, I learned none of the 12 districts were receiving royalties from leased properties. As Gina, a superintendent from one of the districts that leased early on exclaimed,

Leasing is a one shot deal unless you are pumping off your property, and we have not received ANYTHING in royalties! (Gina, personal communication, May 23, 2016)

Participants from districts in the most northern county in the study, Columbiana County, doubted much more activity would happen. From what they had observed over the last few years, most of the development had ended up being in the counties just south of them. Other participants attributed the absence of royalties to geographic locale, explaining their district was landlocked within a village or a city that made drilling close enough to their property to extract oil and gas less likely. Still, signing the initial lease to get at least the signing bonus was worth it. Chance, a superintendent of a district that spanned just 16 square miles, explained,

I think our board is aware that we do not have a large geographic area . . . . I don’t think it is anything here in the village that we are counting on or banking on to give us increased revenue. (Chance, personal communication, June 21, 2016)

A few participants believed their districts might still have a chance to earn royalties in the future. These districts had one or more of the following attributes: large
square mileage (that included a substantial number of rural properties); large parcels of
district owned property; increasing fracking activity occurring within the district. Still,
participants from these districts also gave tempered responses about the possibilities of
royalties. Cindy a treasurer from a district that boasted all three attributes remarked,

Even if we would start to get royalties, those aren’t going to continue forever.
You can’t consider that as part of your operating budget, that money can come
and go. There is no stability in that. (Cindy, personal communication, June 2,
2016)

Accuracy of accounts. Leasing deals were signed in the region as early as 2010.
Therefore I accessed the most recent independent audits available from fiscal year 2015
and the most recent five-year forecast assumptions from fiscal year 2016 to confirm or
disconfirm the accuracy of the perception that leasing revenue was merely a stopgap.
These 24 documents further emphasized the limitations of signing bonuses. For a few
districts the only trace of oil and gas revenue in their financial documentation is the initial
signing bonus. Yet in other districts signing bonuses were earned across multiple fiscal
years because a district was able to lease parcels of land it owned throughout the county.
This was possible for districts that still owned land from former sites of township schools
that dotted their district before it was formed in the late 1800s or for school districts that
had recently consolidated multiple building sites into one campus, but still retained
ownership of the old buildings and grounds. The most notable example of this was a
district that enjoyed a mix of both the aforementioned circumstances and was able to
lease various parcels starting in fiscal year 2011 and ending in fiscal year 2015, earning
in total $611,536 in signing bonuses (Auditor of the State of Ohio, 2016). Dom, a superintendent, aptly articulates the viewpoint on the limits of leasing:

Actually, we knew it was a one-time money and we really didn’t count on additional revenues from the oil and gas industry. We knew there was the potential for it to happen, but you can’t really count on money you do not know if it is really going to come in. (Dom, personal communication, June 15, 2016)

**Temporary stability.** The idea that signing bonuses were a stopgap did not stop participants from giving credence to how the option to lease was advantageous in both its timing—on the heels of a statewide budget shortfall—as well as its ability to provide a substitute for revenue lost at the local and state level during this time period. As Sam, an Educational Service Center [ESC] superintendent observed, the timing was advantageous for districts in his service area. He remarked,

The one-time monies have helped districts extend the time period when a tax levy for operations or permanent improvements was going to be placed on the ballot in their respective communities. (Sam, personal communication, June 17, 2016)

Treasurers participating in the study agreed that leasing had diminished some of their typical short-term worries about costs of things like College Credit Plus, technology, testing mandates, and capital outlay. Underscoring the sentiment that leasing could most provide short-term stability is that most districts favored allocating the funds to non-recurring costs. The number one and two choices were capital outlay and one time academic expenses (e.g. curriculum materials). Six districts reported saving a portion of the funds for a later date, while three reported allocating a portion of it to staff incentives
such as a stipend or raise to base salaries. Capital outlay reigned as a popular choice because as Cindy explained,

Where people get into a problem is that this money coming in from gas and oil is non-recurring money . . . in my experience, non-recurring money, you use on non-recurring expenses such as if you need to repave, buy the buses, whatever, you don’t use that money on wages and benefits each year because that money might not be there the coming year. (Cindy, personal communication, June 2, 2016)

Capital outlay improvements ranged from security upgrades to fixing liability issues at district sports facilities. Districts that reported spending the revenue on capital outlay explained the issues they addressed with these funds had often been items long-over due for attention as Tim, a superintendent described the choice,

We are trying to put you know money where we can sustain our buildings and move them into the future. (Tim, personal communication, June 20, 2016)

Money was often allocated to academics. It allowed districts to complete technology purchases or update curriculum for one subject area or grade level. However, it was much less likely districts spent the money on additional staffing in academic departments. The common rationale for this was uncertainty. Simon explained,

It really has not changed a whole lot in terms of our business plan moving forward. Our approach—again we talked about the fact that we do not believe that these revenues will be there forever. Most of the revenue we are seeing with gas and oil— to an extent we think are one-time monies. We aren’t adding staff accordingly, unless we absolutely have to. We make staff decisions based off the
number of students we have, not based off the number of dollars we have in the bank. (Simon, personal communication, July 6, 2016)

Sam’s explanation further supported this popular refrain,

That amount [signing bonus] wouldn’t fund one teacher beyond one year total and maybe into the next year. So $100,000 dollars doesn’t sustain much, but if you can take those dollars and spend it towards technology or some type of wiring then maybe that in itself will have a little more of a sustaining effort in a school. (Sam, personal communication, June 17, 2016)

While allocating monies towards staff incentives was not popular, one district did come up with the idea to give one-time stipends as a good faith effort after years of district pay freezes. Chance, the district’s superintendent believed it had strengthened the negotiation process a few years later (Chance, personal communication, June 21, 2016).

Two other districts agreed to raises on the base salary, which the respective treasurers of the district related to the oil and gas boom, and a fourth district anticipated this being a possibility during the impending contract negotiations that would begin July 2016.

**Issue 3: Value-added.** Just minutes into data collection, during the interview that kicked off this study, Gina, the superintendent I was speaking with, insisted that the real boon from fracking for school districts was what she called “the offshoots”:

The leasing I would say, unless they have substantial property is minuscule compared to the other things. The leasing is not as big a deal as everything else. (Gina, personal communication, May 23, 2016)
This discussion at the beginning of the interview process was serendipitous, while I had not considered this in my initial forming of the study, I was able to probe for further evidence of what Gina coined as offshoots throughout the following 19 interviews and subsequent document analysis. According to Stabile (2015), author of the Ohio School Finance Blue Book, school districts typically can earn more revenue in one of four ways: 1) pass an operating levy; 2) from new construction in the district; 3) from inside mileage (which accounts for inflation); 4) if the state increases aid to schools. These limited options make the possibility of offshoots, or ways to gain additional revenue from fracking, significant to shale rich counties. During data analysis, I organized these offshoots into six categories: 1) property valuation; 2) new construction; 3) ad-valorem taxes; 4) enrollment growth; 5) miscellaneous donations and deals; 6) income taxes.

**Property valuation.** By 2011 districts started to notice increases in their Class I (residential and agricultural property) and Class II (commercial, industrial or mineral property) property valuation and by 2014 these increases were, in many cases, significant. By the start of this study, all 12 districts had experienced an increase in property valuation. Five-year forecast assumptions and independent audits give emphasis specifically to increases in Class II mineral and commercial property and the utility upgrades. Treasurers I spoke with verified this conclusion. Heidi’s district, for example, had experienced unprecedented changes in Class II mineral property valuation. She quantified the change:

Well, I mentioned Class II mineral. This is what our history has been: back in 2009-2010 we’re looking at 2.7 million both of those years. In 2011, 2.9 million;
2012, 2.2 million; 2013, 2.8 million, 2014 (gives emphasis), 15.6 million. Big jump right? Hold your breath. In 2015, 90.8 million. Class II mineral only. That is a huge jump. Of course that is tax year 2015 so collection 2016. We just received our first [tax] settlement check this past April, so that was a huge impact. (Heidi, personal communication, June 20, 2016)

Districts where initial exploration was now leading to more widespread drilling activity reported that utility upgrades associated with oil and gas had also been a boon. Gina, whose district includes the majority of its respective county, observed,

Well the district biggest increase in funds has come from the utilities input, we get a tax on utility upgrades and our largest has come from utility upgrades. And after utility upgrades, the gas and oil industry are the eighth largest property tax payers in the county, and so the property tax from the property that they have enhanced with their facilities. So, yes, we have seen substantial increases from the gas and oil industry. (Gina, personal communication, May 23, 2016)

When I followed up with Sarah, the treasurer of this district, she expounded,

Our biggest area was our public utility personal property and the valuation there has been tremendous. And I have talked to the county auditor concerning it. It is due largely to AEP. I would say 80% of it is AEP and what they have done, and that is taxed at full value with their lines and the substations because we have four plants within our district and they have power stations at each of these plants.

(Sarah, personal communication, May 25, 2016)

Sarah further surmised,
Is it all due to gas and oil? I have to say “yes” because we don’t have a lot of industry in our county, so if not AEP would not make any improvements at all.

(Sarah, personal communication, May 25, 2016)

**New construction.** Many participants also reported that new construction benefitted their tax base. Their respective districts usually had a higher square mileage and more steady oil and gas activity. Cindy, a treasurer from one such district reported,

We have had new construction. We have two new motels that we can look out our windows and see. Now we have a Sleep Inn and a Days Inn. Stingray, they built a huge seven million dollar facility, office facility, down on Route 40 not far from the school. (Cindy, personal communication, June 2, 2016)

The audit for fiscal year 2015 for Cindy’s respective district confirmed the impact of this construction:

In addition to the increases in property tax revenue that the School District is receiving as a result of increased assessed valuation related to the development of the oil and gas industry, ancillary businesses have been constructed, or are in the process of being constructed, within the School District. These new constructions allow for new and increased tax revenue opportunities. (Auditor of the State of Ohio, 2016)

In contrast, other participants saw little benefit from new construction because of the high number of surrounding districts—meaning their square mileage was limited—or because of their geographic locale. Chance, a superintendent of one such district explained that his district was landlocked: bordered by the Ohio River, enmeshed within
a small village, and bumping up to two other small neighboring districts. As a result, there was no land for oil and gas companies to improve (Chance, personal communication, June 21, 2016).

Ad-valorem. Treasurers interviewed explained that wellheads located in the district generate ad-valorem tax revenue. The tax is first collected by the county auditor’s office and then distributed to respective districts. As Simon, a treasurer in a district where production was in progress, explained this can be significant but not necessarily dependable because of depreciation:

The dollars that are paid into the county auditor’s office based on the gas or oil that is extracted from the oil, from the land from the wells. We have received ad-valorem taxes and it has been significant, significant revenue increases for our district. Again, the concern with that is how long does it last? Is it sustainable? Obviously it’s something that is depreciated significantly after the first 3-5 years. That is just the nature of the well cycle from our research and our discussions with the county auditor’s office. (Simon, personal communication, July 6, 2016)

The benefit of ad-valorem taxes was substantial enough to spur a legal challenge to Ohio law, which aligns with vertical drilling techniques and taxes at the wellhead. One district suggested this was inequitable, now that horizontal wells are capable of extracting oil and gas from properties spanning multiple districts. Cindy, the treasurer of the district which initiated this challenge explained how the local savvy of district officials and the county auditor led to the realization their district was losing tax revenue to a nearby district. She explained they realized that the district had “legs” from a nearby well
extracting from properties in their district, but all the tax revenue was going to the
neighboring district because that was where the property with the wellhead was located.
The district took the appeal to the state level, which resulted in a significant change in
Ohio law that will benefit school districts when a well head is located on a property
outside of the district’s territory, but still extracting oil and gas from a property within the
district. Cindy’s comment underscores the significance of ad-valorem to many districts
across the seven counties in this study:

If you are taking the oil and gas out of land that is in our district then we want the
tax. We don’t want their money [the neighboring district], but we do want the
money coming from lands. This has been a really big thing. (Cindy, personal
communication, June 2, 2016).

Similar to new construction, districts with smaller square mileage were less apt to
reap substantial benefits from ad-valorem taxation. Chance, the same superintendent who
had lamented small square mileage limited his district’s ability to benefit from
construction further lamented,

Now we are a very small district, so we are not going to have the same number of
well sites as [districts on the western end of the county]. (Chance, personal
communication, June 21, 2016)

**Enrollment.** The small base of literature that considers how the fracking
boom might impact public school districts, projected the impact of transience (Jacquet,
2009; Schafft et al. 2012). Ohio’s per pupil funding formula holds the possibility for this
transience to be a financial boost. Additionally, small town districts with less available
property for new construction and wellheads often had the best options for renters. Yet, only a small number of districts reported a financial boost from enrollment, and those that did found it was only for a brief time. As Dom, a superintendent whose district experienced this temporary boost explained,

Well, we did see a bump in enrollment, temporarily. We probably went 6-8 months and we probably picked up 40 kids. Just having new students in invigorates us all. Some of them have left since the pipelines have been built, but I’m sure more would be coming in. And I hate to say it but with every kid more money comes in, not that I am a money hungry guy. (Dom, personal communication, June 15, 2016)

**Donations and deals.** Both community members and oil and gas companies were credited as making one-time donations to school districts. Participants representing two different districts reported donations from oil and gas companies, while participants from three districts noted donations from community members. One of the most remarkable contributions associated oil and gas, was not a donation, but a long-term deal with a school district. Nick, the superintendent of the respective district explained that the deal granted the new natural gas power plant property tax exemption in exchange for $1.3 million to be earmarked for the building of a new middle and high school (6-12 building) (Nick, personal communication, June 1, 2016).

**Income tax.** Districts that had an existing income tax levy reaped additional financial benefits. This only applied to two districts represented in this study. Participants representing both districts noted that the income tax levies benefitted their districts
because it positioned the district to earn tax revenue from residents who leased their properties. Moreover, additional revenue was earned from any residents who earned royalties from production on their properties.

**Summarizing the limits of offshoots.** Similar to the revenue from leasing, participants were doubtful that these secondary benefits, or off-shoots, held long-term financial potential. As Simon, whose district had seen substantial benefits remarked,

So we are hesitant to build any of those types of revenues into our forecast moving forward because who knows what the future holds? Who would have guessed that at this point two years ago that there would be very little gas and oil activity going on in our county, Belmont County, and surrounding areas. We probably wouldn’t have guessed that, probably wouldn’t have guessed that and wouldn’t have forecasted it that way. But those types of things cause us to be hesitant about any new revenues, even if they are significant revenues from one year to the next. And in our case we have seen some significant increases.

Problem is should we expect those, and I don’t think so. (Simon, personal communication, July 6, 2016)

**Issue 4: Educating-in.** A pervasive issue across rural America in regards to generating economic vitality has been the struggle with what some dub the brain drain: outmigration, in search of academic and economic prospects (Carr & Kefalas, 2009; Johnson, 2014). Participants in this study observed the economic disadvantage incurred by historical and contemporary issues situated their district in a precarious position in regards to using revenue generated from leasing deals or secondary benefits (e.g. ad-
valorem taxes) for long-term financial planning. However, one thing participants felt empowered to do was engage in long-term academic planning that tied into new economic possibilities associated with fracking and other regional industries. A trend I began to label as educating-in.

Data analysis revealed that participants representing the 12 districts engaged in various attempts to educate-in. These efforts fall into three categories: 1) diversifying curriculum; 2) aligning curriculum with regional industries; and 3) community building. Participants focused on actions that might reinvigorate the health of their respective communities and boost community efficacy. They characterized educating-in as a way to cater to rural and small town kids who want to live in the region after graduation, but also as a way to combat the increasing competition of community schools and open enrollment. In some cases, these efforts united multiple districts and communities, while in others it created suspicion amongst formerly allied districts.

**Curriculum diversification.** A faction of superintendents interviewed for this study focused on ways to move beyond the boom, taking on what one superintendent described as the transformational mindset. These administrators wanted to diversify their curriculum in order to serve more of their students. They imagined serving larger sections of their population and expanding curriculum not just to prepare students for post-secondary institutions but also for a local job market that they believed was also stabilizing.

Joe, a superintendent whose district was nearing the end of its lease agreement, explained his initiatives were a response to the boom. He used the temporary increase in
money to stabilize the district’s financial forecast, allowing him to become more forward in serving students who had previously been left out by the district’s limited curricular offerings. He observed,

So here we are, we have 50% of our kids [not going to college or vocational school] and of the 30% that are going to college 10% aren’t going to stay there. They are going to drop out in 1-2 years. And there is where your drug problem is. I don’t want to be preachy, but there is no hope, you are setting them up for failure. (Joe, personal communication, May 23, 2016)

Nick, a superintendent in an adjacent county, emphasized that diversifying curriculum requires a visionary leader who can think beyond the short-term increase in revenue. His aim was to give students a chance to remain in the county or to move away, based on what they truly want, as opposed to a previous lack of options. He described his strategy with enthusiasm during our interview,

You know we did not just say okay we are going to have oil and gas classes, and we have some, do not get me wrong. But because of all this we received two Straight A Grants and totally incorporated STEM K-12, Project Lead the Way, and engineering classes . . . we expanded. We’re not so naïve to just say we’re just oil and gas like the shale academies. (Nick, personal communication, June 1, 2016)

Scott, a superintendent from Columbiana County where the fracking industry’s presence was already dwindling, suggested the temporary boom had further strengthened the district’s mission to prepare students for post-secondary education.
We just want to give kids the option to see what the business world is like and some other things. We’re really geared towards pushing kids towards the secondary environment, maybe more than we should be, but we’re really geared towards pushing them to higher education. (Scott, personal communication, June 13, 2016)

Curriculum and regional industries. A larger number of participants in the study reported focusing on curriculum either specifically related to oil and gas or manufacturing. The rationale of this choice was related to where jobs would be for students once they graduated. Brady, a superintendent, linked the value of this as providing graduation options and immediate employment for at-risk students. As he saw it, the idea was to serve struggling students, stating,

Kids [would] come out of high school with some industry certified credentials so that they could go into the oil field. So we’ve accomplished that, we’ve had some kids graduate, we’ve provided an avenue for those type of students. (Brady, personal communication, May 31, 2016)

Five districts reported investing in curriculum directly related to regional industries with the long-term hope being this would give students a pathway to careers, and perhaps build the local economy. Many participants anticipated these new pathways as being critical to long-term community vitality. As Cindy explained,

There are opportunities for our kids coming out of school to find jobs that they wouldn’t have otherwise had the opportunity to find. You know not everyone is on a path to higher education, and this has provided job opportunities that they
can get into for apprentice at to start to build a career and they are well paying jobs, very well paying. (Cindy, personal communication, June 2, 2016)

As Brady simply concluded, “A lot of rural kids this is what they want to do” (Brady, personal communication, May 31, 2016)

**Community building.** Participants I spoke with also suggested this was the first time in a long time they could recall viable opportunities for larger segments of their graduating classes to establish careers in the region. In fact, when asked how they would describe the fracking boom to outsiders, many participants emphasized they would want others to recognize that the boom had boosted the efficacy of their communities, creating possibilities for local students to thrive after high school. Dom, a superintendent and a lifelong resident of the region underscored the importance of possibilities for local students, linking these opportunities to the long-term health of the county’s public schools. He suggested,

> And just the opportunities for our local students, that is probably the biggest thing that I see. My kids, other peoples’ kids that are my age, they will not have to go to Columbus for employment. There are things they can do right here. So if they stay in this area, they will raise kids in this area. We will reinvigorate all the schools in the county. (Dom, personal communication, June 15, 2016)

Chance shared similar thoughts. He suggested that even though the recent downturn in the industry had tempered some of the original optimism, many residents remained hopeful based on the possibility of the ethane cracker anticipated for Shadyside, Ohio. Chance observed,
And you know I think there is still continued hope that if the wells do take off and the cracker plant does come that it could be a revival for this area as maybe a second round as a place that produces things for the country. (Chance, personal communication, June 21, 2016)

Still, other administrators went as far as attributing the economic boost associated with the fracking boom to residents being generally more optimistic towards their schools and communities. Gina, whose district had experienced years worth of population decline, staffing cuts, and building closures, believed this to be the case for her district. She affirmed,

I do think the prosperity in the county has a feeling that we should—the county is improving, we’re getting hotels and things, why not get a top-notch school? So I think it was faster for sure. They are feeling good about the county. They are feeling good about the wealth. So let’s have a top-notch school. (Gina, personal communication, May 23, 2016)

*An academic artifice.* Participants in this study situated themselves as social historical actors, responding to decades of economic struggle. Almost all cited low wealth capacity as one of the top three pressing contemporary issues in their district. Educating-in was reported by some districts as a way to combat this, employing the guile the Greeks associate with mētis (Certeau, 1998; Detieene & Vernant, 1991). In several interviews, a Shakespearian-like aside emerged in many of these discussions. Some participants would explicitly point out that new curricular initiatives held the potential to entice students to open-enroll in their district. Chance, whose district had not reaped a substantial benefit
from leasing or off-shoots, explained that efforts associated with curriculum held the potential to generate revenue through open enrollment. It might also prevent current students from going to another district. He remarked,

For one, you want to prepare the students for what is going on economically. So not every one of your students is going to be a four-year college student, and I think it is important to know that. I think some people lose drastic sight of that. There are a lot of ways to be successful in the world and not all of it is going to college. So that is important. And I think another aspect of it with open-enrollment is you want not only to keep your students in district, you also want to entice students from neighboring districts to come to your school and make your school viable. So if you can offer programs like that you may pull a few other kids in, which increases your operating revenue and allows you to offer, you know, more programs to your students and to keep your enrollment up. So I think you would be naive if you didn’t look at ways to expand your school and to make it more attractive to families and students. (Chance, personal communication, June 21, 2016)

Scott, like Chance, oversaw a school district that was one of several in his county, and he too frequently dealt with competition amongst districts. He explained,

Our PR campaign is something that we have to focus on to demonstrate that we are a desirable district and that if people want to choose where they come to live that they would want to come here. (Scott, personal communication, June 13, 2016)
Educating-in as an act of métis. Evidence of participants in this study using the fracking boom revenue to fund educating-in efforts is a noteworthy form of métis. Educating-in exemplifies the effort to manipulate the fracking boom—a phenomenon that held only short-term monetary benefits—in a way that might secure long-term financial stability for both districts and communities. While it is much too early to assess whether the efforts discussed will come to be realized as long-term economic gains, it is fair to argue actions of educating-in hold such a possibility.

Question 2: Summary of Findings

Three issues emerged from the data that indicated how participants used money generated from fracking to inform short and long term financial planning. Participants saw history as an informant in regards to why they were hesitant to see the revenue generated from the fracking boom, whether signing bonuses, future royalties, or forms of tax increases, as something to count on. Still they suggested the revenue from fracking provided an acceptable means of paying down debts and gaining at least a modicum of autonomy over their finances. They repeatedly emphasized that leasing provided limited opportunities. Participants also brought to the forefront of the study financial benefits schools are accruing that have been largely overlooked, such as ad-valorem taxes. Still participants remained wary of possible budget cuts to public education in the upcoming biennial budget. Subsequently, they depicted both leasing money and money collected from offshoots as a limited opportunity to “stabilize things,” and did not indicate it influenced their long-term financial and organizational planning.
Despite the limitations of the actual revenue earned from fracking, evidence of participants in this study using the fracking boom revenue to fund educating-in efforts is a noteworthy effort of mētis. It underscores a hidden possibility of securing long-term financial and organizational gains by investing the money available to curriculum that might directly impact the community by stabilizing job prospects and therefore the population. In turn, this would benefit the schools, which would see a boost in per-pupil funding and local wealth. Both of which, might enhance their tax base. These acts align with Certeau’s (1988) observation that mētis empowers those in the weaker position to accomplish their own interests while preventing the stronger powers from recognizing the coup.

**Question 3: Oil and Gas Revenues and Unfunded Mandates**

The rising cost of public education has intensified tensions amongst local school districts, their state governments, and the federal government. Public school officials observe that these mandates are largely unfunded, meaning schools are required to take specific actions in regards to safety, academic accountability, and facilities, without receiving any additional funds to pay the cost of these changes. Participants in the study listed these costs as one of the pressing issues their district was grappling with. The third guiding question for this study sought to determine whether revenues from natural gas leases enhance a district’s ability to respond to accountability measures and mandates. In interviews I specifically asked all participants: In what way, if any, has funding generated from the fracking boom assisted your district in meeting these costs?
When participants answered this question, they included not just revenue accrued from leases, but also any revenue earned from the offshoots. Tim explained,

> You know we have all these different funding sources, but I try to keep things simple. You only have one wallet, so as the general fund has more money available then you are able to do those things. (Tim, personal communication, June 20, 2016)

**Issue 5: You only have one wallet.** The one wallet concept was a common idea woven throughout the interview responses. No participant suggested the fracking boom generated enough funding to alleviate the concerns related to an increase in unfunded mandates for issues that ranged from academic achievement to school safety upgrades. The theme of stabilization reemerges in this issue. As Hal framed it, “It helps our overall financial picture” (Hal, personal communication, May 24, 2016).

Participants maintained the vantage point that districts essentially spend from “one wallet”. Participants from nine districts agreed that revenue associated with fracking was a stabilizer. As Sarah explained,

> Well definitely, had things not been done in our county, our revenues would not have been coming in as well. And yes we are getting those bills for the College Credit Plus [option to take college classes for free as a high school student] and furnishing the books for those fees, and that would have been a burden in our district had it been like it was in 2000 when we consolidated and closed one of our buildings. It would have been where are we going to cut? Now that we have the extra monies here, I’m not panicking so quickly as to how we’re going to pay
for that or how many fees are we going to have for books and that kind of stuff.

(Sarah, personal communication, May 25, 2016)

Participants from three districts saw no real benefit from monies accrued from fracking in regards to assisting with unfunded mandates. The five-year-forecast assumptions for fiscal year 2016 confirmed that these districts had not seen any noticeable revenue from oil and gas beyond their initial lease agreement. These districts were landlocked, and not near the epicenters of production to date. The districts were not experiencing many additional offshoots, so to characterize oil and gas monies as assisting with accountability would not make much sense. As Lisa, a treasurer whose district earned a substantial signing bonus, but had not earned new money beyond the initial deal explained,

The gas and oil money didn’t really help with that, just to get some technology initially . . . . But with the gas and oil it seems like a lot but really it just helped us with some quick fix things at that point. (Lisa, personal communication, June 30, 2016)

Many participants also conveyed a feeling of contention towards the overreach of the state government that they perceived as limiting their ability to use oil and gas revenue, whether from leasing or offshoots, to enhance the career prospects for their students. In their minds, accountability had a price tag that did not match the purchase. As Sam explained it,

Generally speaking, the needs of business related to employment from oil and gas exploration and downstream business development, and the mandates from the
Ohio Department of Education for accountability are NOT compatible. In my opinion, there is way too much government overreach and lack of flexibility necessary for local control in our region. (Sam, personal communication, June 17, 2016)

He further postulated,

How much funding would be freed up for staff training, program development including career technical education, adult training, infrastructure development, and support without mandated testing requirements...time to administer, cost to develop, cost to score, and time and money spent to deal with the meaningless results? (Sam, personal communication, June 17, 2016)

**Question 3: Summary of Findings**

Public education, P-12 and higher education, remain the second largest expenditure for the state of Ohio (Ohio Legislative Service Commission, 2016). Public schools receive 47.8% of their operating revenue from the state, 46.2% from the local tax base, and just 6% from the federal government. In every sense, this positions district administration to be a steward of public monies, accountable for practical ways to avoid deficits. The point participants frequently made was that new revenue alone does not abdicate their concern with the rising cost of education. Not only because many of the districts first needed to pay down existing debt, but also since the mandates elevating the cost of public education were perceived as inflexible. As Scott explained,

I’ll come back to funding, funding is everything. If we have the funding to introduce programs that are beneficial to this region, we’ll be able to do that. We
are still required to provide all the core opportunities that students have had traditionally. So the mandates we have are still present. I know the governor was in our neck of the woods, and at the end of the day he said he is all for providing flexibility for our schools to do what they need to do. Unfortunately we are still held to the standards of providing kids with certain things and still have the ability to be successful on graduation type exams that kind of hold them captive to getting their diploma, we still have to prepare them for all those things. (Scott, personal communication, June 13, 2016)

**Question 4: The Limitations of Fracking for Funding**

The primary critique of resource based economies is their long-term instability. Appalachia has experienced previous busts in the coal, oil and gas, and timber industries that have prompted steep economic downturn in parts of the region dependent on said industry as a key employer (Eller, 2008). Strangely, a dearth of research examines the inevitable impact this has on the region’s schools. Still less research examines actions of school administration during times of economic boom. With this in mind, the fourth guiding question asked: Do superintendents and treasurers perceive limitations to the short and long-term possibilities the fracking boom holds for their district?

**Issue #6: Invisible gorillas.** Chabris and Simons (2010) created a video in the 1990s of basketball players dressed in black and white passing basketballs back and forth. In the middle of the video, a student wearing a gorilla suit walks in front of the camera and pauses to face the audience, thumps its chest, then moves off camera. Chabris and Simons estimate the gorilla spends about nine seconds on camera. The researchers found
that when they asked participants to count the number of passes completed by the players dressed in white, only about half noticed the gorilla that enters the scene. Chabris and Simons began to theorize that when humans focus their attention on a specific task, they often miss things—in this case the gorilla in front of their faces—that should seemingly beckon attention. Chabris and Simons’ overarching conclusion after further experiments and research is that humans hold powerful illusions about attention, memory, confidence, knowledge, cause, and potential. In short, humans inflate their depth of understanding and ability to infer. This leads to professional misjudgments and inattention to essential information that might sharpen one’s reaction to a problem.

Akin to Chabris and Simon’s (2010) participants, the participants in this study at times had an exaggerated understanding of the potential short and long term impact of the fracking boom on their districts. Across interviews, some common illusions manifested themselves. I labeled these as invisible gorillas because, like the participants in Chabris and Simon’s (2010) studies, some participants recognized them while others did not.

**Invisible gorilla #1: Frackers are opportunists.** Frackers are opportunists. This is to say the industry is in the region because this is where the mineral wealth energy companies’ need is. Participants acknowledged this as fair, given this is an industry enmeshed in a free market. Yet only four participants indicated a more complete awareness of how the position of the industry within the market limits any sincere concern on the fracking industry’s part in regard to the long-term viability of local schools and communities. Chip, one of the few to notice the complexity observed,
Yes, I guess at the time, you’re doing all these things and there are so many opportunities for our kids to learn, and that just didn’t seem to be as, we called different departments, and had a lot of conversations about it. And I think it comes down to, “yeah” we said this when we wanted you to sign, but when it comes down to implementing it that was not, that didn’t play out near as well that I had hoped. (Chip, personal communication, July 6, 2016)

Instead, many participants insisted the industry clearly wanted to be partners with the district, as indicated by infrequent donations to the school district and a willingness to agree to leasing terms that protected school grounds. Gina believed,

They [oil and gas companies] are absolutely contributing! Not only with taxes, but with gifts to the district and support of activities, and grants. The oil and gas industry, most of them have been really good, especially the ones that located in county. (Gina, personal communication, May 23, 2016)

These participants seemingly are shrugging off the mētis of community members who were more insistent that the district needed to secure more long-term benefits from the boom that might assist the district financially in the aftermath. Sarah, the treasurer of Gina’s district remarked,

Some of the mindset of the residents here is, “yeah,” they are coming in and doing this and building plants and facilities, but they owe us something. To me that is a terrible way to be viewing it. (Sarah, personal communication, May 25, 2016)

Residents who desire to secure benefits before the boom dissipates are not
necessarily misguided. Columbiana County was already experiencing what was believed to be a permanent downturn. Participants observed that businesses established in their community prior to the boom moved south to chase the financial opportunities. Joe reflected,

The most challenging for the fracking? Probably, the disappointment of the slow down. I think many people had their hopes up that this would be Jed Clampett [a fictional TV character who strikes oil on his family land and moves to Beverly Hills] some have, but the majority haven’t. And with the companies in 5-10 years that have moved away, the last thing they need is more disappointment. (Joe, personal communication, May 23, 2016)

**Invisible gorilla #2: Impact on property valuation and the wealth index.** Ohio assesses the capacity of local taxpayers to tax themselves by creating a wealth index based on property valuation and median income. By fiscal year 2016, the five-year forecast assumptions revealed that Class II mineral and commercial property valuations are rapidly increasing throughout the districts participants work for. This creates a complex issue, as Cindy, a treasurer, replied when I asked her if she was concerned about the volatility of these increases (and possible future decreases):

Definitely. No, that is definite because it happened when the coal industry phased out in our area, you know, the property values were pretty steady for years, and then when oil and gas came in property values went up because there was a market. And if the oil and gas fizzles out, then again, or curtails whatever you want to call it. If it’s not here and there is no use for the property and the hotels
aren’t filled, etcetera, etcetera, the values are going to go back down. We will collect less tax money. Will the state give us more money? Who knows? (Cindy, personal communication, June 2, 2016)

Sam, was even more specific, suggesting people were ignoring the reality of this possibility,

I don’t know that many folks that are in our business understand how really volatile the industry really is. You know it can go gang busters for a few years like it did, but then something can happen not only in our country, but maybe Russia or OPEC decides they want to flood the market and all the sudden it just shuts down. So you have occupancy rates of under 40% now in one city (hotel occupancy) and they built what 9 hotels? (Sam, personal communication, June 17, 2016)

Moreover, the present rise in property valuation across these counties created tensions and contributed to confusion as to the root cause of the increase. Participants reported tax appeals from constituents in their districts to the county auditors office. Tim, predicted his district, and probably the whole region, had just reached the threshold of what was to come in terms of issues with property tax bills (Tim, personal communication, June 20, 2016). According to the Ohio Legislative Commission (2014), following the Great Recession a curious thing began to occur in 2008: suburban, urban, and small town property values began to decline, while rural property valuation increased. The relationship this has to the fracking boom in Ohio has frequently been misunderstood. This was a difficult issue to unravel in this study because initially rural
property valuation increases were related to agriculture and the unanticipated rise in the Current Agricultural Use Value tax (CAUV) that is based on crop prices and therefore ensures farmers are not overtaxed on acreage used for agriculture production (Ohio Legislative Commission, 2014).

The confusion in shale rich regions began around 2011 when districts that were home to many of the farm properties experiencing CAUV increases started to notice stark increases in their Class II mineral property valuation that was related to oil and gas.

Simon, provided a broader overview of the issue:

There were various reasons for this though [property valuation increases] . . . They were not all attributed to the gas and oil boom. People may blame them on the gas and oil boom, but I don’t think they are all attributed to the gas and oil boom. (Simon, personal communication, July 6, 2016)

Invisible gorilla #3: Ohio’s severance tax. At the same time landowners are becoming increasingly irritated with their property tax bills, the state is doing little to earn revenue off the extraction of eastern Ohio’s exhaustible oil and gas reserves. The Multi-Shale Research Collaborative (2016) gave Ohio a D for its low severance tax, finding it has one of the lowest in the nation: just a .3% effective rate for oil and gas combined. Ohio is missing a one-time opportunity to build a fund from the extraction of this depleting resource. Two superintendents brought this issue to the forefront of their interviews. Brady, a superintendent in Columbiana County who was watching the boom fade remarked,
Not, I mean I don’t want to get political on you. The state government, the federal government and the local government they need to decide how they are going to use this gas and oil money. I feel as a local leader of the school that a percentage of that needs to go back to the school districts, but I don’t know if the state government believes in that. (Brady, personal communication, May 31, 2016)

*Invisible gorilla #4: Environmental degradation.* None of the participants were dismissive of the possibility that fracking was possibly linked to environmental issues. Several cited the economic issues that plagued the region, led to the majority choosing financial gain despite the risk. However, the majority of participants seemingly overlooked three things. The first is that short-term economic gains may not suffice to justify the cost of long-term environmental issues. Particularly since these costs hold the potential to displace district residents. One example is residents reliant on ground water. Just two participants seemed to recognize this. Luke a superintendent of a district with a high number of farms reliant on well water surmised,

> One thing, and I don’t have any factual information, but you hear that fracking has decimated some water supplies and in ground water springs and water and to me that is kind of scary. Especially in this area you have a lot of people that rely on wells and so forth, and drinking water. So I kind of look at it that way. (Luke, personal communication, June 2, 2016)

Eleven of the 12 districts represented in the study specifically protected school grounds by including a ‘no wellhead on property’ clause in their lease. Still this overlooks a second aspect of environmental degradation. Participants’ discussion of these clauses
indicated an overinflated view of the benefits of these protections. Their districts are part of larger grids of properties leased to companies, meaning wells can be drilled within a radius that would cause explosion hazards, traffic issues, and evacuation dilemmas.

Moreover, if significant environmental harm came to other properties in the radius the district encompasses, the school’s protections will not prevent outmigration or property devaluation associated with such a potential incident.

The third issue worth recognizing is the assertion made by Sarah,

I feel that it is not the nightmare that everyone, at this point in time, it is not the nightmare that many have led us to believe it was going to be. I have seen our community become more active. It has come back to life. (Sarah, personal communication, May 25, 2016)

At present, this perspective is limited to just a few years of experience with fracking. As Jim pointed out, infrastructure and production are still just in the early stages, and had slowed some during the decline of prices (Jim, personal communication, June 2, 2016).

Many unknowns in terms of long-term environmental impacts still linger.

Invisible gorilla #5: Wealth disparity. The wealth disparity within their districts is growing, making some residents overnight millionaires, and leaving others with no real option to benefit because they own minimal property or are renters. Chip, whose district is home to a substantial farming population pointed out,

This whole process, it creates winners and losers. It does. So if you are somebody that has hundreds of acres you are loving it, and if you are somebody who has an acre you didn’t get much money then you are dealing with the increased property
values, and the fact that you can’t rent a house anywhere around here anymore because people jacked the price up. (Chip, personal communication, July 6, 2016)

Likewise, participants representing districts where the vast majority of land had been leased, but little production had been initiated reported ad-valorem taxes had not been realized. Low oil and gas prices at the time of the data collection seemed to contribute to further pessimism. Amy, a treasurer in Columbiana County, where activity had ceased after an intense land grab, articulated this sentiment. She observed,

Well, I think if the economy doesn’t improve in the oil and gas field, we are looking at probably not having anything happen . . . . Most of the drilling has been to the county south of us, maybe to the one south of that as well. I do not think that what they thought was here is actually here for the minerals and things like that. So I don’t, and I don’t have a crystal ball, and I don’t foresee it benefitting much more than it already has in the future. And I hope I am wrong. I know they are doing some drilling south of us and some exploration. But it has pretty much stalled here, and I don’t know that they will ever go back to it again. So I’m not really planning on much here with the oil and gas. (Amy, personal communication, June 2, 2016)

Finally, Sam explained that some districts had experienced little to no financial gain if they had not been given either the opportunity to lease or received payments from providing a right-of-way for new pipeline. Sam went on to explain that the boom was originally projected for 20 counties in Eastern Ohio, but quickly dwindling to approximately seven. He believed a pressing issue is that schools are already starting to
look much richer on paper just as local property owners are digging their heels in about tax hikes. Equally troublesome, participants suggested it was likely that voters would reject passing levies to match increased assessments of local wealth capacity. Sam characterized the growing dichotomy, explaining,

There have been isolated pockets of fracking within our service region, but not to the extent that it would be considered a “boom” for school district long-term budgets. One of the counties in this “fracking boom” has the highest unemployment rate in the state. Nearly one out of two students in the region is considered to be “economically disadvantaged.” In some respects, there has been a negative impact on school funding and other unintended consequences of oil and gas exploration in the region. (Sam, personal communication, June 17, 2016)

**Question 4: Summary of Findings**

The participants in this study employed local practical knowledge in an attempt to manage the fracking boom to the advantage of their district. When participants encountered limitations such as a production decline, false hope, unfavorable state policies, and environmental threats, they employed the use of cunning maneuvers that minimized negative impacts or created loopholes to unexpected benefits (such as educating-in opportunities). Responses varied in answer to questions concerned with long-term financial planning as well as those concerned with the possible limitations fracking created for schools and communities. It was not unusual when discussing long-term planning and possible limitations to find contradictions between interview data and
financial documentation or between statements made by individuals representing the same district.

Most participants either purposefully ignored some of the looming issues or were unable to identify these issues with enough advance to counter the problem. This highlights one of the stark limitations of mētis. While mētis encourages the use of cunning intelligence, it is also prone to shortsightedness. If rural schools and communities share a unique interdependence, then the invisible gorillas observed hold the potential to complicate schools’ ability to remain solvent.

A Summary of Fracking for Funding: A Dickens of a Paradox

As the six issues revealed, what is most unique and curious about the manner in which these public school district leaders navigated the fracking boom—the leasing agreements and other financial and academic possibilities that materialized—is their employment of mētis. Refusing to stay silent in Zeus’ belly, participants attempted to use leasing and other financial opportunities that arose to achieve financial stability. Public schools are often found to contribute to the decline of their local communities by employing academic practices that best prepare students for life outside rural communities (Carr & Kefalas, 2009; Johnson, 2014; Theobald & Campbell, 2014). Investing in education that has potential to enhance the regional economy, indicates an attempt to reverse this trend in the Shale Valley. Therefore the evidence of participants in this study using the fracking boom revenue to stabilize their general fund and fund educating-in efforts is impressive.
However, the participants in this study indicated they were experiencing a Dickens-like paradox. Dickens made his mark on the world by writing literature that explored the paradoxes created by economic growth. In *Hard Times* Dickens (1854/2001) demonstrates one of the more brilliant literary analyses of how grand schemes to improve society fail those employed to do the improving at the ground level. Within the fictional Coketown, which represents the rapidly industrializing cities of 19th century England, the mills create both wealth and poverty within a short walking distance of one another. The school, in this narrative, serves as the gatekeeper of the ideology that the human condition is being improved using standardization as means of efficiency in the mills, thus boosting the economy. One of the most affable characters in the book, Sissy, calls the ideology perpetuated in the schools into question when she responds to the teacher’s lesson on national prosperity. The teacher asked Sissy if she lived in a prosperous nation.

Miss Louisa, I said I didn’t know. I thought I couldn’t know whether it was a prosperous nation or not, and whether I was in a thriving state or not, unless I knew who had got the money and whether any of it was mine (p. 65).

All the participants in this study could point to neighboring school districts and community members who could not make the claim of benefitting from the boom. Moreover, geography limited some districts to one-time benefits, while providing others the opportunity to earn additional revenue. These dichotomous experiences left for debate whether the fracking boom was beneficial to the region’s schools. The more polarized viewpoints ranged from depicting it as “a savior” while others retorted the only boom
“was in Columbus.” One participant more moderately characterized the boom’s impact as “real, but minimal.” Subsequently, although participants agreed that leasing lands was an acceptable way to steady financial forecasts or earn additional revenue, they remained reluctant to describe the Shale Valley public schools as being in a “thriving state.”

Chapter 4 Summary

This chapter began with a narrative introduction before transitioning to an issue-based analysis. The chapter reflects what was learned from the participants and financial documentation. This reflection begins with a narrative introduction to what local businessmen are now calling the Shale Valley. Within the opening narrative the actions of participants were contextualized by the historical and contemporary issues the valley is struggling with. Consideration was also given to the participant’s disposition to the state. Next a robust discussion of the six issues collectively experienced by participants in the study was provided. Those issues were as follows:

1) Moderate Pro-actionists: participants proceeded with caution in spending and saving leasing and value-added revenue.

2) Stopgap: money earned from leasing and value-added opportunities was treated as one-time money or a temporary fix to long-term budget issues.

3) Value-added: participants recognized and sought after six additional opportunities to earn revenue (in addition to leasing agreements) associated with the fracking boom.
4) Educating-in: participants took steps to invest in new as well as enhance existing curriculum and programming that worked towards reversing the brain drain that plagues the region.

5) You only have One Wallet: revenue from fracking was invested with the bigger financial picture (what schools call a five-year-forecast) as a guide.

6) Invisible Gorillas: illusions associated with the fracking boom that have the potential to inflict long-term powerlessness on schools and communities where the fracking boom occurs.

Chapter 5 culminates the study with a discussion of the findings, along with recommendations for relevant stakeholders at the regional and state level.
Chapter 5: Conclusion

In this study, I sought to understand how superintendents and treasurers from seven shale-rich counties in Ohio—Belmont, Carroll, Columbiana, Guernsey, Harrison, Monroe, and Noble—navigated the pressures and responsibilities that come with entering into legally binding agreements with private corporations. In 2008 at the threshold of the Great Recession superintendents and treasurers throughout Ohio’s Appalachian region did not anticipate the forthcoming tremors of the fracking boom. By 2011 fracking for funding presented public schools in shale rich areas of Ohio with a stopgap as the uncertainty of the state’s biennium budget loomed and the local citizens were recalcitrant to approve tax increases. The primary purpose of this study was to assess to what extent fracking for funding—leasing and the acquisition of value-added benefits—improved school districts’ financial and organizational capacities.

The data collected for this study broaden our understanding of the important role school leaders play during the finite years of a resource boom. It also provides a rare glimpse into the outcomes of financial negotiations between public schools and extractive companies. Finally it offers insight into how the future vitality of local schools and communities is enhanced or endangered by decisions made during the boom years of resource extraction.

This chapter begins with a culminating discussion of the extent to which the fracking boom that is at the center of this study provided opportunities for districts to plan for both the short and long-term needs of their students and communities. This discussion is attentive to the participants’ acquisition and loss of power on behalf of their
school districts. Next, lists of recommendations and implications for further study are noted. The chapter closes with a final observation about land as a form of capital in the rural industrial hinterlands.

**Summary: Power and Powerlessness in the (Shale) Valley**

In 1980 Gaventa published his seminal study of power and lack thereof in the Cumberland Valley, situated in Central Appalachia (*Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley*). Gaventa studied a post-extraction community, focusing on how past and present rebellion against the coal companies had succeeded and failed, but also when and why quiescence had settled into the Valley. He observed that although mountains that shaded the Cumberland Valley were rich in coal, economic decline had plagued the region. More troublesome, as Gaventa pointed out, was that democracy did not provide a viable platform for locals to take action to improve the situation.

More than thirty years passed between Gaventa’s (1980) study and the beginnings of the fracking boom in Northern Appalachia. Yet, his work offers insight into why it is necessary to be concerned about how schools and communities navigate the short and long-term implications of the fracking boom before the bust rattles through their hills and valleys. Gaventa (1980) puts forth the possibility that rebellion may be an implausible means of affecting desirable outcomes for communities grappling with the economic, environmental, and social issues that come at the heels of large-scale resource extraction. However, the conclusions drawn from this study reveal that quiescence is not always
what occurs when the conditions are ill suited for rebellion. Six issues emerged from this study:

1) Moderate Pro-actionists: participants proceeded with caution in spending and saving leasing and value-added revenue.

2) Stopgap: money earned from leasing and value-added opportunities was treated as one-time money or a temporary fix to long-term budget issues.

3) Value-added: participants recognized and sought after six additional opportunities to earn revenue (in addition to leasing agreements) associated with the fracking boom.

4) Educating-in: participants took steps to invest in new as well as enhance existing curriculum and programming that worked towards reversing the brain drain that plagues the region.

5) You only have One Wallet: revenue from fracking was invested with the bigger financial picture (what schools call a five-year-forecast) as a guide.

6) Invisible Gorillas: illusions associated with the fracking boom that have the potential to inflict long-term powerlessness on schools and communities where the fracking boom occurs.

Collectively, these issues indicate that participants were in fact actors in the scene, taking part in everyday practices that allowed them to navigate the boom in a manner that benefited their districts and surrounding communities. As opposed to the mutiny or helplessness researchers are often conditioned to look for in such circumstances akin to the fracking boom, participants employed métis, and engaged in more subtle acts of
resistance. Superintendents and treasurers interviewed for this study reported local practical knowledge as the best way to grapple with the unexpected influence the interests of corporations and the nation state had on their school finance and organization. Furthermore, participants explained that their aim was to leverage leasing agreements to strengthen their autonomy in regards to financial spending and planning, enhancing local control over the vision of their school district. Below, I discuss to what extent the data indicated this was accomplished.

**Power in the Shale Valley Schools**

Administrators in the Shale Valley could not imagine a scenario in which abstaining from leasing would bolster the public’s confidence in their ability to properly manage the finances of their respective district. Participants willingly acknowledged the environmental threats and uncertain economic outcomes associated with the shale gas rush, yet professed to believe that leasing was an inevitable choice. They emphasized that to refrain on moral or ethical grounds was unconscionable. The majority of the community would perceive abstention from leasing as missed opportunity to be resourceful without increasing the local tax burden. Participants believed that nonparticipation on the part of their districts was unlikely to stop the infiltration of the fracking industry, which they said ushered in economic opportunities to a receptive public.

The sentiments intimated by participants illustrate a point made by Malosi (2005) on the effect of path dependencies on present decision making. Malosi explains that path dependency links the past to the present affirming that past economic choices inevitably
limit the options available to present day decision makers, such as the participants in this study. This is not unlike Mills’ (1959/2000) notion of the intersection of history and biography and Hazlett’s (1946/1996) primary economic lesson. The school districts in this study and their surrounding communizes share a common past that made widespread resistance to the fracking boom by influential community leaders an unlikely event.

Instead, suggesting their districts were fated to be enmeshed within the boom, participants indicated a better exertion of their energy was to place their districts in a position of influence during the fracking boom. To do so, they engaged in practical maneuvers, or acts of mētis. The first maneuver was simply to lease and allocate the resulting signing bonus towards paying down debt or for funding a capital outlay or academic expense. Participants’ second tactic was to move forward as moderate pro-actionists that treated both leasing and value-added revenue as one time money and any current partnerships with the industry as temporary.

The most progressive attempt at enhancing the long-term economic stability, not just of the districts, but the local communities, was participants’ effort to educate-in. This initiative involved creating new or strengthening existing curriculum and programs focused on reversing the trend of outmigration from the region. Participants were clear in their rationale for the shift to prioritizing educating-in. They explained that the fracking boom’s emergence had provided funding, reason, or external support (and at times all three) that allowed for a more curated effort aimed at improving the life prospects of the student population. Many of the superintendents interviewed supposed these investments might benefit the district by stabilizing the population and strengthening the tax base. If
these possibilities are realized, the next generations of residents should be better equipped to maintain their community’s vitality.

Participants also exerted power by engaging in cunning acts that at times threatened to weaken their relationship with neighboring districts. For example, participants revealed steps to allocate new funds towards programs that might entice students from neighboring districts to act upon their right to open-enroll. Likewise, participants often forwent alliances with local officials in order to broker better leasing agreements. Furthermore, districts were not afraid to challenge one another legally to secure ad-valorem taxes. Two districts went to court over what they deemed outdated taxation policies that needed to be adjusted now that one well could extract oil and gas from properties in multiple districts.

The six issues that emerged from the data also suggest that the participants recognized the weakness of their position. The money earned from leasing, even when it neared a million dollars was small in the scheme of a yearly operating budget that might range from 9-10 million dollars—participants saw it as a stopgap at best. The royalties, once imagined to follow the lease, had not begun, and districts were only earning significant value-added opportunities (i.e. secondary benefits) if their territory included large square mileage in areas of the region with high rates of fracking activity. Even in such cases, revenue opportunities dissipate rapidly as the oil and gas is extracted.

Yet, school leaders gained a less obvious power. This form of power was similar to what Scott (1985) observed in his study *Weapons of the Weak*. Scott found that when citizens acknowledge that an imposing force’s strength (in this study the fracking
industry) is bolstered by state support, locals are able to rule out less advantageous forms of power acquisition. In these circumstances rebellion is assessed as a waste of precious energy, while retreat promises to abandon local culture and values. Yet if those in the weaker position employ more subtle resistance, for example superficial compliance or leveraging a benefit provided by the powerful, they have found an accessible weapon.

In this study, participants committed similar assessments, and sought a more subtle power for their district. Participants directed the momentum they gained towards stabilizing the district’s finances using it as proof to the community that district leadership could maintain stability. Leasing bonuses and value-added revenue were allocated towards lessening the overreliance on local taxes and state funding. While the attempts to educate-in create the possibility of long-term economic gains for not just the district, but also its constituents.

**Powerlessness in the Shale Valley Schools**

Similar to the Cumberland Valley, democracy could not thwart some of the growing forms of powerlessness experienced by school leaders. A prominent example was Ohio’s unwillingness to raise taxes on the oil and gas industry (Multi-Shale Research Collaborative, 2016). Superintendents and treasurers I spoke with were frustrated by the state government’s aversion to securing a more substantial profit from an exhaustible resource. They recognized that the absence of a strong severance tax would make it impossible to fund the steps other states have taken to support schools and communities that are afflicted as industries go bust.
Another dilemma was connected to standardization’s influence on school organization. Administrators eagerly discussed the implementation of new forms of curriculum that they believed would better prepare their students for college and careers. Perhaps even improve the future economy. However, the Ohio Department of Education adhered to set policies that often did not support this innovation. For example, the shale and manufacturing academies being formed in the region were not able to be part of the career centers, which are organized to serve students from multiple districts, because the existing state guidelines for these centers did not anticipate these types of programs. As a result, a charter school had to be created or a school district had to agree to host the program. This instigated animosity amongst districts, which began to accuse each other of using these academies and new programs to compete for students through open enrollment. Participants reported addressing these issues with the Department of Education, which in turn was empathetic, but remained unresponsive to the need to revisit policies that no longer aligned with present economic conditions.

Beyond state policies, local geography and politics also fostered other forms of powerlessness. Several districts had no viable land to lease, while others had only small parcels. Of the 28 public schools and two career centers located within the seven counties, approximately 11 districts were reportedly not offered a lease. Yet, these districts are not physically removed from the scene of the fracking boom, experiencing the negative byproducts, without the compensation of the benefits enjoyed by their neighboring districts. Contrastingly, those districts with territory rich in shale are still vulnerable to the by-products, but also the stark rise in Class II mineral valuation. While
this increase will lessen their state aid as their wealth index increases, it provides no
guarantee that local taxpayers will agree to be taxed at a higher rate. However,
participants’ discussion of the unprecedented amount of contests to tax bills at the county
auditor’s office foreshadows the unlikeliness of increased local support.

Although the circumstances differed from the Cumberland Valley, powerlessness
continued to menace the participants in this study. Superintendents and treasurers
articulated a collective belief that the fracking boom’s impact, while real, was limited.
Furthermore, the invisible gorillas identified by the data analysis for this study suggest
current decisions could further complicate the path dependencies created by resource
extraction in Appalachian Ohio. As Malosi (2005) points out, path dependencies can
create a number of challenges that are difficult to reverse, making the option to diversify
local economies or overcome environmental degradation increasingly improbable. An
example in the Shale Valley might be the long-term property valuation issues caused by
the permanent extraction of oil and gas and the potential for environmental degradation
associated with well sites (Christopherson & Rightor, 2012; Kennedy, 2014; Liscomb et
al., 2012).

The forms of power the participants had acquired on behalf of their school
districts by leasing the school’s natural gas rights and engaging in other financial
opportunities associated with the fracking boom were tempered by the constraints of state
policies and corporate influence. The larger political and economic forces seemingly
encouraged only subtle acts of resistance, and promised to keep the districts in the weaker
position for the duration of the fracking boom.
**Recommendations**

The recommendations that follow build upon what was learned from all interviews and financial documentation analyzed during this study:

**Financial and organizational planning.**

- Schools in this study reported ramping-up their efforts to educate-in, seeing this as one of the plausible ways to make long-term financial investments that correlate with the fracking boom. Implementing programming that prepares students for both primary and secondary industries associated with fracking is arguably necessary. However, it is imperative that administrators have foresight of the post-boom economy. Schools need to implement programming that prepares the next generation of citizens to develop and work within a more diversified regional economy that would not be reliant on just one or two industries, and thus have a better chance at outlasting the bust. Additionally, schools need to begin offering curriculum that acknowledges the possibility of future land reclamation issues, and prepares students who might take the lead on solving yet unknown problems.

- Protecting school grounds from environmental degradation and safety risks is admirable, but schools are a part of, not apart from, their communities. If the community at large experiences trauma, the school would not be isolated from the consequences. Inevitably these consequences would bring both short and long-term financial issues for school districts. Schools can be proactive in a number of ways. This includes coordinating with first responders on evacuation plans, and
working with relevant stakeholders on how a water crisis would be handled. Rural and small schools are known to be centers of community life. What role would schools play if a disaster associated with fracking occurred?

School and community relations.

• School district leaders—superintendents, treasurers, and boards of education—should increase communication with the public in regards to the benefits and limitations of the revenue associated with the fracking boom. Participants in this study did not recall having formal communication with their public about why they were leasing and how they would use the money, nor did these discussions occur with their faculty and staff. Instead, the local press became the official source on these matters. As a result, a number of participants reflected upon misunderstandings that further threatened their prospects at the ballot box and the trust of their faculty and staff.

• One of the most pressing issues brought to light by Issue 6: Invisible Gorillas is the common misunderstandings about property valuation increases that are causing an unprecedented amount of complaints to the county auditors’ offices throughout the seven counties. Participants remarked that a great deal of the confusion was likely due to the substantial amounts of agricultural properties in their district, which are subject to the Current Agricultural Use Value [CAUV] tax. Superintendents, county auditors, county commissioners, and extension agents should host forums addressing this issue. Forums should focus on differentiating between increases related to the CAUV as opposed to increases
related to oil and gas. The forum should include ample time for questions and answers.

- Participants in this study struggled to envision manageable ways to make long-term investments based on one-time funding. Moreover, they also struggled with short-term financial planning, as very little of their formal schooling in regards to school finance and organization had prepared them to adapt to such an unanticipated economic shift. The counties in this study are not academic deserts as they are surrounded by a number of private and public universities and community colleges. These institutions of higher learning should be approached about the need to offer coursework and professional development options that serve current students and working professionals by preparing them for present and future opportunities and dilemmas associated with the fracking boom.

**Recommendations for political advocacy.**

- This study offers further proof that if Ohio’s .3% severance tax on oil and gas is not increased, the loss of revenue will be a detriment to both citizens living within and outside of fracking zones. The state of Ohio continues to face deficit issues that, if left unresolved, will affect school funding for all of the state’s districts. Schools both in and outside of fracking zones can find common ground in the need to ensure that oil and gas reserves are not depleted for free. According to the Multi-Shale Research Collaborative (2016), Ohio’s neighbor West Virginia has a combined oil and gas severance tax of 4.4%, while Colorado, another state with comparable oil and gas activity implements a 5% combined severance tax.
Looming issues associated with the inflation of Class II property valuation and its impact on the wealth index for local schools should be a catalyst for collective action. As it stands, the districts in this study, along with others in similar positions, are likely to experience a stark decrease in state funding which is complicated by the fact the local public is beginning to contest their property tax bills at the county auditor’s office. School districts facing this issue are members of the Coalition for Rural and Appalachian Schools, which could offer the resources to address this issue.

Implications for Future Research

Few studies consider the important role public schools enmeshed within resource rich communities play in directing the scene as it is played out. The following is a list of implications for further study based on the results of this research.

- Public schools in other shale rich states, such as Pennsylvania and Colorado, have reported financially benefitting from land leases and other value-added opportunities. Additional research in these settings is needed in order to more thoroughly examine the phenomenon of fracking for funding.

- The findings of this study, which focus on the extent to which fracking for funding improves the financial conditions of Appalachian Ohio districts, provides a basis for a survey of all districts experiencing the shale gas rush in Ohio.

- Educating-in was found to be one of the only long-term financial efforts schools in this study were able to invest in. Case studies of schools that have created manufacturing and shale academies or that are diversifying their curriculum
should be conducted. These studies would provide identified schools with valuable evaluations of their progress, while also providing information to other districts currently engaging in similar programming, or contemplating the possibility.

- Action research provides a platform for engaging local stakeholders in examining what is and is not working for their region as the fracking boom continues. It is also designed to effect change during the research process. Boom periods are swift, and therefore for results of research to be useful to those most affected, researchers need to employ a method that lends itself to more expedient results. Action research is a feasible way to include stakeholders in the research process and provide a more immediate return on their time investment.

- As the results of this study indicate, the reactions of citizens living through fracking booms are tempered by their positions within the community. Research methods such as portraiture or heuristic inquiry position qualitative researchers to see beyond the sensationalized reactions that capture headlines, but not the daily realities of living and working in parts of North America that are being fracked.

- While this study focuses specifically on the impact of fracking on school finance in Appalachian Ohio, the research methods employed may be applicable to further research seeking to explore links between resource extraction and school finance. Additionally, the findings of this study add to the literature base that affirms the vitality of rural schools located within regions prone to boom to bust industries hinges upon the decision making that takes place during the boom years.
Concluding Remarks: This Land is Your Land

The limited power acquired by school districts in this study along with their impending powerlessness might incline one to make the participants and schools in this analysis into a caricature: the inept victims of a corporatizing state. The state then becomes the villain. From there the cartoon’s simplistic plotline unfolds. Viewers watch for an act of cunning that will allow the weaker (but good) protagonist to overcome the behemoth strength of the evil antihero.

The problem with this interpretation is that it is ahistorical. It imagines that in the past, as well as now, that people in the Shale Valley are an audience to their own lives. Carefully collected histories of the region and current work on the fracking boom discredit this explanation (Belmont County Extension, 1990; Dietrich-Ward, 2016; Javersak, 1999; Pickenpaugh, 1991; Tanks, 1987/1995). Local elites (politicians, administrators in schools, lawyers, businessmen, and so on) influenced infrastructure planning, tax policies, union and anti-union sentiments, and other fundamental aspects of past economic death and life (Dietrich-Ward, 2010; Javersak, 1999; Martin, 2015). During periods of economic stability, a relatively satisfied public bolstered the clout of the local elites. Presently this is happening again, as those who possess the power at the local level direct their attentions towards becoming the Shale Valley (WTRF-TV, 2016a).

Jim, a participant in this study, whose family had lived in the region for generations pointed out that school administrators must take responsibility for the outcome of the current boom. He suggested the power for the school leaders comes in
knowing local history well enough to foreshadow how the plotline may further unfold. He remarked:

We’re in that stage again where there is another natural resource that is being extracted from our land and we have to be smart about making sure we protect the land. As far as financially with schools, you work with the local leadership. And when I say leadership I am talking about politicians that have power. And you make sure you work with the port authority, and the business bureaus, and all those folks to make sure you diversify. Make sure that you have county portfolios. To make sure that the county and schools thrive after the industry is gone. (Jim, personal communication, June 2, 2016)

During data analysis interview transcripts and financial documentation revealed that the swift emergence of the shale gas boom precipitated the leasing process, but the long-term economic impact on the schools and their communities remained in question. As with most boom to bust economies, the answer will be written as a postscript to a story that as of the culmination of this study in 2017 is still unfolding. Arriving at the crossroads of history and biography, the participants must stop and look both ways before heading into the future. Wendell Berry (2007), the formidable voice of Appalachia and a tireless advocate for all that remains small and rural in America, offered a guidepost for this occasion when he wrote: “Without prosperous local economies, the people have no power and the land no voice” (p. 330).
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Appendix A: Interview Guide for Superintendents

Sample Introduction:

Before beginning this interview, I want to briefly review the purpose of this study. As a researcher my goal is to understand how you have navigated the financial implications the fracking boom has had on your respective school district. I am specifically interested the role you play as superintendent in navigating these opportunities or issues that you have encountered. The information from this interview will be analyzed alongside other interviews throughout the seven counties identified for this study. Your anonymity will be protected and your school district will not be identified in the final report. Are there any questions that I can answer before we begin?

District Background/Demographics

1. How long have you worked for your district? How many years have you been in this position?

2. Rural education research identifies several issues that are pervasive for rural schools, for example outmigration. What are the 2-3 most pressing issues your district is currently experiencing?

Knowledge Questions

3. Like many local school districts, your district decided to lease its natural gas rights. What were the motivating factors and/or reasons for entering into this leasing agreement?

4. What were the pro and con arguments for entering into this leasing agreement?

5. Has the district faced any setbacks in the process?

6. What or who influences how this new revenue is spent?

Distinguishing Questions

Short-Term Planning

7. We have been discussing the financial impact of leasing your district’s natural gas rights. What are some immediate organizational or financial steps you took to maximize the incoming revenue’s potential?
8. Many local districts are citing concerns with the high-cost of state and federal mandates that accompany the accountability movements and common core curriculum. In what way, if any, has funding generated from the fracking boom assisted your district in meeting these costs?

9. Can you describe any immediate actions (e.g. building new facilities or adding new programs) you were able to take that are related to the boom?

Long-Term Planning

10. Can you describe any steps you have taken to secure long-term financial and organizational benefits for your district?

11. Are there external factors limiting your ability to maximize the benefits of the fracking boom?

Opinion/Value Question

12. In your opinion, what is the most beneficial aspect of the fracking boom for your school district? What about the most challenging?

Interpretative Question

13. If someone unfamiliar with this area asked you to describe the impact of the fracking boom on your school district and the surrounding community, what would you tell them?
Appendix B: Interview Guide for District Treasurers

Sample Introduction:

Before beginning this interview, I want to briefly review the purpose of this study. As a researcher my goal is to understand how you have navigated the financial implications the fracking boom has had on your respective school district. I am specifically interested the role you play as treasurer in navigating these opportunities or issues that you have encountered. The information from this interview will be analyzed alongside other interviews throughout the seven counties identified for this study. Your anonymity will be protected and your school district will not be identified in the final report. Are there any questions that I can answer before we begin?

District Background/Demographics

1. How long have you worked for your district? How many years have you been in this position?

2. The schools in this region have been depicted, for the most part, as chronically disadvantaged by the state’s school funding formula. What are the 2-3 most pressing financial issues your district is currently experiencing?

Knowledge Questions

3. The purpose of this interview is to discuss the financial impact of leasing your district’s natural gas rights. What was your role in the decision making phase of this process?

4. What were the motivating factors or reasons for entering into this leasing agreement?

5. What were the pro and con arguments for entering into the leasing agreement?

6. What or who influences how this new revenue is spent?

7. What are these funds allocated to (e.g. curriculum, facilities maintenance, special projects)?
Distinguishing Questions

Short-Term Planning

8. Has the increase in revenue associated with the leasing agreement influenced any immediate changes in the district’s expenditures? (If the answer is yes, ask for the participant to expound.)

9. Has the leasing agreement altered the projections of your district’s five-year forecast? If so, how?

10. Has your school district encountered any setbacks with the leasing process?

11. Many local districts are citing concerns with the high-cost of state and federal mandates that accompany the accountability movements and common core curriculum. In what way, if any, has funding generated from the fracking boom given any immediate relief to these external financial stressors?

Long-Term Planning

12. Can you describe any advice you have given to the superintendent and/or board of education that would allow them to better secure long-term financial and organizational benefits from the leasing agreement for your district?

13. Are there factors that you believe will inevitably limit the district’s ability to maximize the benefits of the fracking boom in the next 10-15 years?

Opinion/Value Questions

14. In your opinion, what is the most beneficial aspect of the fracking boom for your school district? What about the about the most challenging?

Interpretative Question

15. If someone unfamiliar with this area asked you to describe the impact of the fracking boom on your school district and the surrounding community, what would you tell them?