WHERE DO WE LEARN?: A MULTI-SITE CASE STUDY OF LEARNING SPACES OF RURAL SCHOOLS AND AGRICULTURAL EDUCATION PROGRAMS IN OKLAHOMA

By

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This thesis is dedicated to rural students everywhere, particularly those in my home state of Kentucky. Without my passion for these students and their potential, writing this thesis would have been drudgery instead of purposeful work.

Thank you to Mom, Jason, and the whole fourth floor crew for both encouraging me and heckling me through it all.

Matthew 5:16

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Abstract: This multi-site case study explored the experiential learning theory concept of learning spaces (Kolb & Kolb, 2017), in the context of rural high schools and agricultural education programs in Oklahoma. Data were collected through teacher and administrator interviews, document review, photodocumentation, and observations. Data were initially coded using an eclectic coding strategy blending descriptive and in-vivo coding within the site, then theoretical coding strategies were used at the case level. In the rural, high school learning space, a total of 22 theoretical codes emerged across the five dimensions. In the rural, agricultural education learning space, a total of 18 theoretical codes emerged across the five dimensions. Themes describe the learning space using the five dimensions of psychological, social, institutional, cultural, and physical. Though the case cannot be generalized, issues of describing the dimensions of each space were resolved within the case.

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CHAPTER I

INTRODUCTION

Kentucky farmer, novelist, and rural citizen, Wendell Berry wrote these words in his 1990 book, *What are People For?* in reference to the influence of rural Americans:

> My feeling is that if improvement is going to begin anywhere, it will have to begin out in the country and in the country towns. This is not because of any intrinsic virtue that can be ascribed to rural people, but because of their circumstances. Rural people are living, and have lived a long time, at the site of trouble. They see all around them, every day, the marks and scars of an exploitive national economy. They have much reason, by now, to know how little real help is to be expected from somewhere else. They still have, moreover, the remnants of local memory and local community. And in rural communities there are still farms and small businesses that can be changed according to the will and desire of individual people. (p. 168)

Until 1990, there was not a national definition of "rural;" everything that was not classified as urban, was simply non-urban (Sher, 1998). Without a definition of rural, policy on a variety of topics was written with an urban focus and unintended consequences on rural citizens (Haas, 1991). Finally, rural was defined nationally via census classification, but the word rural is

exceedingly more complex than any one description (Rural School and Community Trust, 2016). In the realm of education, rurality is relevant and creates a unique educational environment, even though rural students are still often overlooked in times of decision-making (Showalter, Klein, Johnson, & Hartman, 2017). Now, with a current president elected with the weighty support of rural constituents, and a need for more equitable education for all, there is a resurgence of pressure to address issues found in the rural school (Rural School and Community Trust, 2016). Though one in four of America's public schools are classified as rural, only 17 percent of education funding goes to rural schools (Rural School and Community Trust, 2016). One in six American students attend school in rural districts translating to ". . .more than 8.9 million students attending rural schools. More than the enrollments of New York City, Los Angeles, Chicago, and incredibly, the next 75 largest school districts combined" (Rural School and Community Trust, 2016, p.1). To provide these 8.9 million students the education they deserve requires an environment hospitable to learning. As such, the learning environment of students today has transformed into not only an educational issue, but a social and economic issue worthy of resources, research, and effort (Freiberg, 1999). Biddle and Azano (2016) make the importance of studying the learning space clear:

> The lived realities of students, teachers, administrators, and community members happen within the context of a school, situated in a place, and in the current American system of public schooling, much of the local economic and social realities of that place determine the opportunities and constraints of local schooling (p. 316).

Research Problem

Throughout history, there has been a focus on urbanization and industrialization, insinuating that the rural community would eventually become an irrelevant place following archaic traditions (Deyoung, 1987). This focus is transferable to education, as the focus in

education reform and policy has long been on urban districts (Deyoung, 1987). The acknowledgement of a need for quality rural education research has been heralded by researchers throughout the 20th century (Barley & Beesley, 2007; Deyoung, 1987; Gandara, Guiterrez, & Ohara, 2001). As Sher (1995) stated, "While there is a torrent of opinion from every side about the rural education debate, useful facts. . .are like the usable water in the desert—a precious commodity in very short supply" (p. 6). The lack of research on teachers within rural contexts is startling, especially considering that directed teacher improvement strategies can yield positive results (Barrett, Cowen, Toma, & Troske, 2015; Burton, Brown & Johnson, 2013; Hardre & Sullivan, 2008b). Researchers and professors of education were viewed as believing that educational advances could be generalized to rural schools and a focus on rural context was unnecessary (Deyoung, 1987). However, more recent studies found that urban research is usually not able to be generalized to the rural context because of the human, social, and community characteristics creating rural complexity (Holloway, 2002). Often, urban research is not able to be generalized because of the methodology used by most education researchers—national surveys and quantitative studies—have little ability to address nuances of rurality (Deyoung, 1987). Granted, gathering data in rural schools and communities is difficult (Stringfield & Teddlie, 1991). The data that is collected by educational bodies, universities, and think tanks are often unable to be used nationwide, as various parameters are frequently selected to identify a school or community as rural (Helge, 1985). Some thought leaders in rural education research believe that data are scarce because few legislators truly care about rural America (Haas, 1990). However, the importance of rural education research is now clear. Attention must be directed to understanding the irregularity and intricacy of rural education and to communicating this complexity to policymakers with influence (Rural School and Community Trust, 2016). Rurality should no longer be seen as an unfortunate issue to overcome, but a unique trait to leverage within the school (Burton, Brown, & Johnson, 2013).

Research studies in rural education should be designed to study the social geography and nested ecologies of schools including the classroom, school, district, state, and national policy (Wilcox, Angelis, Baker, & Lawson, 2014). The majority of the agenda for education research focuses on meeting the basic needs of students in regard to their physical safety and intellect, but the emotional and social needs of the students, which can be affected by the learning environment, are left without focus (Theobald & Nachtigal, 1995). Similar to struggles in the definition of rurality, the school climate is a buzzword that does not have an agreed on definition (Hoy & Tarter, 1992). A quick google search of the term "*school climate*" yields over five million results (Freiberg & Stein, 1999). There are discrepancies throughout the literature about school climate (Freiberg, 1999; Homana, Barber, & Tomey-Purta, 2006). Regardless, the school climate is found to affect student academic achievement, individual success, social development, and emotional health, thus, measuring the climate of schools across America is becoming especially important (Zullig, 2010). By examining the learning space as defined by Kolb and Kolb (2017) in individual rural schools, not school districts or states as recommended by Anderson (1982), attention is given to the complex nuances of rural education and related agricultural education programs.

Purpose and Issues of the Study

The purpose of this multi-site, collective case study (Stake, 1995) is to explore the learning space of rural Oklahoma secondary public schools and their agricultural education programs.

The issues for this study were:

ϑ_1: What is the psychological dimension of the learning space in the rural secondary school and agricultural education program?

ϑ_2: What is the social dimension of the learning space in the rural secondary school and agricultural education program?

ϑ_3: What is the institutional dimension of the learning space in the rural secondary school and agricultural education program?

ϑ_4: What is the cultural dimension of the learning space in the rural secondary school and agricultural education program?

ϑ_5: What is the physical dimension of the learning space in the rural secondary school and agricultural education program?

Significance of the Study

Research in rural education is needed to understand and highlight its multifaceted complexities (Deyoung, 1987), and urge policymakers, legislators, and other stakeholders to place value in the unique qualities of rural education. This study addresses an initiative of the American Educational Research Association focused on educational equality in public education (2018) and multiple research priorities of the National Rural Education Association Research Agenda 2016-2021 including priority six, "Effects of poverty on rural education," priority seven, "Rural school and community/family relations," priority nine, "Teacher/Leader recruitment and retention," and priority ten "Technology integration to meet the needs of rural schools." This study addressed each of these priorities by seeking to understand the role of various factors influencing the dimensions of the learning spaces in rural schools.

This research study also addressed the experiential learning theory concept of learning spaces (Kolb & Kolb, 2017). There have been few studies focusing on the concept of learning spaces, and those which have been conducted focus on learning spaces in the post-secondary education context (Eickmann, Kolb, & Kolb, 2004; Kolb & Kolb, 2005). This study will expand

the body of literature on learning spaces as it utilizes learning space as a theoretical lens to examine the secondary school and the agricultural education program.

Further, this study adds to research on agricultural education programs by addressing three objectives of the National Research Agenda for Agricultural Education 2016-2020 (Roberts, Harder, & Brashears, 2016). This study addressed Research Priority Four, "Meaningful, Engaged, Learning in All Environments" by increasing understanding of the learning environment of rural, agricultural education programs. Research Priority Five, "Efficient and Effective Agricultural Education Programs" was addressed as this study provided data about teacher collaboration, program delivery in low-resource districts, and relationship of the school-based agricultural education program to broader educational initiatives in rural agricultural education programs. Finally, Research Priority Six, "Vibrant, Resilient Communities" was addressed by this study as results included how community members and volunteers engaged with the agricultural education program in three rural schools. This study provided valuable information, a first look into the use of learning spaces to examine the secondary learning environment, and an examination of the various factors influencing learning space in rural schools and their agricultural education programs.

Overview of Methodology

This study was qualitative in nature. The study, which was a multi-site, collective case-study used the experiential learning theory concept of learning spaces as the theoretical lens. Three cases were purposefully selected as rural, Oklahoma schools having high percentages of students receiving free and reduced lunch, scoring a B or C on the 2016 Oklahoma State Department of Education School Report Card, and a moderately active agricultural education program and FFA chapter. Data were collected and presented in the form of field notes, transcribed semi-structured interviews, photographs, school documents, and other public records.

Data analysis was conducted using the case study approach employed by Stake (1995) and Yin (2017). These cases were defined by analysis using coding methods as prescribed by Saldaña (2016).

Limitations

Data from this study were provided through studies of three schools and their agricultural education programs in rural Oklahoma. Therefore, the results from this study cannot be generalized beyond the individual cases in the study. When applying these results to other scenarios, one should take into consideration the conditions of the dimensions of the learning space are utterly unique to every rural community, school, and program (Kolb & Kolb, 2017). Additionally, data were collected via interviews with teachers and staff at the discretion of the administrator. This could present challenges with the data if administrators selected teachers and staff with a particular bias. Further, as the concept of learning spaces is presented within experiential learning theory to be unique to the individual, the learning space as interpreted by each student will include differences. The learning space of the selected cases is studied at the school and program levels.

Assumptions

It was assumed that the subjects of the semi-structured interviews in the study were truthful in their responses, though it is possible for bias to occur in the responses provided by these individuals. On the part of the researcher, it is assumed that dimensions of the learning space were interpreted accurately.

Definitions of Key Terminology

Cultural. A dimension of the experiential learning theory concept learning space which includes the factors of values, norms and history, and language within the space (Kolb & Kolb, 2017).

Experiential Learning. An approach to education grounded in learning as, "the process whereby knowledge is created through the transformation of experience" (Kolb, 2015, p.49)

Institutional. A dimension of the experiential learning theory concept learning space including the factors of policies, organizational goals, and traditions present in the space (Kolb & Kolb, 2017).

Learning spaces. A broad and multi-faceted concept of the experiential learning environment including the dimensions of physical, cultural, institutional, social, and psychological aspects (Kolb, 2015).

Physical. A dimension of the experiential learning theory concept learning space which includes the factors of classrooms, architecture, and the tangible environment (Kolb & Kolb, 2017).

Psychological. A dimension of the experiential learning theory concept learning space, which includes the factors of learning style, learning skills, and individual values held (Kolb & Kolb, 2017).

Rural. A space including, "all population, housing, and territory not included within an urbanized area or urban cluster," (Ratcliffe, Burd, Holder, & Fields, 2016). As per the 2010 U.S. Census Bureau, this space must contain fewer than 2,500 residents.

Social. A dimension of the experiential learning theory concept learning space, which includes the factors of peers, teachers, and community members present (Kolb & Kolb, 2017).

CHAPTER II

REVIEW OF LITERATURE

The theoretical lens of the study is presented, followed by a development of the issues through the review of literature to provide context of the learning space as it weaves throughout the rural secondary school and agricultural education program setting

Theoretical Lens - Experiential Learning Theory

David Kolb (2015, p. 49) asserted learning to be, ". . .the process whereby knowledge is created through the transformation of experience." In this theory, the experiential learning process is cyclical and contains four stages of learning modes—concrete experience, reflective observation, abstract conceptualization, and active experimentation—which learners engage in dialectically amid tension, as depicted in Figure 1 below.

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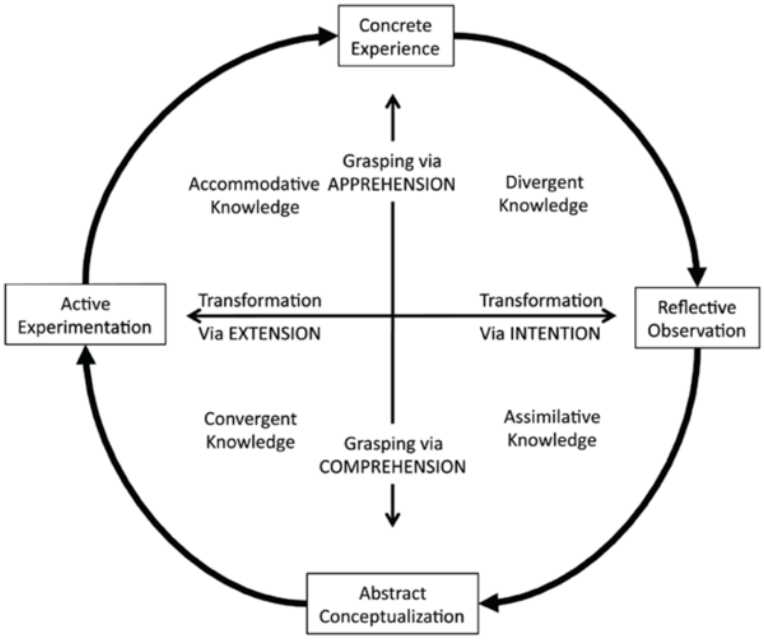

Figure 1. Kolb's (2015) Model of Experiential Learning Process. Reprinted from Experiential Learning: Experience as the Source of Learning and Development (p. 68), by David A. Kolb, 1984, Englewood Cliffs, NJ: Prentice-Hall, Inc. Copyright 1984 by Prentice Hall, Inc. Reprinted with permission.

The central idea guiding the cycle of experiential learning is that learning and knowing requires a tangible or theoretical grasp of knowledge as well as a transformation of such knowledge. Merely perceiving or experiencing is not enough for knowledge to be created, it must be manipulated. Likewise, manipulation or transformation of knowledge cannot occur without a focus (Kolb, 2015). The process of experiential learning is recursive, learner-focused, and unique to the learner, frame of experience, and content or topic (Kolb, 2015). In experiential learning theory, learning is not closed from clutter of the environment. Instead, learning is viewed as constantly interacting with the environment in which the learner exists (Kolb, 2015).

Learning Spaces

Experiential learning theory demands understanding the place learning occurs as, "to learn means to learn something that exists somewhere" (Kolb, 2015, p. 288). Kolb and Kolb (2017) described the concept of learning space to be multi-dimensional, and broader than the bounds of a stereotypical classroom. The five dimensions of learning space, as seen in Figure 2, are psychological, social, institutional, cultural, and physical, completely embedded in and holistically encompassing the learning space (Kolb & Kolb, 2017).

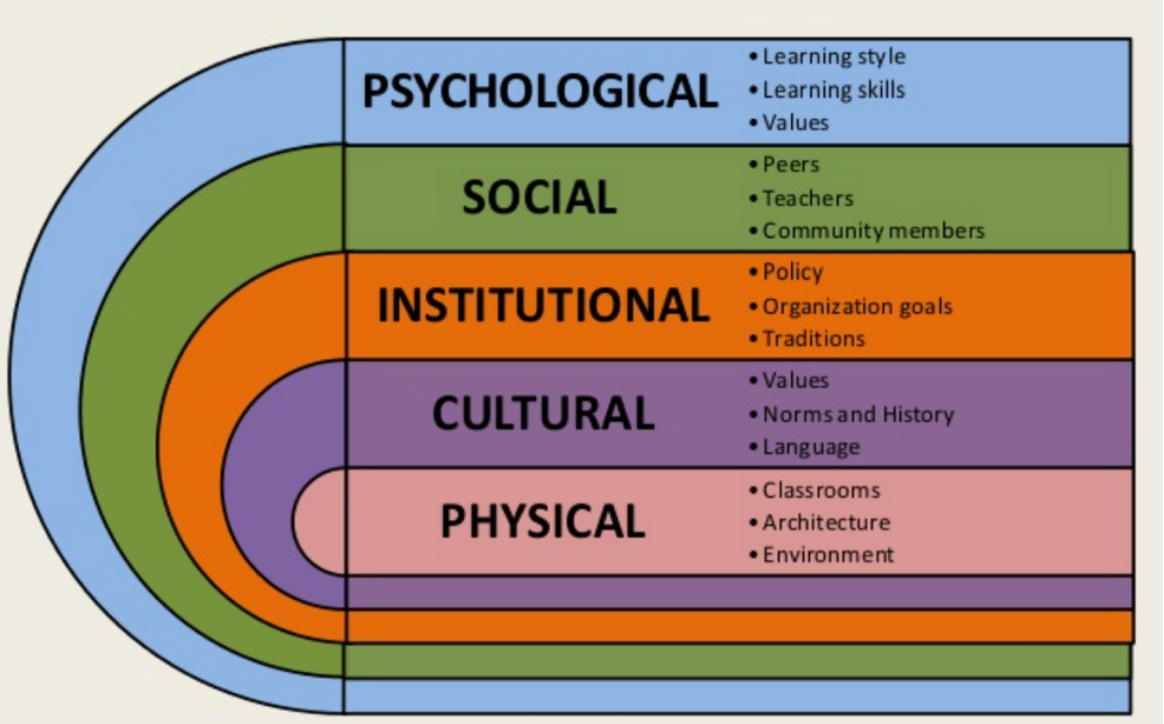

Figure 2. Kolb's and Kolb's (2017) Dimensions of Learning Space. Reprinted from The Experiential Educator: Principles and Practices of Experiential Learning (p. 167), by Alice Y. Kolb and David A. Kolb, 2017, Kaunakakai, HI: EBLS Press. Copyright 2017 by EBLS Press. Reprinted with permission.

The psychological dimension of the learning space describes the mental space of the learner including his or her learning style, learning skills, and personal values. The social dimension of the learning space focuses on the individuals who engage with the learner and

identify the role of peers, teachers, and community members in the place of the learner. The institutional dimension includes policies, organizational goals, and traditions which arise amid the learner's environment. Values, norms and history, and language inform the cultural dimension of learning space. The physical dimension highlights the brick and mortar aspects of the learning space, including actual classrooms, architecture, and the surrounding environment. Within experiential learning theory, these dimensions interact to create the complete learning space (Kolb & Kolb, 2017).

Four theoretical frameworks inform the development of the learning space within experiential learning theory. Primary to the definition of learning space, field theory (Lewin, 1951) included a concept of life space where the person and the environment are not separate, but interdependent. The function B = *f*(p, e) where person and environment yields behavior, is a translation of this concept into mathematical terms illustrating the tension between the person and his or her space of living. Lewin (1951) built on this tension by describing the internal needs of the person and the external demands of the environment as a field of forces that dynamically position the individual in a defined reality. Urie Bronfrenbrenner (1977, 1979) added a sociological element to the concept of life-space by modeling the space in a nested manner. Bronfrenbrenner (1977, 1979) described the learning space as including the microsystem, mesosystem, exosystem, and macrosystem, ranging from the immediate environment of the learner to the general social-system within which the learner exists concurrently. Situated learning theory (Lave & Wnger, 1998) provides a third addition to the gradual development of learning space by conceiving that learning space, as a situation, can be an element of the individual's social environment, not only the physical place. Thus, knowledge does not only exist in the mind of the learner, but also extends to the social processes and relationships between the learner and members of the communities of which the learner becomes a member. Finally, Nonaka and Konno (1998) described a community space in which knowledge creation is based as

ba. "Knowledge is embedded in *ba*, where it is then acquired through one's own experience or reflections on the experiences of others" (Nonaka & Konno, 1998, p. 40). For the *ba* space to exist, and for knowledge embedded in *ba* to be shared via personal interactions and experiences, a climate without barriers must be created where love, trust, and peace exist (Nonaka & Konno, 1998).

The concept of learning space does not determine learning to be a process which fits each learner in the same way; instead, learning space is conceptualized to support and map various ways of learning in relation to each other within the same territory (Kolb & Kolb, 2017). The location of an individual within the learning space creates a unique perspective of reality of both the experience and transformation of information for the learner. As the learning space in finality is a result of the learner's experiences, the psychological and social dimensions of the learning space are most influential on learning. The people in the learning space, including the learner himself, are incredibly powerful influences on the nature of it (Strange & Banning, 2001). Because of this highly individualized nature of the learning space, creating an environment hospitable to learning and in alignment to this conceptualization is challenging, yet possible.

Recommendations on how educators can create effective learning spaces for learning are numerous, yet are grounded in Maslow's (1968) hierarchy of needs being met. Kolb and Kolb (2017) recommended that in addition to creating a space of physical safety, there should also be a focus on psychological safety within the learning space. Psychological safety, as encouraged by the educator and created by the students, is deemed necessary by Kolb and Kolb (2017) to foster respect, care, and innovation. Further, the educator must create a hospitable learning environment which welcomes learners as if they were guests, and respects each learner and his experiences (Kolb & Kolb, 2017). The educator's role in creating the learning space expands further to fostering a positive environment, loving students as if they were family, and supporting students in their challenges (Kolb & Kolb, 2017). In the context of experiential learning, the learning

space should be created with the focus on the learner and his needs, to empower the learner to engage in the development of his own experiences and build on strong relationships between the teacher and the learner (Kolb & Kolb, 2017).

School Climate and Learning Environment

Research on the experiential learning concept of learning space is in its infancy, as the few studies which have been completed on the topic are focused on the psychological dimension of learning space in relation to learning styles of post-secondary students in the fields of art and business (Eickmann, Kolb, & Kolb, 2004; Kolb & Kolb, 2005). However, research on the concept of school climate can be traced back over 100 years (Perry, 1908). Much research has been conducted to determine the quality factors of the school as a singular entity (Fashola & Slavin, 1998, Rogers & Freiberg, 1994, Teddlie & Stringfield, 1993, Hoy, Tarter, & Kottkamp, 1991). Over the years, school climate has been defined in various ways, as it has been determined that schools maintain unique climates, yet the differences between various school climates and their identifying factors are complex and challenging to describe, much less measure (Cusick, 1973, Weber, 1971). Zullig (2010) divided school climate into five domains:

- Order, safety, and discipline (Blum, McNeely, & Rinehart, 2002, Furlong, et al., 2005, & Freiberg, 1999)
- Academic outcomes (Loukas, Suzuki, & Horton, 2006, Worrel, 2000)
- Social relationships (Furlong, et al., 2005)
- School facilities (Rutter, Maughan, Mortimore, Ouston, & Smith, 1979)
- School connectedness (Blum, 2005; Catalano, Haggerty, Oesterie, Fleming, & Hawkins, 2004; Whitlock, 2006).

The five domains are described as providing clues to what composed the school climate while encompassing the social and emotional development of students, as well as their physical safety

(Zullig, 2010). Still other researchers have categorized elements of the learning environment which influence student learning. Wang, Haertel, and Walberg (1993) posited that the six categories of student characteristics, classroom instruction and climate, home, peer, and community context, program design, school organization, and state and district characteristics influence students with the largest direct environmental influences on student learning being the amount of time a teacher spends on given content and the range of quality interactions between the teacher and student. Further influences on the climate of the school are identified as student body characteristics (Farkas, 1974), classroom processes (Bidwell, 1972, Cohen, Deal, Meyer, & Scott, 1979), socio-economic status of students (Stockard & Mayberry, 1992), psychological, instructional, and contextual influences (Wang, et al., 1997). Cohen, McCabe, Michelli, and Pickeral (2009) linked school climate to the experiences of those within the school, and indicate that school climate refers to spheres of school life and factors which shape experiences within that life, but disagree that there are or will be a list of factors that truly shape school climate. School climate is clearly multi-faceted (Freiberg & Stein, 1999). Perhaps, a simpler definition such as one presented by Freiberg and Stein (1999) proposing that school climate is essentially the heart and soul of the school and maintains the dynamic qualities of a living organism, is needed.

Though semantic disagreements regarding the definition of school climate exist (Anderson 1982, Cohen & Michelli, 2006), it is clear that school climate impacts learning in various ways. By the late 1970s, researchers were making efforts on linking school climate to various outcomes (Hoy & Feldman, 1999; Zullig, Koopman, Patton, & Ubbes, 2010), including aggression, victimization, and school crime (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005) and more broadly, student engagement (Libbey, 2004). Today, school climate is understood to impact the individual experience of the learner (Comer, 1980) and further impacts of the school climate on students are described in various studies over the past thirty years. Freiberg and Stein (1999)

found that the physical structure of the school can directly influence the health of the student and that social interactions of individuals within the school both direct the school climate and are directed by the school climate. Blum, McNeely, and Rinehart (2002) found that a positive school climate fosters a greater attachment to the school place and provides an ideal foundation for social, emotional, and academic learning. Eccles et al. (1993) connected positive school climate to increased student motivation, but physical variables within the school only play a minor role in variant student motivation. Wang, et al. (1997, p. 205) found that climate had, "nearly as much impact on student learning as student aptitude." Other student outcomes which have been linked to school climate are cognitive and affective behavior (Barker, 1964; Weber, 1971), student values development (Vyskocil & Goens, 1978), and personal growth and student satisfaction. Factors which have been found to create a positive school climate include a school protected by unreasonable outside forces, a principal who is a dynamic, relational leader, and a staff of teachers who are committed to pushing students toward excellence (Hoy & Tarter, 1992). Nonetheless, understanding the greater influence of climate will improve knowledge of student behavior (Anderson, 1982).

School climate also impacts students negatively. Freiberg and Stein (1999) noted that school climate can serve as a risk factor if not properly managed. A school that has an unhealthy climate is prone to destruction by external forces and may lack direction and employ a principal with little influence and support (Hoy & Tarter, 1992). These elements push teachers to have low morale and minimal support, which transitions to a lack of press toward academic excellence from those who have the most daily contact with students (Hoy & Tarter, 1992). Simply put, if the culture is not hospitable to learning, principal and teacher impact is lessened and student achievement can suffer (Hallinger & Heck, 1998).

When evaluating school climate, researchers point out that though the differences between school climate and other school-wide measures seem minimal (Miner, 1995), they exist (Hoy &

Feldman, 1999; Hoy, Tarter, & Kottkamp, 1991) and that climate is the preferred construct (MacNeil, Prater, & Busch, 2009) as it encompasses the entirety of the school (Cohen et al., 2009), much like that of the learning space. In practice, school climate is an elusive element of education policy and decisions which govern schools across America. Only 36 states have school climate policy statements, and of those, 30 simply expect a school to provide a space conducive to learning, without specific guidelines (Cohen et al., 2009). Other states created school climate policy based on only one dimension of climate, overlooking the complex nature of school learning environments (Cohen et al., 2009).

Amid the discrepancies and complexity of school climate research, it is clear that the environment is a real factor in student success, is measurable, and is integral to those who operate within the school regularly (Freiberg & Stein, 1999). Climate is both tangible and intangible as it is the quality of the school environment that students, and later, alumni and community members speak to when they explain why they loved school (Freiberg & Stein, 1999). The school climate is not merely a building, but the foundation of education, full of regular interactions and the interface of all stakeholders (Zullig, 2010).

The Rural Context

Rural America defies generalization (Monk, 2007) as rurality varies greatly in almost every way across the United States; in every rural community, culture, economics, population, available occupations, and other factors fluctuates (Stringfield & Teddlie, 1991). Thus, simply categorizing rural as rural is often not enough. Different definitions of rural can lead to different outcomes and truths, as each community and rural study is unique (Kozoil et al., 2015). As there is no universal definition of rural, there is no true rural family type or rural way of life, though media, literature, or society may desire it to be true, because of its oftentimes quaint depiction on screen or in text, which is in reality a combination of myth, nostalgia, and ignorance (Haas, 1990;

Lichter, Roscigno, & Condron, 2003; Logan, 1996). Rural oftentimes seems best described as simply non-urban (Monk, 2007), and the definition has shifted in meaning throughout the years based on purpose or generation (Showalter, Klein, Johnson, & Hartman, 2017). Some researchers question if the terms rural and urban are becoming obsolete as differences in rich-rural and poor-rural or isolated-rural and rural-suburban areas become more fractioned (Lichter, Roscigno, & Condron, 2004).

Two different types of rural communities seem to be emerging in the countryside of America: communities which are growth-oriented and ready to be filled as bedroom communities for commuters wanting a taste of tranquility, and communities which are poorer, geographically sanctioned away from opportunity for economic development (Brown, Cromartie, & Kulcsar, 2004). Rurality is simply different everywhere, as described by Sher (1977):

> Rural America is far too heterogeneous and complex to be amenable to simplistic definitions of comfortable stereotypes. Remembering that fishing villages in Maine, coal company towns in Appalachia, farm communities in Iowa, delta counties in Mississippi, recreation communities in Colorado, Indian reservations in South Dakota, small college towns in Minnesota, migrant settlements in Texas, retirement communities in Florida, and Alaskan native villages are all 'rural' leaves one feeling less than sanguine about sweeping generalizations. (p. 2)

Often, rural citizens are viewed as out-of-touch (Corbett, 2009) and their land seen as residual and ready for development (Haas, 1990). Traditionally, rural citizens are resilient and willing to join each other in facing obstacles (Hull, 1994). Features of rural communities often include tiny population, sparse settlement, and an economic reliance on agriculture as a primary industry (Monk, 2007). However, the conventional characteristics of rural communities often maintain a dark element of reality. Though many Americans believe that traditional qualities of

rural communities like a slow-paced lifestyle, friendliness, and cohesion are present, they can be heavily romanticized (Brown & Swanson, 2003, Logan, 1996). Though characteristics like independence often are viewed as positive and a point of pride for the community, they can prevent community members from utilizing beneficial services available (Helge, 1990). Many rural communities are not as dissimilar as society or residents want to believe. Rural communities are not as centered as they once were, often disjointed by regular travel to suburban and urban centers as socio-economic status allows (Brown, 2004) and various family and community experiences in rural America are less than ideal, casting off historic reliance on social support and mirroring suburban lifestyles by following the trends of families across the nation (Brown, 2004). Now, metropolitan and non-metropolitan family sizes, marriage rates, and divorce rates are increasingly comparable (Brown, 2004).

Though rural and urban may be viewed as similar in some regard (Mctavish & Salamon, 2003), census data cannot reflect the minutia of social and psychological challenges unique to communities categorized as *rural* (Champion & Hugo, 2004). Rural is different as rural poverty often includes the working poor (Findeis, Jensen, & Wang, 2000), and two-parent families who are increasingly less likely to seek out or receive financial assistance (Bartfield & Meyer, 2001, Lichter, Roscigno, & Condron, 2003) translating to a rural poor demographic prone to becoming chronically poor (Dudenhefer, 1993, Lichter, Rosigno, & Condron, 2003). The tax base of rural America is continually declining with the decrease of white-collar jobs and spike of low-pay positions (Sharp & Parisi, 2003), changing the population of residents, and resulting in an ongoing struggle to keep communal identity strong (Bushnell, 1999, Edmonson, 2001). Rural America is not protected from typically *urban* issues like alcohol and drug use, unwanted pregnancy, and child poverty (Lichter, Roscigno, & Condron, 2003, Rogers, 2001, Swanson & Dacquel, 2006). Rural communities that have maintained separation from urbanity may suffer from increasing levels of isolation caused by an aging population (Monk, 2007) and a social

reluctance to seek out new or different resources available (Elliott, 1987). Together, these issues birth a modern rural America struggling to meet romanticized standards of what rural looks like (Nelson & Smith, 1999).

Rural Education

Historically, the story of American education has been an urban story (Stringfield & Teddlie, 1991), and most data sources on rural America come through United States Department of Agriculture studies, not education related sources (Haas, 1990). However, many of the issues which affect rural communities also affect rural schools. For example, in 23 states, an overwhelming majority of rural students are from low income families, an increase from 16 states in 2014 (Showalter et al., 2017). Rural schools face issues of their community home including poverty, changing demographics, and increases in special needs (Showalter et al., 2017), resulting in a place that is not the sheltered safe-zone it once was (Lichter, Roscigno, & Condren, 2003). Rural schools are different and defy generalization similar to the rural community itself (Theobald & Wood, 2010); Springfield and Teddlie (1991) found 16 characteristics of differentiation between rural, urban, and suburban schools. In the past, rural schools were determined to be buzzword-free and dull, existing in the middle of traditionally conservative areas, providing a buffer from the fads of the educational movements, but excluding rural schools from purposeful trends of reform (Stringfield & Teddlie, 1991). Even today, policy makers overlook the needs of rural schools, sometimes without knowing, because of a lack of familiarity with the space and often the smaller constituent base (Showalter et al., 2017).

Shifts in the makeup of rural communities are not new; however, they have accelerated in intensity and ability to affect rural schools over the past two decades (Haas, 1990). In limited-capacity rural towns where skill and educational attainment and income levels are low, education often is not prioritized by members of the community, resulting in a reduction of student career

goals and educational achievement (Beaulieu, Israel, & Wimberley, 2004, Cobb, McIntire & Pratt, 1989). One study indicated that schools have less impact on student test scores than community-based variables (Beaulieu et al., 2004). Another demonstrated that rural economic and social challenges may undermine the strengths of rural communities found in tight-knit relationships and family values (Lichter et al., 2004). These roots of the community in good citizenship and a family-feel amongst neighbors are traditional in the rural school, but do not necessarily translate to a trusting community among teachers, administrators, parents, and students (Chance & Segura, 2009). Though many rural communities provide an ideal setting for the school in theory (Herzog & Pittman, 1995), the functional rural community, and thus the effective rural school, may be an endangered species (Stern, 1994); the rural place, in the context of education, may be seen as an opportunity to grasp, or an issue to overcome (Budge, 2010).

To many, knowledge of place and understanding of one's community is likened to knowledge of self. Thus, to meet the needs of students, the needs of the community must be met (Theobald & Nachtigal, 1995). Utilizing the community as an experience-laden laboratory for learning not only increases the likelihood of the student returning to the community as a valuable citizen, but also provides students the opportunity to truly become a part of the community as a young person engaging in its complex issues (Theobald & Nachtigal, 1995). As such, the role of the rural school is increasingly called to no longer imitate urban or suburban school models and concentrate on its own well-being, pushing rural youth to claim their homeplace (Theobald & Nachtigal, 1995).

To truly attend to the rural place and impact students, one must understand the view rural stakeholders have of the role of the school (Woodrum, 2004). Two perspectives of social and cultural relationships in the community are outlined by German sociologist Ferndinand Tonnies (1887/1957) as Gemeinschaft, meaning that people are bound to one another and nothing in society is able to exist without its surroundings, and Gesellschaft, an opposite view where people

and groups operate independent of one another. In communities with a Gemeinschaft perspective, the role of the school is to educate students to return to the community in service to the greater good of the commune (Becker, 1963). Communities with the contrasting Gesellschaft perspective view the role of the school as educating students for a role, community, and career different from previous generations (Becker, 1963). Often, stakeholders in the community disagree on which perspective should be generalized (Woodrum, 2004), and stand divided between hoping students may escape the small town or remain local to revitalize the rural community (Hull, 1994).

To students, retaining membership in the rural community may significantly impact career and family decisions after high school and the community itself may create a generation of students who are ill-prepared for life outside of the rural community and long for the safety of home (Schonert-Reichl, Elliott, & Bills, 1993). Many administrators of rural schools were found to believe that their schools were inundated by a working-class culture which does not place value in education, creating a generation of students who do not believe the school can prepare them (Brown-Ferrigno & Allen, 2006). This mindset is particularly challenging for gifted students as parents may be suspicious of additional education or *special* opportunities, based in a fear of abandonment (Howley, Rhodes, & Beall, 2009).

For rural schools to be successful in spite of the issues surrounding them, they must build on relationships found within the school and community (Herzog & Pittman, 1995). Oftentimes, the rural school is seen as the primary stable institution in the community, providing a sense of identity to its citizens (Miller, 1993). Lyson (2002) found that rural residents believe the school is a "symbol of community autonomy, community viability, community integration, personal control, personal and community tradition, and personal and community identity" (p. 23). Though schools can be viewed as a point of pride, they also may transition from fostering belonging to creating resentment, meaning inclusion or exclusion for its members (Sherman & Sage, 2011). Rural teachers and schools may be supported uniquely by community members and local

businesses (Fowler & Walberg, 1991; Gandar, Guiterrez, & Ohara, 2001), if the support is sought. Many rural school improvement strategies focus on the community, such as communicating to parents opportunities for student development, designing strategies to engage parents with students during and after school, encouraging communities to welcome new families, and encouraging citizens to mentor secondary students (Beaulieu, Israel, & Wimberley, 2004). The key to a healthier rural America lies in a healthy system of education, as residents share the perspective that the school is the community (Barley & Beesley, 2007).

Though not all rural schools are small, there is frequently a connection between school size and geographic location (Beaulieu et al., 2004). Larger schools have been deemed superior because of the richer variety of class offerings to students (McDill, Meyers, & Rigsby, 1967). However, many studies show that smaller schools are more beneficial to the student because of lower student-teacher ratios and resulting stronger student-teacher relationships (Gregory & Smith, 1987). Greenberg & Texiera (1998) note there is minimal evidence supporting the notion that small schools negatively affect student performance.

Many positive features of rural schools are found to exist. Ballow and Podgursky (1995) found that rural schools were less likely to be plagued with chronic student behaviors such as tardiness, absenteeism, and verbal and physical abuse of teachers and fellow classmates. Rural students often have more frequent positive teacher interactions and are increasingly likely to engage with the school outside of the core classroom (Beaulieu et al., 2004) largely due to rural teachers averaging 90 minutes per week more of student interactions through extracurricular organizations (Ballou & Podgursky, 1995). Teachers note that often there are general expectations within the rural school for all students to work hard and perform well amidst a culture of caring (Barley & Beesley, 2007). Teachers seem to view the rural school as a positive work environment as they have described the rural school as a supportive and cooperative place of work, and often have increased levels autonomy in the classroom as many rural managements

systems leave daily decisions up to teacher discretion (Ballou & Podgursky, 1995). These characteristics have been found in some cases to result in higher teacher retention rates (Barley & Beesley, 2007).

Though there are many positive features of rural schools, rural education research has largely found a plethora of challenges faced by rural districts that are dissimilar to those of urban districts, including resource availability and teacher recruitment, retention, and development (Colangelo, Assouline, & New, 1999; Dunne & Carlsen, 1981; Hardre & Reeve, 2003). A glaring challenge in rural districts is money, as funding formulas are often exceedingly complicated and controversial because of the lack of available resources and high percentage of impoverished residents (Augenblick & Nachtigal, 1985; Campbell, Cunningham, Nystrand, & Usdan, 1985; Huang & Howley, 1991; Johnson & Strange, 2007). Oftentimes, rural school systems have higher operational costs for transportation because of greater distance traveled and cost being spread over fewer students (Hines, 2002). These funding constraints are found to result in lower per student expenditures across the board (Hobbs, 1994) with specific breakouts highlighting lower per pupil expenditures for instruction (Deyoung, 1985; Rosenfeld, 1981) and higher per pupil expenditures for transportation (Tompkins, 1977). Limited resources for educational materials and teacher development are common (Hickey & Harris, 2005; Howley, Theobald, & Howley, 2005; Lynch, 2000; Marlow & Cooper, 2008), which are found to place students at risk for decreased motivation and success (Hardre & Reeve, 2003).

Another clear issue in the rural school is the inability to recruit and retain teachers (Arnold, Newnan, Gaddy, & Dean, 2005; Holloway, 2002; Lowe, 2006; Schwartzbeck & Prince, 2003). One cause of this rural teacher shortage is the distance of rural communities from more populated areas and decreasing populations within the rural communities themselves (Johnson & Strange, 2007; Ramage & Howley, 2005). This shortage of teachers expands to a shortage of support staff such as mental health professionals (Bird, Dempsey, & Hartley, 2001) who, if

available, are often overburdened (Clopton & Knesting, 2006) or struggle to become a part of the school community, as they are serving multiple schools during the work week (Clopton & Knesting, 2006). This shortage is present even though the ability of counselors and support staff to unite the school under a common vision is known (Hines, 2002). Other specialty staff, such as special education teachers, are even more difficult to recruit (Brownwell, Rosenberg, Sindlair, & Smith, 2004), are often underqualified (Tyler, Cantou-Clarke, Easterling, & Klepper, 2003), and face high levels of attrition, even though there is often a higher density of individualized education programs in rural schools (Monk, 2007). Further, many attempts of utilizing urban staffing solutions have failed in rural areas because of a lack of utility (Deyoung, 1987).

A third issue plaguing rurality, beginning in the school, but continuing outward to the community is rural brain drain (Sherman & Sage, 2011.) Often, rural brain drain, or the exodus of an educated generation away from rural communities, is supported by the families of students pushing for higher education and white-collar careers. Sherman and Sage (2011) found that rural brain drain affects not only the out-migrant, but negatively impacts the psyche of the community left behind. Even if a rural youth returns from post-secondary education and engages with the community, stances of superiority and economic differentiation can magnify class differences and perpetuate extreme views of education within the school system (Sherman & Sage, 2011).

Some efforts have been made to reform the rural school and improve the unique issues of rural context. Historically, school consolidation of varying levels of intensity arose from the industrial model and has been viewed as a universal solvent to issues of cost and quality; however, these ideals are inaccurate and incomplete (Haas, 1990). Consolidation often negates one of rural schools' greatest assets, the community, by mixing multiple identities of place within one school (Monk, 2000) and creating a school which varies in quality and community support throughout (Deyoung, 1987). Even when the rural community is leaned on for financial and in-kind resources, rural families and businesses frequently struggle to the point where they may not

be able to give (Stern, 1994). A modern reform strategy is the increasing utilization of technology within the school. Often, technology is viewed by the school and public as an innovative savior to even the playing field between rural and urban schools (Hobbs, 1994). Hardre and Hennessy (2013), however, found that technology use in the school may decrease feelings of isolation, but are not complete solutions to the disparity.

Stakeholders in the Rural School

As rural citizens, rural students have a unique set of defining characteristics which are not generalizable but are indicative of his or her rurality (Brown, 2004; Hull, 1994). Traditionally, rural students achieve below their urban peers academically (Roscigno & Crowley, 2001); however, they are found to have feelings of self-worth and academic success above the norm (Yang & Fetsch, 2007). Frequently, the rural student population is affected by poverty and a need to relocate regularly (Schaff, 2006). Rural students may internalize that rural is equated with inferiority because of negative media or social messaging (Theobald & Wood, 2010), or may interpret surrounding factors of the rural environment as a sense of personal motivation (Hardre & Hennessy, 2010). Numerous rural students are found to be challenged by their rural school as it is difficult to develop an identity outside of the norm in rural settings (Ludden, 2012) and may use problem behavior as a tool to stand out among peers who have nearly become, or actually are family (Farmer, Hammi, Leung, Lambert, & Gravelle, 2011).

The school is possibly the primary location of socialization outside of the home for rural students (Ludden, 2012), and a study by Singh and Dika (2003) found that students felt emotionally supported by adults in their school-based social network, but were frequently not provided constructive criticism to improve their skills or academics. Nonetheless, adults within the school play a huge role in influencing the rural students' learning opportunities and expectations of self (Carr & Kefalas, 2009; Sherman & Sage, 2011). Because of the integral role

of the adult influence on students within the rural school, students need and should be given support from school staff to pursue post-secondary education (Ali & Saunders, 2006) to overcome the visible challenge of high unemployment rates in the rural community (Kannapel & Flory, 2018). The profile of the rural dropout is generally an English-speaking native from a low income family (Perriera, Harris, & Lee, 2006; Rumberger, 2012); yet, this can be shifted, as higher graduation rates in rural areas are found to be associated with high expectations of school staff (Demi et al., 2010). Rural students are less likely to enroll in post-secondary education than their urban peers, and once enrolled, are more likely to leave without a post-secondary degree (Byun, Meece, & Irvin, 2012).

School staff and administration should recognize the uniqueness of the rural context, including the frequent inability of parents to continue supporting the school or student after graduation (Gibbs, 2000), and assist students in setting realistic, attainable goals, since universal goals and motivations are not working (Schmitt-Wilson, Downey, & Beck, 2018). Without the support of the school, the reliance on the student's family for academic support will likely result in marginal, low-wage jobs and failed post-secondary education attempts for the student (Ainsworth-Darnell & Roscigno, 2001) as a number of parents of rural students have lower education levels (Dagata, 2000) and aspirations for their students (Hansen & McIntire, 1989; Paasch & Swaim, 1998).

Wright, Horn, and Sanders (1997) found that the most important influence on student learning is the teacher and that improvement in rural education should be focused on the leader in the classroom. Researchers regularly portray the rural teachers in one of two lights, a person stuck in the past and in their ways or a protagonist who is idealized. Neither view captures the complexity of the rural teacher and the pressures on him or her (Burton et al., 2013). Many rural teachers are under-qualified, without full teaching certifications (Burton et al., 2013), demographically homogenous (Monk, 2007), in need of unique professional development

directives (Howley, Wood, & Hough, 2011) and lack emotional intelligence and strategies necessary to engage and motivate students (Hardre & Hennessy, 2013). A variety of pressures are placed on the backs of rural teachers, such as challenging student characteristics and a wide range of student needs (Monk, 2007), volatile school environment because of high student turnover (Monk, 2007), inability to specialize (Monk, 2007), and an overload of teacher responsibilities outside of the classroom (Hardre & Sullivan, 2008; Minner, Berns, Century & Hiles, 2003), all while receiving lower than average compensation (Monk, 2007; Strange, Johnson, Showalter, & Klein, 2017).

Teachers who are effective in the rural context are engrossed by the positives their community provides, while acknowledging unique challenges (Wilcox, Angelis, Baker & Lawson, 2014). Rural teachers are generally satisfied with the work environment, particularly smaller than average class size, greater freedom within the classroom (Gibbs, 2000), and fewer discipline issues from students (Haller, 1992). However, rural teachers are simply different than their peers in other geographical areas as their motivations, occupational interests, and values are often not standard (DeYoung, 1987).

Rural administration should also be prepared contextually (Forner, Berlein-Palmer & Reeves, 2012, Lamkin, 2006), as the rural setting demands a distinctive leadership style (Chalker, 1999, Morris & Potter, 1999). Qualities of the effective rural administrator include a focus on limited priorities, a personal leadership style, regular communication with all stakeholders, teacher accountability, and a heightened awareness of the strengths, weaknesses, and needs of staff and community members (Forner, et al., 2012, Harmon & Schafft, 2009, Masumoto & Brown-Welty, 2009). Simply, rural school administrators who lead their schools and communities well focus on the people of the school and do not treat the district as a business (Chalker, 1999). Successful rural administrators often prioritize success for all students, quality teachers, and

resources availability (Forner, 2010), as there is a direct relationship between school leadership and student achievement (Masumoto & Brown-Welty, 2009).

Challenges do exist for the rural administrator specific to the context. Lamkin (2006) found that pressures of managing the largest employer in the community, being a constant target of public critique, and often being the only leader in the school creates a reality that includes a shortage of quality school leaders. Often, the challenges are not incredibly different from those in urban and suburban areas, but the scale to which the occur is considerably different (Arnold, 2005, Lamkin, 2006).

Together, school administrators and staff have enacted various reform strategies to improve rural schools over the years with a vigor and hope different from early school reform ideas that rural schools would become obsolete (DeYoung, 1987). Administrators and teachers have leaned in to contextual advantages such as dense population networks, common values, community resources, and collaborative strategies within the school and community (Chance & Segura, 2009). As school closure in the rural community is usually not an option since there is rarely a reasonable alternative, there is minimal practical accountability outside of personal goals and values (Barrett, Cowen, Troske, & Toma, 2015). This underlines the organic nature with which rural school reform is often approached (Theobald & Nachtigal, 1995). Shared services without complete consolidation (Decker & Talbot, 1991) and targeted intensive training for teachers (Barret, et al., 2015) have resulted in improved student outcomes. However, reform is ongoing and seems to be a never-ending, uphill battle (DeYoung, 1987).

State of Rural Schools in Oklahoma

According to the Why Rural Matters (2017) report, Oklahoma ranks ninth on a nationwide list of states demanding attention to their education system. Authors of the report highlight rurality of schools in Oklahoma as over half of Oklahoma's public schools, 68.5% of

school districts, are in rural areas and three of every ten students in Oklahoma attend a rural school, totaling to 190,800 rural students in the state (Showalter et al, 2017). Compounding issues to rural education in Oklahoma include Oklahoma's ranking of second in the nation as lowest spending per pupil and fifth lowest on salaries in rural districts. Though test scores in rural areas are relatively low, graduation rates are average. Further complexity to the state of rural schools in Oklahoma is added as 61% of rural students are eligible for free and reduced lunch funding, compared to a national average of 48.2%, with higher percentages in various districts across the state (Showalter et al, 2017). Rural schools in Oklahoma are in need.

Extracurricular Activities and Career and Technical Education in the Rural School

Many rural schools provide fewer extracurricular opportunities to students than their urban counterparts (Ballou & Podgursky, 1995), though participation in clubs and activities are found to be connected with higher grade point averages for rural students (Ferris, Oosterhoff, & Metzger, 2013) and an improved interest in school (Eccles & Barber, 1999). In rural communities, athletics are central to the character and health of the community, and dominate other clubs and activities in funding and importance (Tonts, 2005; Townsend, Moore, & Mahoney, 2002). In relation to co-curricular activities, the majority of rural schools have some presence of career and technical education. Co-curricular activities are known to strengthen educational connections across learning environments throughout the school (Brown & Theobald, 1998). As rural school curriculum has experienced a shift away from solely college prep, vocational training or career and technical education has increased (Lichter, Rosigno, & Condron, 2004). However, in many high school career and technical education programs, pathway offerings do not always align with actual available job opportunities for students in their geographical area, presenting a question of the value of career and technical education programming in rural schools (Kannapel & Flory, 2017).

The Environment of the Agricultural Education Program

The accepted model for the agricultural education program in the United States is an integrated, three-circle model of classroom and lab instruction, supervised agricultural experience, and the FFA chapter (Phipps & Osborne, 1988, Talbert, Vaughn, & Croom, 2006). Though there is no true legal basis for the implementation of the three-circle model of agricultural education, the model drives both the philosophy and action of agricultural education programming across the nation (Croom, 2008). At a foundational level, the classroom provides agricultural education students activities and learning experiences within the confines of the school, which are usually formally designed and presented by the agriculture teacher (Talbert et al., 2006). The supervised agricultural experience individualizes the student learning experience by providing learning experiences for students in their selected pathway, outside of the classroom (Croom, 2008). The circle of FFA is a complementary instructional tool to encourage the students' academics and career goals, as well as provide opportunities for them to engage in leadership development activities (Phipps & Osborne, 1988).

The three circles of agricultural education are designed to execute the mission of agricultural education, ". . . to prepare students for successful careers and a lifetime of informed choices in global agriculture, food, fiber, and natural resources systems" (Official FFA Manual, 2016, p. 92). Though commonly agricultural education programs define success by achievement in competitive events (Rayfield, Murphy, Briers, & Lewis, 2012), studies have found more specific characteristics of exemplary career and technical education programs, as well as agricultural education programs. According to Lynch (2000), the stand-out career and technical program is focused on academics with relevant application, authentic evaluation of student work, resources to support student engagement, supervised, career-based opportunities for learning outside of the classroom, well-trained teachers who partner with community members, and a unique environment within the greater school system. Similarly, Rayfield et al. (2012), found that

an ideal agricultural education program should be experiential in nature with resources for lab-based research, industry focused, and led by a driven teacher who uses modern technology and curriculum. Baker, Robinson, and Kolb (2012) determined that experiential learning is necessary for the agricultural education model to be deemed comprehensive. Further descriptors of the agricultural education model include a focus on innovative and critical thinking, community interaction, and student goals (Rayfield et al., 2012).

To ensure the three circles are truly connected, teachers leading quality agricultural education programs should associate FFA activities and competitive events with curriculum-based experiences (A guide to local program success, 1998). In 1977, national standards were developed to illustrate the ideal vocational agriculture education program (Crawford, 1977), and states soon followed with their own measures of quality (Camp & Crunkilton, 1985). Currently, standards by which agricultural education programs may be measured are designed and administered at the state-level by choice (Jenkins & Kitchel, 2009).

Studies of the agricultural education classroom environment are centered on the teacher as the program director. Dibendetto, Blythe, and Myers (2017) noted that the learning environment teachers work to create in their classrooms is based in critical thinking, problem solving, and collaborative learning. Experiences designed by the teacher for students should take place in the laboratory following accepted principles and real world application (Abdulwahed & Nagy, 2009; Dibendetto et al., 2017). The teacher frequently faces challenges when designing a learning environment which is based on the course expectations (McCarthy & Anderson, 2000), and must shift in educator role as an active learning environment in fostered in the classroom (Phipps, Osborne, Dyer, & Ball, 2008; Schunk, 2012).

One study on the effect of institutional block scheduling on the quality of the agricultural education classroom found that the number of students in the agricultural education program

increased with block scheduling in practice, yet issues concerning the daily operation of the FFA program arose (Moore, Kirby & Becton, 1997).

Engagement in the FFA program is critical for the agricultural education student as members in FFA usually value their classroom and laboratory experience more than non-members (Talbert & Balschweid, 2004). Historically in agricultural education research, there has been a clearer picture of an ideal FFA program than an ideal SAE program (Jenkins & Kitchel, 2009). According to the Official FFA Manual (2016), the FFA mission statement is that FFA, ". . . makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success" (p. 92). Further, the essentials an FFA chapter needs to be successful are:

1. FFA knowledge
2. Diversity of membership
3. All members share responsibilities
4. Capable officers
5. Challenging program of activities
6. Workable constitution and bylaws
7. Proper equipment and records
8. Well-planned, regularly held chapter meetings
9. Adequate financing
10. School and community support (Official FFA Manual, 2016, p.43)

Jenkins and Kitchel (2009) determined there are additional necessary qualities an FFA chapter must have to become successful including personality characteristics of the advisor, opportunities for student development of leadership and public communication skills, communication between the advisor and officer team to plan events for the chapter, student-led

decision making, good standing with the state FFA association and National FFA Organization, instruction for personal growth and leadership development outside for all chapter members, chapter-based recognition programs, and the engagement and acceptance of FFA members unable to pay dues.

The National FFA Organization outlined the six types of SAE programs in the Official FFA Manual (2016) as "Ownership/Entrepreneurship, Placement/Internship, Agriscience Research and Experimentation, Exploratory, School-based Enterprise, and Service-Learning" (pp. 10-11). SAE projects should be year-round, even if students are not enrolled in an agricultural education course during that period and can be a combination of any of the six categories. SAE programs commonly lack definition, direction, and measures by which they can be evaluated outside of the FFA Proficiency award system (Cheek, Arrington, Carter, & Randell, 1994; Dyer & Osborne, 1996). However, multiple researchers have outlined factors of effective or successful SAE programs. Early quality measures of the SAE include teacher contract length, frequency of teacher visits, numbers of teachers in the agricultural education program and the years of experience they have (Straquadine, 1990), the priority the teacher places on SAE (Warren & Flowers, 1992), and family factors such as parental support, presence of farm as a resource for the student, and the connection of student career plans to agriculture (Gibson, 1988). Camp, Clarke, and Fallon (2000) determined the most important factors of a successful SAE project include good planning, adult supervision, agricultural relevance, relationship to classroom content, and strong record-keeping. Later, Jenkins and Kitchel (2009) proposed six quality indicators of the SAE as teacher time to supervise the project regularly, accurate recordkeeping, variety of SAE types within the program, multiple stakeholders, student interest and satisfaction, and proper goal-setting. Finally, Hughes and Barrick (1993) noted that there is a relationship between the provision of school laboratory facilities and the quality of student SAE programs.

Many quality factors of the three-circle model of agricultural education and its respective circles refer to an effective agricultural educator, and it has been found that effective agricultural educators are needed to sustain an agricultural education program in the community for an extended, sustainable, period (Roberts & Dyer, 2004). Seven competencies essential to a good agricultural educator are proposed by Roberts, Dooley, Harlin, and Murphey (2006) as supervised experience, content and skills knowledge, facilitation of the student organization, engagement with the greater school and community, personal characteristics, exceptional program management, and professionalism, which are entirely superseded by the ability to collaborate with various groups and individuals. However, it has been documented well that there is a shortage of agriculture teachers (Camp, Broyles, & Shelton, 2002) and demand for teachers in nearly all subjects (Croasmun, Hampton, & Hermann, 1999). Teachers who are working in agricultural education programs, may face problems which prohibit them from being fully effective including lack of support from administration, deficient facilities, and minimal funding (Boone & Boone, 2007). For beginning teachers, factors inhibiting efficiency are focused on challenges with class preparation and development, excessive paperwork, and classroom management (Boone & Boone, 2007).

CHAPTER III

METHODOLOGY

The purpose of this study was to explore the learning space of rural Oklahoma secondary public schools and their agricultural education programs. Creswell (2007) used the metaphor of an intricately woven fabric to describe the complexity of qualitative inquiry. As there are a variety of ways to approach qualitative research, there are diverse colors, textures, and blends of material which are brought together on the loom of perspective by the artist (Creswell, 2007). Denzin and Lincoln (2005) described qualitative research as an activity where the researcher is an intentional observer, located at a given place on the globe to make sense of what he or she sees. More technically, Creswell (2007) outlined qualitative research as occurring in a natural setting where the researcher as the instrument collects data from multiple sources and focuses on the position of the participant to "develop a complex picture of the problem or issue under study" (p. 39). There is a need for qualitative research when a "complex, detailed understanding of the issue" must be developed (Creswell, 2007, p. 40). Within the context of agricultural education, Dooley (2007) described life as a story, not a mathematical equation, and as such, calls for the use of qualitative research designs when appropriate to solve complex problems within the profession.

Context of the Study

This qualitative study explores the learning space and its psychological, social, institutional, cultural, and physical dimensions of rural secondary schools and their agricultural education programs. In Oklahoma, over two-thirds of school districts are rural (Showalter et al, 2017) and a majority of those have agricultural education programs, as there are 488 chartered FFA chapters in the Oklahoma FFA Association (Oklahoma FFA Association, 2017).

For this particular study, an exploration of how individuals construct and engage in a learning space was conducted using data from teacher and administrator interviews, photographs, school artifacts, and public documents from the rural secondary school and agricultural education program. Field notes were utilized to supplement the data collected and provide greater meaning to understanding the studied phenomena. Data were comprised of semi-structured interview transcripts and related artifacts at the individual site level, then collected to form the multi-site case.

Ontology and Epistemology

As a researcher designs a study, he or she must select a research model that is aligned with the beliefs of the individual about the nature of reality (Mills, Bonner, & Francis, 2006). The ontology and epistemology of the researcher in this study is transactional constructivism (Dewey, 1896). Dewey (1938) contended that education is centered on the constant interaction of the learner's internal and external environments, as the situational experience and interactions had are held within one context. The concept of the situation and the person's interactions with the world around him or her are based in transactionalism, as Dewey (1938) stated that "an experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment" (p. 43). This concept of organismal and environmental

transactions underlies the processes that undergird human action, and lends itself to the epistemology of constructionism.

Constructionism is defined as "the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context (Crotty, 2003, p.42). Though some philosophers believe in personal constructivism and that knowledge is constructed within the mind of the individual as he or she experiences (Piaget, 1970) and others believe in social constructivism where knowledge is built in communities through social interaction (Vygotsky, 1978), Cobb (1994) purported that personal and social construction cannot be separated as knowledge is both individual and shared. Cobb (1994) further described that knowledge constructed in a social manner is only meaningful when it is continually processed and stored in the mind of the individual in a way personalized to his or her experiences. In this sense, constructionism is relevant to the researcher as meaning is co-created between the interactions of the researcher, participants, and environmental elements, yet meaning is made further as the researcher sorts, stores, and understands the concept in her mind.

Theoretical Perspective

The theoretical lens utilized in this study is that of Kolb's (2015) Experiential Learning Theory, or ELT. Kolb (2015) suggested that experiential learning theory is a "holistic integrative perspectives on learning that combines experience, perception, cognition, and behavior" (p. 31). Experiential learning theory maintains six primary characteristics that (1) learning is best conceived as a process, not measured in terms of outcomes, (2) learning is a continuous process and is grounded in experience as it is implied that "all learning is relearning" (p. 39), (3) the learning process demands the conflicts between dialectically opposed modes of adaptation to be resolved, (4) learning is a process of holistically adapting to the world, (5) learning engages the

person and the environment in a transactional nature, and (6) learning is the process of knowledge creation (Kolb, 2015). This theory presents a working definition of learning as being "the process whereby knowledge is created through the transformation of experiences" (p. 37).

Experiential learning theory is a dynamic perspective on learning which is based on the Experiential Learning Cycle (Kolb, 2015) driven by the necessary and eventual resolution of experience/abstraction and action/reflection as dual dialects. As knowledge is created by the grasping and transformation of experience, this model shows a cyclical portrait of four modes of learning, including concrete experience, reflective observation, abstract conceptualization, and active experimentation whereby the learner engages in each mode recursively within the situation and context of the content (Kolb, 2015). An element of experiential learning theory with regard to environment is the concept of learning spaces (Kolb, 2015). The concept of learning spaces includes the five dimensions of psychological, social, institutional, cultural, and psychical factors which engage in the creation of the learner's experience (Kolb, 2015). Utilization of experiential learning theory and the concept of learning spaces as the theoretical lens in this study provided a way for the researcher to structure the environmental elements discovered through interaction with the cases.

Researcher Subjectivity

As Creswell (2007) noted, the qualitative research of today should acknowledge the impact of the researcher on the study, as every researcher individually shapes the writing of the report. As a researcher conducting a multi-site, collective case study within the rural and agricultural education contexts, I included a researcher subjectivity statement to share my experiences transparently, which influence the way in which I view rural education and agricultural education. Merriam (2009) explained that the researcher must share his or her

assumptions and experiences to "allow the reader to better understand how the individual researcher might have arrived at the particular interpretation of the data" (p. 219).

Reflexivity Statement

As a child, I attended a rural elementary school in a building constructed in 1938 with approximately 15 other students in my grade. I continued to a consolidated middle and high school which, though larger in size, were community driven as each student was well aware from which village or parish in the county the students were from based on their last name. I attended rural schools which may have struggled with funding, but were not in the dire situations of many schools in the current American education crisis. I never wanted for opportunity in the school, as I had many lifetime teachers who were dedicated to their students' holistic success, including academic excellence and development into an able rural citizen. Valuing education is a tenet of my family as my mother will soon retire from the profession as a secondary English and Spanish teacher where her years were spent in the rural classroom teaching students like I and my peers. My maternal grandparents were both teachers, English and Physics, respectively, and my father was briefly a teacher in the industrial program arts at a technical school. A majority of my adult cousins were involved in education in some realm, ranging from professors of higher education to the ubiquitous lunch lady. Education is in my blood and is personal.

As education is a family affair, so is the rural and agricultural life. My permanent and childhood address is on a fifth-generation row-crop farm which has remained in my family for nearly 175 years. Though I have traveled to each of the 48 contiguous states, I have not lived in an urban area. As a high school student, I began to link my personal interest in agriculture and education by enrolling in the agricultural education program at my high school. I quickly became involved in and passionate about the local FFA chapter, engaging in leadership positions, service projects, and fully embracing the family FFA became for me outside of the classroom. After high

school, I continued my engagement in agricultural education, pursuing a degree within the college of agriculture in Kentucky and serving as a state leader in the Kentucky FFA Association. During the early portion of my college career, much of my time was spent visiting Kentucky high schools, engaging with farmers and agriculturists, and being an active member of the young agricultural community.

Two years later, I was elected to serve as a student leader in the National FFA Organization which included traveling across the country visiting state FFA conventions, high schools, and developing a national understanding of agriculture, agricultural education, and the policies and industries of agriculture and education. My experiences in FFA developed in me a belief that agriculture is the core industry of the globe and must have a pipeline of educated, passionate, and innovative young minds working together to feed, clothe, and fuel the world. Because of the various experiences I have had in classrooms other than my own, I have an expanded perspective of what education can, should, and should not look like. I have seen the potential of students who are motivated to make change and engaged in individualized coursework under the direction of a passionate teacher. I have also seen what a distressed teacher in a low resource community and school looks like and the trickle effect of that teacher on his or her students. I believe in the importance and power of education.

In 2014, I began school at the University of Florida where I shifted from studying Agricultural Economics to Agricultural Education and Communications to pursue a certification in secondary education. During my time at the University of Florida, I worked at the Florida 4-H Headquarters and continued to work for the National FFA Organization as a facilitator and content specialist, gaining experience in engaging with students from all backgrounds interested in agriculture and leadership education, often from rural backgrounds. Outside of my agricultural experiences, I volunteered extensively at Gainesville Middle School, a diverse and low-socioeconomic school, as a tutor and leadership sponsor. Additionally, I taught six preps in the

agricultural program at Williston High School, a rural, racially diverse, and largely state-funded school near Gainesville, Florida. These experiences increased my love and respect for teachers, as well as a greater understanding of the challenges teachers face on a daily basis that are often hidden during exceptional experiences like field trips, leadership conferences, and conventions. These experiences also showed me more about what effective instructional design looks like, and I began to develop my personal interest in project-based learning and an experiential perspective to guiding the classroom.

Deepening my passion for agricultural education and the rural student, I am currently pursuing a masters' degree in Agricultural Education from Oklahoma State University. A focus of my studies has been centered on Experiential Learning Theory, as seen through various coursework and studies conducted during enrollment in this program. Additionally, I work as the assistant director for the McKnight Scholars Program, a leadership program specifically for rural, out-of-state, high-achieving students attend Oklahoma State University. In this role, I work on a team of three to provide students with leadership coursework, opportunities to engage with the community through service work, talks from local leaders, community building activities among the scholar group, and an international experience. Our mission is to identify, equip, and empower students to become life-giving leaders, a mission which is driven daily by a focus on crafting and providing high-impact experiences to students. Through this work, I engage with students who have succeeded in rural schools that did not provide them with the academic support needed to compete in high school and with students from rural schools who are adequately prepared to be successful in college. I have begun to understand the variety of rural education experiences that are different than my own, as each rural community and rural school is different from the other.

Currently, I am influenced by the education crisis sweeping the nations in both my home state, home-away-from-home state, and others. During the writing of this thesis, teachers in West

Virginia, Kentucky, and Oklahoma have gone on strike to protest a lack of funding to support teachers, staff, and most importantly, per pupil resources. For the first time, education has become a national conversation because of the willingness of these teachers to come together and fight for something greater than themselves. Though politically, I believe in small government, my experience studying the rural school in the midst of such controversy has created a conflict in my own mind amid my beliefs which have not yet been resolved. I cannot ignore that this educational climate within the two states I am most tied to has impacted my view of the rural teacher, agricultural education program, school, and district. I admit that I stand in solidarity with teachers who are willing to speak up, communicate with legislators, and stop at nothing to provide what they know they believe is best for their students.

I acknowledge that the lens through which I view education, writ large, rural, and at the secondary agricultural education level are influenced by my experiences. Although I realize that full objectivity is impossible and that my perspectives on both rural and agricultural education will influence data collection, analysis, and writing, I do not want to transform the case into something it is not. Yin (2017) noted that both short and long interviews in the case study may pose a reflexive threat to the collection and interpretation of data as the researcher's perspectives color the data, "but just being sensitive to its [the threat of reflexivity] existence should allow you to do better case study interviews" (p. 120). Throughout my field notes, I recorded my observations of the learning space, and during the memo writing was able to indicate where my bias may influence the analysis of the data.

Data collection was completed in March 2018, one week before the majority of the state's spring break and two weeks before the eventual Oklahoma teacher walkout. As recommended by Stake (2007), interviews and field notes were transcribed the week after data collection by the researcher as close to the collection date as possible so that I remained as objective as possible in the analysis of the data and to enhance my immersion in it.

Research Design

The purpose of this study was to explore the learning spaces of rural Oklahoma secondary public schools and their agricultural education programs. The primary method of investigation was the multi-site, collective case study, as described by Stake (1995), not to create opportunity for greater generalization, but to enhance the ability of the researcher to learn from the case. Yin (2017) noted that the analytic advantages of including more than one case in the study may be considerable, thus increasing understanding the case in its entirety.

The Multi-Site Case

Three case sites were selected following protocol outlined by Stake (1995) to optimize our opportunity to learn from the case based on a few key characteristics. These three sites were selected as the focus for this study from the 584 school districts existing in Oklahoma (Department of Education School Site Totals, 2017). So as not to prohibit the individuality of the case, sites were selected based on the following criteria: high school enrollment under 150 students, over fifty percent of students classified as low-income based on free and reduced lunch standards from the Oklahoma Department of Education Low Income Report, rural community population of under 1,000 members, school grade of B or C as defined by the Oklahoma A-F School Grading System, the presence of a agricultural education program and FFA chapter in good standing with the Oklahoma FFA Association, and a location that lent itself to extended exposure by being under 100 miles from the researcher's location. Pseudonyms of West High School, North High School, and South High School were used to protect the identity of the cases and participants within each case (Yin, 2017).

Description of Cases

Site 1: West High School has a total enrollment of 69 students, though the high school is under the same roof as the elementary and middle school grades. The population of West,

Oklahoma is 974 people and local industry is largely based in agriculture and dependent on the fluctuations of the oil and gas market. Over 54 percent of students in West are classified as low-income and West High School received a grade of B- on its most recent school report. The agricultural education program at West is a single teacher department led by a first-year agricultural education instructor where agricultural mechanics, animal science, and agricultural communications courses are taught.

Site 2: North High School has a total enrollment of 146 students, with the high school being on the same campus as the middle grades and administration building. The population of North, Oklahoma is 725 people, and the local industry is agriculturally focused. Over 60 percent of high school students in North are denoted as low-income, and North High School received a grade of C+ on its most recent school report. The agricultural education program at North consists of a single teacher department where agricultural mechanics, animal science, agricultural communications, and farm business management courses are taught.

Site 3: South High School has a total enrollment of 76 students. The population of South, Oklahoma is 662 people and the local industry is centered on agriculture and jobs related to the oil and gas industry. South High School received a grade of B- on its most recent school report card, and 59 percent of enrolled students is noted as low income. The agricultural education program in the school is led by a single, first-year agriculture teacher who teaches agricultural mechanics, leadership, and horticulture.

Data Collection

Data were collected over the course of two weeks during March 2018, following Institutional Review Board Approval for the study. For the purpose of the study, data collected included teacher and administrator interviews, observations of the school environment, photos of the learning space, and documents available at the site, supplemented by researcher field notes.

As described by Stake (1995), observations and photographs of the sites' environments were used to provide the best possible incontestable descriptions of the learning space for further analysis and to seek triangulation among the data. Interviews were conducted using a protocol designed in advance and piloted with a single, out-of-case participant, as recommended by Stake (1995). Questions were formed to not "get a simple yes and no answer, but describe an episode, a linkage, an explanation. . . to evoke good responses" (Stake, 1995, p. 65). Interviews were recorded digitally and transcribed to enhance the ability to reconstruct the account (Stake, 1995). The semi-structured interview protocol is provided in Appendix A. Documents were reviewed to "substitute for records of activity that the researcher could not observe directly" (Stake, 1995, p. 68). For the purpose of design and analysis, data collected were completed for an individual site before continuing to the next site.

Data Analysis

Stake (1995) reported, "There is no particular moment when data analysis begins. Analysis is a matter of giving meaning to first impressions as well as to final compilations" (p.71). Data were collected within the three sites during March 2018. Following collection of the data, the researcher prepared the data by transcribing each of the interviews, along with completing memo writing of interviews, photographs, and documents. Data were stored within the qualitative data analysis software, NVivo. Following collection and data storage, primary, first and second-cycle coding commenced, which included coding each site individually to show adequate attention to all data, as recommended by Yin (2017). As themes emerged within the site, cross-case synthesis of emergent second-cycle themes was conducted based on analytic generalization, not frequency of themes (Yin, 2017). Following coding, investigator triangulation was conducted through negotiation of codes, as recommended by Stake (1995).

Field Notes

After each interview and site visit, field notes of impressions, questions, and general observations, as recommended by Yin (2017), were compiled and were organized by participant interview and later by the site. The field notes provided a perspective of various documents and artifacts to supplement the data analysis.

Coding

Interpretation of the data was fulfilled through coding and analysis to capture the essence of the multi-site case. Coding procedures outlined by Saldaña (2016), were followed to translate and interpret the data into meaning. Each data source was coded using the first-cycle strategy eclectic coding, a hybrid coding method suited best for explorative research as it employs a "compatible combination of two or more first cycle coding methods. . . purposeful to serve the needs of the study and its data analysis" (Saldaña, 2016, p. 213). In-vivo codes were used to analyze interview-based data in the first-cycle, as it allows for retention of the voice of the participant in the code. Descriptive codes were used to analyze related photographs, documents, and records, as Saldaña (2016) recommends descriptive coding for studies with a variety of data forms. Primary and secondary codes emerged within the site.

Theoretical coding, as outlined by Saldaña (2016), were deemed appropriate for this study as the researcher applied "pre-existing theories in a different context" (p. 251). Theoretical coding was conducted to analyze the data and allow for tertiary codes to emerge using the experiential learning theory concept of learning spaces as a model by which codes are integrated. After theoretical codes were developed for the site, cross-case analysis was conducted to elevate patterns to a conceptual plane of the rural Oklahoma school learning spaces. Themes emergent at the cross-case level were identified at a conceptual level within the bounds of the learning space

concept. Contaminating differences found between the sites were presented as emergent issues, per Stake (1995).

Qualitative Measures of Validity and Reliability

As recommended by Merriam (2009), careful attention to the birth and design of the research study, data collection strategies, and analysis was paid. Thus, Stake's (1995) triangulation protocols were followed. Triangulation was primarily established at the data source to ensure that what we observed was mirrored by other participants and sites. Investigator triangulation was established as we negotiated themes at the site and case levels. We remained ethical throughout the study design, data collection process, and analysis. Ethics related to procedural, situational, relational, and exiting the case were attended to throughout the case, as recommended by Tracy (2010). To ensure trustworthiness, credibility, transferability, dependability, and confirmability were established throughout the development of the case and collection of data (Lincoln & Guba, 1985).

CHAPTER IV

WHERE DO WE LEARN?: A MULTI-SITE CASE STUDY OF LEARNING SPACES OF RURAL SCHOOLS IN OKLAHOMA

Introduction

Until 1990, there was not a national definition of "rural;" everything that was not classified as urban, was simply non-urban (Sher, 1998). Without a definition of rural, policy on a variety of topics was written with an urban focus and unintended consequences on rural citizens (Haas, 1991). Finally, rural was defined nationally via census classification, but the word rural is exceedingly more complex than any one description (Showalter et al, 2017). In the realm of education, rurality is relevant and creates a unique educational environment, even though rural students are still often overlooked in times of decision-making (Showalter, Klein, Johnson, & Hartman, 2017). Now, with a current president elected with the weighty support of rural constituents, and a need for more equitable education for all, there is a resurgence of pressure to address issues found in the rural school (Showalter et al, 2017). Though one in four of America's public schools are classified as rural, only 17 percent of education funding goes to rural schools (Showalter et al, 2017). One in six American students attend school in rural districts translating to ". . .more than 8.9 million students attending rural schools. More than the enrollments of New York City, Los Angeles, Chicago, and incredibly, the next 75 largest school

districts combined" (Showalter et al, 2017, p.1). To provide these 8.9 million students the education they deserve requires an environment hospitable to learning. As such, the learning environment of students today has transformed into not only an educational issue, but a social and economic issue worthy of resources, research, and effort (Freiberg & Stein, 1999). Biddle and Azano (2016) make the importance of studying the learning space clear:

> The lived realities of students, teachers, administrators, and community members happen within the context of a school, situated in a place, and in the current American system of public schooling, much of the local economic and social realities of that place determine the opportunities and constraints of local schooling (p. 316).

Theoretical Lens

Experiential learning theory demands understanding the place learning occurs as, "to learn means to learn something that exists somewhere" (Kolb, 2015, p. 288). Kolb and Kolb (2017) described the concept of learning space to be multi-dimensional, and broader than the bounds of a stereotypical classroom. The five dimensions of learning space, as seen in Figure 2, are psychological, social, institutional, cultural, and physical, completely embedded in and holistically encompassing the learning space (Kolb & Kolb, 2017).

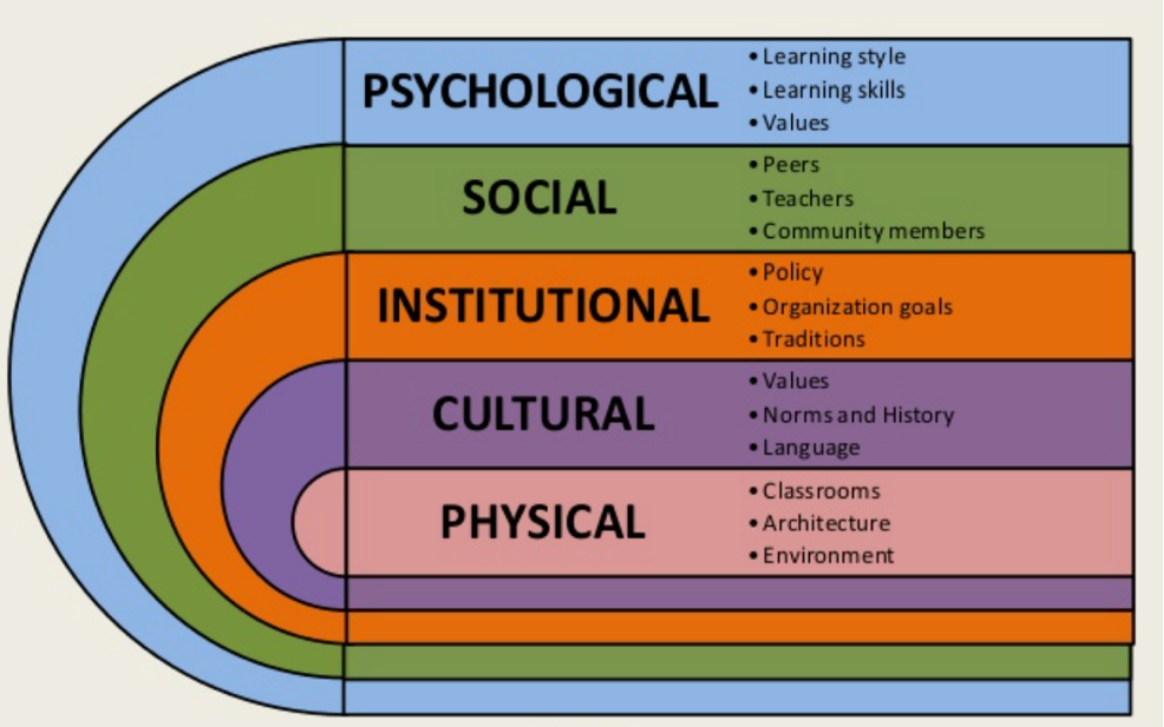

Figure 3. Kolb's and Kolb's (2017) Dimensions of Learning Space. Reprinted from The Experiential Educator: Principles and Practices of Experiential Learning (p. 167), by Alice Y. Kolb and David A. Kolb, 2017, Kaunakakai, HI: EBLS Press. Copyright 2017 by EBLS Press. Reprinted with permission.

The psychological dimension of the learning space describes the mental space of the learner including his or her learning style, learning skills, and personal values. The social dimension of the learning space focuses on the individuals who engage with the learner and identify the role of peers, teachers, and community members in the place of the learner. The institutional dimension includes policies, organizational goals, and traditions which arise amid the learner's environment. Values, norms and history, and language inform the cultural dimension of learning space. The physical dimension highlights the brick and mortar aspects of the learning space, including actual classrooms, architecture, and the surrounding environment. Within experiential learning theory, these dimensions interact to create the complete learning space (Kolb & Kolb, 2017).

Four theoretical frameworks inform the development of the learning space within experiential learning theory. Primary to the definition of learning space, field theory (Lewin, 1951) included a concept of life space where the person and the environment are not separate, but interdependent. The function B = *f*(p, e) where person and environment yields behavior, is a translation of this concept into mathematical terms illustrating the tension between the person and his or her space of living. Lewin (1951) built on this tension by describing the internal needs of the person and the external demands of the environment as a field of forces that dynamically position the individual in a defined reality. Urie Bronfrenbrenner (1977, 1979) added a sociological element to the concept of life-space by modeling the space in a nested manner. Bronfrenbrenner (1977, 1979) described the learning space as including the microsystem, mesosystem, exosystem, and macrosystem, ranging from the immediate environment of the learner to the general social-system within which the learner exists concurrently. Situated learning theory (Lave, 1988) provides a third addition to the gradual development of learning space by conceiving that learning space, as a situation, can be an element of the individual's social environment, not only the physical place. Thus, knowledge does not only exist in the mind of the learner, but also extends to the social processes and relationships between the learner and members of the communities of which the learner becomes a member. Finally, Nonaka and Konno (1998) described a community space in which knowledge creation is based as *ba*. "Knowledge is embedded in *ba*, where it is then acquired through one's own experience or reflections on the experiences of others" (Nonaka & Konno, 1998, p. 40). For the *ba* space to exist, and for knowledge embedded in *ba* to be shared via personal interactions and experiences, a climate without barriers must be created where love, trust, and peace exist (Nonaka & Konno, 1998).

The concept of learning space does not determine learning to be a process which fits each learner in the same way; instead, learning space is conceptualized to support and map various

ways of learning in relation to each other within the same territory (Kolb & Kolb, 2017). The location of an individual within the learning space creates a unique perspective of reality of both the experience and transformation of information for the learner. As the learning space in finality is a result of the learner's experiences, the psychological and social dimensions of the learning space are most influential on learning. The people in the learning space, including the learner himself, are incredibly powerful influences on the nature of it (Strange & Banning, 2001). Because of this highly individualized nature of the learning space, creating an environment hospitable to learning and in alignment to this conceptualization is challenging, yet possible.

Recommendations on how educators can create effective learning spaces for learning are numerous, yet are grounded in Maslow's (1968) hierarchy of needs being met. Kolb and Kolb (2017) recommended that in addition to creating a space of physical safety, there should also be a focus on psychological safety within the learning space. Psychological safety, as encouraged by the educator and created by the students, is deemed necessary by Kolb and Kolb (2017) to foster respect, care, and innovation. Further, the educator must create a hospitable learning environment which welcomes learners as if they were guests, and respects each learner and his experiences (Kolb & Kolb, 2017). The educator's role in creating the learning space expands further to fostering a positive environment, loving students as if they were family, and supporting students in their challenges (Kolb & Kolb, 2017). In the context of experiential learning, the learning space should be created with the focus on the learner and his needs, to empower the learner to engage in the development of his own experiences and build on strong relationships between the teacher and the learner (Kolb & Kolb, 2017).

Need for Study and Purpose

Research in rural education is needed to understand and highlight its multifaceted complexities (Deyoung, 1987), and urge policymakers, legislators, and other stakeholders to

place value in the unique qualities of rural education. This study addresses an initiative of the American Educational Research Association focused on educational equality in public education (2018) and multiple research priorities of the National Rural Education Association Research Agenda 2016-2021 including priority six, "Effects of poverty on rural education," priority seven, "Rural school and community/family relations," priority nine, "Teacher/Leader recruitment and retention," and priority ten "Technology integration to meet the needs of rural schools." This study addressed each of these priorities by seeking to understand the role of various factors influencing the dimensions of the learning spaces in rural schools.

This research study also addressed the experiential learning theory concept of learning spaces (Kolb & Kolb, 2017). There have been few studies focusing on the concept of learning spaces, and those which have been conducted focus on learning spaces in the post-secondary education context (Eickmann, Kolb, & Kolb, 2004; Kolb & Kolb, 2005). This study will expand the body of literature on learning spaces as it utilizes learning space as a theoretical lens to examine the secondary school and the agricultural education program.

The purpose of this multi-site, collective case study (Stake, 1995) is to explore the learning space of rural Oklahoma secondary public schools and their agricultural education programs.

The issues for this study were:

ϑ_1: What is the psychological dimension of the learning space in the rural secondary school?

ϑ_2: What is the social dimension of the learning space in the rural secondary school?

ϑ_3: What is the institutional dimension of the learning space in the rural secondary school?

ϑ_4: What is the cultural dimension of the learning space in the rural secondary school?

ϑ_5: What is the physical dimension of the learning space in the rural secondary school?

Background of Study

This qualitative study explores the learning space and its psychological, social, institutional, cultural, and physical dimensions of rural secondary schools and their agricultural education programs. In Oklahoma, over two-thirds of school districts are rural (Showalter et al, 2017) and a majority of those have agricultural education programs, as there are 488 chartered FFA chapters in the Oklahoma FFA Association (Oklahoma FFA Association, 2017).

Methodology

The purpose of this study was to explore the learning spaces of rural Oklahoma secondary public schools and their agricultural education programs. The primary method of investigation was the multi-site, collective case study, as described by Stake (1995), not to create opportunity for greater generalization, but to enhance the ability of the researcher to learn from the case. Yin (2017) noted that the analytic advantages of including more than one case in the study may be considerable, thus increasing understanding the case in its entirety.

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population of under 1,000 members, school grade of B or C as defined by the Oklahoma A-F School Grading System, and a location that lent itself to extended exposure by being under 100 miles from the researcher's location. Pseudonyms of West High School, North High School, and South High School were used to protect the identity of the cases and participants within each case (Yin, 2017).

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Site 2: North High School has a total enrollment of 146 students, with the high school being on the same campus as the middle grades and administration building. The population of North, Oklahoma is 725 people, and the local industry is agriculturally focused. Over 60 percent of high school students in North are denoted as low-income, and North High School received a grade of C+ on its most recent school report.

Site 3: South High School has a total enrollment of 76 students. The population of South, Oklahoma is 662 people and the local industry is centered on agriculture and jobs related to the oil and gas industry. South High School received a grade of B- on its most recent school report card, and 59 percent of enrolled students is noted as low income.

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Data were collected over the course of two weeks during March 2018, following Institutional Review Board Approval for the study. For the purpose of the study, data collected

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After each interview and site visit, field notes of impressions, questions, and general observations, as recommended by Yin (2017), were compiled and were organized by participant interview and later by the site. The field notes provided a perspective of various documents and artifacts to supplement the data analysis.

Interpretation of the data was fulfilled through coding and analysis to capture the essence of the multi-site case. Coding procedures outlined by Saldaña (2016), were followed to translate and interpret the data into meaning. Each data source was coded using the first-cycle strategy eclectic coding, a hybrid coding method suited best for explorative research as it employs a "compatible combination of two or more first cycle coding methods. . . purposeful to serve the needs of the study and its data analysis" (Saldaña, 2016, p. 213). In-vivo codes were used to analyze interview-based data in the first-cycle, as it allows for retention of the voice of the participant in the code. Descriptive codes were used to analyze related photographs, documents, and records, as Saldaña (2016) recommends descriptive coding for studies with a variety of data forms. Primary and secondary codes emerged within the site.

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As recommended by Merriam (2009), careful attention to the birth and design of the research study, data collection strategies, and analysis was paid. Thus, Stake's (1995) triangulation protocols were followed. Triangulation was primarily established at the data source to ensure that what we observed was mirrored by other participants and sites. Investigator triangulation was established as we negotiated themes at the site and case levels. We remained ethical throughout the study design, data collection process, and analysis. Ethics related to procedural, situational, relational, and exiting the case were attended to throughout the case, as recommended by Tracy (2010). To ensure trustworthiness, credibility, transferability, dependability, and confirmability were established throughout the development of the case and collection of data (Lincoln & Guba, 1985).

Findings

Through analysis of the data, 22 themes fitting the theoretical lens of learning spaces in the case emerged. Within the psychological dimension, the three themes of *experiencing*, *one-on-one*, and *learning for practical application, not for a test*. The social dimension aligned with six themes of *family environment*, *open-door policy*, *school as a team, community support is crucial,* and *teachers will do whatever it takes*. Six themes related to the institutional dimension of the learning space including *mutual respect, we are good enough, freedom to do what is right, strong administration,* and *teachers wear many hats*. The cultural dimension of the learning space yielded six themes including *there is more out there, Christian values, school is a home, be involved, prepare for the future—not just college, we do what we can with what we have*. The final dimension of the learning space, physical, is linked to three themes, including *technology is there, outdated and plain,* and *outside money is needed.*

Psychological

Teachers interviewed in the study focused on the highly individualized learning space and theme *one-on-one*, as highlighted by South High School teacher who said about her classes, "I feel like I get a one-on-one experience with each of my students. I know each and every single one of them well. I feel like I have a really good bond with each of them, well, most of them." In reference to the theme of an *experiencing* learning style among students being common among the students, a teacher at South High School noted that in regards to academic work, "To be totally frank, a lot of the time, it's just engaging students to where they do it…do something." A teacher from West High School supported this theme by saying, "…most kids just learn really good with hands on stuff." *Learning for practical application, not for a test* is supported by a teacher from North High School who said, "We feel like a lot of knowledge happens outside of a textbook." An administrator from West High School revealed the focus of learning by saying, "You're always behind by the time you get the results in, so do they really matter?"

Social

The theme of *family environment* flowed through many conversations with teachers. One teacher at South High School explained, "We are a really, really close-knit group." Another South High School teacher noted, "I feel like a little community here, the staff, students, parents. I feel like they genuinely care." A teacher from West High School noted that "…this isn't just a job. This is a family; this is a second home for me and for my students." *Open-door policy* emerged as a social dimension among teachers. When talking about how communication among staff, students, and community operated, an administrator at South High School said, "I truly have an open-door policy, sometime to a fault probably." This sentiment was echoed by other administrators and appreciated by many teachers. Even the receptionist at West High School mentioned, "We're one big happy circus. We know everyone." *School as a team* was a

foundational element of the social dimension of learning space as a South High School teacher said, “We’re really working together as a team to push these kids.” This theme was supported by the North High School administrator who explained, “Everyone is on the same page. We’re talking to each other in the hallways. We’re talking to each other after school. Everybody drives a bus. Everybody helps out with discipline. We’re just all-in, family style learning.” *Community support is crucial* is explained by a South High School teacher, “With the community as a whole, you have a lot of support. Not just moral support, but a lotta times there’s…there’s financial support that goes on too.” This is echoed by the South High School administrator who said, “There’s no way we could do what we’re doing if we didn’t have support from the community.” *Teachers will do whatever it takes* emerged through a statement from a North High School teacher who said, “You know, they are, we are willing to do whatever it takes. The teachers, the parents, the administration. You know, it’s for total student success.” At the same site, the principal is described as driving a bus in the morning, being at every sporting event, and cleaning the bleachers at the football stadium. A South High School teacher echoes this with, “We have a staff that is willing to do whatever it takes.”

Institutional

Mutual Respect was demonstrated as a school-wide value throughout the case. This theme was spoken to by a North High School teacher who said, “With me it’s, I’m going to treat you with the utmost respect and I expect the same back. I mean, it’s kind of the golden rule.” Respect was clearly shown by teachers and by students, a sentiment mirrored by a South High School teacher, “The biggest thing is that respect, the respect for themselves and the respect for everybody…We’re going to respect this environment.” A theme of *we are good enough* resonated throughout the case. A South High School teacher explained:

> As a school and as a faculty, one thing that we want to be careful of though is making sure that we're not using being a small, rural school as an excuse…There's a lot of rural schools out there that don't. They go and say they're just a small school. No. We need to push these kids because they are not any less important than a kid that goes to [school] or [school] or something like that. They are no less important and they are no less talented, no less intelligent.

A West High School teacher simply said, "We're small, but we still compete." North High School teachers felt similarly as one teacher commented, "Out administration pushes the teachers, the teachers push the students. We're competitive. We're not just going to sit here and not do anything." Being a rural school did not affect the expectations of excellence the school and community had for its students. *Freedom to do what's right* was woven throughout the case in reference to curriculum, discipline strategies, and community engagement. A West High School teacher said, "…we have the freedom to, you know, do what we need to." A North High School teacher remarked, "Here I have total freedom with what I want to do." *Strong administration* was appreciated by nearly all teachers interviewed. Teachers respected and valued the leadership and direction of their administrator. At South High School, multiple teachers noted, "We have a really great administrator." Both North and West High Schools explained their administrators were role models for themselves and for students. At North High School, the description of the administrator was explicitly positive, "We have a fantastic principal. He is phenomenal…He is very well read. He plays himself down a lot." *Teachers wear many hats* is not something that just happens but is expected. The North High School administrator explains that, "We don't have but maybe a couple of teachers that don't do an extracurricular of some sort. And even those that don't, they're very active with their sponsorship…every teacher should be involved in an activity." Throughout interviews, teachers regularly spoke about roles they held outside of their paid job—tutoring, coaching, driving buses—it was all common, and expected. At South High

School, the administrator described her school philosophy as prioritizing extracurricular activities, "My thing is…strong extracurriculars because I truly believe kids need their niche."

Cultural

A focus in the case is on ensuring students know *there's more out there.* A West High School teacher explains the school is, "trying to make you see that there are things outside of our community." Showing students possibilities is seen as a school mission by South High School teacher:

> What we're trying to show them is that where they're at, you know, that no matter where they're at right now, they can change that. They don't always have to be stuck in a rut or whatever. So, we're trying to show them that there's more to life than you know what's here in [school] or things like that…It's kind of hard to show these students the rest of the world when it's such a small environment here, or when this is their world, but we can. That's what makes technology awesome.

Though the school is a secular environment, *Christian values* are apparent in the case visually through the display of crosses and bible verses throughout the school, in the foundation of assignments such as writing bible verses as a discipline measure, and even in the view of administrators. One North High School teacher mentions in reference to the principal, "He is so positive, and you know you try to keep religion out of everything, but he is such this just good Christian soul." *School is a home* is explained by various teachers as the school is safe, meeting the basic and emotional needs of students, especially when they aren't met within their primary residence. One teacher at North High School noted:

> A lot of those kids, you may be the only father figure, the only mother figure, whatever it is in their life… or the only positive influence they have in their life…it's that emotional connection with them and knowing that you've always got their back.

Be involved is woven throughout the cultural threads of the case. At South High School, the administrator described her school philosophy as prioritizing extracurricular activities, "My thing is…strong extracurriculars because I truly believe kids need their niche." At North High School, being involved is expected, and teachers see the ability to be involved in so much as a benefit to students, as one teacher says, "If they were at a larger school, they would not have done everything they did…so they do everything, and they have broadened their skills so much." A final theme in the cultural dimension is *Prepare for the future, not just college.* A North High School teacher was practical in saying:

> My goals for the student is trying to get them as prepared on my end as I can for what they want to try and do. I don't live in the fantasy bubble that every kid is going to go to college. When my electricity goes out, I don't call a college graduate. I call an electrician, one of those people that just went to a career tech/trade school, whatever that is, because they're a valuable part of our society.

Similar thoughts were echoed throughout the case to develop the person, not only a future college graduate. A South High School teacher shared that she wanted her students to graduate saying:

> I believe in myself. I am an educated individual. I respect myself and I respect others around me and I am confident. I'm able to go out in society and feel that I am an intelligent being that can go on outside of high school.

A final cultural theme is *we do what we can with what we have.* A teacher at South High School said, "We take pride in what we're teaching our students. We want to make sure that we're giving the students the best that we can give them." A West High School teacher echoed these thoughts as she mused, "…even if that's not state champions or whatever. That just means

that we did the best that we can do. That we gave all that we can give." There is an element of awareness and reality in this theme.

Physical

One theme which emerged in relation to the physical dimension of learning space was that *technology is there.* Technology is utilized and sought to be integrated but doesn't seem to be used fully. During each administrator interview, it was noted that the school was at or seeking a one-to-one technology ratio. However, teacher use of technology seemed basic. One North High School teacher mentioned that she mostly used technology like Microsoft PowerPoint and a West High School teacher stated, "I can't remember the names of them right off the top of my head, but I've got some different apps on [the smartboard]." Another theme which emerged from the case is that the physical dimension was *outdated and plain.* On both the outside and inside, the schools were clean, but plain and many facilities seemed outdated. At North High School, the mold-filled elementary school, its playground, and swimming pool were not torn down after being left behind for a new building but left behind because it was too expensive to do otherwise. At West High School, a teacher described the efforts made to take care of what they have, "They try hard here to make things be as neat as possible for the facilities that we have. They're trying to take care of what we've got." *Outside money is needed* is a theme apparent throughout the case. The principal of North High School stated, "I know that if it were not for local money and bond issues, we would not have the school system that we have, and we have our community to thank for that." At South High School, a teacher is blatant about the issue of funding:

> Where the camaraderie is the biggest positive, the lack of funding is definitely the biggest negative. And we've applied for some grants, we're doing some things different so we're going to have a little bit more technology next year…but it's still a challenge.

Issue Resolution

The theoretical lens of the Learning Space and its five dimensions provide significant insight and structure to address the key issues of the study. Table 1 summarizes the issues of the study as well as their resolution.

Table 1.

Key issues and resolution

Key issue	Resolution
Issue 1: What is the psychological dimension of the rural learning space?	The psychological dimension is driven by practical learning, not teaching for a test through highly individualized, one-on-one student-teacher interactions. The primary learning style of the students is experiencing.
Issue 2: What is the social dimension of the rural learning space?	The social dimension maintains a family environment where administrators have an open-door policy with teachers and community members. The school operates as a team and teachers will do anything for the school and its students. The support of the community is crucial in all operations.
Issue 3: What is the institutional dimension of the rural learning space?	The institutional dimension is grounded in a mutual respect between the students and teachers. Administration is strong and positive, and the teachers have the freedom to do what they believe is right in regards to content, discipline, and daily tasks, though they may wear many hats. Throughout the school, a tradition is maintained that the rural school is "good enough" and athletic/extracurricular engagement is crucial.
Issue 4: What is the cultural dimension of the rural learning space?	The cultural dimension of the school is based in a reality of doing what you can with what you have and preparing students for a future that is not necessarily college. Teachers and communities wish to show students that there is more out there by involving students in as much as possible, all while maintaining Christian values.

Key Issue	Resolution
Issue 5: What is the physical dimension of the rural learning space?	The physical dimension of the school is highlighted by the presence, but not fully integrated use of technology. The school buildings are outdated and plain and outside money is needed to support teachers and student activities.

Discussion, Recommendations, and Implications

All themes provided a deeper understanding of the rural secondary learning space. Within the psychological dimension, the focus on one-on-one and highly individualized learning seems to follow what education reformers are wanting to achieve with community building even within the large school (Herzog & Pittman, 1995). In this sense, should the rural school be looked to as a model? Additionally, how can leaders in education develop resources to support teachers in small classrooms, with a focus on individualization? Furthermore, a focus on practical learning and emotions-based learning, raises questions about why these foci exist. Is this because the community, and later the students, believe that the school is unable to adequately prepare the student for the real world as proposed by Brown, Ferrigno, and Allen (2006)? If the rural community births a generation of students who do not believe in the value or role of the school in the community, many social and economic problems will quickly compound. Is this focus on feelings over content creating a cycle of "school doesn't matter" in the minds of the students? Additionally, are we assuming that teachers in rural schools value test scores as a primary motivator? In this study, teachers seemed to value students who became ready citizens. If that is the case in other rural areas, it may be necessary to consider how state leadership can drive learning in a school where high test scores may not be the primary expectancy.

In the social dimension, the focus on family environment highlighted the existing influence of adults in the school on the student body (Carr & Kefalas, 2009; Singh & Dika, 2003;

Sherman & Sage, 2001). Is the current social dimension of the rural school sustainable? Though society often likes to believe that the teacher can do all things and be all things to everyone, the human ability does end. At what point must we begin to accept that teachers are trained to teach and lead our students to academic excellence, not parent and serve as the primary role model for them? Does it exist where administrators and community members expect teachers to continually give their time and their resources until they cross into a status of poverty and disengagement from their biological family? Further research must be conducted to answer this question, searching for resolution outside of finances. In this study, it was found that rural teachers are in professional learning communities organically, though they may not look similar to those in urban schools where pods of similar subject teachers join together. How can collaboration-driven professional development be leveraged in the rural school? However, until parents in rural communities are consistently able to step up and be the parents their children need them to be, the rural teacher may continually be overburdened.

In regards to the rural administrator's open-door-policy with the teachers and members of the community, this shed light onto what the lack of privacy the rural administrator is found to have (Lamkin, 2006). Though Lamkin (2006) painted this lack of privacy as a burden under which recruitment and retention of rural administrators suffered, is this transparency always bad, or can it provide an added level of accountability? Community support being critical is no surprise as the literature has illustrated that successful rural teachers and administrators lean into the community (Chance & Segura, 2009). However, is this too much to ask from the teacher? Professionals often spend years being trained in how to manage volunteers and community engagement. The school should serve the needs of the community, however the issue becomes when the driver of the school is unable to be identified (Woodrum, 2004). If community members are viewed as a part of the school staff, how can teacher educators provide volunteer training and support methods to pre-service teachers? Who decides the true role of the school? Is the teacher

body treated as an expert professional, able to make adequate decisions? Or does the school fall to the indirect management of the community?

Within the institutional dimension, the value of mutual respect was apparent. Initially, respect is characterized as a common value, potentially a reference to small town values which have been romanticized over time in the small, rural space. However, as this concept of mutual respect was discussed and observed primarily from the perspective of the adults in the school, further studies would be needed to discern if mutual respect and other traditional values are actually existent in the rural school. Additionally, it would seem that as outside ideas and interests enter the school, particularly from the state-level, a "boots on the ground" approach to reform measures could be more appropriate than a top-down approach. Strategies to improve rural schools must first begin with a relationship, not a decree. A second theme of interest in the institutional dimension is a general mantra of "we are good enough" among the school members. Rural communities have long been viewed as resilient and willing to work hard together (Hull, 1994). However, is this resilience based in a healthy dose of pride, or is this ideal grounded in stubbornness that could prevent access to resources, innovation, and deepen levels of isolation between communities which may already exist? Further qualitative studies should be conducted to determine the impact of this perspective. As Springfield & Teddlie (1991) note, schools in the past have been buffered from both positive reform movements and negative educational fads with short life spans. Has this buffer created the theme of the freedom to do what's right among rural teachers and administrators? Has this isolation built an overly empowered, ignorantly arrogant teacher base who will do what's right, confidently leaning into one's own decisions without aligning it to what national education standards and practices believe are right? Or, is this teacher base ignoring ineffective recommendations for practice and seeking the correct answers through trial and error because there has not been a focus on solving rural education issues in education research in the past?

The role of a strong administrator was viewed as very important in the study, which mirrors what has been found by previous researchers who found that administration in rural schools are both necessary and respected (Forner, Berlein-Palmer, & Reeves, 2012; Lamkin, 2006). Rural contextual training is called for by these researchers, but no definition is given as to what that entails. Further research must be conducted to determine what steps institutions of higher education can take to recruit and train administrators for the unique context of rural schools, which is compoundingly difficult as the challenges in rural education become more fractured and variant. The crucial nature of athletics and extracurricular activities in the school is confirmed by Eccles and Barber (1999) who highlight the effect of extracurricular activities on motivation in school. However, in this case, the focus is only on sports and career and technical education. There was no mention at any site of the arts, outside of humanities taught by the English teacher. Is this because of a lack of funding or a difference in values? In reference to extracurricular support, as well as other resources, the building of bridges between rural school peers, as well as rural schools and external entities should be facilitated.

Christian values were an integral part of the cultural dimension of learning space. Without considering any legal implications of these values being so deeply embedded in the culture of multiple public schools, it is worth asking, what is the effect of a rural school monoculture on the mental and social health, as well as the academic success, of a student or teacher who does not fit the mold of the community? If adults really have the ability to influence students in rural schools to the extent that the researchers Carr and Kefalas (2009) and Sherman and Sage (2011) believe, do teachers have a role to craft a safe space for all students, even those who do not initially fit? Another element of the cultural dimension found was that school is likened to a home. This shows the recognition teachers and staff have of rural poverty and ill family structures (Schaff, 2006). However, can the teacher really do their job of supporting students in their aspirations and directing them to achieve academic excellence if they are focused

on the mental health and basic needs of students? Research should be conducted to determine how best to support these teachers with minimal support staff and training.

A final element of the cultural dimension which garners discussion is the idea of making do. There is a sense of recognition of minimally available funds and a decreasing hope of the situation improving at any point. The rural school, instead of striving for large-scale changes, work in their wheelhouse finding opportunities for small change. Rural isn't romanticized in these schools and rural education is viewed as an uphill battle (Deyoung, 1987). What would make a difference in encouraging teachers and administrators to make change? One recommendation is for opportunities to be developed that empower the local rural school to take control of its own resources, like trainings on fundraising and grant writing to affect the perceived control of the school members on their own fate. These opportunities should be made available to the teacher body writ large, as in this case they were the primary author of the majority of grants used in the school.

Within the physical dimension of the rural learning space, it is clear that outside money is needed for these schools to function. Many schools discussed the use of grants being supplemental to school funding, particularly for technology. What happens if teachers are unable to obtain grants, when funding needs have not been met. Chance and Sagura (2009) recommend leaning into the community for support, however further options for crowd-sourced support strategies specific to teachers should be researched. Additionally, though technology was found to be present in the case, it was not fully utilized. Perhaps funding was used to purchase laptops and tablets, yet there was not enough remaining for adequate training to implement the technology well. Both teacher educators and professional development instructors should investigate opportunities for technology trainings to be developed and delivered in open-source or low-cost ways such as online webinars or regional events.

Broadly, this case found each rural site to have many unique factors. One rural school is not necessarily the same as, or even similar to, another rural school. Curriculum, staffing, funding, safety, community engagement, and students' motivation do not mirror each other in each school. How can we still meet the needs of rural administrators, teachers, students, and citizens? Research must be focused on the rural students who deserve an equal chance at quality education, and how to create unique resources for and train rural teachers to fulfill their potential as a valuable educator. If it is not, America will continue to sell short a portion of its future population, based on their location.

CHAPTER V

WHERE DO WE LEARN?: A MULTI-SITE CASE STUDY OF THE LEARNING SPACES OF RURAL, AGRICULTURAL EDUCATION PROGRAMS IN OKLAHOMA

Introduction

In the realm of education, rurality is relevant and creates a unique educational environment, even though rural students are still often overlooked in times of decision-making (Showalter, Klein, Johnson, & Hartman, 2017). Now, with a current president elected with the weighty support of rural constituents, and a need for more equitable education for all, there is a resurgence of pressure to address issues found in the rural school (Showalter et al, 2017). Though one in four of America's public schools are classified as rural, only 17 percent of education funding goes to rural schools (Showalter et al, 2017). One in six American students attend school in rural districts translating to ". . .more than 8.9 million students attending rural schools. More than the enrollments of New York City, Los Angeles, Chicago, and incredibly, the next 75 largest school districts combined" (Showalter et al, 2017, p.1). To provide these 8.9 million students the education they deserve requires an environment hospitable to learning. As such, the learning environment of students today has transformed into not only an educational issue, but a social and economic issue worthy of resources, research, and effort (Freiberg & Stein, 1999).

Biddle and Azano (2016) make the importance of studying the rural learning space clear:

> The lived realities of students, teachers, administrators, and community members happen within the context of a school, situated in a place, and in the current American system of public schooling, much of the local economic and social realities of that place determine the opportunities and constraints of local schooling (p. 316).

Many rural schools provide fewer extracurricular opportunities to students than their urban counterparts (Ballou & Podgursky, 1995), though participation in clubs and activities are found to be connected with higher grade point averages for rural students (Ferris, Oosterhoff, & Metzger, 2013) and an improved interest in school (Eccles & Barber, 1999). In rural communities, athletics are central to the character and health of the community, and dominate other clubs and activities in funding and importance (Tonts, 2005; Townsend, Moore, & Mahoney, 2002). In relation to co-curricular activities, the majority of rural schools have some presence of career and technical education. Co-curricular activities are known to strengthen educational connections across learning environments throughout the school (Brown & Theobald, 1998). As rural school curriculum has experienced a shift away from solely college prep, vocational training or career and technical education has increased (Lichter, Rosigno, & Condron, 2004). However, in many high school career and technical education programs, pathway offerings do not always align with actual available job opportunities for students in their geographical area, presenting a question of the value of career and technical education programming in rural schools (Kannapel & Flory, 2017).

The accepted model for the agricultural education program in the United States is an integrated, three-circle model of classroom and lab instruction, supervised agricultural experience, and the FFA chapter (Phipps & Osborne, 1988, Talbert, Vaughn, & Croom, 2006). Though there is no true legal basis for the implementation of the three-circle model of agricultural

education, the model drives both the philosophy and action of agricultural education programming across the nation (Croom, 2008). At a foundational level, the classroom provides agricultural education students activities and learning experiences within the confines of the school, which are usually formally designed and presented by the agriculture teacher (Talbert et al., 2006). The supervised agricultural experience individualizes the student learning experience by providing learning experiences for students in their selected pathway, outside of the classroom (Croom, 2008). The circle of FFA is a complementary instructional tool to encourage the students' academics and career goals, as well as provide opportunities for them to engage in leadership development activities (Phipps & Osborne, 1988).

The three circles of agricultural education are designed to execute the mission of agricultural education, ". . . to prepare students for successful careers and a lifetime of informed choices in global agriculture, food, fiber, and natural resources systems" (Official FFA Manual, 2016, p. 92). Though commonly agricultural education programs define success by achievement in competitive events (Rayfield, Murphy, Briers, & Lewis, 2012), studies have found more specific characteristics of exemplary career and technical education programs, as well as agricultural education programs. According to Lynch (2000), the stand-out career and technical program is focused on academics with relevant application, authentic evaluation of student work, resources to support student engagement, supervised, career-based opportunities for learning outside of the classroom, well-trained teachers who partner with community members, and a unique environment within the greater school system. Similarly, Rayfield et al. (2012), found that an ideal agricultural education program should be experiential in nature with resources for lab-based research, industry focused, and led by a driven teacher who uses modern technology and curriculum. Baker, Robinson, and Kolb (2012) determined that experiential learning is necessary for the agricultural education model to be deemed comprehensive. Further descriptors of the

agricultural education model include a focus on innovative and critical thinking, community interaction, and student goals (Rayfield et al., 2012).

To ensure the three circles are truly connected, teachers leading quality agricultural education programs should associate FFA activities and competitive events with curriculum based experiences (A guide to local program success, 1998). In 1977, national standards were developed to illustrate the ideal vocational agriculture education program (Standards for Quality Vocational Programs in Agricultural/Agribusiness Education, 1977), and states soon followed with their own measures of quality (Camp & Crunkilton, 1985). Currently, standards by which agricultural education programs may be measured are designed and administered at the state-level by choice (Jenkins & Kitchel, 2009).

Studies of the agricultural education classroom environment are centered on the teacher as the program director. Dibendetto, Blythe, and Myers (2017) noted that the learning environment teachers work to create in their classrooms is based in critical thinking, problem solving, and collaborative learning. Experiences designed by the teacher for students should take place in the laboratory following accepted principles and real world application (Abdulwahed & Nagy, 2009; Dibendetto et al., 2017). The teacher frequently faces challenges when designing a learning environment which is based on the course expectations (McCarthy & Anderson, 2000), and must shift in educator role as an active learning environment in fostered in the classroom (Phipps, Osborne, Dyer, & Ball, 2008; Schunk, 2012).

Theoretical Lens

Experiential learning theory demands understanding the place learning occurs as, "to learn means to learn something that exists somewhere" (Kolb, 2015, p. 288). Kolb and Kolb (2017) described the concept of learning space to be multi-dimensional, and broader than the bounds of a stereotypical classroom. The five dimensions of learning space, as seen in Figure 2,

are psychological, social, institutional, cultural, and physical, completely embedded in and holistically encompassing the learning space (Kolb & Kolb, 2017).

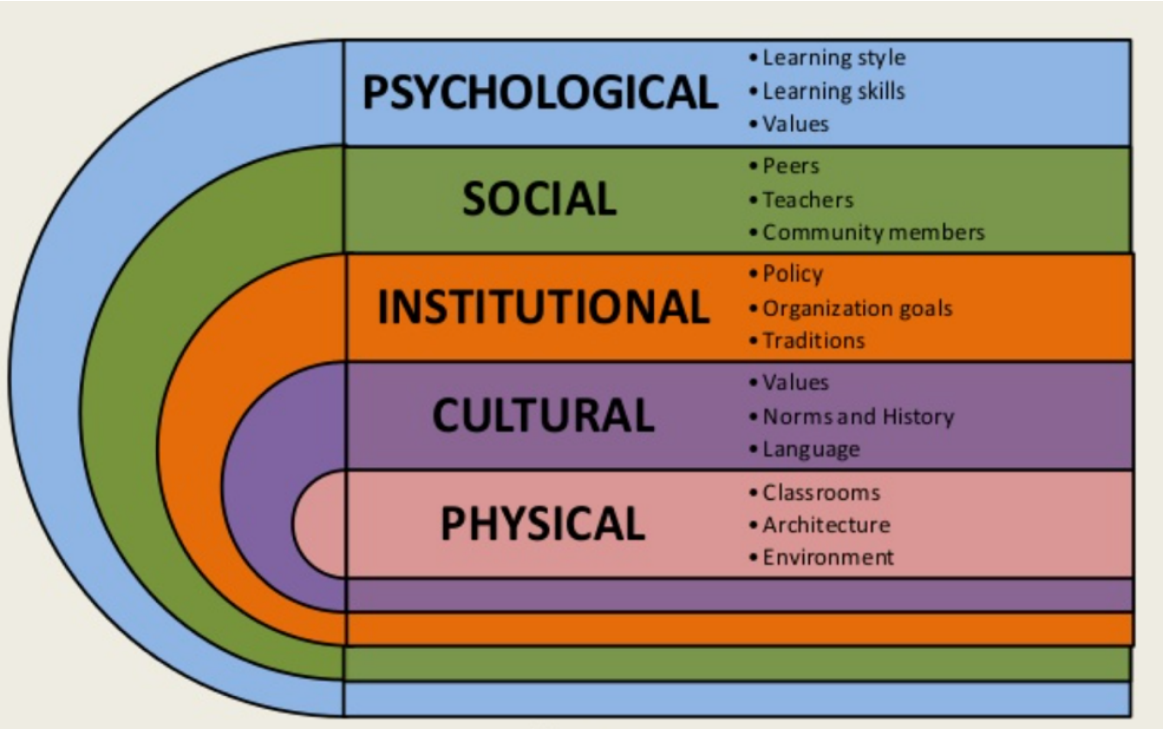

Figure 2. Kolb's and Kolb's (2017) Dimensions of Learning Space. Reprinted from The Experiential Educator: Principles and Practices of Experiential Learning (p. 167), by Alice Y. Kolb and David A. Kolb, 2017, Kaunakakai, HI: EBLS Press. Copyright 2017 by EBLS Press. Reprinted with permission.

The psychological dimension of the learning space describes the mental space of the learner including his or her learning style, learning skills, and personal values. The social dimension of the learning space focuses on the individuals who engage with the learner and identify the role of peers, teachers, and community members in the place of the learner. The institutional dimension includes policies, organizational goals, and traditions which arise amid the learner's environment. Values, norms and history, and language inform the cultural dimension of learning space. The physical dimension highlights the brick and mortar aspects of the learning space, including actual classrooms, architecture, and the surrounding environment. Within

experiential learning theory, these dimensions interact to create the complete learning space (Kolb & Kolb, 2017).

Four theoretical frameworks inform the development of the learning space within experiential learning theory. Primary to the definition of learning space, field theory (Lewin, 1951) included a concept of life space where the person and the environment are not separate, but interdependent. The function B = *f*(p, e) where person and environment yields behavior, is a translation of this concept into mathematical terms illustrating the tension between the person and his or her space of living. Lewin (1951) built on this tension by describing the internal needs of the person and the external demands of the environment as a field of forces that dynamically position the individual in a defined reality. Urie Bronfrenbrenner (1977, 1979) added a sociological element to the concept of life-space by modeling the space in a nested manner. Bronfrenbrenner (1977, 1979) described the learning space as including the microsystem, mesosystem, exosystem, and macrosystem, ranging from the immediate environment of the learner to the general social-system within which the learner exists concurrently. Situated learning theory (Lave, 1988) provides a third addition to the gradual development of learning space by conceiving that learning space, as a situation, can be an element of the individual's social environment, not only the physical place. Thus, knowledge does not only exist in the mind of the learner, but also extends to the social processes and relationships between the learner and members of the communities of which the learner becomes a member. Finally, Nonaka and Konno (1998) described a community space in which knowledge creation is based as *ba*. "Knowledge is embedded in *ba*, where it is then acquired through one's own experience or reflections on the experiences of others" (Nonaka & Konno, 1998, p. 40). For the *ba* space to exist, and for knowledge embedded in *ba* to be shared via personal interactions and experiences, a climate without barriers must be created where love, trust, and peace exist (Nonaka & Konno, 1998).

The concept of learning space does not determine learning to be a process which fits each learner in the same way; instead, learning space is conceptualized to support and map various ways of learning in relation to each other within the same territory (Kolb & Kolb, 2017). The location of an individual within the learning space creates a unique perspective of reality of both the experience and transformation of information for the learner. As the learning space in finality is a result of the learner's experiences, the psychological and social dimensions of the learning space are most influential on learning. The people in the learning space, including the learner himself, are incredibly powerful influences on the nature of it (Strange & Banning, 2001). Because of this highly individualized nature of the learning space, creating an environment hospitable to learning and in alignment to this conceptualization is challenging, yet possible.

Recommendations on how educators can create effective learning spaces for learning are numerous, yet are grounded in Maslow's (1968) hierarchy of needs being met. Kolb and Kolb (2017) recommended that in addition to creating a space of physical safety, there should also be a focus on psychological safety within the learning space. Psychological safety, as encouraged by the educator and created by the students, is deemed necessary by Kolb and Kolb (2017) to foster respect, care, and innovation. Further, the educator must create a hospitable learning environment which welcomes learners as if they were guests, and respects each learner and his experiences (Kolb & Kolb, 2017). The educator's role in creating the learning space expands further to fostering a positive environment, loving students as if they were family, and supporting students in their challenges (Kolb & Kolb, 2017). In the context of experiential learning, the learning space should be created with the focus on the learner and his needs, to empower the learner to engage in the development of his own experiences and build on strong relationships between the teacher and the learner (Kolb & Kolb, 2017).

Need for Study and Purpose

This research study addressed the experiential learning theory concept of learning spaces (Kolb & Kolb, 2017). There have been few studies focusing on the concept of learning spaces, and those which have been conducted focus on learning spaces in the post-secondary education context (Eickmann, Kolb, & Kolb, 2004; Kolb & Kolb, 2005). This study will expand the body of literature on learning spaces as it utilizes learning space as a theoretical lens to examine the secondary school and the agricultural education program.

Further, this study adds to research on agricultural education programs by addressing three objectives of the National Research Agenda for Agricultural Education 2016-2020 (Roberts, Harder, & Brashears, 2016). This study addressed Research Priority Four, "Meaningful, Engaged, Learning in All Environments" by increasing understanding of the learning environment of rural, agricultural education programs. Research Priority Five, "Efficient and Effective Agricultural Education Programs" was addressed as this study provided data about teacher collaboration, program delivery in low-resource districts, and relationship of the school-based agricultural education program to broader educational initiatives in rural agricultural education programs. Finally, Research Priority Six, "Vibrant, Resilient Communities" was addressed by this study as results included how community members and volunteers engaged with the agricultural education program in three rural schools. This study provided valuable information, a first look into the use of learning spaces to examine the secondary learning environment, and an examination of the various factors influencing learning space in rural schools and their agricultural education programs.

The purpose of this multi-site, collective case study (Stake, 1995) is to explore the learning space of rural Oklahoma secondary public schools and their agricultural education programs.

The issues for this study were:

ϑ_1: What is the psychological dimension of the learning space in the rural agricultural education program?

ϑ_2: What is the social dimension of the learning space in the rural agricultural education program?

ϑ_3: What is the institutional dimension of the learning space in the rural agricultural education program?

ϑ_4: What is the cultural dimension of the learning space in the rural agricultural education program?

ϑ_5: What is the physical dimension of the learning space in the rural agricultural education program?

Background of Study

This qualitative study explores the learning space and its psychological, social, institutional, cultural, and physical dimensions of rural secondary schools and their agricultural education programs. In Oklahoma, over two-thirds of school districts are rural (Showalter et al, 2017) and a majority of those have agricultural education programs, as there are 488 chartered FFA chapters in the Oklahoma FFA Association (Oklahoma FFA Association, 2017).

For this particular study, an exploration of how individuals construct and engage in a learning space was conducted using data from teacher and administrator interviews, photographs, school artifacts, and public documents from the rural secondary school and agricultural education program. Field notes were utilized to supplement the data collected and provide greater meaning to understanding the studied phenomena. Data were comprised of semi-structured interview

transcripts and related artifacts at the individual site level, then collected to form the multi-site case.

Methodology

The purpose of this study was to explore the learning spaces of rural Oklahoma secondary public schools and their agricultural education programs. The primary method of investigation was the multi-site, collective case study, as described by Stake (1995), not to create opportunity for greater generalization, but to enhance the ability of the researcher to learn from the case. Yin (2017) noted that the analytic advantages of including more than one case in the study may be considerable, thus increasing understanding the case in its entirety.

The Multi-Site Case

Three case sites were selected following protocol outlined by Stake (1995) to optimize our opportunity to learn from the case based on a few key characteristics. These three sites were selected as the focus for this study from the 584 school districts existing in Oklahoma (Department of Education School Site Totals, 2017). So as not to prohibit the individuality of the case, sites were selected based on the following criteria: high school enrollment under 150 students, over fifty percent of students classified as low-income based on free and reduced lunch standards from the Oklahoma Department of Education Low Income Report, rural community population of under 1,000 members, school grade of B or C as defined by the Oklahoma A-F School Grading System, the presence of a agricultural education program and FFA chapter in good standing with the Oklahoma FFA Association, and a location that lent itself to extended exposure by being under 100 miles from the researcher's location. Pseudonyms of West High School, North High School, and South High School were used to protect the identity of the cases and participants within each case (Yin, 2017).

Description of Cases

Site 1: West High School has a total enrollment of 69 students, though the high school is under the same roof as the elementary and middle school grades. The population of West, Oklahoma is 974 people and local industry is largely based in agriculture and dependent on the fluctuations of the oil and gas market. Over 54 percent of students in West are classified as low-income and West High School received a grade of B- on its most recent school report. The agricultural education program at West is a single teacher department led by a first-year agricultural education instructor where agricultural mechanics, animal science, and agricultural communications courses are taught.

Site 2: North High School has a total enrollment of 146 students, with the high school being on the same campus as the middle grades and administration building. The population of North, Oklahoma is 725 people, and the local industry is agriculturally focused. Over 60 percent of high school students in North are denoted as low-income, and North High School received a grade of C+ on its most recent school report. The agricultural education program at North consists of a single teacher department where agricultural mechanics, animal science, agricultural communications, and farm business management courses are taught.

Site 3: South High School has a total enrollment of 76 students. The population of South, Oklahoma is 662 people and the local industry is centered on agriculture and jobs related to the oil and gas industry. South High School received a grade of B- on its most recent school report card, and 59 percent of enrolled students is noted as low income. The agricultural education program in the school is led by a single, first-year agriculture teacher who teaches agricultural mechanics, leadership, and horticulture.

Data Collection

Data were collected over the course of two weeks during March 2018, following Institutional Review Board Approval for the study. For the purpose of the study, data collected included teacher and administrator interviews, observations of the school environment, photos of the learning space, and documents available at the site, supplemented by researcher field notes. As described by Stake (1995), observations and photographs of the sites' environments were used to provide the best possible incontestable descriptions of the learning space for further analysis and toseek triangulation among the data. Interviews were conducted using a protocol designed in advance and piloted with a single, out-of-case participant, as recommended by Stake (1995). Questions were formed to not "get a simple yes and no answer, but describe an episode, a linkage, an explanation. . . to evoke good responses" (Stake, 1995, p. 65). Interviews were recorded digitally and transcribed to enhance the ability to reconstruct the account (Stake, 1995). The semi-structured interview protocol is provided in Appendix A. Documents were reviewed to "substitute for records of activity that the researcher could not observe directly" (Stake, 1995, p. 68). For the purpose of design and analysis, data collected were completed for an individual site before continuing to the next site.

Data Analysis

Stake (1995) reported, "There is no particular moment when data analysis begins. Analysis is a matter of giving meaning to first impressions as well as to final compilations" (p.71). Data were collected within the three sites during March 2018. Following collection of the data, the researcher prepared the data by transcribing each of the interviews, along with completing memo writing of interviews, photographs, and documents. Data were stored within the qualitative data analysis software, NVivo. Following collection and data storage, primary, first and second-cycle coding commenced, which included coding each site individually to show

adequate attention to all data, as recommended by Yin (2017). As themes emerged within the site, cross-case synthesis of emergent second-cycle themes was conducted based on analytic generalization, not frequency of themes (Yin, 2017). Following coding, investigator triangulation was conducted through negotiation of codes, as recommended by Stake (1995).

After each interview and site visit, field notes of impressions, questions, and general observations, as recommended by Yin (2017), were compiled and were organized by participant interview and later by the site. The field notes provided a perspective of various documents and artifacts to supplement the data analysis.

Interpretation of the data was fulfilled through coding and analysis to capture the essence of the multi-site case. Coding procedures outlined by Saldaña (2016), were followed to translate and interpret the data into meaning. Each data source was coded using the first-cycle strategy eclectic coding, a hybrid coding method suited best for explorative research as it employs a "compatible combination of two or more first cycle coding methods. . . purposeful to serve the needs of the study and its data analysis" (Saldaña, 2016, p. 213). In-vivo codes were used to analyze interview-based data in the first-cycle, as it allows for retention of the voice of the participant in the code. Descriptive codes were used to analyze related photographs, documents, and records, as Saldaña (2016) recommends descriptive coding for studies with a variety of data forms. Primary and secondary codes emerged within the site.

Theoretical coding, as outlined by Saldaña (2016), were deemed appropriate for this study as the researcher applied "pre-existing theories in a different context" (p. 251). Theoretical coding was conducted to analyze the data and allow for tertiary codes to emerge using the experiential learning theory concept of learning spaces as a model by which codes are integrated. After theoretical codes were developed for the site, cross-case analysis was conducted to elevate patterns to a conceptual plane of the rural Oklahoma school learning spaces. Themes emergent at

the cross-case level were identified at a conceptual level within the bounds of the learning space concept. Contaminating differences found between the sites were presented as emergent issues, per Stake (1995).

As recommended by Merriam (2009), careful attention to the birth and design of the research study, data collection strategies, and analysis was paid. Thus, Stake's (1995) triangulation protocols were followed. Triangulation was primarily established at the data source to ensure that what we observed was mirrored by other participants and sites. Investigator triangulation was established as we negotiated themes at the site and case levels. We remained ethical throughout the study design, data collection process, and analysis. Ethics related to procedural, situational, relational, and exiting the case were attended to throughout the case, as recommended by Tracy (2010). To ensure trustworthiness, credibility, transferability, dependability, and confirmability were established throughout the development of the case and collection of data (Lincoln & Guba, 1985).

Findings

Through analysis of the data, 18 themes fitting the theoretical lens of learning spaces in the case emerged. Within the psychological dimension, the two themes of *the goal of teaching is to love on kids* and *ag as a motivator* emerged. In the social dimension, themes of *collaboration with other teachers, ag teacher viewed as a parent,* and *amazing community support* emerged. Themes of *many school responsibilities outside of the ag program, unique discipline strategies, highly variable teaching methodology and course structure, no silos—FFA members should be involved outside the chapter* emerged in the institutional dimension. Within the cultural dimension, themes of *agriculture is foundational in the community, do anything to positively represent the school, there is a place for everyone, the teacher owns the program, the teacher is a salesman of opportunities,* and *the ag program is constantly improving.* In the physical

dimension, *ag mechanics and livestock-based resources*, *buildings are old, but enough*, and *leans on technical schools for advanced resources*.

Psychological

As teachers were interviewed, a theme of the goal of teaching is to love on kids emerged. The agriculture teacher from South High School shared:

> This is a place where you're going to be valued. You're going to be believed in. And, I mean, I love on kids every day that I don't know their home life extremely well, but I, just in the way that they act, you know that something's off there. And so, when they come in my class, they're greeted and I high five every one of my kids when they leave. Every day.

Through conversation, and the environment in the agriculture buildings, the teachers clearly had engaging and compassionate personalities which lend themselves to place weight in the emotion of education. A second theme which emerged in the psychological dimension is ag as a motivator. As a program, agriculture education and the FFA is a motivator for the student to come to school and do well. As South High School's agriculture teacher said, "I guess our biggest motivator would be the extracurriculars, like FFA." Administrators at all three high schools echoed the importance of extracurricular activities and career and technical programs like agricultural education to motivate students; the administrator at South High School was particularly explicit, "It's not just about coming to school to do English, because if that was all, we'd have a hard time getting them here…They want to be in ag…That's what keeps them motivated." Teachers communicated that many of their students would make efforts to perform well for other teachers and keep their grades up so that they could participate in FFA activities and travel to various events.

Social

Collaboration with other teachers emerged as a theme through conversation both with the agriculture teachers themselves and core teachers who had worked with them. At each site, agriculture teachers worked in close partnership with core math, English, and science teachers to prepare agriscience fair projects, transfer geometry concepts to the agriculture mechanics laboratory, edit and improve speeches for FFA contests, and tutor students who had missed multiple days of school while at FFA events. The math teacher at South High School planned to collaborate with the agriculture teacher in this way, "I'm actually going to build in days that we go from the classroom up to our ag facility and actually apply the geometry. That's awesome." Another theme which emerged through the analysis of data is the *ag teacher viewed as a parent*. The agriculture educator at North High School explained:

> A lot of those kids, you may be the only father figure, the only mother figure, whatever it is in their life…or the only positive influence they have in their life…it's that emotional connection with them and knowing that you've always got their back.

South High School's agricultural educator shared that students often needed additional support emotionally as well by saying, "This is a place where they're going to be valued. They're going to be believed in…They need to know that they can achieve because they need to believe in themselves more in general." The agriculture educator understands the student outside of the classroom and often works to provide for them as a parent would. At each of the sites, ag teachers spoke of unique scenarios where they would provide Official FFA Dress, money for food, or transportation for those that were not able to provide it for themselves. A third theme in the social dimension is *amazing community support*. At each of the sites, ag teachers spoke about the community support they had which played a role in providing both financial and in-kind

resources. The agriculture educator at South High School, when speaking in reference to their annual dinner and auction, exclaimed, "Every person who was available at [town] was there. I mean, we probably had about 400 some people show up and we raised $20,000. And that's a lot. A whole lot more than I've ever seen in a small town." The agriculture educator at North High School detailed how the community had helped him during the semester:

> We've got community members that come in and volunteer to coach CDE teams. They volunteer to substitute for me for free. I mean, just whatever the community can do to help. And, it's something as simple as I need to borrow a trailer to I need you to come completely take 18 loads of compost and shavings off the school farm. They just show up the next day and work all day long and get it done.

Institutional

Five themes emerged which fit within the institutional dimension of the learning space. *Many school responsibilities outside of the ag program emerged*, as agriculture teachers at each school worked in various capacities with an all-in mindset. The agriculture teacher at South High School described his schedule as:

> There's a lot of days where I'll have to come in and do my morning duty, or hall duty, and then I'll go to a teacher meeting, and then I'll have to go serve as a junior class sponsor at lunch as they're having a meeting for prom that we're planning, right? And then at the end of the day I might have to go driving a bus route as a substitute because the coaches are gone…I keep the score books for basketball.

Unique discipline strategies is another theme present in the institutional dimension of the case. Administrators allowed agriculture teachers to largely handle discipline within their program which may involve unique writing assignments, parent contact, and chores. The agriculture teacher at West High School described one instance:

> The kids that got into the fight… their punishment was sweeping the shop, and they swept the shop for a week straight every single day…kids that I have two hours per day, they swept for two hours per day.

At North High School, the agriculture teacher uses a different strategy for managing profanity:

> If you are cursing in my building, you will have a writing assignment that I will call your parents and ask them, do you want the biblically based one or the non-biblically based one. Your parent chooses and you write that 10 times and your parents sign it and it is a full page long.

A third theme is *highly variable teaching methodology and course structure*. The agricultural educators the researcher spoke with all described their classroom as dependent on the weather, events on the community or FFA calendar, and the needs of the student. The agriculture teacher at North High School noted the variety, no matter the course:

> That's the fun part about like on a nice day like today, you can teach a full lesson outside all day long. Just pick what you want. The Bradford pear trees are blooming, let's go do a horticulture unit and just walk around and talk structures…Or, when the grass starts turning green, let's go ID grasses. Or, let's go dig a hole and do soils. Let's go to the barn and read ear notches on hogs or go judge a class of sheep.

Courses were flexible at the discretion of the agriculture teacher and within the case, have involved independent study contracts, work study projects, exploratory apprenticeships, and flexible content. A final theme from the institutional dimension is *no silos—FFA members should be involved in everything*. Within the cases, agriculture teachers were supportive of students who were heavily engaged in multiple activities at school. The agriculture teacher at North High School noted that one of his, "star ag students is also the captain of the football team and the

captain of the baseball team." Teachers at South and West High Schools have similar scenarios in their programs and encourage the student's growth.

Cultural

Six cultural themes emerge in the case. First, *agriculture is foundational in the community*. Based on document analysis of the community's industries, as well as conversations with agriculture teachers and administrators within the case, each of the site communities within the states were majorly agricultural employers. Few small businesses outside of the realm of welding and fabrication, agricultural production, or oil and gas were available. Another cultural theme is *anything to positively represent the school*. The agriculture teacher at South High School states, "She (the administrator) pushes just anything we can do in a positive way to represent [school]." At West High School, the agriculture educator described the action of the school when a student did not represent the school and community well:

> We had a couple kids that had gotten technicals, actually, in a couple basketball games…Those kids had been put on probation because of it. And, really, that's not something that a lot of schools do. They let them keep playing. At our school, if you're not representing our school good, there is going to be a punishment for it.

A third theme within the cultural dimension is *a place for everybody*. Agriculture teachers throughout the case were proud they could provide a place for any student who was interested in being a part of the agriculture program or the FFA chapter. The perspective at North High School shared was:

> …find a place where the kid is going to fit and show them that if you're not an athlete or you're not a livestock shower, or don't think you're one of those public speakers, there's a place for you to fit in where you can excel.

Fourth is *teacher ownership of the program*. As each of the teachers spoke about the agricultural education program at their respective, they consistently used phrases like "my officers" and "my building." However, this sense of ownership moves past the reach of common terms. The North High School agriculture educator shared an anecdote about his first day of his second year teaching at North:

> They come in on day one and it looked completely different than its ever looked. New paint, new whiteboards, new technology. Everything was different, because I wanted to change it to 'Ok, this is now how we're going to do the program. My program is this way.' Set the expectation day one. Tell them what your rules and your expectations for them are and hold them accountable to it.

Additionally, *the teacher is a salesman of opportunities*, a fifth theme. The agriculture teachers communicated the opportunities that were available for their students as if they were constantly recruiting students for the opportunities they had selected. One teacher noted, "As far as just opportunity for these kids…my approach to it is bringing a positive energy, exposure, and educating them about those opportunities because they didn't know that it was a thing." Finally, *the ag program is constantly improving*. Each agriculture program in the case was on the cusp of building or growing. Discussions of new barns, updated wash bays or pens, second or part time teachers, greenhouses, and livestock trailers were brought up as potential or in progress.

Physical

The first theme emerging from the codes in the physical dimension is *ag mechanics and livestock-based resources*. Each of the agriculture education programs in the case were focused on ag mechanics in that a moderately equipped shop was available. Additionally, livestock-based resources such as a barn, wash racks, trailers, and fenced space was available to some degree at each facility. Laboratory space for horticultural sciences or other pathways were not available. A

second theme emerging in the physical dimension is that the *buildings are old, but enough* for the agriculture program. The agricultural educator at South High School responded, "Yeah, it doesn't look pretty, but as far as education value, my program is still really good as far as being a small, rural school." There is a make do attitude in relation to the facilities and a continued hope that new facilities may soon be available. The final theme is that the agriculture education program *leans on technical schools for advanced resources.* Each of the agricultural education programs had close relationships with the nearest technical school and engaged students in the home program until they were prepared to enroll in concurrent classes while still in high school or move forward with a trade upon graduation. The attitude around students engaging in the technical school was supportive from the perspective of the agriculture teacher and the administrator at each site.

Issue Resolution

The theoretical lens of the Learning Space and its five dimensions provide significant insight and structure to address the key issues of the study. Table 2 summarizes the issues of the study as well as their resolution.

Table 2.

Key issues and resolution

Key issue	Resolution
Issue 1: What is the psychological dimension of the rural agricultural education learning space?	The psychological dimension is directed by the goal of teaching agriculture being to love on kids and use agricultural education as a motivator both within the agricultural education program and outside of it.
Issue 2: What is the social dimension of the rural agricultural education learning space?	The social dimension is based in collaboration among all teachers, the agricultural educator being viewed as a parent, and the support of the community being amazing.

Key Issue	Resolution
Issue 3: What is the institutional dimension of the rural agricultural education learning space?	The institutional dimension is characterized by the agricultural educator having many school responsibilities outside of the ag program, unique discipline strategies, highly variable teaching methodologies and course structures, and the encouragement of FFA members to be involved outside of the chapter.
Issue 4: What is the cultural dimension of the rural agricultural education learning space?	The cultural dimension of the school is based in agriculture being foundational to the community, a necessity to do anything which positively represents the school, there being a place for everyone in the agricultural education program, and a constant improvement of the program. Additionally, the agriculture teacher is seen as an owner of the program and a salesman of opportunities in the program.
Issue 5: What is the physical dimension of the rural agricultural education learning space?	The physical dimension of the school is made of primarily ag mechanics and livestock-based resources, recognizing that the agriculture program buildings are old, but enough, and a necessary leaning on area technical schools for advanced resources.

Discussion, Implications, and Recommendations

The psychological dimension of the rural agricultural education learning space is seemingly imbalanced in relation to educator roles as described by Kolb and Kolb (2017). There is an incredible focus on affect, leaning towards a psychological focus on the agriculture educator as the facilitator, yet there is a lack of emphasis on the teacher as an evaluator, coach, or expert. This finding parallels Singh and Dika's (2003) conclusion that rural students felt emotionally supported by adults in their school settings. Research must be conducted to determine whether it is best to maintain the approach of an unbalanced educator role and norms, or to prepare current and future agriculture educators to be balanced, even when working in an environment where that might not be effective. Results of studies answering this question would be useful for both teachers and teacher educators.

The social dimension of the rural agricultural education program learning space is clearly different, which should result in teacher educators addressing a variety of social spaces during teacher preparation. Pre-service teachers should be ready to engage in urban, suburban, and rural agricultural education programs as a leader, adept at navigating the rural social space, which is heavily relational mirroring the emphasis on family highlighted by Chance and Segura (2009). Though costly professional development resources are impractical (Marlow & Cooper, 2008), low-cost resources for both pre-service and in-service teachers should be developed to capitalize on collaborative relationships that already exist between agricultural educators and core subject educators in the rural school. Results of this study highlighting high levels of community engagement mirrored those found in previous studies (Fowler & Walberg, 1991; Gander, Guiterrez, & Ohara, 2001). Thus, the potential for increased volunteer, fundraising, and financial management training or coursework at the teacher preparation level should be explored, as the role of the community is integral to the rural agricultural education program and more effective utilization of this human capital would be beneficial, as recommended by Barley and Beesley (2007).

In this case, agricultural educators had the freedom to create their institutional space as they wished, including course design, teaching methodology, discipline strategies, and FFA focus areas. Because of the autonomy present and responsibilities demanded of the agriculture educator, these educators need additional training to meet the daily demands (Hardre & Sullivan, 2008). To adequately prepare pre-service teachers to accept and positively utilize this freedom, teacher educators must provide access to financial management, discipline, and ethics training. Also, in the case, the administrator of the school frequently had a different expectation of the agricultural education program than the agricultural education industry and its mission holds to be true. Further research should be conducted to describe perspectives held by the administrator of the rural agricultural education program and determine the effects of these views on the program.

Concerning the cultural dimension of the rural learning space, there is a concept of nearly complete autonomy given to the agricultural educator similar to the autonomy found in the rural community by Lyson (2005). Research should be conducted to determine the extent and the consequences of this autonomy on the well-being and the sustainability of the agricultural education program. Additionally, as the agricultural educator is viewed as the head of the agricultural education program, how can teacher educators prepare pre-service teachers to better craft the image of their program to operate in a place of prominence within the community with a responsibility of highlighting student achievement and representing the school. Further, in regards to there being a focus on continuous improvement within the agriculture education program, research should be conducted to determine what improvement entails. Is improvement driven by the values of the community or by standards of excellence within the state and nation? Answers to such questions could illuminate the basis of motivation within the program.

The physical space of the rural agricultural education program did not resemble modern agricultural technology and facilities. Instead, they seemed driven by the historical nature of the community, similar to findings of Twenter and Edwards (2017) and by the foci of the FFA chapter. Thus, further research should be conducted to determine if rural agricultural education programs are actually preparing students for careers in modern agriculture or is the role of career preparation better suited for a regional technology center with the physical resources to maintain up-to-date facilities. Additionally, research should be conducted to explore if all career pathways are feasible for the rural agricultural education program. As Kannapel and Flory (2017) found, rural career and technical programs are regularly under-resourced, which aligns with rural school funding trends writ large (Johnson & Strange, 2007). If there is not a shift in financial capital to provide the physical space necessary for each career pathway, should the career pathway still be provided? Further, should courses within career pathways potentially be modified to allow for disparities in available resources?

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APPENDICES

APPENDIX A

INTERVIEW PROTOCOL

Interview Protocol: Learning Spaces

Introduction:

Describe your position and responsibilities at the school.

How did you begin working here?

What is most rewarding to you about working specifically at this school?

What makes this school unique from other schools in Oklahoma?

What makes these students unique from other students in Oklahoma?

Psychological:

What is valued most when you design your instruction?

How do your students seem to learn best? Is there any commonality?

What type of learning is valued here?

Do you feel that many students have similar learning styles?

How do you/do teachers approach learning styles?

Social:

Describe the makeup of the student body?

How would you describe the biggest needs of the student body right now?

What would make fitting in here challenging for a student?

How do you expect students to grow socially here?

How do students interact with each other here

How would you describe relationships among the teachers?

Are there any trends that characterize the teaching staff here?

How do you determine if a new teacher is going to fit in at this school?

How would you describe the opinion of the community towards the school?

How does the community engage with the school? Why?

Institutional:

What traditions does the school/student body maintain? Why are these in place? How did they begin?

How are policies created for the school?

Have any policies recently been adopted or changed?

What are the organizational goals of the school?

How are these goals communicated? How are they measured?

Cultural:

How would you describe the culture of the school?

Do you feel the culture is consistent throughout the school? Why/Why not?

Are there any buzzwords or lingo that is used or promoted throughout the school or in the classroom?

Could you describe the general history of the school? The school building?

Do you believe that the school history is well known by the teachers and students?

What do teachers value most about working at this school?

How are the school's values communicated throughout the school?

Do you believe that the values of the teachers, students, and community are all similar?

What does an average day at this school look like? Would you say that there is an average day?

Physical:

How would you describe the classrooms?

What resources are available to teachers?

What resources do you wish you had access to?

How are your classrooms selected?

How do you try to create a learning environment for students?

In trying to understand the learning space of this school, is there anything else that you would add or that you believe is unique to this school?

APPENDIX B

PARTICIPANT CONSENT FORM

CONSENT FORM

A Study of Rural Schools and Agricultural Education Programs: What's So Special About the Rural Learning Space?

Background Information

You are invited to be in a research study of learning spaces in rural schools and agricultural education programs in Oklahoma. We ask that you read this form and ask any questions you may have before agreeing to be in the study. Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this project at any time. You can skip any questions that make you uncomfortable and can stop the interview/survey at any time. Your decision whether or not to participate in this study will not affect your employment in any way.

This study is being conducted by: Joenelle Futrell, Department of Agricultural Education, Communication, and Leadership, under the direction of Dr. Marshall A. Baker, Department of Agricultural Education, Communication, and Leadership.

Procedures

If you agree to be in this study, we would ask you to do the following things: Participate in a brief, semi-structured interview about the learning space of the school in which you are employed. The interview will include questions about your role in the school, as well as the psychological, social, institutional, cultural, and physical elements of the learning space. Additionally, I will be recording general observations of the learning space and photographing the learning space and resources found in the learning space, without photographing any individuals or identifiable work.

Participation in the study involves the following time commitment: Less than one hour.

Compensation

You will receive no payment for participating in this study.

Confidentiality

The information that you give in the study will be handled confidentially. Your information will be assigned a code pseudonym. The list connecting your name to this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report

We will collect your information through recorded interviews. This information will be stored on NVivo software on a password-protected computer in a locked office. When the study is completed and the data have been analyzed, the code list linking names to study numbers will be destroyed. This is expected to occur no later than April 2018. The audio/video recording will be transcribed. The recording will be deleted after the transcription is complete and verified. This process should take approximately one week.

Contacts and Questions

The Institutional Review Board (IRB) for the protection of human research participants at Oklahoma State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at 270-316-2986, jofutre@ostatemail.okstate.edu. If you have questions about your rights as a research volunteer or would simply like to speak with someone other than the research team about concerns regarding this study, please contact the IRB at (405) 744-3377 or irb@okstate.edu. All reports or correspondence will be kept confidential.

Statement of Consent

I have read the above information. I have had the opportunity to ask questions and have my questions answered. I consent to participate in the study.

Indicate Yes or No:

I give consent to be audiotaped during this study.
___Yes ___No

Signature:_____ Date: _____

Signature of Investigator:_____ Date: _____

If you agree to participate in this research, please continue with the interview on learning spaces.

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

Date: Application Number: Proposal Title:

Principal Investigator: Co-Investigator(s): Faculty Adviser: Project Coordinator: Research Assistant(s):

Processed as:

03/06/2018 AG-18-10

A Study of Rural Schools and Agricultural Education Programs: What's so special about the rural learning space?

Joenelle Futrell MARSHALL BAKER

Exempt

Oklahoma State University Institutional Review Board

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications

requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.

2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.

3. Report any unanticipated and/or adverse events to the IRB Office promptly.

4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 223 Scott Hall (phone: 405-744-3377, irb@okstate.edu).

Sincerely,

Hugh Crethar, Chair Institutional Review Board

VITA

Joenelle Lorraine Futrell

Candidate for the Degree of

Master of Science

Thesis: WHERE DO WE LEARN?: A MULTI-SITE CASE STUDY OF LEARNING SPACES OF RURAL SCHOOLS AND AGRICULTURAL EDUCATION PROGRAMS IN OKLAHOMA

Major Field: Agricultural Education

Biographical:

Education:

Completed the requirements for the Master of Science in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma in May, 2018.

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Professional Memberships:

American Association of Agricultural Education