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Supports and Barriers to Universal Design for Learning in Schools Implementing Integrated Comprehensive Systems for Equity

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SUPPORTS AND BARRIERS TO UNIVERSAL DESIGN FOR LEARNING IN SCHOOLS IMPLEMENTING INTEGRATED COMPREHENSIVE SYSTEMS FOR EQUITY

by

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ABSTRACT

SUPPORTS AND BARRIERS TO UNIVERSAL DESIGN FOR LEARNING IN SCHOOLS IMPLEMENTING INTEGRATED COMPREHENSIVE SYSTEMS FOR EQUITY

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Under the Supervision of Professor Elise Frattura

These two qualitative descriptive case studies investigated supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology in language arts and social studies departments at an urban and a suburban high school in Wisconsin. Integrated Comprehensive Systems (ICS) implementation was determined through the Four Cornerstones – Cornerstone One: Focus on Equity, Cornerstone Two: Align Staff and Students, Cornerstone Three: Transform Teaching and Learning, and Cornerstone Four: Leverage Funding and Policy. Classroom observations were conducted of the eleven participating teachers in this study. These teachers also participated in semi-structured interviews designed to explore supports and barriers to integrating UDL as an instructional methodology.

The research questions were: 1) What supports exist for integrating UDL as an instructional methodology in schools implementing ICS? 2) How do these supports bring about successful integration of UDL as an instructional methodology? 3) What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS? 4) How do these barriers prevent the integration of UDL as an instructional methodology? and 5) Why do barriers preventing the integration of UDL as an instructional methodology exist?

Supports identified to integrating UDL as an instructional methodology included commitment, administrative support, freedom to experiment, funding, professional development, teacher flexibility, technology, shared expertise, co-servicing, common planning, and flexible furniture. Barriers included common curriculum and assessments, push back from central office, limited flexibility, limited commitment, limited professional development, class size and disproportionate numbers of students with high needs, no preparation time, limited class support, and limited funding. The data collected in these qualitative case studies suggests that teachers should be aligned to create Co-planning and Co-serving™ Teams (CCTs) including general education teachers, special education teachers, interventionists, Title supports, and English Language Learner (ELL) support teachers to share knowledge and expertise during a regularly scheduled co-planning time for increasing each other's capacity to teach a broad range of students. The data also suggested that teachers benefit from regular and ongoing professional development focused on UDL to support their understanding of providing students with different ways of accessing information and demonstrating what they learn through use of their individual strengths.

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ACKNOWLEDGEMENTS

I would like to sincerely thank the faculty at the University of Wisconsin in Milwaukee, who have contributed to my education and greater understanding of the field that I have such a passion for. It has been an amazing experience that will always remain with me. I can only aspire to use the knowledge and understanding which I have gained to give back in the same measure I received. I believe that the purpose of an education is not only to help those within the process gain a higher understanding but also to promote their ability to give back to the greater community.

I would like to thank my wife, Natalie, who has been supportive of my endeavors and remained patient and present throughout the process of pursuing my degree. Without her love and support, I would not have had the opportunity to pursue my education with the same level of zeal and commitment.

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Lastly, I would like to dedicate this to my two sons, Charles and Nelson Long. I love you both and hope that whatever either of you choose to someday pursue, you never refuse to keep aspiring and tenaciously moving forward. It is my hope that you both find pride and happiness in not only your accomplishments but also the pursuit of your goals.

CHAPTER I: INTRODUCTION

I began my career as a special education teacher in a self-contained high school classroom working with students receiving services under Intellectual Disability (ID), Emotional Behavioral Disability (EBD), and Autism. Excited to have gained entrance into my field of study, I enthusiastically set out to improve the quality of life of students in my classroom by providing instruction in life skills and self-regulation. During my first year, I taught math, science, and social studies. In math, I focused on concepts like linear measurement, how to make change using the least amount of coins, and how to balance a checkbook. During science, we would often carry over some of the learning objectives targeted during math class to ensure that the lessons were based in functional life skills such as measuring plant growth or teaching students how to follow procedures with recipes. I remember teaching a lesson in social studies in which I tried to integrate geographical concepts into the lesson which was largely centered on using a legend. During this lesson I was observed by a principal who praised the functional aspects of my lesson but questioned, "Why would you discuss oceans? Do you think anyone in your classroom could honestly tell the difference between a lake and an ocean? Stick with something local, like a city bus map." Since this sounded like practical advice at the time, I made sure to collect local maps and travel guides from the local gas station and avoided world geography as it extended beyond what was functional.

The 2010-2011 school year consisted of many changes. One of the critical changes that I recall is gaining a new principal who wanted all departments to develop professional learning communities (PLC) focused on embedding the new common core state standards (CCSS) into

curriculum throughout the school. The CCSS is a standards-based educational initiative adopted by all states with the exception of Nebraska, Texas, Oklahoma, Indiana, and Virginia. North Carolina, for English language arts and mathematics. Minnesota has only adopted the English language arts standards. Since Wisconsin adopted the CCSS in 2010, our school embedded them within the curriculum. Those of us working the special education department were not exempt of this duty. This represented the first massive shift that I remember occurring which directly impacted how I provided instruction in my classroom. I questioned how I could be expected to teach grade-level content standards to students whose experience had been restricted to learning functional life skills in a classroom isolated from their peers. Our solution as a PLC was to explore systems supporting students with disabilities in accessing general education classrooms and curriculum throughout the school. We investigated co-teaching, through which we would partner-up with a general education teacher and share instructional responsibility while also developing accommodations for our students. Ultimately this failed since it had limited commitment within the special education department as well as among general educators or administrators. For the next two years, I remained largely within my self-contained classroom with students receiving services under disability labels who spent between sixty and eighty percent of their day with me.

Three years later, I started a new position at a middle school in a different district. Part of my interest in applying to this district stemmed from hearing through the grapevine that schools within the district were experimenting with co-teaching and Universal Design for Learning (UDL). I reflect back and consider the barriers faced by my former colleagues and myself to implementing a similar system at a different point in time and how our failure to support disabled students' access to general education impacted their educational experiences.

The problem of providing students with disabilities access to core learning opportunities in schools is pervasive and not restricted to my own experiences. Researchers and school professionals are seeking to dismantle structures in schools which serve to exclude students and provide all students with a more equitable and socially just education (Frattura & Capper, 2007; Theoharris, 2009). Considerable efforts have been devoted to addressing issues related to equity and access for students with disabilities. Discrepancies in achievement exist between students with disabilities and their nondisabled peers both at school and beyond. Students with disabilities have a dropout rate which is nearly twice as high as the rate expressed for their nondisabled peers (U.S. Department of Education, 2009). In 2003, the median income of high school dropouts age 18 and over was $12,184 in comparison to the median income of $20,431 of those 18 and over who completed high school (U.S. Census Bureau, 2005). High school dropouts are also less likely to be in the labor force than those with a high school education and are more likely to remain unemployed (U.S. Department of Education, 2009). According to Theoharris (2009), "There is compelling evidence documenting disparities in opportunity and access as well as sufficient data attesting to the achievement gaps between students who have been historically and are currently marginalized in schools and their more privileged peers" (p. 7). On average it costs twice as much to educate a student with a disability than a student without a disability (Center for Special Education Finance, 2002). Despite high cost devoted to educating students with disabilities there is evidence suggesting disparate post-secondary outcomes and high school completion rates when compared to their non-disabled peers.

A body of research literature has focused on the marginalization of students through the deficit-based model of special education and the reconstruction of educational services to better meet the needs of all learners (Frattura & Capper, 2015; Hattie, 2011; Steele, 2010; Theoharris,

2009). Frattura and Capper (2007) created Integrated Comprehensive Systems for Equity (ICS) as a framework to interrupt systemic inequities in educator's perceptions of equity, structures, instruction, and procedural practices. Universal Design for Learning (UDL) is an instructional methodology developed for supporting the needs of all learners in accessing core instructional experiences (Cytowic, 1996; Harbour, et al. 2006; Luria, 1973).

Universal Design for Learning (UDL)

Universal Design for Learning (UDL) is an instructional methodology designed to provide flexibility in how information is accessed, in how students demonstrate knowledge and skills, and in how students become engaged or motivated to learn. The following three principles guide UDL as an instructional methodology: (a) multiple means of representation; (b) multiple means of action and expression; and (c) multiple means of engagement. The principle of multiple means of representation is focused on recognition or how students collect information and categorize what they see hear or read. Providing multiple means of representation supports recognition by providing multiple ways for students to perceive and comprehend information. The principle of multiple means of action and expression is focused on supporting strategic learning or planning and demonstrating different learning tasks. Providing multiple means of action and expression supports strategic learning by providing multiple ways for students to demonstrate knowledge and skills. Providing multiple means of engagement is focused on affective learning or how students become engaged or motivated in completing learning tasks. Multiple means of engagement support affective learning by providing students with multiple ways to become motivated or engaged in learning.

Integrated Comprehensive Systems (ICS)

Integrated Comprehensive Systems (ICS) is a four-cornerstone framework designed to systemically eliminate inequities through Co-planning and Co-serving™ to provide all students with access to Identity Relevant Teaching and Learning (IRTL) in heterogeneous groups. In a Co-planning and Co-serving™ model, teachers and other relevant school professionals are aligned to grade level teams, units, or academies through which they develop lessons along the lines of an IRTL framework. The IRTL framework is designed to provide instruction based on how students learn while flexibly grouping students by how they access information, become engaged or motivated, and demonstrate what they know. IRTL based curriculum and instruction is culturally relevant universally designed™ for all learners. In ICS, Universal Design for Learning (UDL) is part of the IRTL framework. Heterogeneous groups are groups of students which are proportionally representative of the greater school demographic. In ICS, heterogeneous grouping patterns are applied to all school environments (ex. classrooms, courses, teams, clubs, etc.).

Cornerstone One: Focus on Equity

Cornerstone One: Focus on Equity consists of steps for implementing and sustaining ICS for Equity. These steps include: (a) exploring the history of how schools marginalize students along the lines of gender, race, disability, class, language, and migrant status as well as developing a description of current district and school service delivery models; (b) shifting from deficit to strengths based thinking, language, and practice; (c) identity development for systems change; (d) applying equity research; (e) developing a list of equity non-negotiables; and (f) using school equity data to leverage systems change. Deficit-based thinking focuses on what is perceived to be wrong with students, families, and communities. In schools, deficit thinking has been used to place the blame for underachievement and failure on students (Gorski, 2011,

2016). Strengths-based thinking focuses on what skills, knowledge, or strengths students, families, and communities have. Identity development concerns developing an understanding of our own and other's racial, gender, ability, class, language, and sexual identities and their intersections. The process of identity development is intended to support how school personnel interact with students, family, staff, and community members of different identities. Equity non-negotiables are a list of non-negotiable ground rules for guiding the implementation and sustainment of ICS. Districts implementing or seeking to implement ICS collect and analyze school-level and district-level equity data to help inform instruction and systemic change towards equity.

Cornerstone Two: Aligning Staff and Students.

Cornerstone Two: Aligning Staff and Students is a systemic shift in which no rooms or programs exist to address the needs of students receiving services under labels (e.g. special education, at-risk) in isolation from the core learning environment of the school. Students are aligned into heterogeneous grouping patterns based on proportional representation. Staff are assembled into Co-planning and Co-serving™ Teams (CCTs) which include general educators, interventionists, Title supports, special education teachers, and ELL support teachers, for the purpose of co-planning to develop lessons along the lines of an Identity Relevant Teaching and Learning (IRTL) framework.

Cornerstone Three: Transforming Teaching and Learning.

Cornerstone Three: Transforming Teaching and learning is the sharing of expertise to construct capacity collectively in using proactive personalized learning strategies for meeting the needs of all learners in heterogeneous classrooms. In ICS, UDL is provided as part of an IRTL, which also includes identity relevant education. Identity relevant education focuses on

supporting all relevant identities in the classroom which could include students of color, students who are linguistically diverse, students with disabilities, students who experience poverty, and other historically marginalized student groups. UDL can be provided in absence of identity relevant education as multiple means of representation, action and expression, and engagement can be provided to students in a way that only reflects the white middle-class majority. It is also important to note that UDL can function in absence of ICS. However, ICS will not function in absence of an asset-based proactive instructional methodology designed to interrupt deficit-based practices such as ability grouping, servicing students by labeling, or tracking students into remedial classrooms.

Cornerstone Four: Leverage Policy & Funding.

Cornerstone Four: Leverage Policy & Funding school professionals integrate district policies, state and federal funding, and federal legislative policies to address the needs of all students in heterogeneous classrooms. Schools align all policies and procedures with ICS principles and practices (Capper & Frattura, 2009; Frattura & Capper, 2007). In ICS, schools seek to eliminate all categorical policies and procedures promoting differential treatment of students. Shared leadership teams play an integral role in allocation of resources dependent on the individualized needs of all students. This differs from the traditional practice of allocating funding by program or categorical designation (e.g. special education, Title I, English Language Learner, etc.).

Critical Realism

The theoretical perspective through which I conducted my investigation of supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology at

schools implementing Integrated Comprehensive Systems for Equity (ICS) was critical realism. Critical realism is a philosophical approach developed by Roy Bhaskar. The world through the lens of a critical realist is "theory laden" but not "theory determined" which means that a "real" social world exists which we can understand through philosophy and social science (Danermark et al., 2002). Critical realists believe that events in the world exists at three levels: (a) the empirical level which we can experience; (b) the actual level which we may experience or not; and (c) the real level which consists of deep causal mechanisms perpetuating events at the empirical level. Critical realism also holds that the perspectives of researchers and those being researched are valid as we all experience events through our own unique position and perspective. This theoretical perspective proved beneficial to exploring supports and barriers to integrating UDL as an instructional methodology at schools implementing ICS as it provided me with the ability to view the perspectives of participating teachers who I interviewed as well as my own insights gained from observations as valid.

Purpose of the Study

The primary purpose of this research was to understand supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology in high schools implementing Integrated Comprehensive Systems for Equity (ICS). This study aimed to understand how an equity-focused system such as ICS impacted the integration of UDL as an instructional methodology designed to reduce barriers to instruction for all learners. ICS is focused on ensuring that students have access to UDL as part of an Identity Relevant Teaching and Learning (IRTL) framework. Part of the IRTL framework is identity relevant education which focuses on all of the cultures of students represented in the classroom. UDL practices of

representation, expression, and engagement can be applied in absence of an identity relevant education if instruction is focused on white, middle class values rather than acknowledging cultural differences. This study aimed to explore supports and barriers to integrating UDL as an instructional methodology as part of an IRTL framework, not identity relevant education. This study aimed to capture the lived-experiences of language arts and social studies teachers as they attempted to integrate UDL in instruction at two high schools.

Research Questions

The primary research questions were:

1. What supports exist for integrating UDL as an instructional methodology in schools implementing ICS for Equity Framework?
2. How do these supports bring about successful integration of UDL as an instructional methodology?
3. What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS for Equity Framework?
4. How do these barriers prevent the integration of UDL as an instructional methodology?
5. Why do barriers preventing the integration of UDL as an instructional methodology exist?

Significance of the Study

While existing research offers insights into how Universal Design for Learning (UDL) provides students with flexibility in accessing information, demonstrate their understanding of knowledge or skills, and becoming engaged and motivated, little is known about supports and barriers to integrating UDL into instruction. As educational research, policy, and legislation evolve to support equitable teaching practices, the need to develop a better understanding of instructional methodologies designed to reduce barriers and maintain high achievement expectations for all learners has become increasingly important. This increased understanding can help inform current and future thinking of teachers and administrators seeking to integrate UDL into instruction.

UDL predates Integrated Comprehensive Systems (ICS) and can be applied in absence of ICS. In ICS, UDL is a part of the Identity Relevant Teaching and Learning (IRTL) framework. In ICS, IRTL is supported through a model of co-planning and co-serving for all learners in classrooms which are proportionally representative of the greater school demographic. Co-planning and co-serving involves the participation of all relevant school professionals during regular co-planning times to develop lessons which provide students with multiple means of representation, multiple means of action and expression, and multiple means of engagement. This study will inform current and future thinking of teachers and school administrators about how teachers and other relevant school professionals aligned to co-plan and co-serve may impact the integration of UDL as an instructional methodology.

Research Assumptions

For any qualitative research study, there are different assumptions which a researcher may assume to be true without having tangible evidence. These assumptions are largely rooted

in their worldview or lens through which they perceive the world. The worldview contains a set of assumptions and core beliefs which serve to guide the researcher in exploring the research problem. Because of this, it is essential to initially address and discuss these assumptions.

Creswell (1998) identified five philosophical assumptions which include ontological, epistemological, axiological, rhetorical and methodological assumptions. For the purposes of this research study I will discuss each of the research assumptions.

Ontological Assumption

For Creswell (1998), the ontological assumption concerns the nature of reality. Creswell describes reality as being constructed by individuals which means that different realities may exist. In this circumstance, the reality of the researcher, the participants in the study, and the reader trying to develop an understanding of the research all experience different realities. In this study, I was focused on the realities of language arts and social studies teachers who are working to integrate Universal Design for Learning (UDL) as an instructional methodology in schools seeking to implement Integrated Comprehensive Systems for Equity (ICS). It was my goal to bring their realities interacting with different supports and barriers to the forefront in hopes of gaining a better understanding of the research problem.

As a special education teacher working in a district which is seeking to integrate UDL as an instructional methodology while also seeking to facilitate the inclusion of students with disabilities through co-servicing, I brought my own biases to this study concerning UDL and ICS. I believe that students with disabilities are best serviced in inclusive settings with their nondisabled peers. I hold this belief because I have seen students with disabilities achieve goals and objectives outlined in their Individualized Education Plans (IEPs) while also accessing learning objectives associated with Common Core State Standards (CCSS) when provided with

the opportunity to either access information or demonstrate what they understand through their strengths and interests, rather than the means traditionally provided by schools. I believe that having a supportive administration and colleagues who are committed to learning more about UDL has served as the most vital support. Also, I believe that "two-heads are better than one" when it comes to servicing all students in inclusive classrooms.

Having taught in classrooms with limited support from other school professionals as well as at a school with an actualized co-servicing model, I believe that two teachers sharing instruction and engaging in co-planning is an effective way to provide students with multiple means of representation, multiple means of action and expression, and multiple means of engagement. I feel that my experiences as special educator with experiences integrating UDL as an instructional methodology through a co-servicing model will enhance my ability to access the understanding of teachers in this study. In the Validity section in Chapter III, I further discuss how I addressed my bias to ensure the trustworthiness of my findings.

Axiological Assumption

The axiological assumption reveals qualitative research to be value laden (Creswell, 1998). Because of this, Creswell indicates that the researcher must acknowledge the value laden nature of the study and describe their own biases. As a special education teacher in a rural School District, I approached this study with specific biases. This study included participants who were social studies teacher, language arts teachers, and one special education teacher who supports a language arts department. I have a strong belief in inclusion, UDL, and systems designed to support equity and social justice like ICS for Equity. I understand that teachers participating in this study may have different perceptions arising from their own lived experiences interacting with the school systems they work within.

Epistemological Assumption

An epistemological assumption concerns the relationship between the researcher and their subject of study. Qualitative researchers have some degree of interaction with participants in their study over a period of time (Creswell, 1998). Because of this, the researcher attempts to minimize the "distance" or "object separateness" (Guba and Lincoln, 1988) between themselves and their participants. While I am presently a special education teacher which helps to reduce my "object separateness," I do not have true insider status at either site of interest since I am not an employee of either district.

Rhetorical Assumption

Creswell (1998) mentions that qualitative researchers tend to take a more personal or narrative form in their writing. Qualitative researchers have the tendency to use the first-person pronoun "I" and explain their narrative chronologically (Clandinn & Connelly, 2000). Rather than using terms often employed by quantitative researchers like "internal validity," generalizability," and "objectivity," qualitative researchers tend to use terms like "credibility," transferability," "dependability," and "confirmability" (Lincoln & Guba, 1985) or "validation (Angen, 2000). The goal of this research is to explore supports and barriers to integrating UDL as an instructional methodology at two schools at different stages of implementing ICS for Equity. To accomplish this goal, I selected a more literary format.

Methodological Assumption

Creswell (1998) describes methodological assumption as the assumption that the process of conducting the research is essential to the over-arching goal of the research. Investigation into what supports and barriers exist for integrating UDL as an instructional methodology at schools at different stages of implementing ICS for Equity is warranted by the context of

students with special needs being further included in general education classrooms where all students are expected to achieve common core state standards (CCSS).

Definitions of Terms

- *Universal Design for Learning (UDL):* An instructional methodology designed to provide flexibility in how information is accessed, in how students demonstrate knowledge and skills, and in how students become engaged or motivated to learn.
- *Multiple Means of Representation:* To support recognition by providing multiple ways for students to perceive and comprehend information.
- *Multiple Means of Action and Expression:* To support strategic learning by providing multiple ways for students to demonstrate knowledge and skills.
- *Multiple Means of Engagement:* To support affective learning by providing students with multiple ways to become motivated or engaged in learning.
- *Integrated Comprehensive Systems (ICS):* A four-cornerstone framework designed to eliminate inequities and provide all students with Identity Relevant Teaching and Learning (IRTL) through Co-planning and Co-serving™ in heterogeneous school environments.
- *Supports:* Events or conditions in schools implementing ICS enabling the provision of UDL.
- *Barriers:* Events or conditions in schools implementing ICS that makes the provision of UDL challenging.
- *Systemic:* The term systemic to the entire school system (e.g. values, beliefs, alignment of staff and students, funding, policy, etc.) as opposed to a specific component.

- *Identity Relevant Teaching and Learning (IRTL):* A framework is designed to provide instruction based on how students learn while flexibly grouping students by how they access information (representation), become engaged or motivated (engagement, and demonstrate what they know (expression). The IRTL framework combines the principles of UDL (e.g. multiple means of representation, multiple means of action and expression, and multiple means of engagement) with identity relevant education to support all learners.
- *Co-plan to Co-serve™*: The alignment of all relevant teachers and school personnel (e.g. general educators, interventionists, Title supports, special education teachers, ELL support teachers, etc.) who regularly co-plan to share expertise and develop lessons along the lines of an Identity Relevant Teaching and Learning (IRTL) framework for servicing all students in proportionally representative school environments.
- *Heterogeneous Groups/Grouping Patterns:* Groups of students which proportionally represent the greater school demographic.
- *Proportional Representation:* To reflect the demographics of the greater student population.
- *Disproportionality:* When the demographic characteristics of a school environment (e.g. classroom, club, etc.) does not reflect the demographics of the greater student population

CHAPTER II: LITERATURE REVIEW

In this section, I will provide an overview of historical practices in education. I will discuss the deficit-based model of special education as well as inclusive practices like co-teaching.

I will also provide a definition of the deficit-based model of special education and explore the historical development of the deficit-based model. This historical perspective will serve as a background for arguments made by proponents of the deficit-based model.

The Deficit-Based Model of Special Education

The lineage of special education begins with Jean-Marc Itard (1775-1838), a medical doctor who studied a child discovered in a forest near Aveyron, France in 1799. Itard named this boy victor and focused on teaching him skills essential to functioning within civilized society (Humphrey & Humphrey, 1962). Itard believed that Victor's skill deficits were resultant from a lack of exposure to society. He concluded that a systematic program of intervention could provide essential skills supporting integration into society. Itard's work influenced Eduard Seguin (1812-1880), a physician who developed systematic educational programs incorporating psychological and moral components. The educational programs developed by Seguin influenced programming in institutional settings.

Following the Civil War, the United States landscape experienced drastic industrialization and urbanization. This presented a unique challenge to those individuals with disabilities who struggled to gain employment. As a result, many in the United States populace believed that the majority of individuals with disabilities were incapable of achieving the

socially constructed perception of normalcy (Beirne-Smith, Patton, & Kim, 2004). This pessimism gave rise to the increased establishment of institutions between 1890 and 1960. The 19th century ushered in a state of emergency focused on protecting society from those who did not conform with the socially prescribe norm group. This fear gave rise to multiple forms of segregation ranging from life-long institutionalization to sterilization.

A new paradigm emerged in the 1960s in which there was a revived attempt to integrate individuals with disabilities into society (Polloway, et al., 1996). These efforts still consisted of segregated programs like self-contained classrooms, separate programs, and resource rooms designed to service individuals with disabilities in segregated settings. These structural components became synonymous with the deficit-based model of special education.

Structure of the Deficit-Based Model

Following determination of eligibility, school professionals service students with disabilities in separate classrooms for part (self-contained/resource) or all of their day (separate schools/self-contained programs). It is important to note that even under the Education for All Handicapped Children Act (EHA) or Public Law (PL) 94-142) federal lawmakers have defined special education as a service as opposed to a place (Brown, 2003). However, special education has evolved into a place owing to the widespread use of segregated programs (e.g. self-contained classrooms, tracked programs, separate schools) (Theoharris, 2009; Brown, 2003). Students who do not qualify for special education are enrolled in other programs such as at-risk and English Language Learners (ELL). As a result, school professionals provide specialized instruction and curriculum designed to accommodate a group norm in homogeneous classrooms. Within the program model, students spend the majority of their day with other students demonstrating similar characteristics. Recent studies comparing the academic

achievement of students with disabilities receiving services in inclusive versus segregated settings have demonstrated neutral or positive results (Lindsay, 2007; Cole, 2004). Other studies have produced evidence of positive social gains experienced by students with disabilities receiving services within inclusive settings (Cole & Myer, 1991; Fryxwell and Kennedy, 1995; Kennedy, Shulka, & Fryxwell, 1997). Results from studies on social competence and behavior of students with mild disabilities suggested positive results in inclusive versus segregated classes (Baker, Wang, & Walberg, 1994; Cole & Meyer, 1991; McLeskey, Waldron, & Pacchiano, 1993; Saint-Laurent & Lessard, 1991) Students with severe disabilities demonstrated higher levels of social interaction in inclusive versus segregated settings across multiple studies (Hunt Soto, Maier, & Doering, 2003; Katz & Mirenda, 2002; Westling &Fox, 2009).

Researchers, lawmakers, and school professionals have used the principle of Least Restrictive Environment (LRE) to justify the provision of instruction to students with disabilities in self-contained classrooms, separate facilities, residential facilities, and home/hospital environments. Historically, school professionals designed self-contained classrooms for students who struggled in keeping pace with instruction in the general education setting. Students can either receive all instruction in a self-contained class or experience a fragmented schedule. Students experiencing a fragmented schedule spend a percentage of their day in self-contained classrooms and the remainder in general education classes. School professionals have developed separate facilities (alternative schools, charter schools, off-site programs) to meet the needs of students who do not meet the socially defined norm. These facilities provide all aspects of instruction, curriculum, and socialization in absence of access to the neighborhood school. In some circumstances, school professionals place students who are determined to be in need of around-the-clock care in either separate residential facilities or

home/hospital environments. These students generally demonstrate challenging behaviors or physical conditions requiring constant attention.

Theoretical Framework of the Deficit-Based Model

Characteristics of the deficit-based model include a focus on student deficits, seeking to enhance the student in hopes of achieving normalization, and categorizing or labeling students in accordance to differences from a socially constructed norm group (Hahn, 1997). At the foundation of the deficit-based model are two theories supporting deficit views surrounding students who deviate from the socially constructed norm. These theories are the pathological model borrowed from the field of medicine and the statistical model borrowed from the field of psychology.

According to Skirtic (1986), "The pathological model defines impairments according to the presence or absence of observable biological symptoms" (p. 82). In the pathological model, school professionals view normality as being achieved in absence of pathological symptoms which could adversely impact survival or overall quality of life. Abnormality indicates the existence of pathological symptoms. In the field of special education, researchers and policy-makers have used these symptoms to define labels for categorizing students in accordance to socially constructed deficits. "The statistical model is based on the concept of the normal (or bell-shaped) curve; In essence, an individual's attributes can be described by his or her relative position in a frequency distribution of other persons measured on those attributes" (p. 83). The statistical model is used to sustain the pathological model by defining abnormality in context of standard deviations from the norm group. The process of labeling focuses exclusively on student performance deficits. School professionals in the statistical model use performance metrics supporting determination of eligibility for special education.

While researchers and school professionals using the pathological model focus on making classifications based on biological deviations from the socially constructed norm, those using the statistical model focused on behavioral deviations. School professionals use both the pathological model and the statistical model when assigning disability labels to students. These serving to categorize students in accordance with socially constructed deficits. Within the deficit-based model of education, the pathological and statistical models mutually subject the student to play a "sick role" (Hahn, 2003) in which they receive specialized instruction in hopes of achieving normality.

Results of the Deficit-Based Model of Special Education

Between 1989 and 2001, there was a 151% increase in the percent of students identified with disabilities (Ysseldyke, 2001). Additionally, students of color and economic disadvantage are overrepresented in special education programs (Department of Education, 2001; Donovan & Cross, 2002; Riester, Putsch, & Skrla, 2002). Many of these students receive instruction in self-contained programs for some percentage of their school day (Capper, Frattura, & Keyes, 2000). The full continuum of services for students receiving special education services in addition to the program model designed to meet the needs of those who do not qualify for special education has failed to increase the achievement of historically marginalized groups of students. Additionally, segregated programs offered through the deficit-based model have failed to yield successful post-secondary outcomes for students with disabilities. According to the U.S department of Education (2009), the high school completion rates for students with disabilities were lower (80%) than students without disabilities (90.1%). Also, as indicated by the Office of Disability Employment Policy (ODEP) only one-third (32.0%) of working-age people with disabilities were employed on average in the 2010-2012 period, compared to over two-thirds

(72.7%) of people without disabilities. According to the ODEP (2015), the unemployment rate for persons with a disability was 12.5 percent in 2014, about twice the figure of 5.9 percent for those with no disability.

Arguments for Sustaining the Deficit-Based Model of Special Education

During the 1960s and 1970s, researchers and school professionals suggested that students with disabilities benefitted most from specialized instruction delivered in separate programs and self-contained classrooms (Bierne-Smith, 2004; Engelmann, 1969). Researchers have attempted to justify the continuation of the deficit-based model of special education. Kauffman & Hallahan (2005) presented an argument in favor of self-contained classrooms on the basis that homogeneous grouping is the most optimal structure for personalizing instruction and coping with heterogeneity within the school population. The argument made by Kaffman and Hallahan was grounded in the claim that insufficient empirical evidence exists supporting the belief that all teachers can develop the capacity for providing effective instruction to all students in heterogeneous groups. Kauffman et al. (2005) makes the claim that the goals of providing an appropriate education to all students and providing full inclusion are contradictory for some students. The researchers suggest that most students with disabilities require access to separate settings if they are to receive appropriate instruction, a perspective that has been shared by other proponents of self-contained classrooms (Baker & Zigmond, 1995; Fox & Ysseldyke, 1997; Kauffman & Hallahan, 2005). Researchers supporting self-contained classrooms have also proposed arguments supporting a continuum of placements based on the principle of Least Restrictive Environment (LRE) (Fuchs, et al. 1993; Landrum, Tankersley, & Kauffman, 2003). Also, some proponents of self-contained classrooms have associated effective instruction with

homogeneous groupings (Kauffman & Hallahan, 1997, 2005; Becker & Gersten, 2001; Engelmann, 1997). Engelmann (1997) outlined four criteria for appropriate grouping:

1. The child's performance should be 70% first time correct on material that is being taught.
2. The child should be at least 90% first-time correct on material that had been taught earlier and is assumed to have been mastered.
3. The child should be able to go through a "lesson" in the anticipated amount of time and should not require great amounts of additional practice.
4. At the end of each lesson, the child should be virtually 100% firm on everything present in the lesson. (p. 183)

These criteria were used to supplement the argument that the refusal to provide a continuum of placements distinguished by homogeneous groupings for students with disabilities ultimately constituted a refusal to accommodate a diversity of instructional needs (Kauffman & Hallahan, 1997, 2005).

Proponents of the deficit-based model of special education argue that the rationale for supporting inclusive practice ideologically based as opposed to grounded in science. MacMillan, Gresham, & Forness (1996) wrote:

> Fuchs and Fuchs (1994) clearly chronicle how the Association for Persons with Severe Handicaps (TASH) emerged as the ideological leader in the inclusive schools movement and how the rhetoric of the leading spokespersons…became increasingly radical. Clearly, the impetus for advocates of full inclusion was never empirically driven but rather ideologically driven, and spokespersons

> frequently employed offensive statements, misrepresentations of extant evidence and tortured logic to attract followers. (p. 147)

Other proponents of the deficit-based model have accused researchers supporting inclusion of misinterpreting research and deriving unfounded inferences from data. Kavale, Fuchs, and Scruggs (1994) wrote:

> Complicating the process is a tendency to misinterpret research findings for ideological reasons. The Ysseldyke et al, (1982) study serves as a prime example; it often has been used as the basis for suggesting that [learning disabled] and [low achieving] groups cannot be distinguished unequivocally. In the present case, it is absolutely necessary that the conventional interpretation be revisited since the political implications are enormous; Special education as we know it may be transformed radically if some have their way. (p. 77)

Proponents of the deficit-based model have claimed that their research has a scientific basis while inclusionist research is ideologically driven.

Results of the Deficit-Based Model of Special Education

The practice of labeling has extended beyond special education. School professionals have developed programs that receive federal funding to support students who are English Language Learners (ELL), at-risk, and gifted and talented (Frattura & Capper, 2007; Frattura & Topinka, 2006). Similar to special education programs, these students are assigned a label on the basis of what characteristics set them apart from the socially constructed norm group. Additionally, many of these students spend a percentage of their day in segregated settings receiving specialized instruction intended to meet their needs (Frattura & Capper, 2007; Frattura & Topinka, 2006; Theoharris, 2009).

Problems Associated with the Deficit-Based Model of Special Education and Segregated Programming

In this section, I describe problems associated with the deficit-based model of special education and segregated programming. This section begins with an analysis of overrepresentation of minority groups in special education programs. I also define structural barriers to school success, academic and post-secondary implications associated with the deficit-based model and segregated programming, and the financial implications of special education. I conclude this section with a critique of nine components of the general argument against inclusion employed by proponents of the deficit-based model.

Overrepresentation of Students who are Traditionally Marginalized within Special Education

In special education, marginalized student groups such as students of color and students who are economically disadvantaged are over-represented in comparison to their white middle/upper class peers (Artiles & Trent, 1994; Carlson & Stephens, 1986; Carpenter, 1992; Riester, Pursch & Skrla, 2002). In the United States, students of linguistic and racial minority background are at higher risk of identification and placement in special education programs (Artiles & Trent, 1994; Valles, 1998). Dunn (1968) identified the following problems he believed contributed to the over-identification of historically marginalized groups like students of color, students who were socioeconomically disadvantaged, and students who were linguistically diverse: (a) providing instruction in homogeneously grouped classrooms; (b) results from efficacy studies contradicting the practice of homogeneously grouping students; (c) the social implications of labeling and impact on student self-concept.

In their review of thirty years of literature, Artiles and Trent (1994) identified factors impacting placement in special education programs. These factors include: (a) litigation and increased comprehension of educators surrounding student right to education; (b) debate surrounding the referral and identification process; (c) debate surrounding service delivery labels; (d) the impact of socioeconomic status on the learning process; (e) school success and school failure; and (f) the association between cultural diversity and disability. Artiles and Trent expanded on the Dunn's (1968) perception that schools require further expansion in the area of culturally responsive strategies and curriculum as opposed to increasing specialized programs. Researchers have identified that students enrolled in special education spend the majority of their day serviced in self-contained classrooms (Capper, Frattura, & Keyes, 2000).

Structural Barriers to School Success

Following the passage of the No Child Left Behind Act of 2001, there has been an increased focus on school accountability for closing achievement gaps between historically marginalized student groups and their peers. As a result, there was a growing research emphasis on increasing achievement for students of color. Additionally, a widespread movement emerged focused on providing an equitable education to all students. Historically, a select number of educators and researchers had focused on providing an equitable education to all students. The majority of schools in the United States sufficiently addressed the needs of white middle-upper class students. However, issues surrounding disparate access and achievement characterized the education of students of color, particularly those who were socio-economically disadvantaged. Researchers have demonstrated discrepancies in achievement between students of color and their white peers (Campbell, Hombo, & Masseo, 2000). Also, researchers have revealed that students of color and economic disadvantage are overrepresented in special education, remedial

classes, and alternative schools (Singelton & Noli, 2001; Robertson, et al., 1994). Additional research has revealed disproportionate drop- out rates between students of color and their white peers and underrepresentation of students of color in gifted and talented courses (Robertson et al., 1994).

There is evidence suggesting that students of color are frequently serviced in schools with disparate resources and less experienced educators (Urban Teacher Collaborative, 2000). Murray and Clark (1990) uncovered the following eight manifestations of racism in education: 1) hostile attitudes and actions by students and educators directed at students of color; 2) biased reactions in the application of severe sanctions applied to students of color; 3) disparities in the amount of teacher attention provided to students of color; 4) a deficiency in culturally responsive curriculum designed to support the education of students of color; 5) disparities in instructional delivery; 6) biased school perceptions arising from commonly held deficit views and stereotypes; 7) disparities in hiring staff of color; and 8) a denial of commonly held deficit views and perceptions grounded in racism. As a result, students of color tend to receive more strict consequences for similar rule violations as their white peers. Researchers have revealed that students of color are more likely to be suspended or expelled (Children's Defence Fund, 2005; Gordon, Piana, & Keleher, 2000)

Financial Implications

Following the passage of legislation in the 1960s and 1970s developed to support students with disabilities, federal and state governments allocated categorical funding to local education agencies as a supplement to general education dollars. As a result, schools began to hire special education teachers to provide specialized instruction in segregated programs. Over the years, state governments have developed additional programs were added like at-risk, gifted

and talented, English Language Learner (ELL), each under the name of their categorical funding source.

School professionals have devoted tremendous financial resources towards supporting the medical and program model for educating students who do not fall within the norm despite evidence supporting the accomplishment of this goal (Borman & D'Agostino, 2001). Cumulative expenditures directed towards general and special education in the United States amounted to $77.3 billion dollars or an average of $12,474 per student in addition to per pupil cost. An additional one billion dollars was allocated towards funding other programs (e.g. Title I, English Language Learners, gifted and talented, etc.) increasing the average per pupil expenditure to $12,639. Also, the total expenditure required to educate the average student with disabilities is 1.9 times the expenditure allocated towards educating the average student without special needs. Capper, et al. (2000) made the following calculation of costs:

> If we serve students with disability labels 25% to 60% outside the regular class, then the cost for this education increases to $5,122. If we provide a program for these students in a separate public facility like many charter and alternative schools then the cost increases to $6,388 per student. (p. 7-8)

This data demonstrates how placement of students with disabilities in segregated classrooms is costlier than providing instruction in inclusive settings. School professionals increase these costs by servicing students in separate facilities like charter and alternative schools.

According to the National Center for Education Statistics (2011), 61.1% of students with disabilities spend 80% or more of their school day in general education settings. 19.8% of students with disabilities spend 40-79% of their school day in general education settings and 14% spend less than 40% of their school day in general education settings. Following the 1997

amendment to the Individuals with Disabilities Education Act (IDEA), which created a presumption in favor of inclusion in the general education classroom, the percent of students with disabilities receiving services in general education settings has steadily increased each year (Theoharris, 2003).

Supports and Barriers to Inclusion

Researchers like Forness and Kavale (2000) have identified and investigated roadblocks to proactive and integrated practices supporting inclusion. They identified the following barriers: (a) challenging behaviors; (b) a lack of sufficient collaboration time; and (c) the prevalence of deficit views in which teachers attributed failure to student limitations as opposed to failure of the school in addressing their learning needs. More recently, researchers have identified teacher attitudes towards inclusion as a critical factor in supporting the success of inclusion (Cook, Semmel, & Gerber, 1999; Van Reusen, Shoho, & Barker, 2001). Emerging literature has revealed that experienced teachers or teachers who have a history of working with students with disabilities hold more positive perceptions of inclusion than those with no experience working with students with disabilities. Taylor, Richards, Goldstein, and Schilit (1997) explored general and special education teacher perceptions of inclusion. In their study, significant differences existed between perceptions of general and special education teachers. Overall, general education teachers did not support the placement of students with disabilities in the general classroom. Van Reusen et al., (2001) discovered that a relationship existed between positive teacher perceptions of inclusion and levels of special education training and experience in working with students with disabilities. McLeskey et al. (2002) discovered that teachers working in inclusive settings held more positive perceptions of inclusion than those teaching in

schools perpetuating the program model in which students with disabilities were serviced in segregated settings.

Co-teaching as an Instructional Strategy

Co-teaching occurs when two or more school professionals share mutual instructional responsibility for a group of students (Friend & Cook, 2016). Those participating in a co-teaching relationship are referred to as co-teachers. Both co-teachers share joint accountability for achieving instructional objectives. Co-teaching relationships are frequently limited to a single general education teacher and a single special education teacher (Skruggs & Mastropieri, 2017; Frattura & Capper, 2015). Frattura and Capper (2015) were critical of co-teaching as they identified that "little co-planning occurs and teachers tend to do more turn-taking, as the general educator remains the content expert and the special educator often functions as support to the general education teacher" (para. 4). Frattura and Capper (2015) also identified that co-taught classrooms, "often host an unnatural proportion of students who struggle academically or behaviorally or are eligible for special education" (para 6).

Research on effective co-teaching has been focused on commitment and trust between co-teaching professionals (Murawski & Dieker, 2013) and the availability of co-planning time in which both teachers can share instructional planning responsibilities during a common planning time (Scruggs et al., 2007). Co-teaching has been suggested as a practice for improving academic performance outcomes in mathematics and English Language Arts (ELA) for students with special needs (Walsh, 2012), providing students with special needs with instruction which is more reflective of the general education curriculum than instruction delivered in self-contained classrooms (Walsh & Conner, 2004), and increasing access to

curriculum for students who are English Language Learners (ELL) (Honigsfeld & Dove, 2016).

There are six different approaches to co-teaching. The six approaches include one teach/one observe, one teach/one assist, parallel teaching, station teaching, alternative teaching, and team teaching.

One Teach/One Observe

In a one teach/one observe configuration, one teacher provides instruction while the other supervises and observes the classroom (Frattura & Capper, 2007; Friend, 2016). Teachers working in a one teach/one observe configuration may alternate roles. This configuration is useful if teachers are seeking to collect data on students or the behavior of the teacher delivering instruction. Teachers can use co-planning time to discuss what data is being collected or discuss what was observed in addition to how the data supports instruction. One teach/one observe used alone is not co-teaching since it does not involve shared instructional responsibility.

One Teach/One Assist

In a one teach/one assist configuration, one teacher is responsible for providing the majority of whole class instruction as the other circulates and provides assistance to students as needed (Frattura & Capper, 2007; Friend, 2016). Similar to the one teach/one observe configuration, the teachers may alternate roles. This can be helpful in circumstances when one teacher may have a unique skill set or knowledgebase which lends itself to the greater lesson. However, the one teach/one assist configuration alone does not constitute co-teaching as the instructional responsibility is not evenly shared.

Parallel Teaching

Parallel teaching involves dividing the class between co-teachers and teaching the same content simultaneously (Frattura & Capper, 2007; Friend, 2016). This can be helpful as it allows

students within those groups have more opportunities to participate in large group discussions. Also, parallel teaching can help limit distractions as the class is divided between two teachers.

Station Teaching

Co-teachers participating in station teaching divide students into groups and are each responsible for teaching some aspect of the content (Frattura & Capper, 2007; Friend, 2016). Like parallel teaching, station teaching can be useful in minimizing distractions and providing students with more opportunities to respond. Co-teachers can also take advantage of this station teaching configuration to teach the same content in different ways to provide students with multiple means of representation. Also, co-teachers can set up a rotation which includes an independent station for students to practice skills on their own.

Alternative Teaching

Alternative teaching is similar to parallel teaching in as much that students are divided between co-teachers (Frattura & Capper, 2007; Friend, 2016). In the alternative teaching configuration, one co-teacher takes a smaller group of students who may benefit from small group instruction while the other remains with the larger group. This can be beneficial in instances where some students may require specialized attention.

Team Teaching

Co-teachers who are team teaching deliver instruction simultaneously. In the team teaching configuration, both teacher share instructional responsibility (Frattura & Capper, 2007; Friend, 2016). This approach is often referred to as having, “one brain and two bodies.” Teachers using this configuration both share familiarity with the content they are covering. While team teaching has been discussed since the 1960s (Beggs, 1964), co-teaching was developed forty years later as the field of special education gradually moved towards inclusive

practice (Skruggs & Mastropieri, 2017). The Individuals with Disabilities Education Act (IDEA) and No Child Left Behind Act of 2001 helped establish a precedence for ensuring that students with disabilities received an education in the least restrictive environment with a preference for the general education setting. Co-teaching has been recommended as a practice supporting inclusion (Cook, & Friend, 1995; Fenty, McDuffie-Landrum, & Fisher, 2012).

Conceptual Framework

The purpose of these two descriptive case studies was to explore what supports and barriers exist for integrating Universal Design for Learning (UDL) as an instructional methodology at schools implementing Integrated Comprehensive Systems for Equity (ICS). I included an analysis of supports and barriers within the conceptual framework of this study. My conceptual framework contained the following components: (a) legislation, litigation, and policy; (b) the Four Cornerstones of ICS; (c) individual differences; (d) UDL; (e) supports; and (f) barriers.

I included major themes within the literature across six of the seven areas. Figure 1 shows the conceptual framework for this research. I have merged supports and barriers into one row on the table. I had discovered a gap in the literature documenting supports and barriers in implementing ICS for Equity. Additionally, I discovered a gap in the literature concerning the supports and barriers when seeking to integrate UDL as an instructional methodology within ICS schools. I included citations on supports and barriers to providing UDL in addition to citations on suggested supports for UDL in schools implementing ICS.

Conceptual Framework

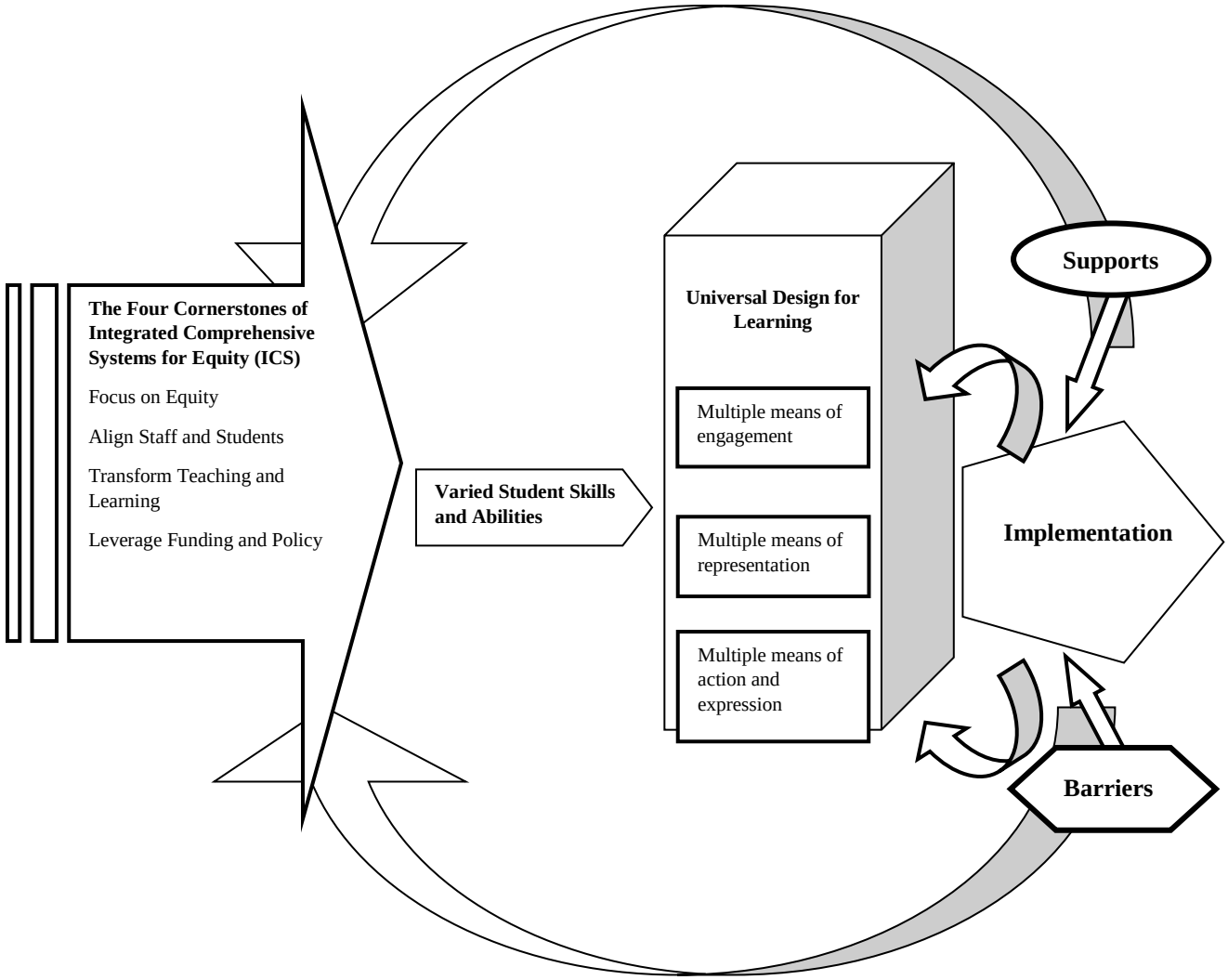


Figure 1. The conceptual framework for this study…

In this section, I present literature, legislation, litigation, and public policy, which resulted in the establishment and evolution of special education in the United States of America. This section also includes a description of recent standards-based reform efforts and their structural influence on service delivery in special education. In this section, I present literature, legislation, litigation, and public policy, which resulted in the establishment and evolution of

special education in the United States of America. This section also includes a description of recent standards-based reform efforts and their structural influence on service delivery in special education.

During the 1960s and 1970s, special education emerged in the United States due to lobbying efforts from parents and advocates. The 1960s was a period of social change which culminated in the Civil Rights Act in 1964. While the Civil Rights Act made no mention of individuals with disabilities, ensuing legislation gave rise to the laws which govern special education today. Federal legislation relevant to the field of special education like the Mental Retardation Facilities and Mental Health Centers Construction Act allocated funding towards the construction of Mental Retardation Research Centers (MRRCs). The Elementary and Secondary Education Act (ESEA) (PL. 89-10) followed in 1965 which allocated funding towards students who were economically disadvantaged. ESEA was amended in 1966 giving birth to the Bureau of Education for the Handicapped (BEH). The late 1960s was accompanied by increased activism and litigation giving rise to an emergent body of case-law supporting the right to education for all students.

The 1970s was a period of… In *Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania* (1972), children with mental retardation were assured the right to a free appropriate public education within the jurisdiction of the federal district. Through *Mills V. Board of Education of the District of Columbia* (1972) this right was extended to all students with disabilities. The compound effect of this litigation prompted changes in federal legislation in the form of amendments to the Vocational Rehabilitation Act (P.L. 93-112) such as Section 504 which was constructed to prevent disability-based discrimination and denial of benefits within any program receiving Federal funding. Section

504 laid the foundation for the Education for All Handicapped Children Act (EHA) in 1975 which ensured the following provisions to students with disabilities:

- All students with disabilities between the ages of 3 and 21 are entitled to a free and appropriate public education (FAPE) within the least restrictive environment (LRE).
- Students and their parents have a right to due process to safeguard their rights.
- Students are entitled to special and related services as required.
- Schools must collaborate with parents of students with disabilities to develop an Individualized Education Plan (IEP) designed to meet their unique educational needs.
- Students excluded from educational services are to be provided with first priority while second priority will be given to those who have received inappropriate programming.
- No student with disabilities may be excluded from receiving FAPE.

Prior to the EHA, students with disabilities were limited in both access to public schools and an appropriate education designed to meet their needs (Katsiyannis, Yell, & Bradley, 2001; Yell, Drasgow, Bradley & Justesen, 2004).

The statutory meaning of FAPE was defined by the U.S Supreme Court in *Board of Education of the Hendrick Hudson Central School District v. Rowley* (1982). The Supreme Court's decision in *Board of Education of the Hendrick Hudson Central School District v. Rowley* (1982) had an impact on the meaning of FAPE in addition to the provision of services to students with disabilities (Yell, Katsiyannis, & Hazelkorn, 1997). In this case, Nancy and Clifford Rowley filed a complaint against the Hendrick Hudson Central School District under Section 504 of the Rehabilitation Act of 1973 claiming that the district failed to provide their daughter Amy who was deaf and hard of hearing with an interpreter. While the Office of Civil Rights dismissed the complaint, an interpreter was provided on a nine-day trial. Since Amy did

not utilize the interpreter, the district determined this to be an inappropriate support. In place of the interpreter, the district provided the support of a speech and auditory specialist and assistance from a deaf and hard of hearing (DHH) teacher. The parents requested a due process hearing in which the hearing officer determined that the district was providing Amy with FAPE. Following this determination, the case went from the Federal Court to the United States Court of Appeals for the Second Circuit and finally to the Supreme Court.

As the first special education case reviewed by the Supreme Court, the *Rowley* case was a source of controversy for the following reasons: (a) Amy Rowley had an I.Q above 120 and was successful in school; (b) the district was providing Amy with services to support her academic success which included requiring staff to take a sign language course, providing an FM wireless hearing aid, providing direct support through a teacher of the deaf for one hour each day, and providing speech and language services; and (c) the conservative composition of the court was perceived as a threat to FAPE, which some believed would lead to the law being viewed as unconstitutional (Yell et al., 1997). Ultimately, the Supreme Court ruled in favor of the district declaring that Amy had been provided with FAPE. The court determined the following: (a) if the four items on the FAPE checklist definition are achieved; (b) if the IEP is designed to address the student's unique educational needs; and (c) if the IEP is designed to produce reasonable educational benefit, then the requirements for FAPE have been achieved (Huefner, 2006; Yell et al., 1997). The standard established by *Rowley* has been applied to the determination of FAPE across multiple subsequent court cases like *Polk v. Central Susquehanna Intermediate Unit 16* (1988) and *Burlington School Committee v. Massachusetts Department of Education* (1985).

The principle that segregating students with disabilities from the public-school system constituted a denial of equal protection laws under the Fourteenth Amendment to the U.S constitution was established prior to EHA in cases like *PARC v. Pennsylvania* (1972) and *Mills v. District of Columbia Board of Education* (1972). Both cases established the foundation for Section 504 of the Rehabilitation Act of 1973 and the EHA while simultaneously creating a legal preference for students with disabilities to receive an education in the general education setting to the maximum extent considered appropriate. This concept evolved into LRE which was further defined by cases like *Roncker v. Walter* (1983) and *Daniel R.R. v. State Board of Education* (1989).

The EHA has been amended on several occasions; first in 1990, when renamed the Individuals with Disabilities Education Act (IDEA) and then later in 1997, when…. The 1990 amendment saw the inclusion of transition services supporting the post-secondary outcomes of students with disabilities. In 1997, the IDEA was reauthorized and included a mandate that general education teachers participate in IEP meetings.

Standards-Based Reform

From the 1990s until present times, standards-based reform has been a prominent feature in the educational landscape of the United States. The focus on national standards in the United States began at the Charlottesville Education Summit of 1989 during which then President George Bush and fifty state governors adopted a set of national goals for the purpose of improving the quality of education in the United States by the year 2000. The six initial goals proposed at the Charlottesville Summit included:

1. Annually increasing the number of children served by pre-school programs with the goal of serving all “at-risk” 4-year-olds by 1995.
2. Raising the basic-skills achievement of all students to at least their grade level and reducing the gap between the test scores of minority and white children by 1993.
3. Improving the high school graduation rate every year and reducing the number of illiterate Americans.
4. Improving the performance of American students in mathematics, science, and foreign languages until it exceeds that of students from other industrialized nations.
5. Increasing college participation, particularly by minorities and specifically by reducing the current imbalance between grants and loans.
6. Recruiting more new teachers, particularly minority teachers, to ease the impending teacher shortage, and taking other steps to upgrade the status of the profession (Vinovskis, M.A., 1989).

In 1994, former President Bill Clinton signed the Goals 2000: Educate America Act (P.L. 103-227) which expanded on those developed during the Charlottesville Education Summit. Similar to the goals established at the Charlottesville Education Summit, schools in the United States failed to attain goals specified in Goals 2000.

In 2001, President George W. Bush signed the No Child Left Behind (NCLB) Act (PL-107-110) which was designed to close the achievement gap between low performing students and their peers through increased accountability, school choice, the development of a highly qualified teacher workforce, and the provision that each state develop its own standards. The enactment of NCLB required all students, including students with disabilities, to be proficient in the core content areas of math and reading by the year 2014. In 2004, Congress reauthorized

IDEA as the Individuals with Disabilities Education Improvement Act (IDEIA) to include further requirements for teachers to use evidence-based practices in the education and determination of eligibility for students with disabilities resulting in the widespread proliferation of Response to Intervention (RTI) (Zirkel, P.A., Krahn, N., 2008). RTI is an innovation designed to provide students with support in accordance with their responses to evidence-based practices. While many different versions of RTI exist, the innovation consists of a three-tiered system in which students receive different levels of support in hopes of circumventing referral for special education services.

In 2010, the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) introduced the Common Core State Standards (CCSS) as the most recent development in standards-based reform in the United States. The CCSS were developed by the Council of Chief State School Officers and the National Governors Association Center for Best Practices as a state-led effort" to establish consistent learning goals across the states in mathematics and English language arts and literacy. As indicated by Sulzer (2014), "States are not required to adopt the CCSS; however, those states choosing to adopt the standards are in a more competitive position to receive grants from President Obama's Race to the Top Initiative." (p. 135) Because of the increased rigor of the Common Core Standards in comparison to state standards introduced during NCLB, there have been concerns that schools will place explicit focus on promoting high achievement on standardized tests at the expense of social emotional learning initiatives with diverse students and the inclusion of students with special needs (Fuchs, L.S, et al. 2015; Gallagher, K. & Odozi, A., 2015; Gubi, A.A. & Bocanegra, J.O, 2015).

Following the introduction of the CCSS, two groups of states were allocated over $175 million dollars to develop, pilot, and implement computer-based assessments to replace

assessments in English-language arts and Mathematics for grades 3 through 8 and high school (U.S. Department of Education, 2010). The United States funded the Partnership for the Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium to develop these computer-based comprehensive assessment systems. According to Doorey (2012):

- The following states are members of the PARCC consortium: Alabama, Arizona. Arkansas, Colorado, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, New Mexico, New York, Charlestown Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, and Tennessee.
- The following states are members of the Smarter Balanced consortium: Alabama, California, Connecticut, Delaware, Hawaii, Idaho, Iowa, Kansas, Maine, Michigan, Missouri, Montana, Nevada, New Hampshire, Charlestown Carolina, Charlestown Dakota, Oregon, Pennsylvania, Nelsonville Carolina, Nelsonville Dakota, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. (p. 34)

While forty-six states adopted the CCSS, Minnesota only adopted the English-language arts standards, three states (Indiana, Oklahoma, and North Carolina) adopted and then repealed the CCSS, and four states (Texas, Alaska, Nebraska, and Virginia) never adopted the CCSS. Schools adopting the CCSS piloted the new generation of tests during the 2014-2015 school year. In the state of Wisconsin, Governor Scott Walker defunded the Smarter Balanced exam and introduced the CCSS aligned Badger Exam. While participating Wisconsin schools reported Badger Exam results to the Wisconsin Department of Public Instruction, Governor Scott Walker

signed off on a bill preventing the government from using the scores to assess school performance.

Recently, United States President Barack Obama proposed restrictions on the amount of time students spend taking standardized tests in public schools. According to Capelouto (2015), "Obama's initiative aims to reduce class time spent taking standardized tests down to 2%." (para. 4). Obama's proposal deviates from legislation supporting standards-based reform in the United States since the Charlottesville Education Summit. As indicated by Doering (2015):

> The White House said Saturday (10/24/2015) the proliferation of testing in the United States — a problem the administration acknowledged it has played a role in — has taken away too much valuable time that could be better spent on learning, teaching and fostering creativity in schools. (para. 2)

The standards-based reform movement has increased focus on school accountability for closing achievement gaps between historically marginalized students and their more privileged peers. School level efforts to improve the educational outcomes for all students has perpetuated an increase in special programs designed to meet the needs of those who struggle with achievement and behavior within the present standards-driven construct (Reese, 2005; Theoharris, 2009). While comments made by President Obama suggests that a plan may be developed which reduces the amount of time students spend taking standardized test, only time will tell what the long-term implications will bring.

Integrated Comprehensive Systems for Equity (ICS)

In this section, I define Integrated Comprehensive Systems for Equity (ICS). Historically, the field of special education has gradually moved away from segregated

placement towards inclusion (Bierne-Smith, Pattom, & Kim 2004; Daane, Bierne-Smith, & Latham, 2001; Polloway et al. 1996).

In 2004, Congress responded to an increasing number of students enrolled in special education and the concern that many students serviced under the Learning Disability (LD) label may have avoided being labeled if evidence-based strategies were consistently provided throughout the course of their education. Educators and scholars supporting this belief criticized the program model of service delivery and deficit-based model of special education in which students receive assistance contingent on failure (Capper, Frattura, & Keyes, 2000; Theoharris, 2011). The reauthorizations of IDEA in 2004, gave rise to Response-To-Intervention, which can be described as a multi-tiered approach comprised of screening assessment, and progress monitoring across multiple subject areas for preventing the failure of students who struggle in hopes of reducing the number of referrals for special education. Also, several provisions embedded within the legislation established a strong preference for access to the general education setting.

Historically, scholars and educators have viewed inclusion as a philosophy. The philosophy of inclusion established the groundwork for ICS as a model designed to meet the needs of all students in heterogeneous school environments. Capper and Frattura have focused on the development of a model for instituting ICS to address the needs of all students within heterogeneous learning environments. According to Capper and Frattura (2006), “Integrated environments are the settings that all students-regardless of need or legislative eligibility-access throughout their day in school and non-school settings” (p. 356). This includes classroom, playground, library, school functions, and other related environments. “Comprehensive services refer to the array of services and supports centered on differentiated curriculum and instruction

that all students receive to ensure academic behavioral success" (p. 356). The "all students" statement encompasses the entire student population including those who receive services under disability labels as well as non-disability related labels like at-risk, gifted, and English Language Learner. Heterogeneous settings are environments characterized by proportional representation of the school demographic.ICS operates on four core principles: 1) focusing on equity; 2) establishing equitable structures; 3) implementing change supporting funding and policy; 4) and providing access to high quality teaching and learning which includes building teacher capacity in meeting the needs of an increasingly diverse population of students. Within the ICS structure, labeling is not essential for students to receive school supports.

Cornerstone One: Focus on Equity

According to Frattura and Capper (2015), Focus on Equity concerns "understanding our own identity development and its impact on our leadership and schools, understanding our current state of affairs through the delineation of our equity data and developing Equity Non-negotiables in response to these inequities" (para. 11). Categorical funding, spatial considerations, equity-based legislation, and litigation have largely informed the development of separate programs within the deficit-based model of special education in which students are serviced by disability category (e.g. intellectual disability, emotional behavioral disability, and learning disability) (Frattura & Capper, 2015; Frattura & Topinka, 2006). Historically, students serviced under these categorical labels have received instruction from a specialist with knowledge relative to special education in segregated settings (e.g. remedial, tracked, or self-contained classrooms) (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015; Theoharris, 2009). This has also been used to justify sustaining the deficit-based model of special education

in which other school professionals are judged to have a lack of capacity in servicing all students (Frattura & Capper, 2015; Frattura & Topinka, 2006).

As legislation supporting special education has become increasingly progressive, there has been an increased legal precedence for students with disabilities to be educated within inclusive settings (Frattura & Capper, 2015). Recent Reauthorizations of the Individuals with Disabilities Education Act (IDEA), have expressed that students with disabilities receive an education within the general education setting to the maximum extent appropriate.

> School district leaders, who expect teachers to *co-plan and co-serve*™ all learners using principles of Universal Design for Learning (UDL) in a culturally relevant manner within Tier 1 of Response to Intervention (RTI), are making significant achievement gains. (para. 4)

RTI has supplied a framework in which school professionals can identify learning needs through systematic assessment and deliver proactive strategies supporting the success of all students prior to failure. Frattura & Capper (2015) propose accomplishing this by realigning staff and services to ensure that school professionals have the opportunity to construct collective capacity for teaching to a range of students and are able to provide Universal Design for Learning (UDL) through a Co-planning and Co-serving™ Teams model (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015; Theoharris, 2009).

The success of ICS is contingent on the establishment of teams for shared decision making (e.g. the Building Leadership Team, The School Leadership Team, Co-planning and Co-serving™ Teams). The District Leadership Team (DLT), which consists of school leaders and representatives from each of the School Leadership Teams (SLT), is responsible for the implementation of ICS (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). At the first

phase of implementation, the DLT begins with defining equity Non-negotiables and reconstructing the district mission, vision, and plan to support these Non-negotiables (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). The DLT is also responsible for collecting data on inequities within district to ensure that all students have equitable access to heterogeneous learning environments (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015).

Cornerstone Two: Align staff and students

Aligning staff and students concerns the construction of teams for shared decision-making and ensuring that students have access to heterogeneous school environments which are proportionally representative of the greater school demographic. These teams are responsible for ensuring that all students have access to an equitable socially just education in heterogeneous school environments. For the purpose of developing, implementing and sustaining Integrated Comprehensive Systems for Equity (ICS), these groups must define Equity Non-negotiable and ensure that all school environments have proportional representation. Proportional representation means that environmental demographics (e.g. classrooms, courses, teams, clubs, etc.) are representative of the greater school demographic (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). Additionally, grade level teams constituted by general education teachers, special education teachers, and related service providers (e.g. Title I, Speech & Language, English Language Learner, etc.) for the purpose of ensuring that all students gain access to rigorous instruction in heterogeneous classrooms through Universal Design for Learning (UDL).

Traditionally, special education teachers have provided support and instruction in context of the deficit-based model. In these circumstances, special educators are often assigned to a homogenous group of students clustered in accordance with categorical service label (e.g.

intellectual disability, emotional behavioral disability, learning disability, etc.). Historically, this homogenous group of students is provided with specialized instruction for either a fraction of their day or throughout their entire day (Frattura & Capper, 2007, 2015). In ICS, school professionals share expertise through Co-planning and Co-Serving™ Teams (CCTs) to effectively support the needs of all learners. CCT membership can include general education teachers, special education teachers, speech and language pathologists and additional school personnel focused on servicing students in a grade, house, or academy. This structure differs from the traditional co-teaching model which often consists of a restricted instructional arrangement between a general education teacher and a special education teacher. Also, the CCT is focused on supporting the needs of all students rather than solely supporting the inclusion of students with disabilities. Individual CCTs are supported by a School Leadership Team (SLT) comprised of school personnel, school administrators, and community members or families (Frattura & Capper, 2015). The focus of the SLT is to allocate meaningful professional development and instructional resources to CCTs to support the provision of flexible learning experiences designed to meet the needs of all learners while also ensuring that all school environments are proportionally representative of the greater school demographic.

In ICS, flexible learning experiences are implemented through an Identity Relevant Teaching and Learning (IRTL) framework. IRTL supports all identities in a school by combining Universal Design for Learning (UDL) as an instructional methodology with identity relevant pedagogy. In this study, I focused on the integration of UDL as an instructional methodology rather than also exploring the integration of identity relevant pedagogy into instruction. SLT's are supported by a District Leadership Team (DLT) comprised of district office administration, the school administrators, teacher representatives, parent representatives,

student representatives, other staff representatives, and community representatives. The DLT is responsible for ensuring that the principle of proportional representation and identity relevant teaching and learning are applied throughout district (Frattura & Capper, 2015).

Cornerstone Three: Transform teaching and learning

Transforming teaching and learning involves providing all students with personalized learning experiences through Universal Design for Learning (UDL). According to the Center for Applied Special Technology (CAST), "Universal design for learning (UDL) is an instructional methodology to improve and optimize teaching and learning for all people based on scientific insights into how humans learn" (para. 1). This concerns providing all students with the three principles of UDL which include: (a) multiples means of engagement; (b) multiple means of representation; and (c) multiple means of expression. Within Integrated Comprehensive Systems for Equity (ICS), it is important to provide all students with Culturally Relevant Pedagogy (CRP) and UDL. This combination of CRP and UDL is referred to as an Identity Relevant Teaching and Learning (IRTL) framework. According to Irvine and Armento (2001), "the term culturally responsive pedagogy is used […] to describe a variety of effective teaching approaches in culturally diverse classroom […] The terms all imply that teachers should be responsive to their students by incorporating elements of the students' culture in their teaching" (p. 4). Teachers employing UDL in isolation of CRP may succeed in providing multiple means of engagement, representation, and expression while simultaneously neglecting to recognize cultural differences in learning. According to Frattura & Capper (2015), "Within ICS, culturally relevant pedagogy is part and parcel of Universal Design for Learning (UDL) framework; it is not an additional initiative" (para. 28).

According to Landings and Billings (2009), school professionals who are competent culturally relevant educators possess the following eight principles:

1. Communications of High Expectations
2. Active Teaching Methods
3. Practitioner as Facilitator
4. Inclusion of Culturally and Linguistically Diverse Students
5. Cultural Sensitivity
6. Reshaping the Curriculum or Delivery of Services
7. Student-Controlled Discourse
8. Small Group Instruction (p. 14)

Within ICS, school professionals participate in collective capacity building and providing instruction to a range of students in heterogeneous classrooms. These experiences are designed to increase their proficiency in working with individuals of different genders, races, ethnicities, sexualities, disabilities and class identifies (Frattura & Capper, 2015).

Cornerstone Four: Leverage Funding and Policy

Leverage funding and policy reallocate resources for the purpose of creating socially just and equitable schools (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). Frequently, interpretations of legislation and historical litigation have been used to justify the continuing existence of segregated programs schools (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). The Individuals with Disabilities Education Act (IDEA) contains the principles of Free and Appropriate Public Education (FAPE) and Least Restrictive Environment (LRE). The principle of FAPE requires all children with disabilities to be provided with a Free and Appropriate Public Education without expense to the student (Heward, 2006). Often the

principle of FAPE has been used by school professionals to justify placement in more restrictive settings by deeming instruction within the general education setting to be inappropriate in context of unique learning needs (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). This interpretation of FAPE does not take into account the reality that all students regardless of disability have unique learning needs (Meyer, Rose, & Gordon, 2014). The principle of LRE requires students with disabilities to be educated with students without disabilities to the maximum extent appropriate (Heward, 2006). As a result, schools are required to provide a continuum of placements and service alternatives to students with disabilities (Heward, 2006). The principle of LRE has been used to justify an array of segregated placements intended to address the needs of students with disabilities beyond the general education environment (Frattura & Capper, 2015; Theoharris, 2009).

Under current disability law, students are required to be labeled as having a disability to receive special education services. In many circumstances, these students are further categorized by specific disability labels (e.g. intellectual disability, emotional behavior disabilities, and learning disability) (Frattura & Capper, 2015; Heward, 2006; Theoharris, 2009). The LRE continuum has been used along with the practice of labeling and allocation of federal and state monies by category to sustain the deficit-based model of special education which is characterized by segregated programs (Frattura & Capper, 2015; Frattura & Topinka, 2006; Theoharris, 2009). The 2004 reauthorization of IDEA required schools to use evidence-based practices and nondiscriminatory evaluation in the education and determination of eligibility for students with disabilities, which resulted in the widespread proliferation of Response to Intervention (RTI) (Zirkel, P.A., Krahn, N., 2008). According to Frattura & Capper (2015):

> Although the primary intent of the RTI framework was designed to be proactive and provide students with early intervention, many schools across the country jumped to the application of Tier 2 and 3 interventions in isolation of Tier 1, without first redesigning Tier 1 in a proactive manner to better teach all learners. (p. 4)

Rather than attempting to meet the needs of all students in Tier 1, RTI has in many circumstances perpetuated a continuation of the deficit-based model of special education in which students are compared to a socially defined norm and determined to be either worthy or unworthy gaining access to the core learning environment of the school (Capper & Frattura, 2009; Frattura & Capper, 2015).

Cornerstone Four's leverage funding and policy require school professionals to move away from a system of segregation and extend the principles of IDEA to all students. According to Capper and Frattura (2009):

> Alcohol and other drug programs (AODA), special education, general education, Title I, and other funding sources must be commingled at the district level to meet the needs of all learners through services, rather than segregated programs. (p. 118)

This process requires teams for shared decision making to collaborate in examining what students are receiving specialized supports beyond tier one and evaluate the success of current programs and practices (Frattura & Capper, 2015). Data collected from the evaluation of current practices and programs is used by teams for shared decision in developing an action plan supporting the shift from programs to services.

Teams for Shared Decision Making

To accomplish the goal of providing an equitable socially just education to all students in heterogeneous school environments, schools implementing Integrated Comprehensive Systems for Equity (ICS) rely on teams for shared decision making. According to Frattura and Capper (2007):

> The purposes of these teams are threefold: 1) shared decision making, that is to provide opportunities for individuals in the school community to be involved in implementation decisions; 2) staff design, that is to strategically assign teachers and staff to students and classes in ways that build teacher capacity and that maximize student learning; and 3) student support, that is, to strategically assign students to classes in ways that do not segregate them. (p. 61)

Most importantly, these purposes help sustain the Four Cornerstones of ICS (Capper & Frattura, 2009; Frattura & Capper, 2015).

Districts implementing ICS provide personnel with the opportunity to participate in shared leadership through the following three teams: 1) the Building Leadership Team (BLT); 2) the School Leadership Team (SLT); and 3) Co-planning and Co-serving™ Teams (CCTs). In this section, I will describe how each of the teams for shared decision-making participates in sustaining the three cornerstones of ICS. According to Frattura and Capper (2015), "The District Leadership Team represents the first key decision-making team in the initiation and implementation of ICS" (p. 7). The focus of this team is to ensure that all students are receiving personalized learning experiences in heterogeneous school environments through the application of Universal Design for Learning (UDL). This team is comprised of members of district administration and representatives from SLTs (Frattura & Capper, 2015). As indicated

by Frattura and Capper (2015), “The District Leadership team’s primary responsibility is to complete a three to five-year plan for the district to move from a deficit-based system to a proactive system of supports for each school” (p. 8).

Since the DLT is responsible for both initiation and implementation of ICS, the team sustains all Four Cornerstones of ICS. In initiating Cornerstone One: Focus on Equity, the DLT constructs equity non-negotiable so they can be used to initialize other Cornerstones (Frattura & Capper, 2015). The SLT is largely responsible for Cornerstone Two: Aligning Staff and Students at the building level by ensuring access to proportional representation across school environments and developing co-planning and co-service teams to support all students (Frattura & Capper, 2015). Co-planning and co-service teams are comprised of teachers who collectively construct each other’s capacity in educating a range of students in heterogeneous school environments (Frattura & Capper, 2015).

Merging Funding Sources

According to Capper and Frattura (2006), “In segregated programs, separate funding sources are accessed, and policies are written to support each program for each eligibility area, causing replication of services and soaring costs” (p. 362). While the existence of separate programs is costly, both Federal and State funding structures supply monies to schools through general and categorical funding which frequently results in resources being allocated by program. Capper and Frattura (2006) are critical of equity-based legislation and policy that is often driven by compliance rather than quality.

In ICS, school professionals comingle funding and for allocating funds and resources in accordance with student need as opposed to distribution through programs. Capper and Frattura (2006) provide further explanation:

> A school leader takes into account sources of funding at the federal, state, district, and school levels (e.g. minority student achievement, gifted and talented, alcohol and other drug abuse, special education, Title I, at risk, bilingual, special education) and then combines these funds in such a way as to best serve students in heterogeneous learning environments. (p. 362)

Varied Individual Student Strengths

The second factor outlined in my conceptual map (see Figure 1) was varied individual strengths. Responses to individual differences can differ depending on social norms embedded within the school culture. Within the deficit-based model, researchers and educators scientifically compare students to a socially defined norm group. Disability labels serve as diagnostic categories depicting how some students physically, socially, and emotionally deviate from the dominate group. School professionals in the medical mode track students receiving services under disability labels into self-contained classrooms, remedial classrooms, and separate schools. The practice of labeling ensures that the source of failure to achieve at the same level as non-disabled peers is students receiving services under disability labels.

Current research in the field of neuroscience has also provided scholars and educators with a better understanding of differences in how students learn and best demonstrate understanding (Rose & Gordon, 2014). In recognition of diversity in learning styles and varied individual strengths, proponents of Universal Design for Learning (UDL) have sought to

address the all students through providing multiple means of expression, action, and engagement. Historically, educators designed classroom instruction to meet the needs of a socially constructed norm group through lecture driven instruction with little differentiation (Rose & Gordon, 2014). Cognitive neuroscientists have identified differences in the ways our brains learn (Lane & Nadel, 2000; LeDoux, 2003; & Rose, et al. 2006). Educators and researchers have investigated the impact of different educational media on a diversity of learners (Rose & Gordon, 2014). Educators and researchers have also investigated individualization of educational media to meet the needs of all students (Rose & Meyer, 2002; & Rose, et al. 2006). Proponents of UDL recognize that all students have different skills, learning styles, experiences, and preferences (Rose & Meyer, 2002; & Rose, et al. 2006). In schools implementing Integrated Comprehensive Systems for Equity (ICS), teams for shared leadership develop a list of equity non-negotiables attributing student failure to systemic failure (Capper & Frattura, 2009; & Frattura & Capper, 2007, 2015). School professionals collaborate to construct the capacity required for working with a range of students within heterogeneous settings (Capper & Frattura, 2009; & Frattura & Capper, 2007, 2015). This necessitates the development and implementation of UDL to augment varied student strengths as opposed to placing emphasis on weaknesses (Frattura & Capper, 2015). Within the ICS system, students do not require a disability label to receive instructional support that meets their needs.

Universal Design for Learning

Universal Design for Learning (UDL) follows three principles: (a) multiple means of engagement; (b) multiple means of representation; and (c) multiple means of expression. As mentioned in Chapter I, a key connection between UDL and Integrated Comprehensive Systems

for Equity (ICS) concerns beliefs surrounding student success and failure (Frattura & Capper, 2015). In ICS, school professionals believe the source of student success and failure rests with the system (Frattura & Capper, 2007, 2015), while proponents of UDL believe the source of student success and failure rests with curriculum and instruction (Frattura & Capper, 2015). Providing UDL is part of Identity Relevant Teaching and Learning (IRTL) under ICS Cornerstone Three: Transforming Teaching and Learning.

Presently, many schools and districts in the United States are reliant on practices characteristic of the deficit-based model of special education in which the source of failure is the student and help is only provided contingent on failure (Frattura & Capper, 2007, 2015; Theoharris, 2009). According to Frattura & Capper (2015), these practices include:

1. Core Plus More is an effective practice
2. Ability grouping decreases deficits
3. Remediation/intervention is more beneficial than rigor
4. Flexible grouping by achievement is not ability grouping (para. 2)

However, these practices have failed to produce gains in academic achievement for students with disabilities (Hattie, 2011; Oakes, 2008; Leithwood, 2004). Additionally, school professionals frequently misinterpret UDL delivery as including visual, kinesthetic, and auditory instruction (Frattura & Capper, 2015). This is not UDL. UDL is guided by the following three principles: 1) providing multiple means of representation; 2) providing multiple means of action and expression; and 3) providing multiple means of engagement. These three principles are based in neuroscience research.

The concept of UDL emerged from universal design in architecture and product design (Rose, et al. 2006). The idea of manufacturing universally accessible products and architectural

spaces was developed by Ron Mace in the 1980s (Bowe, 2000; Rose, et al. 2006). The basic concept of UDL is providing flexibility in instruction, curriculum, and materials to ensure that all students have an equitable opportunity to learn. The justification for UDL emerged from cognitive neuroscience. Cognitive neuroscientists revealed differences in how individual learners perceive information, navigate learning environments, and become motivated to learn (Cytowic, 1996; Luria, 1973). These differences have been demonstrated to impact learning, memory, language processing, problem solving, and thinking. According to Harbour et al. (2006):

> The principles reflect three general components: one that learns to recognize objects or patterns in the external environment, one that learns to generate effective patterns of action or response, and one that learns to evaluate the significance or importance of the possible patterns we encounter or generate. (p. 137)

Pattern recognition is the function of the brain's posterior (back) cortex (Farah, 2000; Mountcastle, 1998). This enables us to recognize objects and events in our environment through visual, auditory, tactile, and olfactory stimuli.

As indicated by Harbour, et al. (2006), "When recognition systems in the posterior cortex are damaged or undeveloped, the brain's capacity to know what things are - to recognize the meaning of objects, symbols, or signs - is compromised" (p. 138). Neurological studies on recognition problems such as dyslexia have demonstrated atypical patterns of posterior activation (Shaywitz, 2005). Strategic networks are portions of the brain, which govern our capacity to plan, execute, and evaluate behaviors. These skills constitute "executive functioning." According to Harbour, et al. (2006), "The anterior part of the brain (the frontal

lobes) primarily comprises the networks responsible for knowing how to do things, such as holding a pencil, riding a bicycle, speaking, reading a book, planning a trip, or writing a narrative" (p. 138). The strategic network provides us with the ability to act on information. When reading a text, students must identify patterns, engage in word attack when encountering unfamiliar words, and evaluating the authors' perspective. Neurological studies have revealed high levels of activation in the frontal cortex when students are engaged in the act of reading (Sandak & Poldrack, 2004; Shaywitz & Shaywitz, 2004).

As indicated by Harbour, et al. (2006), "Affective networks. At the core of the brain (the extended limbic system) lie networks responsible for emotion and affect." (p. 138) These networks assist us in assigning relevance and responding to patterns we encounter (Damasio, 1994; Lane & Nadel, 2000; LeDoux, 2003; Ochsner, Bunge, Gross, & Gabrieli, 2002; Panksepp, 1998). When a student is engaged in learning, these three networks reciprocally contribute to the process. This neurological research provided a springboard for the three principles of UDL since they are viewed to support the complex process of teaching and learning.

The principle of providing multiple means of representation is grounded in the observation that differences exist between students in how information is perceived and comprehended. Students with disabilities may either struggle or be incapable of accessing some forms of representation. A student who is blind will be incapable of accessing content provided solely through visual representation. In other circumstances, students may benefit more from a multi-format representation of content (e.g. combining visual, auditory, and kinesthetic learning experiences). Students from diverse backgrounds may encounter barriers accessing content if the means of representation only supports those with shared backgrounds who constitute a

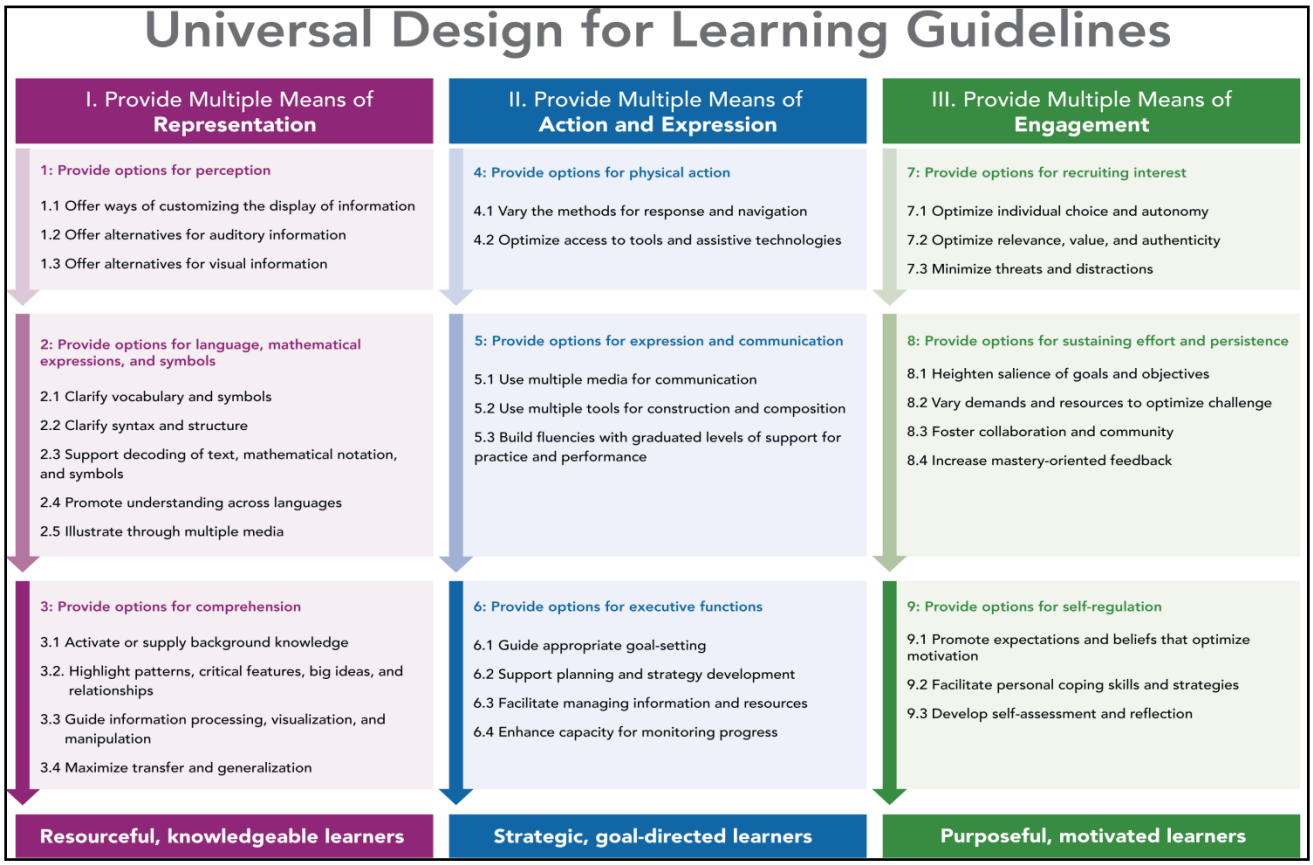
socially constructed norm group. According to Harbour, et al. (2006), “The first principle reflects the fact that there is no one way of presenting information or transferring knowledge that is optimal for all students” (p. 137).

Students differ in their ability to navigate learning environments and demonstrate knowledge. Students with disabilities impacting mobility may require the use of supplementary tools supporting the acquisition of knowledge. Additionally, other students may have the capacity to acquire knowledge through multiple mediums. Students may also struggle with executive functioning and focus which may impact their ability to acquire new knowledge. They have different preferences for what is intrinsically or extrinsically motivating. According to Harbour, et al. (2006), “It is not enough to merely engage students by external means. Students must develop the internal standards and motivation that will prepare them for successful work and future learning” (p. 137). Some may benefit from the introduction of spontaneity in the learning process while others may prefer predictable routines.

The Center for Applied Special Technology (2011) provides the following list of explanations and examples to guide the provision of multiple means of representation, action and expression, and engagement (Table 1).

Table 2.

Universal Design for Learning Guidelines (adapted from CAST, 2011)



Research Supporting the Application of Universal Design for Learning

Research supporting the application of UDL spans multiple fields of study including neuroscience, education, and cognitive psychology. The theoretical framework for UDL borrows concepts from both the work of Lev Vygotsky and Jean Piaget in which both scholars developed similar principles to those embedded within UDL for the purpose of designing and implementing instruction. Piaget believed that people strive towards developing an understanding of how the world works in effort to achieve a state of equilibrium (Piaget, 1952, 1959). Piaget viewed equilibrium as a state of balance between an individual's personal worldview, and experience (Piaget, 1952, 1959). Piaget emphasized the importance of concrete,

authentic experiences, in learning. Many of the hands-on learning activities unfolding in classrooms today derive from Piaget's focus on direct experience. Also, Piaget emphasized the importance of social experience in development (Becker & Vareles, 2001; DeVries, 1997). Social experience provides students with a means of comparing their schemes to those of others. If the schemes are similar, students remain in a state of equilibrium. If the schemes differ, students modify and construct new schemes to re-establish a state of equilibrium.

Similar to Piaget's theory, the application of UDL is centered on providing concrete experiences through multiple means of representation that held students gain a better understanding of abstract concepts. Through his socio-cultural theory of development, Vygotsky stressed the impact of social interactions and language, within a cultural context, on cognitive development (Vygotsky, 1978, 1979). Vygotsky's zone of proximal development and scaffolding concepts were both assimilated into UDL. Students are in the zone of proximal development when they encounter tasks which can only be accomplished via the assistance of a partner. This process of assistance is referred to as scaffolding and is essential to both the student and partner (e.g. teacher, other student, etc.) developing a common perception of the shared task. According to Harbour, et al. (2006), offering alternative is an equally beneficial practice:

> Making sure there are alternatives for students' means of expression is only one aspect of UDL as applied to expression. It is also essential to ensure that there are accessible alternatives in the various scaffolds and supports provided for student learning. That means providing alternatives in mentoring modeling various scaffolding that can gradually be released as students gain competency, and feedback that is essential to learning and growth. (p. 137)

School professionals have integrated graduated scaffolds into UDL curriculum.

The literature supporting the application of UDL principles is extensive. In the early 1990s, researchers at the Center for Applied Special Technology (CAST) began exploring how to promote access to general education curriculum for students with disabilities. UDL originated as an extension of the architectural efforts of Ron Mace at Charlestown Carolina State University in the 1980s. Mace sought to encourage physical accessibility by eliminating barriers of access in architectural and product designs. Scholars have conducted research on providing multiple means of representation through customizing the display of information (Fuchs, et al. 2000; Hughes & Wilkins, 2000; Koenig, 1992); offering alternatives for auditory information (Bruken, Plass, & Leutner, 2004; Dalton, et al. 2005; Easterbrooks, & Stoner 2006); and offering alternatives for visual information (Aarnoutse, et al. 1998; Atkinson, 2002; Boyle, et al. 2003). Studies conducted on providing multiple means of action and expression include varying methods for response and navigation (Crealock & Sitko, 1990; Dalton & Hannafin, 1987; Dalton, Herbert, & Deysher 2003) and guiding appropriate goal setting (Butler, 1997; Earley, 1985; Fleming, 2002). Research centered on providing multiple means of engagement has included strategies for optimizing choice and autonomy (Amabile, 1984; Assor, Kaplan, & Roth, 2002) and optimizing relevance, value, and authenticity (Assor, Kaplan, & Roth, 2002).

Publications suggesting the use of UDL in inclusive settings exist mostly in the form of scholarly reviews and opinions. Wadsworth, Donna, and Knight (1999) described the use of an ecological assessment inventory to inform environmental modifications and adaptations supporting the successful inclusion of students with physical impairments or health needs. Onosko & Jorgenson (1998) wrote a paper describing the incorporation of UDL into Unit and lessons as a means of supporting all students in inclusive settings. No experimental or

quantitative research was found suggesting the use of UDL as an instructional methodology supporting inclusion or Integrated Comprehensive Systems for Equity (ICS).

Supports and Barriers to Universal Design for Learning

A gap in the literature existed concerning the integration of Universal Design for Learning (UDL) as an instructional methodology in schools implementing Integrated Comprehensive Systems for Equity (ICS). Researchers have explored Response to Intervention (RTI) as a structure supporting integrating UDL and technology into the curriculum (Basham, et al., 2010) and the complimentary roles of UDL and assistive technology (Rose, et al., 2015; Strangman & Dalton, 2005). Research on conditions and systems supporting UDL implementation is in its early stages. The body of literature supporting UDL pre-dates the development of ICS. School professionals have implemented UDL independently of ICS. However, UDL is a component of ICS Cornerstone Three: Transform Teaching and Learning, which means that school professionals cannot implement ICS without also implementing UDL. In this study, I explored what supports and barriers to UDL exist in schools implementing ICS.

Gaps in literature also existed in the following areas: 1) supports and barriers to implementing UDL in schools practicing inclusion; and 2) supports and barriers to implementing Integrated Comprehensive Systems for Equity (ICS). In context of this study, supports are events or conditions in schools implementing ICS enabling the provision of UDL. Barriers are events or conditions in schools implementing ICS that makes the provision of UDL challenging. As the benefits of inclusion versus servicing students in segregated programs became more evident (Carlberg & Kavale, 1980) researchers also began to identify supports and barriers to inclusive practice such as teacher perceptions, student behavior, and collaboration

time (Cook, Semmel, & Gerber, 1999; Forness & Kavale, 2000; Van Reusen, Shoho, and Barker 2001).

Other researchers identified the technology (e.g. digital text, digital images, digital audio, digital video, digital multimedia) supporting curriculum access as a support of UDL (Meo, 2008; Meyer & Rose, 2005). Unlike print-based materials, digital material is not static and can be adapted to meet the needs of individual learners. Researchers also suggested that educational policies like Response to Intervention (RTI) can support the implementation of UDL (Hehir, 2009). According to Hehir (2009), "RTI seeks to identify students who need additional learning support, scaffolds appropriate interventions, and monitors student progress" (p. 6).

Researchers have identified the following barriers to implementing UDL: 1) teachers not accepting change, including the implementation of evidence-based instructional methodologies such as UDL (Kotter, 2008); 2) reliance on conventional instructional strategies (e.g. large group instruction) and materials (e.g. textbooks, worksheets, pencils) (Rose & Meyer, 2002); 3) inadequate options for students to demonstrate knowledge and understanding (e.g. multiple choice, written responses) (Hitchcock, Meyer, Rose, & Jackson, 2002); and 4) designing curriculum for a fictional average student (Hitchcock, Meyer, Rose, & Jackson, 2002; Jackson & Harper, 2005); and 5) providing school professionals with limited support and training to implement UDL (Anstead, 2016; Hehir, 2009). In a qualitative case study, Jordan Anstead (2016) explored implementation barriers to UDL:

> During interviews and the group interview, perceived barriers were articulated to be a lack of planning time, lack of information/training, lack of sufficient

> supplies, materials, and/or equipment, lack of a UDL lesson template, lack of modeled instruction, and fear/resistance to change. (p. 44)

The participating school in this study was seeking to implement UDL for facilitating inclusion rather than ICS. School professionals practicing inclusion believe that all children have a right to access the general education setting. Proponents of ICS share this belief while also taking into account how to provide services supporting the academic and behavioral success all students in heterogeneous classrooms through the Four Cornerstones.

Implementation

In this study, I explored supports and barriers to integrating UDL as an instructional methodology in schools implementing ICS for Equity. As mentioned previously, school professionals have implemented UDL independently of ICS. However, UDL is a component of ICS Cornerstone Three: Transform Teaching and Learning, which means that school professionals cannot implement ICS without also implementing UDL. Successful integration of UDL as an instructional methodology signifies that all students have access to multiple means of representation, multiple means of engagement, and multiple means of representation aligned with their individual strengths. In my conceptual framework, implementation means the successful integration of UDL as an instructional methodology in schools implementing ICS. It does not mean the successful implementation of ICS. However, UDL is a component of ICS Cornerstone Three: Transform Teaching and Learning. Since successful ICS implementation is dependent on the provision of UDL as a component of Cornerstone Four: Transforming Teaching and Learning, my conceptual framework illustrates a connection between UDL and the Four Cornerstones of ICS (see Figure 1).

Concept Connections

The concepts depicted in my conceptual framework included: (a) federal and state regulations; (b) the Four Cornerstones of Integrated Comprehensive Systems for Equity (ICS); (c) varied individual student strengths; (d) supports and barriers to Universal Design for Learning (UDL); and (e) the UDL instructional methodology. The federal government constructed legislation such as the Education for all Handicapped Children Act (EHA) in 1975 to ensure that all students with disabilities receive a Free and Appropriate Public Education (FAPE) in the Least Restrictive Environment (LRE) (Beirne-Smith, Patton, & Kim, 2004; Heward, 2006). Congress reauthorized EHA in 1990 and renamed the Individuals with Disabilities Education Act (IDEA). It added several major provisions to IDEA in 1997, which increased preference for the general education setting. These provisions included (a) the inclusion of a regular education teacher on the Individualized Education Plan (IEP) team; (b) the requirement for students with disabilities to have access to the general education curriculum; and (c) the inclusion of students with disabilities in state-or district-wide testing programs (Beirne-Smith, Patton, & Kim, 2004; Heward, 2006). In 2004, Congress reauthorized and renamed IDEA as the Individuals with Disabilities Education Improvement Act (IDEIA). The IDEIA retained major components and principles of the IDEA with additional requirements for teachers to use nondiscriminatory evaluation and evidence-based practices in the education and determination of eligibility for students with disabilities giving rise to Response to Intervention (RTI), a three-tiered innovation designed to provide students with support in accordance with their responses to evidence-based practices (Zirkel, P.A., Krahn, N., 2008).

Following IDEA 1994, there has been an increased legal precedence for the inclusion of students with disabilities (Beirne-Smith, Patton, & Kim, 2004; Heward, 2006). Beginning with

the Charlottesville Education Summit of 1989, there has been an increased emphasis on standards-based reform and high-stakes testing in the United States (Vinovskis, M.A., 1989; Zhao, 2009). George W. Bush introduced the No Child Left Behind (NCLB) Act in 2001, further expanding this emphasis to closing the achievement gap between low performing students and their peers through increased accountability, school choice, the development of a highly qualified teacher workforce, and the provision that each state develop its own standards. According to Heward (2006), "NCLB's ultimate goal is that all children will be proficient in all subject matter by the year 2014" (p. 36). Under NCLB, the local educational agency (LEA) was responsible implementing corrective actions with schools failing to make sufficient annual progress. The LEA was also responsible for restructuring schools that failed to make sufficient annual progress after a year of corrective action (Beirne-Smith, Patton, & Kim, 2004; Heward, 2006).

In 2010, the Common Core State Standards (CCSS) replaced NCLB. Rather than requiring individual states to adopt the CCSS, the federal government offered incentives like the opportunity for schools and districts to receive competitive grants through President Obama's Race to the Top Initiative (Sulzer, 2014). Scholars and school professionals have expressed concern regarding the increased rigor of the CCSS when compared to state standards introduced during NCLB (Gallagher, K. & Odozi, A., 2015; Gubi, A.A. & Bocanegra, J.O, 2015). Some scholars are concerned that increased pressure to raise the performance of all students on standardized tests will cause schools to neglect social-emotional learning initiatives and providing inclusion to students with disabilities (Fuchs, L.S, et al. 2015; Theoharris, 2009).

An increased emphasis on the inclusion of students with disabilities in addition to recent standards-based reform efforts requiring school professionals to raise the achievement of all

students has prompted researchers to investigate strategies supporting curriculum, instruction, and access (Theoharris, 2009; Zhao, 2009). In this study, I investigated supports and barriers to integrating UDL as an instructional methodology in schools implementing ICS. UDL is a framework designed to meet the needs of all learners through multiple means of engagement, multiple means of representation, and multiple means of action and expression. It is also a component of the Identity Relevant Teaching and Learning (IRTL) instructional methodology aligned with Cornerstone Three: Transform Teaching and Learning of the Four Cornerstones that sustain ICS through development and implementation (Capper & Frattura, 2009; & Frattura & Capper, 2015). UDL is an instructional methodology designed to support a diversity of learning styles (Meyer & Rose, 1998, 2000, 2005; Rose & Meyer, 2002), while (ICS) is a systemic approach designed to eliminate inequities and improve learning for all students (Frattura & Capper, 2015).

An outline of my research framework contains (a) state and federal regulations; (b) The Four Cornerstones of the ICS framework; (c) varied individual student strengths; (d) UDL; and (e) supports and barriers. Table 2 depicts state and federal regulations alongside relevant references discovered during my search for relevant literature.

Table 3.

Research Framework

State and Federal Regulations	References in Literature
Prevention of disability-based discrimination Six Provisions Preference for inclusion	Vocational Rehabilitation Act (P.L. 93-112) Education for All Handicapped Children Act (EHA) in 1975 Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

RTI	P. A. Zirkel & N. Krohn. (2008). RTI after IDEA: A survey of state laws. *Teaching exceptional children*, 40(3) 71–73.
The Four Cornerstones of Integrated Comprehensive Systems for Equity (ICS)	
Cornerstone One: Focus on Equity *Cornerstone Two: Align Staff and Students* *Cornerstone Three: Transform Teaching and Learning* *Cornerstone Four: Leverage Funding and Policy*	Frattura, E. & Capper, C.A. (2007). *Meeting the needs of students of all abilities: How leaders go beyond inclusion*. Thousand Oaks, CA: Corwin Press. Frattura, E. & Capper, C.A. (2007). *Leading for Social Justice: Transforming Schools for All Learners*. Thousand Oaks, CA: Corwin Press. Frattura, E. & Capper, C. (2015). Module/Step 1: Introduction of Cornerstone One and Leadership Teaming Process for ICS. Retrieved from: https://www.ICS.org/answer_sets/2/edit Frattura, E. & Capper, C. (2015). Module/Step 5: Re-align Educators and Students to Eliminate Inequities. Retrieved from: https://www.ICS.org/answer_sets/5/edit Frattura, E. & Capper, C. (2015). Module/Step 7: Culturally Relevant Universal Design for Learning (CRUDL.) Retrieved from: https://www.ICS.org/answer_sets/7/edit Frattura, E. & Capper, C. (2015). Module/Step 9: Transform Roles and Responsibilities and Leverage State Educator Evaluation Systems to Eliminate Inequities. Retrieved from: https://www.ICS.org/answer_sets/9/edit Frattura, E. & Capper, C. (2015). Module/Step 10: Leverage Funding to Eliminate Inequities. Retrieved from: https://www.ICS.org/answer_sets/9/edit Frattura, E. & Capper, C. (2015). *Leadership teams in support of Integrated Comprehensive Systems for Equity (ICS Equity) for a socially*

	just and equitable education for all learners. Manuscript in preparation.
Varied Individual Student Strengths	
	Gordon, D.T., Gravel, J.W., & Schifter, L.A. (2009). *A policy reader in universal design for learning* (pp.5-18) Cambridge, MA: Harvard Education Press.
Universal Design for Learning (UDL)	
General definitions of the three principles supporting UDL	CAST (2011). *Universal Design for Learning Guidelines version 2.0.* Wakefield, MA: Author.
Multiple means of representation	Fuchs, L. S., et al. (2000). Effects of workgroup structure and size on student productivity during collaborative work on complex tasks. *The Elementary School Journal*, 100(3), 183-212. Hughes, L. & Wilkins, A. (2000). Typography in children's reading schemes may be suboptimal: Evidence from measures of reading rate. *Journal of Research in Reading*, 23(3), 314-324. Koenig, A. J. (1992). The relative effectiveness of reading in large print and with low vision devices for students with low vision. *Journal of Visual Impairment and Blindness*, 86(1), 48-53.
Multiple means of action and expression	Crealock, C. & Sitko, M. (1990). Comparison between computer and handwriting technologies in writing training with learning disabled students. *International Journal of Special Education*, 5, 173–183 Dalton, K.M., et al (2005): Gaze-fixation and the neural circuity of face processing in autism. *Nat Neuroscience* 8:519 –526. Amabile, T. M. & Gitomer, J. (1984). Children's artistic creativity: Effects of choice

Multiple means of engagement	in task materials. *Personality and social psychology bulletin*, 10(2), 209-215 Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: autonomy-enhancing and suppressing teacher behaviors predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, 72, 261-227.
Supports & Barriers to Universal Design for Learning (UDL)	
Supports Barriers	Meo, G. (2008). Curriculum planning for all learners; applying universal design for learning (UDL) to a high school reading comprehension program. *Preventing School Failure*, 52(2), 21-30 Meyer, A., & Rose, D. H. (2005). The future is in the margins: The role of technology and disability in educational reform. In D. H. Rose, A. Meyer & C. Hitchcock (Eds.), *The Universally Designed Classroom: Accessible Curriculum and Digital Technologies* (pp. 13-35). Cambridge, MA: Harvard Education Press Hitchcock, C., Meyer, A., Rose, D., & Jackson, R. (2002). Access, participation, and progress in the general curriculum (Technical Brief). Peabody, MA: National Center on Accessing the General Curriculum. Jackson, R. & Harper, K. (2005). Teacher planning for accessibility: The universal design of learning environments. In D. H. Rose, A. Meyer, & C. Hitchcock (Eds.), *The Universally Designed Classroom: Accessible Curriculum and Digital Technologies* (pp. 101–124). Cambridge, MA: Harvard Education Press.

Implementation	CAST (2011). *Universal Design for Learning Guidelines version 2.0.* Wakefield, MA: Author. Frattura, E. & Capper, C. (2015). Module/Step 5: Re-align Educators and Students to Eliminate Inequities. Retrieved from: https://www.ICS.org/answer_sets/5/edit Frattura, E. & Capper, C. (2015). Module/Step 7: Culturally Relevant Universal Design for Learning (CRUDL.) Retrieved from: https://www.ICS.org/answer_sets/7/edit

Summary of Literature Review

This chapter provided an overview of the following subjects: 1) the deficit-based model of special education and the history of servicing students by program; 2) the development of inclusion and co-teaching as precursors to Integrated Comprehensive Systems for Equity (ICS); 4) ICS; 5) the Four Cornerstones of ICS; 6) realignment to co-serve in support of Universal Design for Learning (UDL); and 7) UDL. In this era of high stakes testing and accountability, schools are responsible for increasing the academic achievement of all students as evidenced by performance on state and district wide assessments. Significantly disparate achievement gaps exist between historically marginalized student groups in comparison to white middle class and affluent students who represent the dominant group. Additionally, students of color and low socioeconomic status are disproportionately represented in special education.

Current pressure to raise the achievement of all students has prompted school professionals to uphold a system in which students do not receive assistance in the form of differentiation, accommodations, and modifications until demonstrating failure. Within this structure termed the deficit-based model of special education, researchers and school professionals scientifically compare students to a socially defined norm group. Schools provide

services when students fail to meet the norm criteria. The practice of labeling students who do not fit the predominately-white middle-upper class norm and servicing them in separate settings has failed to close the achievement gaps which characterize education in the United States.

In the early 21st century, a new service delivery system called Integrated Comprehensive Systems for Equity (ICS) emerged. Founded on reconstructive principles supporting social change to alleviate historical inequities, schools implementing ICS provide personalized supports to students as opposed to grouping learners by label (Capper & Frattura, 2006). ICS provides a district-wide structure for meeting the needs of all students in heterogeneous environments. Heterogeneous environments encompass all environments in which students interact throughout their school day and are characterized by proportional representation of the school demographic. In ICS, comprehensive arrays of services are allocated in accordance with individual student needs as opposed to being supplied by program.

Universal Design for Learning (UDL) emerged from research generated across multiple disciplines (e.g. neuroscience, education, cognitive psychology). UDL involves repurposing learning environments to support and foster the learning of all students. The application of UDL is governed by the following three principles which are based on neuroscience research: 1) providing multiple means of representation; 2) providing multiple means of action and expression; and 3) providing multiple means of engagement. While school professionals have used UDL to address problems of design and access in learning environments, literature surrounding the application of UDL in support of inclusion remains in a state of infancy.

Researchers have focused on generating experimental and quantitative evidence supporting UDL along the three principles. While proponents of UDL generally accept the innovation as a possible strategy for facilitating inclusive practice through provision of the three

principles, only scholarly reviews and published expert opinions exist describing the application of UDL in direct support of inclusion. Additionally, no research exists concerning the application of UDL in a system of ICS. Scholars investigating supports and barriers to successful inclusive practice have uncovered teacher attitudes as a critical factor. Research suggests that teachers who have experience working with students with disabilities hold more positive perceptions of inclusion than teachers who have limited experience working with students with disabilities. Additional barriers identified through research included challenging behaviors and a lack of common planning time for facilitating inclusion.

In this literature review, I discovered a gap in the literature related to what supports and barriers exist for integrating UDL as an instructional methodology at schools implementing ICS. I examined literature related to the deficit-based model of special education, supports and barriers to inclusive practice, ICS, and UDL. My study focuses on the integration of UDL as an instructional methodology at two schools at different points of implementing ICS along the lines of the Four Cornerstones

CHAPTER III: METHODOLOGY

This study aimed to reduce a gap in the literature related to what supports and barriers exist for integrating Universal Design for Learning (UDL) as an instructional methodology at schools implementing Integrated Comprehensive Systems for Equity (ICS). The research focused on teachers working in language arts and social studies departments at two high schools implementing ICS using a descriptive case study approach which is appropriate for exploring phenomenon in the real-world context (Yin, 2003). According to Creswell (2012) "Case study research involves the study of a case within a real life contemporary context or setting" (p. 97). Researchers use case studies in qualitative research to explore problems in restricted contexts (Fraenkel & Wallen, 2006; McMillan, 2008). In this chapter, I describe my rationale for a qualitative research approach and the procedures for site and participant selection. I also explain data collection and analysis procedures and discuss validity and positionality.

Rationale

This study explored what supports and barriers exist for integrating Universal Design for Learning (UDL) as an instructional methodology at schools implementing Integrated Comprehensive Systems for Equity (ICS). While research surrounding supports and barriers to UDL implementation within inclusive settings is in the early stages, I was interested in learning more about factors associated with the integration of UDL as an instructional methodology at schools implementing ICS. I was also curious to explore whether the implementation of ICS was supportive of the UDL instructional methodology.

In this age of standards-based reform, schools are increasingly held accountable for improving the achievement of all students (Theoharris, 2009). There has been a growing body of literature supporting school reform around issues of equity and access as a means of improving student achievement (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015; Theoharris, 2009). Both ICS and UDL promise to support the achievement of "all students." UDL is a component of ICS Cornerstone Three: Transform Teaching and Learning, which means that school professionals cannot implement ICS without also implementing UDL. In ICS, Co-planning and Co-serving™ Teams (CCTs) consisting of all relevant school professionals (special and general educators, interventionist, ELL, speech, etc.) work together to determine how to integrate UDL into instruction as part of an Identity Relevant Teaching and Learning (IRTL) framework (Frattura & Capper, 2015).

Since ICS is designed to systemically support the delivery of UDL as part of an IRTL framework, I was interested in investigating what supports exist for integrating UDL into instruction in schools implementing ICS. I was also curious to investigate if phenomenon arising from steps not being taken towards implementing ICS served as causal factors to barriers for integrating UDL into instruction. I constructed the following five research questions to support my research:

1. What supports exist for integrating UDL as an instructional methodology in schools implementing ICS for Equity Framework?
2. How do these supports bring about successful integration of UDL as an instructional methodology?
3. What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS for Equity Framework?

4. How do these barriers prevent the integration of UDL as an instructional methodology?
5. Why do barriers preventing the integration of UDL as an instructional methodology exist?

The qualitative research methodology I selected to explore my five research questions is categorized as a descriptive case study model. According to Creswell (2013), "Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (p. 4). Qualitative research involves the collection of data in naturalistic settings (Bogdan & Biklen, 1998; Mertler & Charles, 2011) and is descriptive, providing words or pictures rather than numbers and statistics (Bogdan & Biklen, 1998; Mertler & Charles, 2011). Since supports and barriers to UDL were not always directly observable, a greater understanding of the research problem could not be achieved through quantitative analysis. Mental phenomena such as thoughts, beliefs, emotions, values, and meanings, all which could impact the integration of UDL as an instructional methodology, cannot be expressed through numbers and statistics. Qualitative data gathered using how and why questions provided me with the ability to provide data and identify themes pertaining to supports and barriers to integrating UDL into instruction (Yin, 2009).

In qualitative research, the researcher serves as the instrument of data collection. I collected data through observations and one-on-one interviews with teachers working in language arts and social studies departments at two schools implementing ICS to gain a better understanding of supports and barriers to integrating UDL as an instructional methodology. I selected a critical realist approach since I approached the research problem with the understanding that all participating teachers have their own real unique experiences and

perceptions of the supports and barriers to integrating UDL as an instructional methodology. Through one-on-one interviews, I gained insight into the perspectives of teachers interacting with supports and barriers to UDL which promoted a shift in my own perspective towards a greater understanding of the research problem. Critical realism seeks to explore different causal forces producing events which we experience. Since researchers have their own unique interpretations of these events, all perspectives are considered valid by critical realists. As a researcher, I brought my own perspective to the table which is of value to developing a better understanding of supports and barriers to integrating UDL as an instructional methodology at the schools in my sample. Because of this, I chose to conduct observations since the data collected on supports and barriers which I experience was also of value to the study.

Qualitative researchers seek to analyze their data inductively (Bogdan & Biklen, 1998; Mertler & Charles, 2011) and are deeply concerned with finding meaning (Bogdan & Biklen, 1998; Mertler & Charles, 2011). A qualitative research approach helped provide thick, rich descriptions of each case. By interviewing and observing teachers who work in schools implementing ICS, I was able to develop a better understanding of the research problem by identifying and examining the causal mechanisms behind the supports and barriers at each school site.

Epistemological and Theoretical Perspectives

In this study, I used a critical realist approach to provide teachers with the opportunity to share their understanding of supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology in high schools implementing Integrated Comprehensive Systems (ICS) for Equity. Critical realism is a new perspective associated with

the philosopher Roy Bhaskar. Critical realists believe that an objective reality exists beyond the perceptions of individuals (Bhaskar, 1998; Maxwell, 2012). It differs from scientific objectivism which is largely investigating what is true or false. Critical realists believe that more than one scientifically valid perception of reality can exist and that mental phenomena like thoughts, beliefs, emotions, values, meanings, and intentions are real (Maxwell, 2012).

The critical realist framework was useful since many components of the Four Cornerstone Framework are not directly observable, such as the belief that all students have individual strengths which can be used to help them access instruction. Critical realists understand these mental phenomena to be real and capable of perpetuating behavior and social relationships (Maxwell, 2012). Through the critical realist framework, I was able to gain insight into how supports which may not be directly observable help produce behavior like providing students with multiple means of representation, multiple means of engagement, and multiple means of action and expression.

Critical realists understand culture to be real and created by the mental phenomena of human groups living and interacting within a culture. Since culture is not observable, it can best be understood through the inferences of those seeking to "shift perspectives" and gain a greater understanding of the causal forces within. Again, this perspective served as a benefit to me since I was able to develop an understanding of how the mental phenomena (e.g. beliefs, values, etc.) of participating teachers impacted the overall implementation of both ICS and UDL. Critical realists acknowledge that diversity is real and should be recognized and examined by the researcher. This perspective was useful to my study since I investigated two frameworks designed to support all learners. Proponents of UDL demand that educators should focus on "teaching to the edges" rather than focusing on an average group of students. It is their belief

that none of us are truly average, therefore a student who is average in every way does not exist. Teachers planning lessons with an average student in mind will completely miss the mark for all students. The critical realist perspective was suited to investigate integration of UDL as an instructional methodology since a major premise of UDL is that all students learn differently. Such an approach was helpful as it provided me with an understanding that participating teachers may also have diverse mental phenomena not shared by others in the sample.

Descriptive Case Studies

I performed qualitative descriptive case studies of two high schools in the process of implementing Integrated Comprehensive Systems (ICS) for Equity to develop a better understanding of the research problem, and research questions. Descriptive case studies are useful for exploring phenomenon occurring in the real-world context (Yin, 2003). A descriptive case study allowed for a complete description of themes, issues, and situations as they emerged at each school in context of the research problem (Hancock & Algozzine, 2011). Data from the descriptive case studies was used to explored teacher and researcher perceptions of supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology in two high schools implementing Integrated Comprehensive Systems (ICS) for Equity.

I selected two high schools at different stages of implementing ICS to develop a better understanding of what supports and barriers to integrating UDL as an instructional methodology may be available at different points in the journey towards ICS implementation. Both schools experienced different contextual factors (e.g. environmental, demographic, steps taken towards implementing ICS) impacting supports and barriers to UDL. These differences in contextual factors (e.g. demographic differences, financial support, steps taken towards implementing the

Four Cornerstones of ICS) made it impossible to generalize findings from one site to another. Completing two descriptive case studies was appropriate since doing so provided a thorough exploration and examination of supports and barriers to integrating UDL into instruction at two schools facing different contextual factors (Toloie-Eshlaghy, Chitsaz, Karimian, & Charkhchi, 2011). Because of the development of thick, rich descriptions of each case, findings may be transferable to School districts with similar contextual factors (Lincoln & Guba, 1985; Seidman, 2006; Richards, 2009). Careful attention was given to threats to transferability through adherence to the way data was collected, analyzed, and interpreted (Creswell, 2012; Merriam, 1998, 2009; Yin, 2014). Member checks and colleague reviews were used to support trustworthiness and readability of the findings (Merriam, 1998).

Site Selection

I used purposeful sampling in the selection of participants for this study. According to Mertler & Charles (2011), "Purposeful sampling is a means of selecting certain segments out of the population for study" (p. 103). My rationale for using purposeful sampling was to restrict the study to teachers working in language arts and social studies departments within two Midwestern high schools at different stages of implementing Integrated Comprehensive Systems for Equity (ICS).

Locating Participating Schools

During the summer of 2016-2017, Dr. Elise Frattura from the University of Wisconsin in Milwaukee (UWM) provided me with a list of six high schools are working on ICS and UDL. Dr. Elise Frattura was one of the developers of Integrated Comprehensive Systems for Equity (ICS). Along with Dr. Colleen Capper from UWM, Dr. Frattura are the co-founders of ICS for

Equity and have generated a large body of literature surrounding the subject. These schools had previously attended the National Leadership for Social Justice Institute conference in Madison. This list included administrative contacts (Principals, Directors of Student Services, Directors of Instruction, Assistant Principal).

During the fall of 2016-2017, I contacted each of the administrative contacts by phone to introduce myself and describe the purpose and structure of the study. I asked each of the administrative contacts if they would be willing to participate in my study if selected from the pool of schools. If the administrative contacts were willing to participate, I asked if high schools within district were in the process of integrating UDL as an instructional methodology. I also asked if high schools within district were implementing or seeking to implement ICS. Following this, I planned on organizing schools into three groups: 1) those seeking to integrate UDL as an instructional methodology which were either not implementing ICS or who considered themselves to be at the beginning of their journey; 2) those seeking to integrate UDL as an instructional methodology who consider themselves to have implemented ICS; and 3) those who have not implemented UDL or ICS.

Schools who had not implemented UDL or ICS were excluded from the sample. Since UDL is part of an Identity Relevant Teaching and Learning (IRTL) framework, which is a component of ICS Cornerstone Three: Transform Teaching and Learning, I assumed that ICS could not be implemented in absence of UDL. Since ICS is not mentioned within the UDL instructional methodology, I assumed the possibility that UDL could be implemented in absence of ICS. If more than two schools within each of the following categories: 1) those seeking to integrate UDL as an instructional methodology which were either not implementing ICS or who considered themselves to be at the beginning of their journey; 2) those seeking to integrate UDL

as an instructional methodology who consider themselves to have implemented ICS, agreed to participate, I planned on randomly selecting a school from both groups.

Of the schools I contacted, the administrative contact at Charlestown High School in the Oxford School District claimed to be implementing UDL as a methodology within an ICS framework. When I contacted the administrative contact at Nelsonville High School, I was informed that they were partially implementing an ICS framework and seeking to expand on implementing UDL as an instructional methodology. The administrative contact informed me that ICS implementation was limited to one grade level and one department. He also mentioned that the other departments were looking to do so in the future. When I contacted the administrative contact at Jefferson High School in the Beauford School District, I was informed that buy-in for implementing ICS and UDL was restricted to the special education department. He mentioned that neither were being implemented on a systemic level. Since Jefferson high school was not implementing ICS or UDL, I decided to exclude them as a potential participant in my study even though the administrative contact was welcoming of my investigation.

I established contact with an administrator at West High School in the Upland School District who informed me that their school was implementing UDL as a methodology while partially implementing ICS as a framework in the language arts and social studies department. While this school met the criteria for possible inclusion in my study, the school board was not willing to give permission for me to investigate any further. I was able to contact an administrator at the Palma School District who informed me that their district had partially implemented both UDL a methodology and an ICS framework. Again, I was not able to investigate any further as the leadership team was not willing to give permission for me to investigate. I was unable to establish contact with an administrator in the Hussmann School

District and excluded them from the sample following three attempts to contact by phone into attempts to contact by email. Table 3 documents these attempts to contact the schools in my sample which contains the following information: 1) whether I received a response or not; 2) whether they agreed to participate or not; 3) if the school had either fully or partially implemented ICS or not; and 4) if the school had either fully or partially implemented UDL or not.

Table 4.

School Contacts

School District	School	Contacts	Responded	Agreed	Implementing ICS	Implementing UDL
Oxford	Charlestown High School	2 phone calls 2 e-mails	Yes	Yes	Yes	Yes
Bowdon	Nelsonville High School	3 phone calls 5 e-mails	Yes	Yes	Partial	Yes
Beauford	Jefferson High School	1 phone call	Yes	Yes	No	No
Upland	West High School	1 e-mail 1 phone call	Yes	No	Partial	Yes
Palma	Palma High School	2 e-mails 2 phone calls	Yes	No	Partial	Partial
Hussmann	Hussmann High School	2 e-mails 3 phone calls	No	No	--	--

After selecting Charlestown High School in the Oxford School District and Nelsonville High School in the Bowdon School District, I contacted the administrative contacts to schedule

a time either on site or via phone in which we could discuss this study and complete my researcher-developed checklist to determine which components of ICS were in place. Based on the responses to my initial two questions and the results of the researcher-developed checklist, one of the two schools were selected as being further along in ICS implementation than the other.

After selecting two schools, I contacted the administrative contacts via phone to schedule either site visits or phone conferences in which we could discuss implementation along the lines of the Four Cornerstones using a researcher-developed checklist. My rationale for using the researcher-developed checklist was to gain an initial idea of what components of the Four Cornerstone framework were potentially in place. Information gained from the researcher-developed checklist also served to provide additional insight, when paired with interview and observational data, into what structures could exist at the real level, serving as causal mechanisms to support the integration of UDL as an instructional methodology.

Schools implementing ICS have addressed the following core principles: 1) associating student failure with the system; 2) structuring teaching and learning to prevent student failure; 3) construct teacher capacity in addressing the needs of a range of students by implementing teams for co-servicing and co-teaching. These schools ensure that all students receive services within schools and classrooms they would attend if not labeled or by parent choice. This means school professionals do not set rooms aside to educate students receiving services under labels. In these schools, school professionals share expertise with each other and with students. Additionally, shared leadership teams organize school professionals to support the needs of individual students. These school professionals use the principles of universal design to develop curriculum and instruction and collaborate in teams for shared decision making to merge

funding and resources to construct teacher capacity in meeting the needs of all students. Students do not need to qualify for services under disability labels to receive curriculum and instruction that meets their unique learning needs.

The researcher-developed checklist was designed to support my discussion in exploring if components of the Four Cornerstones of ICS serve as a systemic process or pathway through which schools can interrupt practices of marginalization from perceptions, structures, instruction, and procedures and funding. The researcher-developed checklist did not accomplish this goal alone. I used data from interviews and observations to support my conclusions concerning which supports were able to exist with different components of the Four Cornerstones in place. I aligned items representing components of ICS implementation with each of the Four Cornerstones of ICS. I used end-of-chapter assessments created by Frattura and Capper in the textbook *Leading for Social Justice: Transforming Schools for All Learners* (2007) and Module Inquiries created by Capper and Frattura on the *Integrated Comprehensive Systems for Equity Series* (2015) website to inform the development of my own checklist. Frattura and Capper (2007) designed the end of chapter assessments to help school professional identify their schools phase of ICS implementation. Frattura and Capper (2015) developed the Module Inquires to help school professionals explore current practices and future considerations for implementing ICS.

Charlestown High School Checklist Results

Jessica was the administrative contact at Charlestown High School in the Oxford School District. Jessica served as the Director of Student Services for the Oxford School District. She had agreed to a phone conference following the initial call in which she described Charlestown High School in the Oxford School District as having implemented both ICS and UDL. During

this phone conference, she helped me identify as to whether components of each cornerstone had been implemented, partially implemented, or not implemented. She also provided me with a list of teachers in the language arts and social studies department at Charlestown High School.

Responses to Cornerstone One. I included eight steps under Cornerstone One: Focus on Equity on the researcher-developed checklist. Jessica identified five or 62.5% of these components as being presently implemented at Charlestown High School. Jessica affirmed that the school had defined a set of equity non-negotiables and that the school and district mission had been developed to support the equity non-negotiables. Jessica also mentioned that the district had collected equity data to evaluate the present level of performance in providing an equitable in socially just education to all students. She believed funding and policies were aligned to support the needs of all students in heterogeneous learning environments and said that all school professionals believe that the school needs to accommodate all students to prevent failure. Jessica identified three or 37.5% of these components is being partially implemented. These three components were related as they each concerned where students with disability labels received services in the school. Jessica mentioned that almost all students receive services with neighborhood peers as opposed to some receiving services in a different location within the school or district and said two students were currently receiving services out of district but went on to mention how the remainder of students received services within their neighborhood schools. Because of this response, we can only affirm the next two components as being partially implemented; the first component being that rooms in schools are not allocated to specifically service students receiving services under disability labels (e.g. LD, EBD, ID, ELL, or at-risk), and the second being that all students receive instruction in heterogeneous

school environments throughout the entire school day. Jessica did not identify any components listed under Cornerstone One: Focus on Equity as not implemented.

Responses to Cornerstone Two. I included four steps under Cornerstone Two: Align Staff and Students. Jessica identified all four components as being implemented and said that all teachers are organized into grade level teams which include general and special educators, and teachers in specialized areas (e.g. Title I, ELL, at-risk, gifted, speech and language, etc.). She said that teams for shared decision-making were organized to support co-planning and co-servicing to benefit all students. Jessica also identified the teachers share expertise collectively with other school professionals and students and that teams for shared decision-making aligned instructional content to meet the needs of all learners.

Responses to Cornerstone Three. I included six steps under Cornerstone Three: Transform Teaching and Learning. Jessica identified approximately 80% or five of the components as being implemented, 20% or one of the components is being partially implemented, and 0% as being not implemented. Jessica identified that school professionals understand that ability grouping, remediation, self-contained programming, core plus more, and servicing students in separate schools do not increase student achievement. Jessica identified that Response to Intervention (RTI) is used proactively through a UDL instructional methodology into tier-one as opposed with system of remediation and ability grouping. She said teachers are organized in shared decision-making teams to co-plan and co-serve within tier-one. Jessica mentioned that teachers apply culturally relevant practices and that students do not need to be labeled to receive a personalized education.

Responses to Cornerstone Four. I included three steps under Cornerstone Four: Leverage Funding & Policy. Jessica said all three components are being implemented and

funding is allocated to meet the needs of all learners as opposed to being allocated by program. Resources are allocated to construct teacher and systematic capacity in meeting the needs of all students, and policies are merged to proactively meet the needs of all learners in heterogeneous environments.

Overall Checklist Results. Jessica identified seventeen out of twenty-one or 80.95% of the steps on the researcher-developed checklist as being implemented at Charlestown High School. She identified four out of twenty-one or 19.04% of the steps on the checklist as being partially implemented and zero of the steps as being not implemented. Table 4 outlines the results of the researcher-developed checklist completed by Jessica during a phone conference. Table 5.

Charlestown High School in the Oxford School District

Cornerstone	Implemented	Partially Implemented	Not Implemented
Cornerstone One: Focus on Equity	62.5%	37.5%	0%
Cornerstone Two: Align Staff and Students	100%	0%	0%
Cornerstone Three: Transform Teaching and Learning	80%	20%	0%
Cornerstone Four: Leverage Funding & Policy	100%	0%	0%
Total %	80.95%	19.04%	0%

Nelsonville High School Checklist Results

Brad was my administrative contact at Nelsonville High School in the Bowdon School District. Brad is the assistant principal at Nelsonville High School. He also agreed to complete the researcher-developed checklist in discussion with me over the phone. Following the phone call, Brad emailed me the checklist which he had completed via Google Doc. Rather than using the one I was completing by hand following our initial discussion, I chose to include Brad's, as it contained further specificity as to whether steps were either partially implemented or fully implemented. Brad also provided me with a list of teachers in the language arts and social studies departments who were interested in participating in my study.

Responses to Cornerstone One. Brad identified 25% or two steps under Cornerstone One: Focus on Equity as being fully implemented. According to Brad, a school or district mission has been developed to support the equity non-negotiables. Additionally, the school has collected equity data to evaluate the present level of performance and providing an equitable in socially just education to all students. Brad identified 50% or four of the steps is being partially implemented and said that the school had partially implemented defining/clarifying equity non-negotiables. He said funding and policies are only partially aligned to support the needs of all students in heterogeneous learning environments. Brad said the school had only partially implemented insuring that rooms or schools are not allocated specifically for servicing students receiving services under labels (e.g. LD, EBD, ID, ESL, or At-risk). Also, Brad mentioned that the school had only partially implemented ensuring that students receive instruction in heterogeneous school environments throughout the school day. The majority of these efforts to ensure that all students are receiving instruction in heterogeneous school environments have been undertaken by the language arts team which also includes learning strategists (special education teachers) as members. Brad identified two or 25% of the steps outlined under

Cornerstone One: Focus on Equity that were not presently implemented at Nelsonville High School. He said there were still students who receive services in different locations within the school and the district and that not all school professionals at Nelsonville High School believe that the school needs to accommodate all learners to prevent failure.

Responses to Cornerstone Two. Brad identified one hundred percent of the steps listed under Cornerstone Two: Align Staff and Students that were presently being implemented at Nelsonville High School. Brad said all teachers are organized into grade level teams which include general and special educators, as well as teachers in specialized areas (e.g. Title I, ELL, at-risk, gifted, speech & language, etc.) and the teams for shared decision-making have been organized to support co-planning and co-servicing to benefit all students. He said teachers share expertise collectively with other school professionals, students, and grade level teams for shared decision-making of aligned instructional content to meet the needs of all learners.

Responses to Cornerstone Three. Brad identified all three steps or 100% of Cornerstone Three: Transform Teaching and Learning as being partially implemented. Brad said school professionals only partially understand that ability grouping, remediation, self-contained programming, core plus more and servicing students in separate schools do not increase student achievement.

Responses to Cornerstone Four. Brad identified all three steps or 100% of Cornerstone Four: Leverage Funding & Policy as being partially implemented. He said funding is partially emerged to meet the needs of all learners is opposed to being allocated by program and resources are partially allocated to construct teacher in systemic capacity in meeting the needs of all students. Brad said policies are only partially merged to proactively meet the needs of all learners in heterogeneous learning environments.

Responses to Intervention and the UDL Framework. Response to Intervention (RTI) is partially used proactively through a UDL instructional methodology in Tier 1 as opposed to a system of remediation and ability grouping. Brad identified that school professionals partially understand the Universal Design for Learning (UDL) framework and integrate it into practice to support the needs of all students. He said teachers are partially organized in shared-decision making teams to co-plan and co-serve within Tier 1. Brad indicated that teachers partially implemented culturally relevant practices. He said Nelsonville High School was partially implementing a system in which students do not need to be labeled to receive a personalized education.

Overall Checklist Results. Brad identified six out of twenty-one or 28.57% of the steps on the researcher-developed checklist as being implemented at Nelsonville High School. He identified eighteen out of twenty-one or 85.71% of the steps on the research developed checklist as being partially implemented. Brad identified two out of twenty-one or 9.5% of the steps on the researcher-developed checklist as being not implemented. Table 5 outlines the results of the researcher-developed checklist completed by Brad during a phone conference.

Table 6.

Nelsonville High School in the Bowdon School District

Cornerstone	Implemented	Partially Implemented	Not Implemented
Cornerstone One: Focus on Equity	25%	50%	25%
Cornerstone Two: Align Staff and Students	100%	0%	0%
Cornerstone Four: Leverage Funding & Policy	0%	100%	0%

Cornerstone Four: Leverage Funding & Policy	0%	100%	0%
Total %	28.57%).	85.71%	9.5%

Participants

The participants within each school who contributed to the exploration of my research questions were administrators and teachers who worked within language arts and social studies departments at both schools. This included special education teachers or other support teachers who worked within the language arts and social studies department in a co-servicing capacity as they also contributed to the provision of instruction and had their own valid perspectives which contributed to my findings. While evidence existed supporting the efficiency of features associated with guidelines for means of representation like options for language mathematical expressions and symbols (Graham, & Thomas, 2000; Innes, Miller, Malinow, & Murray, 2006), providing options for comprehension (Babbitt, & Miller, 1996); guidelines for multiple means of action and expression like using multiple media to support communication (Van Eck, 2006), enhancing capacity for monitoring progress (Calhoon, & Fuchs, 2003; Montague, 2007); and guidelines for multiple means of engagement like optimizing relevance, value, and authenticity (Bottge, & Hasselbring, 1993; Bottge, & Heinrichs, 2002; Bottge, Rueda, Serlin, & Hung, 2007; Etheris, 2004), I discovered a larger body of literature supporting the provision of UDL in language based disciplines like language arts and social studies. Because of this, I decided to focus my study on language arts and social studies departments.

From my own experience as a special education teacher, I have participated in struggles faced by middle school and high school departments seeking to implement UDL into math

curriculum. Operating under the assumption that more language arts and social studies departments would be seeking to integrate UDL as an instructional methodology, I felt focusing on language arts and social studies would increase the likelihood of gaining access to a larger possible sample. I discovered an absence of literature concerning the availability of supports and barriers to integrating UDL as an instructional methodology at the high school level which led me to focus on this level as my literature analysis exposed this gap in the literature.

I set the minimum number of teachers who could participate in this study at ten, with a five-teacher minimum at each school. I felt that five teachers per school would provide a large enough sample to generate a well-rounded yet manageable amount of qualitative data to provide insight into my research questions. I discovered that opinions exist between researchers regarding what constitutes adequate sample size for a qualitative study (Guest et al., 2006). Multiple researchers have specified that between five and twenty-five participants were acceptable for an interview study (Kvale, 1996; Creswell, 1998). Other researchers have suggested similar sample sizes to provide clarity to qualitative research problems (Clark & Morales, 2007; Morrow, 2005; Polkinghorne, 1989). Creswell (1998) recommended five to twenty-five participants for phenomenological studies while Morse (1994) suggested a minimum of six. No specific rules govern appropriate sample size when conducting qualitative research. Patton (1990) suggests that the best way to determine sample size is by available time, resources, and study objectives.

After completing the researcher-developed checklist, I requested that administrative contacts at both schools provide me with contact information for teachers in their language art and social studies department. I contacted the teachers via phone and e-mail to provide an in-depth overview of the study and invited then to engage as a participant. One confirmed as a

participant, the teachers were provided with appointment letters and written statements of informed consent. When I contacted teachers to discuss the statement of informed consent, I stated upfront that confidentiality would be difficult to maintain at the school level as other teachers would see me entering and existing their classrooms. Also, other school professionals who either participated in providing me with a list of contacts or other participants may gain insights into the identities of participants based on their responses if they decide to read the final study.

As a safeguard against confidentiality, individuals participating in this study were assigned a pseudonym. I included a limited amount of descriptive information beyond gender regarding the participants such as race/ethnicity, age, years of experience, which could lead to their identification, unless the participant provided the information as part of the interview. The statement of informed consent also detailed the following: 1) information concerning purpose of the study; 2) risks and discomforts; 3) potential benefits; 4) compensation; 5) confidentiality; 6) participation/withdrawal; and 6) principal investigator information.

Administrative Contacts

In this study, available administrative contacts (principal, assistant principal, Director of Curriculum and Instruction, Director of Student Services) completed a checklist to determine if the school is in the implementation phase of Integrated Comprehensive Systems for Equity (ICS). I extended the term administrative contact to other administrative positions within district who had knowledge concerning the implementation of ICS to increase the likelihood that an individual would be available with a broad understanding of the school and the ability to provide me with a list of participants or approach a school board for approval to participate if necessary. During a meeting with the administrative contact, I discussed what safeguards were

in place to protect the confidentiality of participants but also mentioned that confidentiality would be difficulty to maintain. I explained that I would be assigning all participants a pseudonym. Lastly, I explained that I will only exclude participants by their own request.

Teachers

In this study, I sought the participation of a minimum of five teachers working in language arts and social studies departments in an instructional capacity. The roles of teachers working in these departments was to provide instruction to students in their content areas. I allowed special education teachers to participate who functioned in these departments in a co-servicing capacity as they shared instructional responsibility with the content area teachers and would be able to further inform my research questions through their own perspective of supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology. The traditional role of the special educator involves the following: 1) providing specialized instruction to students receiving services under disability labels in resource rooms, self-contained classrooms, or separate schools; 2) supporting students who have transitioned into Tier 2 as a result of failure of the system in addressing their needs within Tier 1; 3) assessing the academic and behavioral progress of students receiving services under disability labels; and 4) participating in the development and monitoring of Individualized Education Plans (IEPs) for students with disabilities (Frattura & Capper, 2015). In context of ICS, the role of the special educator is as follows: 1) serve as a learning strategist; 2) participate in co-serving and co-planning in teams for shared decision making; 4) ensuring that assessments, behavior plans, grading, and lessons are reflective of the needs of all learners; and 5) developing and monitoring student Individualized Education Plans (IEPs) (Frattura & Capper, 2015).

I contacted teachers on my lists of potential participants which were provided to me by the administrative contacts at both schools. Jessica provided me with a contact list via email consisting of twenty-one teachers at Charlestown High School working in the Language Arts and Social Studies departments. I contacted all twenty-one teachers and received nine responses which consisted of six individuals who agreed to participate in the study and three who did not wish to participate. Out of the six individuals who agreed to participate in my study, I had one withdraw just prior to the interview. I contacted the twelve teachers who did not respond to my initial communication both via email and phone on three more occasions. Brad provided me with a list of seven teachers working in the language arts and social studies departments. This list also included a learning strategist (or special education teacher) who worked closely as a support to the ninth-grade language arts department at Nelsonville High School. Of the seven teachers, six individuals agreed to participate in the study. One was initially willing to participate but I was unable to establish communication beyond the initial contact which occurred via phone. I attempted to establish contact twice more via email but did not receive a response. Having already fulfilled my criteria for the minimum number of participants in the study at this particular site, I decided to proceed with my study.

At Charlestown High School, one language arts teacher, one history teacher, and three social studies teachers agreed to participate in this study. At Nelsonville High School, three language arts teachers, one language arts teacher who also served as a Reading Interventionist, one language arts teacher who also served as an English Language Learner (ELL) support teacher, and one learning strategist (special education teacher) who supported the 9th grade language arts team and also held a dual certification in language arts and special education agreed to participate in this study. This study included a total of eleven participants who worked

in an instructional capacity in either language arts or social studies. This participant pool was extended to include teachers who may co-teach, co-plan, or support instruction in either language arts or social studies at the high school level.

Data Collection

I completed observations before conducting interviews with eleven teachers. At Charlestown High School in the Oxford School District, I interviewed and observed one language arts teacher, one history teacher, and three teachers in the social studies department. At Nelsonville High School in the Bowdon School District, I interviewed one special education teacher who worked with the ninth-grade language arts team, three ninth-grade language arts teachers, a language arts teacher who also worked as the English Language Learner (ELL) support teacher, and a Reading Interventionist who collaborated with the ninth-grade language arts team. In this section, I provide a description of procedures and instruments that I employed to answer the research problem.

Observations

For this study, I conducted observations of all participating teachers to gain insight into what supports and barriers to Universal Design for Learning (UDL) could be identified through my own perspective. These supports and barriers existed at the empirical level, meaning they could be understood through experience or "common sense" (Danermark et al., 2002). Prior to observations, I provided teachers with written statements of informed consent to ensure they were aware of the purpose of the research. The statement of informed consent was used to request permission for research to be conducted in their classroom. All participants were informed of the research methodology in addition to what data was being collected. I used the

same observation protocol for each classroom observation. Classroom observations lasted forty-four minutes or approximately one class period at each high school. When completing observations, I was a nonparticipant/observer which allowed for the teacher and students to continue their established daily routines and interactions without interruption (Creswell, 2013). I completed observations prior to interviews to minimize interactions with the teacher which may have influenced their established daily routines in order to gain insight into how they truly integrated UDL into instructional practice. I minimized comments when invited to participate in classroom conversations.

Observation Protocol

The observation protocol was structured along the lines of the UDL instructional methodology to include features of guidelines for providing multiple means of representation, multiple means of action and expression, and multiple means of engagement. Each of the features included were able to be directly observed or inferred to gain an understanding as to whether it was being implemented or not. Under each feature I provided a description of what actual events occurred such as “writing” or “drawing” and what events occurred at the empirical level like “optimizing access to tools and technologies” or “guiding appropriate goal setting.” Events which occurred at the empirical level were not always measurable but could be inferred through observation. I also included prompts under each component (multiple means of representation, multiple means of action and expression, and multiple means of engagement). I also included prompts to explore observable supports and barriers. The prompts were also structured to support an inferred explanation of how supports and barriers either served to support or prevent integration of each component into instruction.

Interviews

Eleven semi-structured, one-on-one interviews were conducted with teachers working in language arts and social studies departments across both high schools. Five interviews were completed at Charlestown High School and six were completed at Nelsonville High School. I provided participants with the choice to be audiotaped or not to be audio taped. All participants were willing to be audio-taped. I conducted member checks by allowing all participants with the opportunity to review transcriptions for accuracy. I explained to the teachers how the identities of participants who would opt in or out of the study would remain confidential. Data gained through one-on-one interviews was used to provide greater insights into supports and barriers to integrating Universal Design for Learning (UDL) as an instructional methodology in schools implementing Integrated Comprehensive Systems for Equity (ICS). Also, the interview data was used to make inferences as to whether components of the Four Cornerstones of ICS serve as causal factors or establish a basis for supports that could result in the successful integration of UDL as an instructional methodology.

Interview Protocol

I used the same interview protocol across all teachers in both schools. I divided the interview protocol into three sections designed to gain information related to the research questions (See Appendix A for the interview questions).

Section I of the interview protocol contains six rapport questions. I designed these questions to establish rapport, provide the participant with an understanding of the purpose of my study, and understand their definitions of Integrated Comprehensive Systems for Equity (ICS) and Universal Design for Learning (UDL). I designed the final rapport question to explore how the participant believes the high school is meeting the needs of all learners through

UDL. I designed Section II of the interview protocol to explore my five research questions (see Table #).

UDL is an instructional methodology designed to meet the needs of all learners through multiple means of engagement, multiple means of representation, and multiple means of action and expression. I designed questions to explore supports and barriers to each component of the UDL instructional methodology (e.g. multiple means of engagement, multiple means of representation, and multiple means of action and expression). I included definitions and examples of supports and barriers, which I described if a participant asked for definitions of these terms: supports are events or conditions in schools implementing ICS enabling the provision of UDL (e.g. in-services, workshops, administrative support, or opportunities for collaboration time with other school professionals); barriers are events or conditions in schools implementing ICS that makes the provision of UDL challenging. Supports could.

I included prompts for the participants to share specific examples of how participants and their colleagues (ex. teachers and administrators) interact with supports and barriers while integrating UDL as an instructional methodology. I included sub-questions for the purpose of exploring: 1) how have supports brought about the successful integration of UDL as an instructional methodology? and 2) how have barriers made it challenging to integrate UDL as an instructional methodology? I asked participants to describe their ideal UDL classroom. Also, I questioned how their current classroom differs from their ideal classroom. My rationale for including this question is to help identify problems associated with barriers to integrating UDL as an instructional methodology. I designed the third section of my interview guide to probe the participant for information they would like to share that I did not address during the interview.

Prior to conducting interviews, I trialed drafts of the interview protocol across three peer teachers. Two of the peer teachers teach language arts at the middle school level and one of the peer teachers teaches social studies at the high school level. My rational for doing this was to ensure that the protocol provided in-depth information regarding supports and barriers to UDL. Also, I wanted to ensure that questions were structured so teachers with limited knowledge of UDL could provide information supporting the exploration of my research questions. I designed the protocol with the assumption that many teachers may not have an understanding of a systemic approach to promoting equity and social justice like ICS.

Data Analysis

I performed an analysis of two types of data: interview transcripts and observation notes. I first analyzed each type of data separately, then analyzed the two types together to triangulate data. Triangulation involves using multiple data collection methods to check if all support similar findings (Maxwell, 2012). I coded interviews and observations to identify common themes. According to Glesne (1999), coding is a process of defining and organizing data. Following the identification of themes, I sought to provide an in-depth understanding of the research questions. I used QSR NVivo, a qualitative software program, as an alternative to hand coding. After coding, I used categorization and charting in Figure 2 to support my analysis of data.

Coding Categories

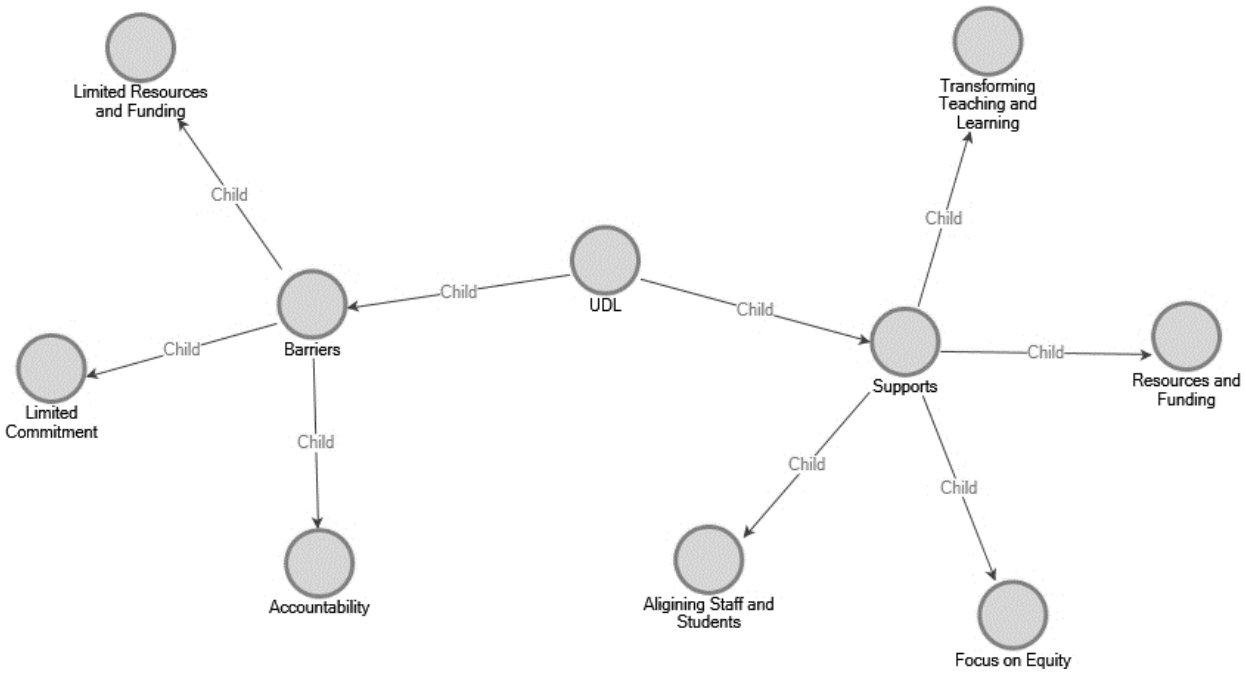


Figure 2. The coding categories. The following categories emerged along the lines of supports: a) focus on equity; b) aligning staff and students; c) transform teaching and learning; and c) materials and funding. The following categories emerged along the lines of barriers: a) accountability; b) commitment; and c) limited resources and funding.

IntervieBy conducting interviews, I was able to collect "rich" data which was detailed and varied to the extent that my findings presented a detailed picture of supports and barriers to Universal Design for Learning (UDL) at each high school (Becker, 1970; Maxwell, 2012). I transcribed each interview verbatim prior to coding. Participants were provided with the opportunity to check interview transcripts for accuracy and provide feedback. I coded each interview individually before going back and re-coding in groups. Initial codes were developed by reading through each interview transcript and identifying recurrent words. I used components associated with my conceptual framework which also aligned with the UDL instructional methodology and Integrated Comprehensive Systems for Equity (ICS) framework

to guide the development of my codes. I categorized the codes by parent and child codes which were used to help me gain insight into relationships.

When re-coding in groups, I revisited old codes such as “multi-media” and re-coded them as “illustrate through multi-media” and “communicate through multi-media” to provide a better understanding of the context in which multi-media is being used. Illustrating concepts through multi-media involves how the teacher demonstrates content through graphics or simulations, while communication through multi-media is related to the student using multi-media to communicate their understanding. Since the term was used in two different contexts, I modified the code to reflect this distinction.

Later, when investigating emerging themes, I created parent codes like “flexible learning space” to house child codes like “moveable furniture.” I changed some of the parent codes as I discovered that some of the supports were applied across all aspects of UDL, rather than fitting neatly within multiple means of representation, multiple means of action and expression, or multiple means of engagement. Also, some codes were merged if determined to be used synonymously such as “PowerPoint Presentation” or “slide presentation.” Additionally, I created concept maps outlining categories and concepts described in each interview to support the development of analytical memos which were also coded in NVivo.

Observational Data

My analysis of observational data was conducted similarly to the interviews. I developed my initial codes by reading the observation notes. Following this, I categorized the codes by parent and child codes which were used to help me gain insight into relationships. After coding my observational data, I developed concept maps which outlined categories and concepts which emerged during each observation. I created detailed field notes for each observation. Rich data

was derived through detailed descriptive transcriptions of the events I observed in each classroom (Emerson, et al., 1995; Maxwell, 2012). Becker (1970) specified that rich data is useful in countering observer bias by, "as they make it difficult for the observer to restrict his observations so that he sees only what supports his prejudices and expectations" (p. 53). After coding both interviews and observations, I used the coded data to triangulate what I observed against the interview data by inserting observed supports and barriers to Universal Design for Learning (UDL) as well as evidence of UDL being applied in the classroom next to data gained through interviews on a set of matrices (see below).

Analysis Techniques

Matrices

Following my analysis of interview and observational data, I developed eight matrices in NVivo for observational and interview data so I could triangulate data each data source. Triangulation of multiple data sources in was used to strengthen the internal validity of my findings (Merriam, 1988). I created two matrices for supports, one for observations and two one interviews, at each school. I did the same for barriers. This helped narrow the scope of what I was looking at and provide more flexibility in triangulating data between observations and interviews as I did not always have to view all of the data. Each column on the matrix consisted of child codes listed under supports or child codes listed under barriers. The rows each contained teacher pseudonyms. I used the matrices to support the development of analytical memos focused on analyzing interview transcripts and field notes from observations. I developed three analytical memos per school, two focused on data from two to three

observations and interviews and one analytical memo focused on observational and interview data collected at each high school.

My rationale for creating separate matrices was to separate observational data from interview data was to analyze what explore what similarities and differences existed between observational and interview data and develop a better understanding of how UDL was being integrated into instruction. By triangulating the data, I was able to gain broader insights into my research questions than I would have otherwise achieved through an independent analysis of observational data or interview data. Both schools experienced different contextual factors (e.g. demographics, finance, steps taken towards implementing ICS) which impacted the availability of supports and barriers to integrating UDL into instruction. I created notes and labels in the matrix to identify child codes of supports and barriers to explore and make inferences as to which components of the ICS framework were evident or not evident and what other contextual factors were present. Also, I included child codes for the category "teacher understanding of UDL" which was broke into the three components of the UDL instructional methodology which include multiple means of representation, multiple means of action and expression, and multiple means of engagement.

Concept Maps

After coding and developing field notes for observations and interviews, I created concept maps to identify and explore overlapping themes for both high schools. After re-coding in groups, I went back and expanded on these concept maps to build a better understanding of causal factors servicing to either support the integration of Universal Design for Learning (UDL) as an instructional methodology or serving as barriers. Once the matrices and concept maps were developed, I created one concept map per school to infer what steps of the Four

Cornerstones of ICS were evident. These concept maps helped me achieve a better understanding of what supports aligned with each of the Four Cornerstones assisted the integration of UDL as an instructional methodology at both schools. These concept maps also provided insight into what barriers may exist in absence of components of the Four Cornerstones of ICS. Some of the categories for supports like "collective commitment," resources and Funding," "shared expertise," and "teacher understanding of DDL" directly aligned with components of the Four Cornerstones of ICS. Also, some of the barriers like "limited funding," "limited classroom support," were contrary to Cornerstones of ICS. These concept maps were also helpful in identifying other contextual factors which teachers perceived to impact the integration of UDL into instruction which may not be related to ICS implementation such as "student transience."

Validity

Researcher bias is a factor in qualitative research studies (Merriam, 1998). My own personal experiences and biases were detailed up front, in this research when discussing axiological assumptions, so the reader can interpret my findings as credible. I also address my researcher bias as a special education teacher who believes in practices supporting equitable access for all students in this section when discussing power. As recommended by Creswell (2003), I used multiple validity strategies to support the trustworthiness of my findings. Data collection involved triangulation of classroom observations and teacher interviews to support internal validity or the extent to which I could establish the existence of causal mechanisms to supports and barriers to Universal Design for Learning (UDL) at each high school. Since this study was conducted through a critical realist lens, the perceptions of teachers and the

observations of the researcher were considered valid. Thick, "rich" data was collected to provide a clear picture of what supports and barriers existed at each high school. I used member checks and a colleague review to help identify bias and improve the trustworthiness of my findings.

Member Checks

Member checking is a process in which the researcher seeks the voices of participants to check credibility of the analysis and interpretation of data (Lincoln & Guba, 1985; Onwuegbuzie & Leech, 2007). During member checks, I had participants review transcripts of the interviews and observations to ensure the accuracy of the transcription. I e-mailed participants the interview transcripts, observations, and findings and asked them to provide feedback and identify information which they felt was inaccurate. Two participants at each school contacted me and pointed out that the findings were accurate. One participant said, "The findings look accurate. Thanks for looping me back in. I look forward to seeing the final write-up."

Colleague Review

I asked two colleagues who were not special education teachers and were unfamiliar with Integrated Comprehensive Systems for Equity (ICS) and/or UDL to provide feedback to support the clarity of my findings. My colleagues provided me with feedback to enhance the clarity of language used to present my findings and final analysis.

Triangulation

I used multiple qualitative methods (interviews and observations) across eleven teachers to reduce the risk of bias arising from using a specific method and support the transferability of findings at each high school to schools facing similar contextual factors (e.g. demographics,

finance, steps taken towards implementing ICS for Equity). The development of thick, "rich" descriptions was also used to support transferability of findings in each case, or school to other schools facing similar contextual factors. Transferability of findings is determined by the "goodness of fit" or extent to which findings in a qualitative study can be applied to contexts beyond the research situation (Guba, 1981). According to Krefting (1991), "Research meets this criterion when the findings fit into contexts outside the study situation that are determined by the degree of similarity or goodness of fit between the two contexts" (p. 81). The determination as to whether findings from a study are a good fit is the responsibility of the individual seeking to transfer findings to a specific situation or population than the researcher. Also, according to Lincoln and Guba (1985), the researcher can support transferability by providing descriptive, detailed data and addressed the applicability of findings. Since the participants of this study were limited to teachers providing instruction in language arts and social studies departments at two high schools, one urban and the other suburban, I recognized that my findings could not be generalized beyond my data set. There is no certainty that the supports and barriers to integrating UDL as an instructional methodology at either school will be similar in rural school districts.

Thick, "Rich" Descriptions of Data

"Rich" data was collected through intensive interviews and use of detailed, descriptive field notes of observations. According to Creswell (2003), the process of using a thick rich description in explaining findings, "may transport readers to the setting and give the discussion an element of shared experiences." (p. 201) It was my goal to clearly define the setting in addition to offering multiple explanations for emergent themes. I developed eleven verbatim transcriptions of teacher interviews in which they provided in-depth, detailed information

concerning supports and barriers to integrating UDL at their high school. They also provided detailed information concerning how these supports and barriers impact the integration of UDL into instruction and why they exist. I also developed descriptive field notes detailing my observations of ways teachers integrated UDL into instruction in their classrooms as well as what supports and barriers were perceived to impact their ability to do so. By collecting interview and observational data, I was able to develop rich, detailed descriptions, and a way of testing findings concerning supports and barriers to UDL through triangulation of multiple data sources. I also analyzed the data to expose and report discordant themes which may have emerged.

Power

The influence of power and positionality is a concern which must be addressed and avoided by researchers (Glesne, 2011). A qualitative researcher should acknowledge factors such as their gender, race, social class, and ethnicity when exploring the perspectives of others. A certain measure of power can be "given back" to participants through the qualitative research process by providing them with the opportunity to gain a better understand of their own perspectives (Glesne, 2011). I acknowledged to the participants that I myself am a special education teacher who works in the same state as the study participants. I expressed my interest and enthusiasm in learning more about integrating UDL from each of the participants. I allowed each of the teachers to introduce me to their classes prior to observations so students would feel more comfortable during the course of my visit. While conducting classroom observations, students acted as if I was not present, which seemed to provide evidence that they perceived I had no power in relation to them.

As special education teacher who has committed himself to exploring and integrating systems which support equitable opportunities for all students, particularly students with disabilities, it was impossible to completely distance myself from subjectivity and personal bias. My beliefs, values, and personal history as an educator led me to the selection of this topic. It was vital to acknowledge this level of bias and degree of subjectivity to limit the impact on my findings. When conducting the data analysis, my own biases surrounding the ICS model and UDL could have affected the results. Many critical theorists have focused on how the deficit-based model of special education perpetuates a denial of equitable access along the lines of disability.

My awareness of this body of literature could have affected how I interpreted classroom observations and responses during interviews. Additionally, this bias could have influenced my judgment when examining discrepancies in the data, which may have caused me to overlook evidence that did not coincide with other results or my own beliefs. The most serious validity threat was my own biases as a researcher and teacher. I had become more biased following my in-depth analysis of critical theory literature surrounding the topic of providing students with a more socially just and education through innovations such as ICS as well as my own experiences providing services to students with special needs within segregated and inclusive environments. I planned to keep my bias in check through use of member checks, colleague review, triangulation of multiple data sources to ensure accuracy of findings, and development of thick, "rich" descriptions of data.

I included both semi-structured and open-ended questions within my interview protocols for exploring this study's five research questions (see Table #) and structured all questions and sub-questions to avoid priming a directional response from the subject. By integrating open-

ended questions into the interview protocol, I gained additional information concerning the research questions. My rationale for pre-structuring all interview protocols to contain both semi-structured and open-ended questions was to avoid influencing the responses of participants with my own bias. I wished to avoid influencing the responses of participants by including directional questions. The participants were willing disclose personal feelings concerning beliefs about supports and barriers to UDL in their schools. I believe this structure provided participants with the opportunity to give clear and honest answers concerning personal experiences interacting with barriers and supports to integrating UDL as an instructional methodology.

Conclusion

In this chapter, I outlined my research questions. Additionally, I defined the conceptual framework. Lastly, I provided an explanation of my methodology for exploring supports and barriers to the integration of Universal Design for Learning as an instructional methodology in schools implementing Integrated Comprehensive Systems for Equity. In Chapters IV and V, I describe the cases that contributed to this study.

CHAPTER IV: FINDINGS

In this chapter, I will discuss the findings of both descriptive case studies. To provide readers with a contextual understanding of my findings, I will present profiles of Charlestown High School in the Oxford School District and Nelsonville High School in the Bowdon School

District. This chapter will also present supports and barriers to integrating UDL as an instructional methodology at each school.

Charlestown High School Case Overview

Charlestown High School is located in the Oxford School District in the Nelsonville-Western Wisconsin town of Oxford. The district contains five 4K through fourth grade elementary schools, two through eighth grade intermediate schools, and one ninth through 12th grade high school. The district also offers a number of academic programs supporting high achievement such as High School Advanced Placement (AP) and International Baccalaureate (IB) programs. The school district has published a strategic plan on their webpage which emphasizes their focus in supporting inclusion, acceptance, diversity, fairness, and equity alongside achievement, learning, and personalized learning.

The office at Charlestown High School was situated near the main entrance at the center of the building. The bright and vibrant school atmosphere immediately gave me a sense of positivity. The hallways were spacious and well-lit with rows of purple and yellow lockers and bright pastel yellow walls. I felt comfortable and welcome during my visits to Charlestown High School. This feeling was accentuated not only by the bright atmosphere but also by the school staff who were friendly and willing to help direct me to where I needed to be.

As mentioned previously, both high schools experienced different contextual factors such as demographics, funding, and level of Integrated Comprehensive Systems (ICS) for Equity implementation which impacted teacher perceptions of supports and barriers to Universal Design for Learning (UDL). During the 2016-2017 school year, the majority of the student population at Charlestown High School were students who are white and non-

economically disadvantaged. The ratio of students who are economically disadvantaged to students who are non-economically disadvantaged was 88 to 739. The ratio of students with disabilities to students without disabilities was 91 to 739. The ratio of students who are linguistically diverse to students who are considered English proficient was 10 to 827.

Jessica, the Director of Student Services in the Oxford School District, had identified all steps associated with the Four Cornerstones of ICS as either being partially implemented or fully implemented. While Jessica pointed out that two students with severe disabilities received services out of district, she noted that the remainder of students received instruction in heterogeneous school environments throughout the school day. She also pointed out that teachers were organized into shared-decision making teams to co-plan and co-serve. After completing my researcher-developed checklist with Jessica, I was excited to visit Charlestown High School and see what ICS could look like operationalized at this level.

I conducted both observations and interviews with language arts and social studies teachers at Charlestown High School to gain insight into what supports and barriers exist for integrating UDL as an instructional methodology. I collected data from my observation of Holly, a history teacher; Adrian, a language arts teacher; Nate, a social studies teacher; James, a psychology teacher; and Cathy, a social studies teacher. I observed Holly's ninth grade history class, Adrian's Literature and Composition 1 class, Nate's AP Government class, James' AP Psychology class, and Cathy's Sociology class. The teachers at Charlestown High School represented a wide range of experiences and ages.

Language arts and social studies teachers at Charlestown High School described their students as being kind to one another. Adrian described how their efforts to include students with disabilities was beneficial to all students. She expressed how students were accepting of

diversity in the classroom. Holly believed that cooperation between students with disabilities and students without disabilities helped increase their engagement. James described how inclusive efforts at Charlestown High School were guided by a social justice belief that all students were deserving of access to rigorous learning experiences. The language arts and social studies teachers viewed it as their responsibility to remove barriers to instruction so that all students could be successful.

Supports to Universal Design for Learning at Charlestown High School

The first two research questions I sought to answer were 1) What supports exist for integrating Universal Design for Learning (UDL) as an instructional methodology in schools implementing Integrated Comprehensive Systems (ICS) for Equity Framework? And 2) How do these supports bring about successful integration of UDL as an instructional methodology? English language arts (ELA) and social studies teachers at Charlestown High School in the Oxford School District discussed a prolonged districtwide commitment to supporting and sustaining UDL practices. Teachers at Charlestown High School described how the Oxford School District administration was willing to allocate funding for technology, professional development, flexible furniture and other resources to support their understanding of UDL. They received professional development in how to design instruction for meeting the needs of diverse learners through multiple means of representation, action and expression, and engagement. They expressed a common belief that all students could be successful when provided with alternatives for accessing, perceiving, and comprehending information and expressing what they know. While teachers at Charlestown High School valued the opportunity to share expertise with a variety of school professionals as a means of building collective

capacity for addressing the needs of diverse learners, they did not share a common planning time. Opportunities to share expertise occurred during professional development days or department meetings.

Commitment

I found it interesting that the first support described by language arts and social studies teachers at Charlestown High School in each interview was a sustained districtwide commitment to integrating UDL into instruction. Teachers viewed UDL as a socially just, asset-based instructional methodology which helped them teach students with a broad range of skills and ability levels by providing multiple means of representation, action and expression, and engagement. While understanding UDL and integrating it into practice to support the needs of all students is a step associated with ICS for Equity Cornerstone Three: Transforming Teaching and Learning, I found it interesting that none of the teachers at Charlestown High School could provide me with a definition of ICS. Whether this impacted their ability to integrate UDL into instruction or not was unclear to me. They described how teachers within their own department as well as other departments, administrators, and other school personnel believed that UDL aided them in providing appropriate support while maintaining high achievement expectations for all students.

Teachers described the commitment to integrating UDL into instruction as being sustained over a number of years. UDL was not viewed as another passing initiative. The Oxford School District administration had devoted considerable funding for materials and technology to support the needs of all students rather than only offering to students with specific labels or needs (ELL, special education, advanced learners, alternative education, Tier 2 and 3, etc.). Professional development was provided to all teachers, administrators, and school

personnel to increase their proficiency in integrating UDL into instruction with the end goal of better servicing the range of learners at Charlestown High School. Teachers described diverse professional development experiences such as summer technology seminars, book clubs, guest speaker presentations, and staff share-outs of lessons through which students were provided with multiple means of representation, action and expression, and engagement. Adrian, a language arts teacher at Charlestown High School, described how staff share-outs were useful in helping her understand how to offer visual (e.g. drawings, videos, charts) and auditory (e.g. verbal, speech-to-text) alternatives to support students in their learning who may perceive and comprehend information differently.

I observed evidence of UDL being applied in each classroom I visited at Charlestown High School. Teachers supported multiple means of engagement by providing students with choice and autonomy through project-based learning and how they accessed alternatives for auditory and visual information. Students could access different tools and technologies such as text-to-speech software or video editors as options for completing assignments or designing projects based on their interests. In some classrooms, flexible furniture such as tables and chairs with wheels or desks which could be written on. Students were able to arrange the furniture to support collaboration or keep desks separate to minimize distractions during independent seatwork. Teachers described how the districtwide commitment to integrating UDL into instruction resulted in systemic support through funding for flexible technology and materials. Holly, a history teacher, described how the administration was willing to devote funding for technology to reduce barriers which students may encounter in accessing knowledge and skills such as one-to-one Chromebooks™ text-to-speech software, text-to-speech software, and access to online tools offering leveled text and picture dictionaries.

Teacher Flexibility

I was not surprised to discover how teacher flexibility served as a support to integrating UDL into instruction at Charlestown High School. UDL is a strengths-based instructional methodology designed to provide flexibility in how information is presented, in how students demonstrate their understanding of content, and in how students become engaged or motivated in the learning process. The language arts and social studies teachers demonstrated and discussed how they provided flexible ways for students to access and express their knowledge and skills.

On entering her classroom, Holly explained to me that students were presenting their projects on enlightened thinkers in which the learning objective was to describe cause and effect relationships between their ideas and Western culture. I recognized that students were provided with multiple means of action and expression since students had selected different options for expressing and communicating their understanding of the learning objective. Groups of four to five students were displaying tri-fold posters which contained pictures and textual information. Another group logged into a Chromebook™ and accessed YouTube™ to display a documentary they created. A group of five students, which included a student with an Intellectual Disability (ID) was in the process of setting up a model of the Globe theatre. Holly affirmed that students were provided with choice in selecting project options so they could access their strengths as a way of sustaining motivation.

I observed language arts and social studies teachers at Charlestown High School supporting multiple means of representation by providing students with alternatives for accessing visual and auditory information. I observed Nate, a social studies teacher, during a Government class display a clip from the movie *21 Jump Street* to demonstrate the concept of

double jeopardy. He also allowed students to use their personal devices to look up case briefs supporting classroom discussion. I observed both Nate and James, a psychology teacher, use videos as a visual alternative to the information they were verbally presenting. James used concept maps, videos, and graphics to help illustrate his verbal explanation of concepts like classical conditioning and operant conditioning.

The language arts and social studies teachers at Charlestown High School expressed their understanding of how learners differ in how they perceive and comprehend information. They also communicated their understanding of how learners differ in how they become engaged or motivated to learn as well as how they most effectively express their understanding of content. The teachers believed they could be more successful in meeting the needs of all students by implementing flexible learning activities designed to provide multiple means of action, expression, and representation. I was surprised to hear all language arts and social studies teachers I interviewed at Charlestown High School consistently reference the need to be flexible in order to accommodate a diversity of learning styles rather than relying on traditional materials (e.g. textbooks, workbooks, worksheets) and instructional strategies (e.g. large group direct instruction) while expecting students to overcome their own barriers to accessing learning experiences. This belief that the school needs to accommodate all students to prevent failure is also a step associated with Integrated Comprehensive Systems (ICS) for Equity Cornerstone One: Focus on Equity and was pronounced during all interviews.

I was also surprised to learn that language arts and social studies teachers included students with disabilities and students who struggled academically or behaviorally when discussing “all students” given their inability to define ICS. They discussed how students come to Charlestown High School with varying skills and abilities. The teachers believed UDL was

an effective methodology for maintaining instructional rigor through differentiated degrees of challenge while offering alternatives for resources and scaffold to assist all students in successful completion of learning objectives. All language arts and social studies teachers discussed varying task demands and offering opportunities for students to collaborate with peers as a means of scaffolding to support students who historically struggle accessing content.

Varying Task Demands

Language arts and social studies teachers at Charlestown High School understood that students were varied in their skills and abilities. I was intrigued to discover that all the teachers I interviewed believed that all students could be successful in achieving learning objectives aligned with common core state standards (CCSS) if provided with flexible resources supporting successful completion of the task. Teachers described supporting students with disabilities and students who demonstrate challenging behaviors by varying task demands as part of providing multiple means of engagement. Varying task demands involves differentiating the complexity of tasks, offering alternatives for accessing tools and scaffolds, and being flexible with criteria for achievement.

Teachers described how differentiating the complexity of tasks while allowing access to tools or peer scaffolds assisted students who classically struggled with achievement in general education. Holly discussed how she was able to vary task demands to support students with disabilities in achieving the same instructional standard as their nondisabled peers. She said:

> I've noticed that providing a lot of learners who kind of struggled in the classroom the choice of creating a children's book is really great as part of the four choices we offer freshman. Students can make a children's book explain the concepts from class while pretending they're talking to a third grader.

Holly described how she placed emphasis on the process of creating a children's book as an alternative to a traditional assignment. She also described how students demonstrated their understanding of cause-and-effect relationships through a children's book which she considered acceptable performance despite the project alternative being less difficult than writing an essay. By developing a children's book, students were still able to access the same learning objective as their peers who opted to write an essay.

Holly mentioned providing students with disabilities access to project in which students were focused on describing the historical contributions of enlightened thinkers. She implemented an activity called statue theatre. During statue theatre, students were divided into small groups and expected to select a group member to become a statue. The other group members verbally and physically prompted the statue to model different poses which helped communicate their narrative of a chosen enlightened thinker from the renaissance. She described how a student with Down syndrome who was nonverbal were able to participate in this activity with the support of peer scaffolds.

James discussed providing students with anxiety the option of expressing themselves through technology versus speaking in front of class:

> Especially with the technology because there's a lot of students who disabilities who may not feel confident speaking in front of class. Especially students with anxiety who don't feel comfortable speaking up in front of class or coming up and talking to you to ask for help.

James said he provides students with a Friday cool-down activity in Google Docs™ through which they can share questions with him regarding the content privately online as an alternative to speaking with him directly.

Charlestown High School offers Advanced Placement (AP) courses for students who are high achieving or perform well on standardized assessments. Both James and Nate described how students in AP courses do not receive multiple means of representation, action and expression, and engagement to support them in accessing their strengths. They described how AP curriculum was driven by the need to ensure students can pass a multiple-choice summative assessment. James and Nate expressed how answering multiple-choice questions is a skill which cannot be neglected if students are to be successful on the summative assessment. I found it interesting that the districtwide commitment to integrating UDL as a strengths-based instructional methodology was not extended to the instruction of students recognized as having gifts and talents beyond the norm.

Teachers at Charlestown High School demonstrated and discussed how they differentiated the complexity of activities to address the varied skills and abilities of students who historically struggle accessing content such as students with disabilities or students who struggle with challenging behaviors. Teachers described how students were able to universally access rigorous learning objectives when provided with various tasks options offering different levels of acceptable performance as opposed to focusing on learning objectives of lesser complexity. Since language arts and social studies teachers interviewed at Charlestown High School expressed the belief that students vary in their skills and abilities, I found it interesting that none of the teachers described varying task demands to support students who may need increased difficulty or complexity.

Collaborative Learning

The language arts and social studies teachers I interviewed at Charlestown High School discussed structuring opportunities for all students to collaborate and communicate in their

classroom as part of providing multiple means of engagement. They discussed how designing cooperative learning groups with clearly defined goals and responsibilities helped increase access to peer scaffolds for students with disabilities. They also described how cooperative learning groups were effective in sustaining student engagement in completing learning activities which were structured along the lines of common interests. This was most evident to me when observing Holly's history class in which students were presenting their enlightened thinker projects. Students working in cooperative learning groups had used a range of media (e.g. posters, videos, 3d models) to demonstrate their understanding of the learning objective.

Teachers at Charlestown High School also discussed how they facilitated student collaboration through use of flexible learning space. Holly shared how students were able to select roles while presenting a statue theater activity centered on enlightened thinkers:

> All the students must do their research as a group. Some students may choose to perform a statue theatre in which one person's reading or talking about the ideas of an enlightened thinker like John Locke. The other person may pretend to be a statue. Everyone else in the group moves the statue to illustrate what they are talking about. Whether students are talking about strengthening government or monarchies, some may be responsible for the props. Some may be responsible for designing the choreography if they choose to provide physical representation through the statue theatre. Everyone is listening and everyone is taking notes and hearing what they are saying both visually and linguistically. They're getting that constantly reinforced.

Students engaged in activities by conducting research, fulfilling scaffolded roles and responsibilities, and demonstrating their understanding of learning objectives.

I observed Adrian, a language arts teacher, provide cooperative learning groups in her classrooms with some degree of choice in how they completed a learning task while maintaining focus on goals and responsibilities. During my observation of Adrian, she provided students in a group writing assignment with choice and autonomy in determining how they engage a writing task. Students were expected to discuss and write about the significance of different quotes selected from the book The House on Mango Street by Sandra Cisneros. Each group was provided with a large sheet of paper with one quote on top from the text and a different colored marker. The activity was divided into four writing tasks in which students were given a set time limit of five minutes before rotating their written response clockwise to another group. Adrian told the students that it was their decision as to whether have a scribe or take turns collaboratively constructing a response. For the first task, she asked students to write about why the quote was significant. She encouraged students to take two minutes and discuss the prompt while emphasizing that groups take into consideration "how" and "why" the quote was significant.

I observed teachers at Charlestown High School implementing collaborative learning groups with clear goals aligned with accomplishing the overall learning objective. Teachers developed flexible classroom activities in which students engaged other learners in common project interests and access peer scaffolds. They provided all students with clear expectations when working in groups, using flexible classroom furniture when available to support collaborative learning.

Shared Expertise

When I administered my researcher-developed checklist to Jessica, the Director of Student Services at the Oxford School District, she indicated that all teachers are organized into

grade-level teams which include general and special educators, and teachers in specialized areas (e.g. Title I, English Language Learner (ELL), At-Risk, Gifted, Speech & Language, etc.). She also indicated that teams for shared-decision making have been organized to support Co-planning and Co-servicing™ to benefit all students. After interviewing language arts and social studies teachers at Charlestown High School, I was surprised to learn that teachers were not organized to support Co-planning and Co-servicing™ per Integrated Comprehensive Systems (ICS) for Equity definition. As mentioned in my introduction of ICS Cornerstone Two: Aligning Staff and Students, Co-planning and Co-serving™ involves the alignment of staff into teams which include general educators, interventionists, Title supports, special education teachers, and ELL support teachers, for the purpose of regularly co-planning to develop lessons along the lines of an Identity Relevant Teaching and Learning (IRTL) framework.

Language arts and social studies teachers at Charlestown High School described having no preparation time and limited co-planning time with other teachers and relevant school personnel for supporting students at their grade level. Despite having limited time to share expertise and participate in designing lessons to provide multiple means of representation, action and expression, and engagement, teachers valued what time they had to share expertise with a diversity of school professionals (special and general educators, interventionist, ELL, speech, etc.). The teachers I interviewed all viewed co-planning time with a diversity of school professionals as a support to designing lessons for providing multiple means of representation, action and expression, and engagement. They also believed that accessing a diversity of school professionals helped increase their capacity to better educate all learners. Adrian described how she did not have the background knowledge or expertise to service students with severe disabilities. She viewed access to a special education teacher as beneficial since they could

increase her capacity to vary task demands to ensure that students with severe disabilities could access learning experiences in her classroom.

I was surprised to discover that language arts and social studies teachers at Charlestown High School valued opportunities to co-plan with a diversity of school professionals more than outsourced professional development (e.g. guest speakers, conferences, etc.) or book clubs and assigned readings on UDL. Teachers valued these opportunities to such an extent that they began scheduling informal "strategy swaps" on their own time through which they shared knowledge and expertise related to integrating UDL into instruction. During these thirty-minute afterschool strategy swaps, teachers shared lesson plans and examples of how they provided students with multiple means of representation, action and expression, and engagement.

Access to a Co-teacher

It did not come as a surprise to me that language arts and social studies teachers at Charlestown High School valued access to a co-teacher as a support to planning and providing multiple means of representation, multiple means of action and expression, and multiple means of engagement. They believed that sharing instructional responsibilities with other school professionals who were responsible for directly supporting students at their grade level because it was easier for two adults to deliver instruction providing multiple alternatives for accessing information and demonstrating knowledge and skills.

Holly described her experiences co-teaching with a special education teacher:

> I have a special education teacher in there and we co-teach together which is really helpful. That's a big barrier when you have that many students with that many needs in the same class. It's a challenge when we're trying to represent

> content to students who have disabilities when you don't have consistent access to a learning strategist because I don’t have that extra set of hands.

Holly believed the special education teacher served as a support to ensuring that all students have access to multiple means of representation.

James discussed how he shared instructional responsibilities with a special education teacher in his Standard Psychology class. He described how he and the special education teacher both provided instruction simultaneously in a team teaching configuration. James said:

> In my Standard Psychology class, I had a co-teacher but in my AP class, there's not a lot of room. We did things in which we teach together or I would let him take the lead. We were able to bounce off each other which is good but I also would have liked to have experimented with taking part of the class in the hallway so we could each go over different parts of the content. We could flip or something like that. That would have been nice. That would’ve supported my ideal UDL classroom. He taught Psychology before and he was a special education teacher.

James and his co-teacher used parallel teaching by dividing the class into separate groups and provided instruction focused on different aspects of content.

Cathy, a social studies teacher, viewed soliciting community volunteers as classroom helpers as a potential support to integrating UDL into instruction. She believed community volunteers could alleviate some of the challenges providing multiple means of representation, action and expression, and engagement to classrooms containing thirty or more students.

Barriers to Universal Design for Learning at Charlestown High School

In this section, I answer my third, fourth and fifth research questions (see Table #). Data collected during interviews suggested that language arts and social studies teachers at Charlestown High School in the Oxford School District felt overwhelmed when faced with large class sizes with disproportionate numbers of students with high needs such as students receiving services under disability labels or students who are behaviorally challenging. In this study, I define disproportionality as ratios between specific student groups in a school environment which are not equivalent to ratios between the same student groups when taking into consideration the greater school demographic. For example, teachers described scenarios in which 26.7% of students in a classroom received services under disability labels. During the 2016-2017 school year, this exceeded the percentage of students receiving services under disability labels at Charlestown High School which was 11%.

Teachers discussed how it was a challenge to provide all students with multiple means of representation, action and expression, and engagement without access to preparation time or "prep-time" and common planning time with their department and other related services providers who were responsible for directly supporting the students at their grade level. While teachers at Charlestown High School valued access to a co-teacher, they described struggling with integrating UDL into lessons without consistent access to a co-teacher or a period for common planning.

Class size

The language arts and social studies teachers I interviewed at Charlestown High School expressed how it was difficult to plan for providing multiple means of representation, action and expression, and engagement when servicing classrooms containing thirty or more students. Teachers described feeling overwhelmed when taking into account the numbers of students with

disabilities and students who struggle either behaviorally or academically in their classrooms. They believed their struggle planning to accommodate a variety of student needs through UDL was intensified by having limited access to other relevant school personnel (general education teachers, special educators, at-risk, interventionists) for supporting students at their grade level and a lack of prep-time.

Adrian, a language arts teacher, pointed out that UDL is a complex teaching methodology which becomes challenging to implement when taking into consideration different skills, needs, and interests in classrooms containing over thirty students. Adrian said:

> If you have thirty different people, you're having to take into account thirty different potential pathways. That's really hard to navigate and think about how I [can] make sure they have the knowledge and understanding in terms of providing them all with multiple means of representation.

Adrian, Cathy, a social studies teacher, and Holly, a history teacher, described how it was difficult to design instruction, materials, and assessments which provide all students with access to their strengths and interests without a prep-time. They believed the lack of prep time prevented them from developing knowledge and skills necessary to meet the needs of each student in their classroom.

Servicing Disproportionate Numbers of Students with High Needs

Language arts and social studies teachers I interviewed at Charlestown High School described their challenges planning for providing large numbers of students with disabilities and students who struggle in school academically or behaviorally with multiple means of representation, action and expression, and engagement. They described having limited access to other school personnel (e.g. general education teachers, special educators, at-risk,

interventionists, etc.) responsible for servicing students in their content area who could help with either planning or directly supporting providing students with multiple means of representation, action and expression, and engagement.

Without regular common planning time, Teachers believed that they had limited opportunities to share knowledge and expertise with each other to increase each other's capacity to better educate all students. They discussed how this impacted their ability to design flexible instruction, materials, and assessments which provide options for students to use their skills, abilities, and strengths in accessing what is taught and demonstrating what was learned. Adrian provided an example of this when discussing her limited knowledge of how to support students with Intellectual Disabilities (ID):

> I don't always have the knowledge to understand what it means to service specific disabilities, especially when comes to disabilities in which students are atypically pulled out of classroom. With a cognitive disability related student, what are the barriers they struggle with? I don't know much about it. Not having knowledge about the specific disabilities and their related needs has headed my ability to help my students.

She believed that her own lack of understanding coupled with a lack of consistent access to a special education teacher impacted her ability to support students with ID in accessing curriculum.

Part of ICS for Equity Cornerstone Two: Align Staff and Students concerns alignment of all relevant school personnel (e.g. general education teachers, special education teachers, ELL, at-risk, interventionist, Title 1) to specific grade levels in order to support UDL as part of an Identity Relevant Teaching and Learning (IRTL) framework through Co-planning and Co-

serving™. Teachers and specialists who co-plan and co-serve regularly collaborate and co-plan lessons which provide multiple means of representation, action and expression, and engagement. In ICS, the principal of proportional representation is applied to classrooms to ensure that they demographically representation the school and district and are diverse by race, class, language, ability, and sexual/gender identity. I was surprised to discover that Cornerstone Two: Align Staff and Students was not in place at Charlestown High School as teachers were not organized into Co-Planning and Co-Serving™ Teams (CCTs) per ICS definition and the principle of proportional representation had not been applied to classrooms.

Limited Direct and Indirect Support from Relevant School Personnel

Language arts and social studies teachers at Charlestown High School described not having access to other school personnel responsible for either directly or indirectly supporting students in their content area. Despite their limited access to other school personnel, teachers viewed working with a co-teacher helping to provide direct support in the classroom or opportunities to access indirect support through co-planning as supportive of integrating UDL into instruction.

When I observed language arts and social studies classrooms at Charlestown High School, I noticed that none of them were co-taught. James, a psychology teacher, and Holly described having positive experiences when working with a co-teacher in the past. They believed the co-teacher served as a support since they were able to provide varied instructional strategies (e.g. alternatives for visual, alternatives for verbal) and use different co-teaching configurations (e.g. parallel teaching, team teaching) to support flexible classroom arrangements. Holly, James, and Cathy believed that having access to a co-teacher supported their ability to design and implement instruction, materials, and assessments providing students

with multiple means of representation, action and expression, and engagement. Holly pointed out:

> I have a learning strategist in there and we co-teach together which is really helpful. That's a big barrier when you have that many students with that many needs in the same class. It's a challenge when we're trying to represent content to students who have disabilities when you don't have consistent access to a learning strategist because I don't have that extra set of hands.

While Holly and others believed having access to a co-teacher was helpful, particularly when faced with class sizes of over thirty students, access to a co-teacher was inconsistent.

During my interview, I asked, "What kind of support would go into transforming your current classroom into your ideal UDL classroom?" The answers I received to this question surprised me as four out of the five language arts and social studies teachers interviewed wished for more co-planning time with other school personnel responsible for servicing students at their grade level. The teachers expressed how they valued professional development provided by the district but viewed regular time to share knowledge and expertise with others working to integrate UDL into instruction at Charlestown High School as being more beneficial. They believed opportunities to share strategies, materials, and assessments designed to provide students with multiple means of representation, action and expression, and engagement would help increase their capacity to better educate all learners. They also believed opportunities to design lessons during co-planning time increased their understanding of UDL and how to better service students by their individual needs.

One of the questions I asked language arts and social studies teachers at Charlestown High School, was, "Would you be able to tell me what ICS for Equity means to you?" I was

curious to discover that none of the teachers were able to define ICS. It was of equal interest to me that ICS Cornerstone Two: Align Staff and Students had not been applied, as teachers did not have access to CCTs per ICS definition. It was interesting to me that when asked, "What kind of support would go into transforming your current classroom into your ideal UDL classroom?" Language arts and social studies teachers identified the functions of CCTs as being supports to UDL: (a) sharing knowledge and expertise with a range of school personnel responsible for servicing students in their content area to increase each other's capacity to better educate all learners; and (b) co-planning and directly supporting instruction, materials, and assessments based on multiple means of representation, engagement, and expression. If the Oxford School District was seeking to implement ICS, I was curious about what barriers could be in place preventing Cornerstone Two: Align Staff and Students from being implemented given the level of support for more frequent interaction with other school personnel who could either help provide direct or indirect support to all students described by the language arts and social studies teachers I interviewed.

Charlestown High School Case Summary

The findings in my study of supports and barriers to the integration of Universal Design for Learning (UDL) experienced by teachers in the language arts and social studies departments at Charlestown High School suggest that supports to integrating UDL into instruction include a sustained districtwide commitment to integrating UDL into instruction, professional development, technology, flexible furniture, teacher flexibility, and opportunities for teachers and specialists (e.g., special education teachers, ELL support teachers, reading interventionists) to share expertise. Teachers in the language arts and social studies departments at Charlestown

High School believed a sustained districtwide commitment encouraged the freedom to experiment with UDL as an instructional methodology.

Teachers were systemically supported through allocation of funding for professional development (e.g. technology seminars, book clubs, guest speakers), technology (e.g. text-to-speech/speech-to-text software, online picture dictionaries, programs offering leveled texts, etc.), and flexible furniture (e.g. tables and chairs with wheels, tables which could be written on, etc.). These resources were used to help design and facilitate lessons which students were given opportunities to use their strengths in accessing information and demonstrating what they had learned. The teachers I interviewed at Charlestown High School believed that all students could achieve learning objectives aligned with Common Core State Standards (CCSS) if they could access their strengths. Teachers viewed it as their responsibility to remove barriers to students being able to access multiple means of representation, multiple means of action and expression, and multiple means of engagement.

I found it interesting that teachers in the language arts and social studies departments at Charlestown High School described how they valued opportunities to share expertise with other teachers and specialists (e.g. special education teachers, ELL support teachers, reading interventionists, etc.) more than the professional development offered by their school district. I also found it interesting that teachers did not have access to a regular co-planning time or preparation period. Without a regular co-planning time, teachers were unable to access other teachers and specialists who could help them design lessons for addressing a broad range of skills and abilities. Without a prep-period, teachers struggled designing lessons for providing thirty-plus students per class period with ways of using their strengths to access information and demonstrate their understanding of content.

Nelsonville High School Case Overview

Nelsonville High School is part of the Bowdon School District which is located in the North-eastern Wisconsin town of Bowdon. The Bowdon School District is an urban school district servicing six communities. The Bowdon School District contains twenty-five 4k-5th grade elementary schools, five 6th-8th grade middle schools, four high schools, three specialty schools, and one K-12 alternative school. The present Nelsonville High School was built in 1924 and has seen many generations of students pass through its doors. The interior spaces were open and bright but had an old-fashioned feel because of the wood paneling in some hallways and classrooms. I felt the school had a warm atmosphere because of the rustic yet well-kept look of the building. The teachers and administrators who I interacted with greeted me with smiles and made me feel welcome in their building. When I had the opportunity to meet and thank Brad, the assistant principal who served as the administrative contact for Nelsonville High School, he was cordially conversing with a group of students in his office.

The demographical characteristics at Nelsonville High School were different than those at Charlestown High School in the Oxford School District. During the 2016-2017 school year, the ratio of students who were economically disadvantaged to students who were non-economically disadvantaged was 419 to 227. The ratio of students with disabilities to students without disabilities was 229 to 1073 The ratio of students who are linguistically diverse to students who are considered English proficient was 20 to 73. 469 The ratio of students of color to students who are white was 119 to 67.

Brad and Stephanie, the special education teacher or learning strategist who supported the ninth-grade language arts team, had informed me that the ninth-grade language arts team

was the furthest along in operationalizing Integrated Comprehensive Systems (ICS) for Equity at Nelsonville High School. Both informed me that other grade levels and content areas still practice tracking through fundamentals courses designed to accommodate students who struggle academically or behaviorally. Some students with disabilities were serviced through Essentials courses focused on functional academics and life skills curriculum. Stephanie informed me that teachers in other grade levels and content areas did not share a common planning time through which they could access other school personnel (e.g. general education teachers, special educators, at-risk, interventionists, etc.) responsible for directly or indirectly servicing students.

I conducted both observations and interviews with five members of the ninth-grade language arts department at Nelsonville High School to gain a better understanding of what supports and barriers exist for integrating Universal Design for Learning (UDL) as an instructional methodology. In this section, I will describe data collected from my observations and interviews of Emily, Margarette, and Patricia, all ninth-grade language arts teachers. I will also describe data collected from my observations and interviews of Mary, a Reading Interventionist, Emily, a language arts teacher who also functions as an English Language Learner (ELL) support teacher, and Stephanie, who all fulfill instructional roles within the language arts department and had their own unique perspectives to share which served to improve my overall understanding of the research questions. I observed Mary's Reading intervention, Emily's self-contained ELL English class, and Stephanie as she supported Ann's ninth grade English class. The teachers at Nelsonville High School represented a wide range of experiences and ages.

Teachers at Nelsonville High School viewed their classrooms as being diverse. They discussed servicing large numbers of students who lived in poverty, of color, linguistic

diversity, and students with disabilities. Emily described how many of the students at Nelsonville High School did not have access to technology in their homes. She also described how the families of many students had limited English proficiency. The teachers I interviewed in the ninth-grade language arts department were all focused on what skills, gifts, and knowledge their students had to help them achieve. They believed that UDL supported their students in accessing their individual skills and talents.

Supports to Universal Design for Learning at Nelsonville High School

I sought to answer the first two of my five research questions (see Table #). Teachers in the ninth-grade language arts department believed their efforts to integrate Universal Design for Learning (UDL) into instruction have been beneficial to all students, including students with disabilities and students who are linguistically diverse. The ninth-grade language arts department expressed their commitment to both UDL and the inclusion of students with disabilities. They described how their collective commitment had sustained their practice of UDL despite experiencing push-back from central office administration who were described as being focused on maintaining fidelity to common curriculum and assessment practices. Ninth-grade language arts teachers described lessons aligned with common curriculum as being scripted. They also discussed how materials and assessments aligned with common curriculum provided limited means of navigation or physical interaction, consisting of non-leveled text and printed materials which could not be modified by students.

Many of the ninth-grade language arts teachers shared a regular weekly co-planning period during which they described collaborating to co-plan lessons to provide students with multiple means of representation, action and expression, and engagement. Stephanie, a special

education teacher, participated in these weekly co-planning periods during which she shared her expertise varying instruction and materials to support students with disabilities. I found it interesting that Emily, the English Language Learner (ELL) support teacher, did not share a common planning period with the ninth-grade language arts team since the ratio of students who were linguistically diverse to students who are considered English proficient was 20 to 73, or 27.4%. Teachers in the ninth-grade language arts department described how Emily was scheduled to teach a self-contained class for students who were linguistically diverse second hour during their co-planning period.

Commitment

Teachers on the ninth-grade language arts team described themselves as being committed to integrating UDL into instruction. They also described themselves as being collegial or having a sense of shared responsibility for successfully integrating UDL into instruction. The ninth-grade language arts team described how their focus on UDL was not consistent across all grades and departments. They mentioned that other grades and departments were at different points along their journey. Stephanie, a special education teacher who supported the ninth-grade language arts department described how teachers in other departments and grade levels had not received professional development focused on integrating UDL into instruction.

The teachers described how their department had experimented integrating UDL into instruction in support of inclusive practice. I was surprised to discover only one teacher who expressed familiarity with Integrated Comprehensive Systems (ICS) for Equity. Stephanie defined ICS as:

> To me that's my understanding of where we're including all students and teachers are co-planning and co-servicing around needs. Also, not having a deficits base model. It's more about the placement of the students in the teachers and the adults versus the actual instructional practice.

She described how the ninth-grade language arts department was collectively committed to taking a strengths-based perspective of students and experimenting with flexible instructional methodologies such as UDL in efforts to better meet their needs. All the teachers I interviewed on the ninth-grade language arts team described how their sustained collective commitment to integrating UDL into instruction helped them overcome challenges such as limited professional development opportunities and common curriculum and assessment practices which did not promote flexible instructional practices. They described advocating to central office administration for embedding multiple means of representation, action and expression, and engagement in common curriculum and assessment practices.

I was surprised to learn from Stephanie and Ann, a ninth-grade language arts teacher, how the ninth-grade language arts department was initially focused on UDL, then gradually became more inclusive of all students. Stephanie described how the administration at Nelsonville High School decided to eliminate self-contained programming for all grade levels and departments based on the work done by the ninth-grade language arts department. She expressed concern over this decision because of the lack of school wide professional development focused on UDL and addressing learner differences. Stephanie also pointed out that other departments did not share a common planning time which she believed would impact their ability to design lessons providing multiple means of representation, action and expression, and engagement.

Teacher Flexibility

Teachers in the ninth-grade language arts department all shared the understanding that students vary in their skills and abilities. They also understood that students are motivated by different ways they can navigate information and express what they learned. Teachers described how they experimented with embedding UDL practices such as multiple means of representation, action and expression, and engagement into formative assessments. In this study, I define formative assessments as assessments conducted by teachers to monitor learning and the efficiency of teaching practice. Ann and Emily discussed providing students with multiple means of representation by providing students with access to videos or pictures as alternatives to verbally delivered instruction. Emily said:

> When it comes to something like theme. We were teaching theme. So, there's different ways to teach and there's different ways to show that they've learned it. I might use a piece of text so we can talk about it together. I provide some notes for students to take to over anything they may have missed. We've often showed videos so students could get it visually that way.

Teachers discussed providing students with the choice to demonstrate their understanding of content through use of technology (e.g. video) and multiple media (e.g. painting, drawing, etc.) as alternatives to writing essays or assigning workbook tasks.

I was interested to hear how the ninth-grade language arts team flexibly used learning spaces to divide students along the lines of their interests during a global themes project. Students were allowed to pick a global theme centered on a social issue and grouped based on their theme of interest. Rather than being assigned to their regular language arts teacher, the ninth-grade language arts team grouped students with teachers covering themes of interest.

Students were provided with flexible options in demonstrating their understanding of their chosen global theme. Students wrote songs, created artwork, filmed videos, and created culinary projects through which they were able to demonstrate their understanding. The ninth-grade language arts teachers described how these projects were able to be assessed using the same standards-based rubric. I was also interested to learn how teachers on the ninth-grade language arts team combined classes to hold an ELA Café which allowed students to share and edit materials, work on assignments, or read.

Varying Task Demands

Teachers in the ninth-grade language arts department discussed how Stephanie helped vary task demands so that students with different skills and ability levels could be successful. Ann and Patricia, both ninth-grade language arts teachers, discussed how they collaborated with Stephanie to provide students who struggled with public speaking with the opportunity to record presentations or present to their teachers in private. Emily discussed how she allowed students who are linguistically diverse to write a comic book versus a short story. Varying task demands is a component of providing students with multiple means of engagement. While teachers in the ninth-grade language arts department discussed how students vary in skills, abilities, I was surprised to discover that none of them discussed how they varied demands for students who may need more of a challenge.

Collaborative Learning

When I observed ninth-grade language arts classrooms, I noticed that all teachers highlighted the upcoming ELA Café when reviewing their weekly schedules. During interviews, teachers described how students were allowed access peers for help editing assignments or bring their own reading materials to ELA Café. Students could also access their

language arts teachers for feedback on upcoming assignments. The ELA Café was held in a commons area near the language arts classrooms. Increasing opportunities for collaborative learning is a component of providing multiple means of engagement.

During interviews, teachers in the ninth-grade language arts department discussed how students were provided with collaborative learning projects through which they could access multiple means of action and expression. Ann discussed providing students with choice and autonomy in how they achieve learning objectives during a collaborative learning activity. She said:

> With literature discussion group projects, rather than just saying all were going to do a diorama, we give the kids a variety of choices and try to design the projects by multiple intelligence to support the students who were either supported artistically or linguistically. I've had kids do an interpretive dance. I've had some kids do paintings. I've had kids write short stories or comic books or just get up and give a presentation.

Teachers in the ninth-grade language arts department also described how they used networking technology such as Google Docs™ which allowed for students to create and edit writing assignments online while collaborating with other students in real-time. They discussed how this flexible use of technology helped increase opportunities for students to interact with and support their peers.

Shared Expertise

I was interested to learn how each of the teachers in the ninth-grade language arts department referred to their team as being “very close.” Teachers believed their success integrating UDL into instruction was the result of their regular co-planning. They valued

opportunities to share expertise with other school professionals (e.g. special and general educators, interventionist, ELL, etc.) to intentionally increase each other's capacity to better educate all learners. They described how Stephanie and Emily helped co-plan lessons to vary task demands for students with disabilities and students who are linguistically diverse.

Teachers in the ninth-grade language arts department described collaboratively designing standards-based lessons which provided students with multiple means of representation, action and expression, and engagement. They described using their common planning time to review standards-based rubrics aligned with common curriculum and discuss how to remove barriers so all students had the opportunity to achieve the same standard. They described allowing students who struggled with written communication but who were artistic by allowing them write comic books as a means of expressing their understanding. They also described allowing students who struggled with anxiety when public speaking to either present to teachers alone or record their presentations. Stephanie and Mary, a Reading Interventionist, discussed how the ninth-grade language arts department used the hallway and community room to divide students between teachers who each provided support depending on what project students selected to demonstrate their understanding of a teen social issue. Margarette, a ninth-grade language arts teacher, discussed how some students created paintings, while others baked a rainbow cake, or wrote songs. Margarette described how students who chose to bake the cake used it to describe their understanding of gay marriage in Spain.

Patricia, Stephanie, Mary, and Ann all discussed collectively advocating to provide students with UDL to district level administration in order to gain some flexibility in how students can achieve skills expressed in districtwide rubrics. They valued the results of their efforts integrating UDL as an instructional methodology and discussed their proficiency in

offering all students choice and autonomy in how they express their understanding of content. Ann described a scenario in which she was encouraged by other members of the ninth-grade language arts team to lobby for flexible interpretation of a common rubric. She discussed experiencing some resistance from administration:

> I've given one student the rubric, highlighted it, and said this is what I need you to do to show me what you know. However, you want to do it, you let me know. As long as you have these components from the rubric are in place we are good. That worked really well with him. He turned in the project even though he's pretty reluctant to do too much work for the semester. I presented that I intended to do this to administration before I followed through. Also, I collaborated with other teachers in my department to discuss what we're doing for this kid. There was a little push back from the administration because we have common assessments of common curriculum across the district and across the schools. Even though it wasn't quite what we do, I was encouraged to do it by my team.

Stephanie, Patricia, and Mary discussed how they were able to gain some flexibility in embedding opportunities for students to access choice on formative and summative assessments which still aligned with skills expressed in districtwide rubrics.

During my observations at Nelsonville High School, I noticed that Stephanie was present in each ninth-grade language arts classroom. While I did not observe her sharing responsibilities with general education teachers in leading instruction, I noticed that she circulated and provided direct support to all students who requested her help. I was curious to see that Emily taught a self-contained language arts class for students who were linguistically diverse during the ninth-grade language arts co-planning period. During interviews, Emily and

Margarette told me that this was the result of scheduling. I was also interested to observe Mary teaching a self-contained reading intervention to students who struggle with reading. While students with disabilities had gained access to general education language arts classrooms at the ninth-grade level, some students who struggled with reading and students who were linguistically diverse still were being ability grouped and serviced by like-needs in self-contained classrooms.

Barriers to Universal Design for Learning at Nelsonville High School

In this section, I answer my third, fourth and fifth research questions (see Table #). The ninth-grade language arts teachers I interviewed described themselves as spearheading UDL efforts at Nelsonville High School. Patricia and Margarette, both ninth-grade language arts teachers, and Mary, a Reading interventionist, described how their department was somewhat isolated in their collaborative efforts to integrate UDL into instruction. Stephanie, a special education teacher, pointed out that other grade levels and departments were at different points in their journey. She described how the ninth-grade language arts department had received professional development focused on integrating UDL into instruction while other grade levels and departments had not. Brad, the assistant principal, had identified that commitment to UDL and ICS was largely localized to the ninth-grade language arts team at Nelsonville High School.

I was curious to explore what barriers to integrating UDL into instruction could emerge at a high school which had taken few steps towards implementing ICS. As I discovered, teachers in the ninth-grade language arts department encountered barriers related to other contextual factors such as demographics, limited funding for professional development, and common curriculum and assessments. They discussed how common curriculum and

assessments intended to address the needs of students who experience transience between schools limited their flexibility to design lessons providing multiple means of representation, action and expression, and engagement. Common curriculum and assessments were described as providing limited means of navigation or physical interaction which served as a barrier to students who may have benefitted from the ability to use different strategies, such as accessing alternatives for auditory and visual information, to support their understanding of content. They discussed experiencing push-back from central office administration when trying to embed choices or varied demands and resources into common curriculum and assessments to support students with different learning preferences or ability levels.

Limited Commitment

When I administered my researcher-developed checklist to determine what steps had been taken towards implementing ICS for Equity, Brad pointed out that commitment to integrating UDL into instruction was largely limited to the ninth-grade language arts team. Members of the ninth-grade language arts team discussed how other grade levels and departments were at different points in their journey towards integrating UDL into instruction. Stephanie, the special education teacher who supported the ninth-grade language arts department, mentioned that not all departments had regular access to a common planning time with related service personnel (e.g. special and general educators, interventionist, ELL, etc.). She described how the district administration had made the decision to eliminate self-contained programming and fundamentals courses for students with disabilities and students who struggle in accessing content for the upcoming 2017-2018 school year. Stephanie believed this was a barrier to school wide integration of UDL into instruction as teachers in other departments had not received professional development focused on designing lessons to provide multiple means

of representation, action and expression, and engagement. She also described how specialists (e.g. special educators, ELL, at-risk, interventionist, Title 1, etc.) were expected to service students across multiple classrooms which impacted their ability to co-plan.

Common Curriculum and Assessments

Teachers on the ninth-grade language arts team discussed how the district struggled in addressing the needs of a student population experiencing high levels of transience or movement from one school or district to another. The district administration had developed common curriculum and assessment practices to ensure that students did not experience gaps in their education when transferring between schools. The ninth-grade language arts teachers described how common curriculum and assessment practices lacked flexibility since few alternatives were provided to students for accessing information or expressing what they have learned. The common assessments were described as being mostly print-based and lacking the flexibility to be differentiated to better address varied skills and ability levels. Standards-based rubrics aligned with common curriculum were described as limiting students to accessing grade level texts which served as a barrier for students who did not demonstrate grade level reading ability. Teachers on the ninth-grade language arts team described how students were limited in their ability to access tools and technology (e.g. text-to-speech, speech-to-text, picture dictionaries, programs offering leveled texts) to support their achievement of common core state standards (CCSS). They believed this was the result of the perception held by members of central office administration and many other teachers within district that students could only demonstrate proficiency in achieving grade level standards with grade level materials.

Teachers in the ninth-grade language arts department expressed that not all standards limited students to grade level materials. Patricia pointed out:

> I think the common assessments and curriculum make it difficult to provide students with choice. So, if students are expected to read a text at the ninth or the twelfth-grade level come to us lacking the ability to read or write at the 12th grade level, this makes it tricky. With our common assessments and rubrics, there is that degree of being expected to stick with fidelity even though students may not be able to access the overall standard.

The ninth-grade language arts teachers discussed how high-fidelity requirements to common curriculum and assessment practices which limited students in their ability to access choice in how information is presented and how they express what they know served as a districtwide barrier to UDL. They viewed common curriculum and assessment practices as a competing initiative which limited the ability of teachers to design lessons for providing students with multiple means of representation, action and expression, and engagement. Ann referred to common curriculum and assessment practices as their most challenging barrier to integrating UDL into instruction.

When observing ninth-grade language arts classrooms at Nelsonville High School, I found it interesting that each teacher was teaching the same lesson on developing a research claim in the same way. Students were to take a vocabulary test followed by completing a graphic organizer containing different descriptors to help them develop a claim statement for a research topic. The instruction was language based rather than incorporating multi-media such as videos, visuals, or concept maps to help illustrate content. I did notice some choices provided, such as students being able to use vocabulary formulas in Ann's class, or students being able to access the vocabulary quiz read aloud in Patricia's class. I also observed Patricia demonstrate a strategy for guiding information processing through which students used

notecards to organize their argumentative essay outlines. Most of the materials provided to students were in print and contained no visuals. Students were expected to complete the vocabulary test using "pen-and-paper." They had access to technology in the form of Chromebooks and Google Docs which included built-in features like a spellchecker and grammar checker to support composition but I only observed alternatives and choices being provided in occasionally. While my observations were conducted prior to interviews, I discovered that the limited observable evidence of UDL being integrated into instruction, scripted lessons, and reliance on print-based, non-flexible materials coincided with the ninth-grade language arts teacher's description of common curriculum and assessment practices.

Students who Experience Transience

Teachers in the ninth-grade language arts department discussed having a "very transient student population," meaning that students within district often moved from one school or one district to another. Mary discussed how students may be enrolled at Nelsonville High School for a quarter or a semester before moving to a different school within or out of district:

> So, you'll get a kid who left one of our other high schools who has already read Romeo and Juliet. We're just starting to read it and they already read it. Sometimes they have difficulty showing us what they know when given choices through UDL since the other schools aren't applying the UDL philosophy. Even if you give them options, it's probably hard to crisscross two different philosophies.

Mary also discussed how some students return to Nelsonville High School which can present a challenge if they attended a school at a different point in curriculum or if their previous school was not seeking to integrate Universal Design for Learning (UDL) into instruction. Margarette

also mentioned that students who transfer into Nelsonville High School struggle adapting to being provided with choices to demonstrate what they know by using their strengths.

Teachers in the ninth-grade language arts department understood why curriculum developers at central office had adopted common curriculum and assessment practices but believed they created more sizable barriers than effective solutions. Mary viewed common curriculum and assessment practices as a cost-saving strategy which limited the need to purchase additional materials, resources, or professional development in attempts to address the problem of student transience. Ann and Patricia believed the needs of all students, including students who experience transience, were not being met because of limited flexibility afforded by common curriculum and assessment practices. Patricia believed these practices served as an obstruction to integrating UDL as an instructional methodology.

Limited Flexibility

As mentioned above, some teachers on the ninth-grade language arts team described feeling constrained in their ability to provide students with multiple means of representation, action and expression, and engagement when expected to maintain fidelity to common curriculum and assessment practices. Teachers expressed how they were unable to provide students with multiple ways of perceiving and comprehending information and multiple ways of demonstrating knowledge and skills when fidelity to common curriculum and assessment practices was expected. They were limited in their ability to differentiate the complexity of tasks or offer students tools and assistive technologies since materials and texts aligned with common assessments were written to correspond with grade level reading skills.

While he ninth-grade language arts teachers expressed a common understanding that all students differ in skills and abilities, they were unable to provide students with text

corresponding with their ability level or tools to support accessibility, such as picture dictionaries or text-to-speech, to help them demonstrate proficiency with standards. Stephanie said:

> We're really struggling with the writing and reading standards because if the standard says "read," can you read without having grade level reading? If they're not able to read a ninth-grade level text to meet the standard, are they really meeting the standard? So, we're at conversation point.

Teachers described how many students became frustrated and unmotivated when attempting to comprehend common assessment materials.

Resistance

Patricia and Ann, both ninth-grade language arts teachers, and Mary, a reading interventionist, described experiencing resistance from curriculum developers at the central office level when advocating for integrating UDL into common curriculum and assessment practices. They discussed advocating for providing students with choice in how they access and comprehend information and demonstrate what they have learned. This was not supported by curriculum developers at central office who were more focused on maintaining fidelity to common curriculum and assessment practices which provided little flexibility in how students accessed information or expressed their understanding of content. Stephanie mentioned that curriculum developers sought to compromise by requiring common assessments to be administered with fidelity but not requiring them to be graded. Teachers in the ninth-grade language arts department did not view this as a compromise since students were still limited in how they accessed information and demonstrated what they learned.

Patricia also discussed how she and Stephane participated on a summer jurying team alongside teachers from the other three high schools which focused on improving the ninth-grade language arts curriculum. She described how teachers at other schools shared the same perspective as curriculum developers at central office, believing that students should be limited to grade level texts and only have access to tools such as pencils and keyboards when being assessed in their achievement of grade level standards. As a result, Patricia and Stephanie were limited in their ability to embed design lessons providing multiple means of representation, action and expression, and engagement into common curriculum.

Limited Professional Development

Teachers on the ninth-grade language arts team described having access to limited professional development centered on furthering their understanding of UDL. A number of teachers on the ninth-grade language arts team believed they could benefit if trainings were offered to more than just a few teachers who were expected to share-out new information following their attendance. Margarette mentioned that staff share-outs did not help increase her understanding of UDL since she did not benefit from having direct access to professional development herself. Some expressed that there was limited funding for professional development on UDL or technologies which could improve their ability to help provide students with different ways of accessing information or demonstrating what they had learned. Ann and Margarette expressed that they would like to see a wider commitment towards allocating funding towards professional development focused on UDL and addressing learner diversity.

The ninth-grade language arts team discussed how they believed the limited span of professional development centered on UDL served to limit the integration of UDL into instruction since few teachers had an understanding of the instructional methodology.

Stephanie, a special education teacher supporting the ninth-grade language arts team, mentioned that the Bowdon School District was supportive of professional development focused on UDL if it was of no cost to the school district. She expressed that district administration was supportive of teachers seeking out professional development on their own time or sharing out information from trainings during co-planning time. Stephanie pointed out that the ninth-grade language arts team was able to lobby for funding to access guest speakers and consults to help increase their understanding of UDL and supporting a broad range of learners.

Nelsonville High School Case Summary

The ninth-grade language arts teachers at Nelsonville High School viewed their own collective commitment to removing instructional barriers so students could access their strengths in accessing information and content and demonstrating what they have learned as a support to integrating UDL into instruction. Their understanding of how students differ in skills and abilities coupled with the belief that all students could achieve Common Core State Standards (CCSS) when able to access their strengths motivated them to design flexible learning experiences. I was surprised to discover how this collective commitment held by the ninth-grade language arts team sustained the integration of UDL as an instructional methodology into some of their lessons.

These teachers valued their co-planning time during which they were able to design lessons which provided students with different ways of accessing information and demonstrating what they had learned by accessing their strengths. They believed Stephanie, the special education teacher who supported the ninth-grade language arts department, supported the integration of UDL into instruction during co-planning time by sharing her knowledge

concerning the needs of students with disabilities and helping to vary the complexity of learning tasks so they could access the CCSS. I was interested to discover that Emily, the English Language Learner (ELL) support teacher, was not able to regularly participate in their co-planning period because she was scheduled to teach a self-contained class designed to service students who were linguistically diverse during this time. The data suggested that some students who were linguistically diverse did not have access to general education and the specialist who had expertise in designing lessons to meet their needs was prevented from participated in co-planning because of scheduling.

I was surprised to discover that the school administration at Nelsonville High School was looking to eliminate self-contained programming for students with disabilities and tracked classes designed to meet to needs of students who struggle academically without providing professional development focused on integrating UDL into instruction. It was also interesting to me that they sought to emulate the successes of the ninth-grade language arts team including students with disabilities without providing other grade levels and departments without seeking to provide co-planning time with all teachers and specialists (e.g. special education teachers, reading interventionists, etc.) who either directly or indirectly support students.

Teachers in the ninth-grade language arts department at Nelsonville High School discussed how curriculum developers at central office expected common curriculum and assessment practices to be implemented with fidelity throughout the Bowdon School District. These common curriculum and assessment practices did not afford opportunities for teachers in the ninth-grade language arts department to provide students with different ways of accessing information and demonstrating what they had learned. I was surprised to discover how widespread the belief that learning objectives aligned with CCSS could only be accessed

through use of grade-level materials was throughout district. This served as a barrier to accessing learning experiences in language arts classrooms at Nelsonville High School for students who did not demonstrate grade level reading or writing skills. The school still addressed the needs of students who were identified as being struggling readers through self-contained reading interventions. When observing the school's language arts classrooms, I was initially surprised to see little evidence of students being offered different ways of accessing information or demonstrating what they had learned through use of their strengths. After interviewing teachers in the ninth-grade language arts department, I developed an understanding of how common curriculum and assessment practices prevented them from regularly designing lessons which provide students with multiple means of representation, action and expression, and engagement.

I was interested to learn that the Bowdon School District administration had offered limited funding for professional development focused on UDL while they were planning on eliminating self-contained and remedial classes at Nelsonville High School during the 2017-2018 school year. Limited systemic support through funding for professional development or support and guidance in designing lessons which provide students with opportunities to use their strengths in accessing information and demonstrating what they had learned served as a barrier to teachers on the ninth-grade language arts team who sought to increase their understanding of teaching to a broad range of learners.

CHAPTER V: DISCUSSION AND ANALYSIS

In this final chapter, I will provide a summary of the research and my conclusions in relation to my conceptual framework. This chapter also presents lessons learned along the lines of the Integrated Comprehensive Systems (ICS) for Equity Four Cornerstone framework. I will also seek to discuss implications for future practice which will be helpful to school leaders seeking to integrate Universal Design for Learning (UDL) into instruction or implement ICS. Finally, I will discuss how findings in this study may be used to guide future research.

Summary of Study

The purpose of these qualitative descriptive case studies was to explore what supports and barriers exist for integrating Universal Design for Learning (UDL) as an instructional framework at schools implementing Integrated Comprehensive Systems (ICS) for Equity. I selected Charlestown High School in the Oxford School District and Nelsonville High School in the Bowdon School District as my research sites. My literature review outlined research on the deficit-based model of special education, supports and barriers to inclusive practice, special education legislation, litigation, and policy, standards-based reform, ICS, varied individual student strengths, and UDL.

An emerging body of literature and legislation supports the need to provide equitable access to all students (Frattura & Capper, 2015; Theoharris, 2009), which suggests that historic practices such as servicing students in segregated, remedial, or tracked programs are ineffective in increasing achievement and post-secondary outcomes for students who have been historically and are currently marginalized in schools (Hattie, 2011; Oakes, 2008; Leithwood, 2004). ICS is

designed to eliminate inequities systemically and provide all students with Identity Relevant Teaching and Learning (IRTL) through co-planning and co-serving in heterogeneous school environments (Frattura & Capper, 2015). UDL is an instructional methodology designed to provide flexibility in how information is accessed, in how students demonstrate knowledge and skills, and in how students become engaged or motivated to learn. Both ICS and UDL were developed to support equitable access to core learning experiences in schools for all students. UDL is a component of IRTL which is part of ICS Cornerstone Three: Transforming Teaching and Learning. UDL predates and can be implemented in isolation of ICS.

This study provided insight into how different steps within the Four Cornerstone framework of ICS supported UDL in two high schools. A comparison of supports and barriers between the two high schools was impossible since both faced different contextual factors (e.g. demographics, funding, level of ICS implementation, etc.). Nelsonville High School had larger populations of students who were economically disadvantaged, students with disabilities, and students who were linguistically diverse while Charlestown High School was located in a more affluent, predominately white middle-class community. By conducting descriptive case studies of high schools at different points in their journey towards implementing ICS facing other diverse contextual factors, I was able to gain broader insight into my research questions.

Table 6 outlines findings in relation to my first five research questions for Charlestown High School and Nelsonville High School.

Table 7.

Research Questions

Charlestown High School	
Supports	**Barriers**

<table>
<tr><td>What supports exist for integrating UDL as an instructional methodology in schools implementing ICS?
Collective Commitment
Administrative Support
Technology
Professional Development
Flexible Furniture
Teacher Flexibility</td><td>What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS?
Class size
Disproportionate numbers of students with high needs
Multiple-choice tests
AP Curriculum pacing</td></tr>
<tr><td rowspan="2">How do these supports bring about successful integration of UDL as an instructional methodology?
Increased student choice and autonomy
Students communicating through multiple media
Varied task demands and resources
Concepts are illustrated through multiple media
Student collaboration
Access to visual alternatives to verbal information
Students can access their strengths</td><td>How do these barriers prevent the integration of UDL as an instructional methodology?
Limited flexible teaching practice
Limited student choice and autonomy
Limited time to address student needs
Limited opportunities to vary task demands
Limited opportunities for students to access strengths</td></tr>
<tr><td>Why do barriers preventing the integration of UDL as an instructional methodology exist?
Lack of prep time
Limited co-planning time
Societal value of standardized assessment</td></tr>
<tr><td colspan="2">Nelsonville High School</td></tr>
<tr><td>Supports</td><td>Barriers</td></tr>
<tr><td>What supports exist for integrating UDL as an instructional methodology in schools implementing ICS?
Departmental Commitment
Technology
Teacher Flexibility
Co-planning</td><td>What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS?
Common curriculum and assessment practices
Limited commitment
Resistance
Limited professional development
Limited access to all meaningful specialists (ELL support teacher)</td></tr>
<tr><td>How do these supports bring about successful integration of UDL as an instructional methodology?
Increased student choice and autonomy
Students communicating through multiple media
Varied task demands and resources</td><td>How do these barriers prevent the integration of UDL as an instructional methodology?
Limited flexible teaching practice
Limited student choice and autonomy
Limited time to address student needs
Limited opportunities to vary task demands</td></tr>
</table>

• Concepts are illustrated through multiple media • Student collaboration • Access to visual alternatives to verbal information • Students can access their strengths	• Limits teacher understanding of UDL • Limited opportunities for students to access strengths
	Why do barriers preventing the integration of UDL as an instructional methodology exist? • Transient student population • Inflexible interpretation of Common Core State Standards (CCSS)

Bowdon

Cornerstone One: Focus on Equity

Cornerstone One: Focus on Equity consists of steps for implementing and sustaining Integrated Comprehensive Systems (ICS) for Equity. Three of the steps related to my discussion in this section include: (a) rooms/schools are not allocated specifically for servicing students receiving services under labels (e.g. LD, EBD, ID, ESL, or at-risk); (b) all students receive instruction in heterogeneous school environments throughout the entire school day; and (c) school professionals believe that the school needs to accommodate all students to prevent failure. I did not anticipate that none of the teachers at either high school were familiar with the ICS framework. This raised some questions as to whether teachers were provided with an explanation of ICS and what their responsibilities were in facilitating the framework. In ICS, teachers participate in Co-Planning and Co-Serving™ Teams (CCTs) which have the following responsibilities: (a) co-planning lessons which use principles of Universal Design for learning (UDL) (e.g. multiple means of representation, action and expression, and engagement) as part of Identity Relevant Teaching and Learning (IRTL); (b) sharing expertise to support all students; (c) collecting and analyzing equity data; (d) progress monitoring; and (e) sharing and identifying relevant professional development. I was surprised to discover that neither school

had implemented CCTs per ICS definition, which I will address in my Cornerstone Two: Aligning Staff and Students discussion.

Accommodating All Students

I was surprised to discover that all teachers I interviewed at both Charlestown High School and Nelsonville High School expressed the belief that it was their responsibility to remove barriers preventing students from accessing instruction. Descriptions of these barriers ranged from text not being at a student's reading level to student anxiety related to public speaking causing them to struggle when expected to give an oral report. Teachers at both schools discussed providing students with multiple ways of accessing information and expressing their understanding of content. The goal of providing students with multiple means of representation, action and expression, and engagement was so that all students had the opportunity to access their strengths when engaging in the learning process. Teachers described allowing students to create documentaries or construct models as an alternative to writing essays or taking multiple choice assessments to demonstrate their understanding of learning objectives aligned with Common Core State Standards (CCSS). There is a body of literature supporting students use of video (Ikan & Conderman, 1996; Parker, 1999; Yerrick & Ross, 2001) and illustration (Hibbing & Rankin-Erickson, 2003; Short, Kauffman, & Kahn, 2000) as means of demonstrate understanding of text.

Teachers at both Charlestown High School and Nelsonville High School understood that all students vary in their skills and abilities. I was interested to discover that teachers at both high schools discussed differentiating the difficulty of learning tasks and providing different tools and scaffolds to support students who struggled but never discussed differentiating their standards or learning objectives. Teachers discussed providing students who were struggling

readers with text at their reading level so they could access the same learning objectives and standards as their peers. Holly, a history teacher at Charlestown High School, described how she supported a student receiving services under the intellectual disabilities (ID) label by assigning her to a collaborative learning group and varying the degree of acceptable performance. The student receiving services under the ID label was able to achieve the learning objective of demonstrating effects enlightened thinkers had on western civilization through scaffolded support provided by her peers. Collaborative learning provides students with access to peer scaffolds and increased opportunities for one-on-one support as a component of multiple means of engagement. Literature exists supporting the use of peer scaffolds to assist students who struggle in achieving learning tasks (Bentz & Fuchs, 1996; Fuchs, D., Fuchs, L.S., & Burish, 2000).

Denied Access to Core Learning Experiences

I discovered that some students at Nelsonville High School were ability grouped as struggling readers and placed in self-contained reading interventions. During my observation of a reading intervention at Nelsonville High School, I noticed that students were focused on decoding multi-syllable words while all other language arts classes at the ninth-grade level were focused on developing research claims. Students enrolled in the reading intervention were denied equitable access to learning objectives aligned with CCSS provided to their peers enrolled in ninth-grade language arts courses. They were focused on decoding lists of multi-syllable words, reviewing vocabulary terms, and participating in a guided reading circle, while their peers in ninth-grade language arts were conducting research on different social topics and developing claim statements. John Hattie (2009) conducted a meta-analysis of studies on ability grouping over the span of a decade. Hattie's meta-analysis concluded that the practice of ability

grouping had little to no effect on student achievement (Hattie, 2009). Little to no empirical evidence exists suggesting that tracking, ability grouping by standardized test score, and servicing students by label in self-contained classrooms are effective practices for increasing student achievement (Hattie, 2011; Oakes, 2008; Leithwood, 2004).

I found it interesting that Emily, the English Language Learner (ELL) support teacher at Nelsonville High School, taught a self-contained class during co-planning time. When I observed the self-contained ELL classroom, I noticed Emily had included lists of resources (e.g. language dictionaries, online resources, peer scaffolds, etc.) students could access to support them in developing their claims as part of their research projects. Emily spent the first ten minutes of class reviewing the class schedule and discussing what supports students could choose to access for accomplishing the learning objective. In doing so, Emily had demonstrated different components of providing students with multiple means of engagement such as fostering communication and collaboration, displaying goals and supports in multiple ways, and providing different tools and scaffolds. I observed more components of UDL being implemented in Emily's classroom than all other ninth-grade classrooms. Instead of having the opportunity to share her expertise integrating UDL into instruction during regular co-planning time, she was scheduled to teach students who were linguistically diverse in a self-contained class.

Advanced Placement Courses

When observing classrooms at Charlestown High School, I was able to see different examples of UDL as an instructional methodology being put into practice. Teachers in the language arts and social studies departments discussed how they designed lessons which provided students with choices in how they accessed information and demonstrated their

understanding of content. James, a psychology teacher, and Nate, a social studies teacher who taught Advanced Placement (AP) Government, discussed how they were limited in their ability to provide students in AP courses with multiple means of representation, multiple means of action and expression, and multiple means of engagement. They described how in AP courses, students were expected to be successful when administered standardized tests which limited students to expressing their understanding of learning objectives aligned with CCSS to responding to multiple-choice questions.

I found it interesting that students at Charlestown were provided with different ways to engage and become motivated to learn through flexible lessons which allowed them to access their strengths and interest, with the exception of students who received placement in AP courses. James and Nate both believed that Charlestown High School's emphasis on students in AP courses being successful on standardized tests was related to a societal belief that standardized tests effectively measure the quality of our nation's school system (Zhao, 2009). There is limited to no evidence suggesting that student performance on standardized tests can consistently predict the success of high school graduates in society (Goleman, 1995). Zhao (2009) defined the quality of a person as, "What the person can do in real life instead of scores received or years spent in school" (p. 72). The quality of a student is difficult to assess since it consists of skills, abilities, strengths, and values, none of which can be measured by a single assessment. Grades, Intelligence Quotient (IQ), and Scholastic Aptitude Test (SAT) scores assess what schools have historically perceived to be valuable and are not designed to provide a picture of strengths which cannot be counted such as creativity, moral values, ethical standards, or emotional intelligence (Goleman, 1995; Zhao, 2009). Sawyer (2006) suggests that cultures such as the United States which are individualistic value creativity since it concerns

individualistic expression. Dacey & Packer (1992) argue that schools offer flexible learning spaces and project-based learning experiences to develop student creativity. I was surprised that these types of experiences were offered to students enrolled in general electives at Charlestown High School but not students identified as being high-performing.

Cornerstone Two: Aligning Staff and Students

Cornerstone Two: Aligning Staff and Students concerns a systemic shift in which no rooms or programs exist to address the needs of students receiving services under labels like special education and at-risk in isolation from the core learning environment of the school. Students receive instruction in heterogeneous environments based of proportional representation (Capper & Frattura, 2009; Frattura & Capper 2007, 2015). Staff are assembled into grade level teams which include general education teachers, special education teachers, and related service providers for the purpose of constructing each other's collective capacity to meet the needs of all students in heterogeneous environments. These Co-planning and Co-Serving™ Teams (CCTs) seek to implement flexible instructional practices such as Universal Design for Learning (UDL) and share expertise in designing lessons and implementing strategies that help perpetuate success for all learners through a strength-based lens. Steps toward implementing Cornerstone Two: Aligning Staff and Students related to my discussion in this section include: (a) teams for shared-decision making have been organized to support Co-planning and Co-servicing™ to benefit all students; (b) teachers share expertise collectively with other school professionals and students; (c) teams for shared-decision making have aligned instructional content to meet the needs of all learners; and (d) teachers are organized into grade-level teams to Co-plan to Co-serve™, which include general and special educators, teachers in specialized areas.

I did not expect to discover that Charlestown High School had not implemented CCTs per ICS definition. I was also interested to find that the principle of proportional representation had not been applied to all classrooms at Charlestown High School. At Nelsonville High School, I was interested to learn that Emily, the ELL support teacher, was teaching a self-contained class designed to service students who were linguistically diverse during co-planning time.

Limited Co-planning and Preparation Time

When I administered my researcher-developed checklist to Jessica, the Director of Student Services at Charlestown High School, she indicated that teachers were organized into grade-level CCTs. She also indicated that these teams consisted of general and special educators, teachers in specialized areas. After conducting interviews with language arts and social studies teachers at Charlestown High School, I was surprised to discover that they did not have access to preparation time or a regular co-planning period. It became clear that teachers considered opportunities to share each other's expertise and talents as an effective way to co-plan, co-serve, and provide appropriate instructional supports and challenges to all students through UDL. In spite of this, language arts and social studies teachers did not have access to other teachers and specialists to support the development of lessons for providing all students with opportunities to use their strengths in accessing information and demonstrating their understanding of content.

Teachers discussed not have sufficient time to plan lessons providing students with multiple means of representation, action and expression, and engagement without a preparation period. The UDL instructional methodology is designed to address learning differences by providing different opportunities for students to access their strengths in navigating and

perceiving information and expressing their understanding. Student strengths can be influenced by a variety of factors including neurology, culture, interest, and background knowledge (CAST, 2011). Language arts and social studies teachers described how they did not have adequate time to develop lessons taking into account varied individual student strengths and interests without a regular preparation period.

Lack of Access to Other Teachers and Specialists

Teachers at both Charlestown High School and Nelsonville High School discussed how limited access to other teachers and specialists limited their professional growth and capacity to address a broad range of student needs. In ICS, specialists are assigned to Co-planning and Co-serving™ Teams so they can regularly share expertise and talents related to their certification to ensure that all students have access to appropriate instructional supports (Frattura & Capper, 2007, 2015). I was surprised to discover that CCTs were not implemented at Charlestown High School. At Nelsonville High School, ninth-grade language arts teachers shared a common planning time with a special education teacher and reading interventionist but did not have access to their ELL support teacher. The ninth-grade language arts department was the only department at Nelsonville High School who shared a common planning time with specialists through which they could develop lessons for providing multiple means of representation, action and expression, and engagement.

Adrian, a language arts teacher at Charlestown High School, discussed how she struggled designing lessons for students with Intellectual Disabilities (ID) without having access to a special education teacher to support her growth in this area. She believed limited access to other teachers and specialists responsible for either directly or indirectly supporting students at

her grade level limited her capacity to address the needs of all students. Her colleagues Holly, a history teacher, and Cathy, a social studies teacher, shared this opinion.

Ninth-grade language arts teachers at Nelsonville High School discussed how they did not have regular access to Emily, their ELL support teacher, during their co-planning period because she was scheduled to teach a self-contained class designed to service students who were linguistically diverse during this time. They viewed this as a barrier in designing lessons which take into account the skills and abilities of students who were linguistically diverse. Stephanie, the special education teacher who supported the ninth-grade language arts team at Nelsonville High School, described how other departments and grade levels did not share a common planning time which included all teachers and specialists responsible for providing direct or indirect support to students. She discussed how the school administration was planning on eliminating self-contained programming and fundamentals courses at Nelsonville High School during the 2017-2018 school year. Stephanie anticipated that this would be a challenge since special education teachers at other grade levels are spread between multiple content areas and sections. She did not believe they would have sufficient time to help plan lessons which take into account how varied individual student strengths can be used to access learning objectives aligned with grade-level Common Core State Standards (CCSS).

Disproportionate Numbers of Students with High Needs

In ICS, the principle of proportional representation concerns ensuring that students are assigned to all school environments (e.g. classrooms, courses, teams, clubs, etc.) in a way which reflects demographics of the greater student population (Frattura & Capper, 2015). Research suggests that students receiving services under disability labels may experience greater academic success when placed in classrooms where the principle of proportional representation

has been applied versus self-contained classrooms (Frattura & Capper, 2015; Peterson and Hittie, 2009). Disproportionality occurs when the demographic characteristics of a school environment do not reflect the demographics of the greater student population. Jessica, the Director of Student Services at Charlestown High School, indicated on my researcher-developed checklist that all but two students with severe disabilities received instruction in heterogeneous school environments based on proportional representation throughout the entire school day. I was surprised when Holly, a history teacher at Charlestown High School, described classrooms in which 27.8% of the students received services under disability labels when the percentage of students with disabilities at Charlestown High School was only 11%.

Language arts and social studies teachers at Charlestown High School described feeling overwhelmed when attempting to design lessons addressing different skills and abilities when teaching with disproportionate numbers of students with disabilities as well as students who struggle academically and behaviorally. They described not having time to plan lessons which address the broad range of needs in their classrooms without a preparation period or without access to direct and indirect support from a specialist (e.g. special education teacher, Reading Interventionist, etc.). James, a psychology teacher, and Heather, a history teacher, described having access to a special education teacher as a co-teacher in the past who they believed was helpful in providing different ways for students to become engaged or motivated to learn. Cathy, a social studies teacher, described how her department had co-planned a project with a special education teacher in which students were able to choose how they would like to demonstrate being a good citizen. While teachers viewed co-planning time with other teachers and specialists and direct classroom support as supports which could help them provide flexible instruction to classrooms containing large numbers of students with high needs, Cathy described

how the Oxford School District was considering replacing department meetings with more professional development such as hosting guest speakers, book clubs, seminars during the 2017-2018 school year.

Cornerstone Three: Transform Teaching and Learning

Cornerstone Three: Transforming Teaching and Learning is constructed along the lines of three equity non-negotiables. The first equity non-negotiable concerns Co-planning and Co-serving™ Teams (CCTs) through which teachers collectively increase their capacity in addressing the needs of all learners by sharing expertise (Frattura & Capper, 2015). The second equity non-negotiable is focused on the design of curriculum and instruction to be rigorous and accessible for all learners through embedded flexible instructional methodologies like Universal Design for Learning (UDL). The third equity non-negotiable requires CCTs to develop personalized plans containing goals for progress monitoring and instructional strategies for all learners. This differs from traditional co-planning/co-teaching models focused on supporting students receiving services under disability labels in inclusive settings in which personalized plans in the form of Individualized Education Plans (IEP's) are only provided to students with special needs. Steps toward implementing Cornerstone Three: Transforming Teaching and Learning related to my discussion in this section include: (a) school professionals understand the UDL framework and integrate it into practice to support the needs of all students; and (b) teachers are organized in shared-decision making teams to co-plan and co-serve.

I did not anticipate that the Bowdon School District had mandated common curriculum and assessment practices which limited the ability of teachers to provide students with different ways of perceiving and comprehending information and demonstrating what they learned.

Teachers on the ninth-grade language arts team struggled finding opportunities to provide flexible instruction to their students because of fidelity requirements associated with these common curriculum and assessment practices.

Reliance on Fixed Materials and Curriculum

At Nelsonville High School, I was surprised to discover that teachers were not given the freedom to provide students with different choices in how they engaged in the learning process because of fidelity requirements to common curriculum and assessment practices. Teachers described lessons aligned with common assessments as being scripted and materials as not providing information through different modalities (e.g., vision, hearing, or touch) or in ways that could be adjusted by the student (e.g. text that could be highlighted or modified to correspond with different reading abilities, etc.). They also discussed how common assessment practices restricted students to using traditional tools (e.g. pen-and-paper, typing, etc.) when expected to demonstrate their understanding of learning objectives aligned with Common Core State Standards (CCSS).

Using multiple tools to support construction and composition and using multi-media for communication are both components of providing students with multiple means of action and expression (CAST, 2011). Research has shown that schools often expect students to rely on traditional rather than contemporary materials (e.g. spellcheckers, grammar checkers, word prediction software, video editing software) when expressing their understanding of content (Dalton, Herbert, & Deysher, 2003; Lewis, Graves, Ashton, & Kieley, 1998; MacArthur, 1996). Allowing students to use multiple media to support communication serves as a valuable alternative for students who struggle with written expression (MacArthur, & Graham 1987; Flink, Boggiano, & Barrett, 1990; Morocco, Dalton, & Tivnan, 1992; Gouzouasis, 1994; Daiute

& Morse, 1994; Garthwait, 2004). To some students, traditional tools supporting communication and problem solving like pencils, pens, chalk, word processing programs, and rulers pose a challenge to accessing learning objectives (Crealock, & Sitko, 1990; Isaacson, & Gleason, 1997).

Students with language-based learning disabilities and executive function disorders may experience barriers demonstrating their understanding of learning objectives or standards when expected to write without use of assistive tools or flexible response options (Higgins, & Raskind, 1995; MacArthur, 1999; Gersten, & Baker, 2001). Providing more flexible and contemporary options in the classroom, such as different technology apps supporting video editing, slide presentations, can support students in accessing multiple means of expressing their understanding of learning objectives (Crealock, & Sitko, 1990; MacArthur, 1996; Onosko, & Jorgenson, 1998; Macarthur, 1999; Onosko, & Jorgenson, 1998; Longo, Reiss, Selfe, & Young, 2003). Also, providing students with options to demonstrate their understanding of content through "visually rich" technology and artwork also serves as a support to providing students with multiple means of action and expression (Ikan, & Conderman, 1996; Short, Kauffman, & Kahn, 2000; Hibbing, & Rankin-Erickson, 2003), particularly for students with special needs in the area of written language (Gersten, & Baker, 2001; Morse, 2003).

I found it interesting that common curriculum and assessment practices were not designed to take into account differences in student skills and abilities given the diverse student demographics of Nelsonville High School and the Bowdon School District. There is no singular means of expressing understanding which equally fits all students (CAST, 2011). Ann, a ninth-grade language arts teacher at Nelsonville High School, described how the same student excelled when given the opportunity to orally present a research report would have struggled if

expected to write an essay. UDL as an instructional methodology is designed to provide students with alternatives in using different tools to express their understanding of content unless a lesson is focusing on teaching how to use a specific tool like a protractor. Teachers in the ninth-grade language arts department at Nelsonville High School believed that common curriculum and assessment practices which restricted how students could participate in learning and articulate what they know, restricted what type of learner could be successful.

Inflexible Interpretation of Standards

Curriculum developers at central office and many school professionals outside of the ninth-grade language arts department believed that students could only demonstrate proficiency by achieving Common Core State Standards (CCSS) using traditional grade-level materials like textbooks, workbooks, typing, pen-and-paper, and grade-level texts. Teachers in the ninth-grade language arts department believed that students could access the CCSS when given different means of perceiving and comprehending information and expressing what they know. Common curriculum and assessment practices in the Bowdon School District limited students to using grade-level materials and traditional tools when expected to demonstrate an understanding of learning objectives aligned with CCSS. Teachers described how students with disabilities, students who were linguistically diverse, and students who were struggling readers were not able to access learning objectives when restricted to using grade-level materials and traditional tools. Mary, a Reading Interventionist at Nelsonville High School, described how some students would “shutdown” when administered common assessments because they were not allowed to access resources such as leveled text and text-to-speech, which were necessary for successful completion of the task.

Cornerstone Four: Leverage Funding and Policy

In Cornerstone Four: Leverage Funding and Policy, school professionals integrate district policies, state and federal funding, and federal legislative policies to address the needs of all students in heterogeneous classrooms. Schools align all policies and procedures with ICS principles and practices (Capper & Frattura, 2009; Frattura & Capper, 2007, 2015). Schools also seek to eliminate all categorical policies and procedures promoting differential treatment of students. Three of the steps related to my discussion in this section include: (a) funding is merged to meet the needs of all learners as opposed to being allocated by program; and (b) resources are allocated to construct teacher and systemic capacity in meeting the needs of all students.

Funding

At Charlestown High School, the administration systemically supported teachers in their efforts to develop lessons providing students with opportunities to access their strengths by allocating funding towards professional development focused on Universal Design for Learning (UDL), technology, and flexible furniture like tables and chairs with wheels or tables that could be written on. Professional development consisted of UDL workshops, technology seminars, and UDL book clubs through which school professionals could share new knowledge gained from their readings. The administration had purchased technology which afforded all students tools for accessing information (e.g. text-to-speech software, one-to-one Chromebooks™, built-in picture dictionaries, etc.), constructing work products (e.g. spellcheckers, grammar checkers, word prediction software), and demonstrating what they learned (e.g. video editing software, speech-to-text software). Allowing students to access a broad range of technological media is an effective strategy for supporting students who experience difficulties with written expression

(Morocco, Dalton, & Tivnan, 1992; Parker, 1999; Reinking, & Watkins, 2000). Research has demonstrated that allowing students to demonstrate their understanding through film is a beneficial alternative for students who struggle with written expression (Parker, 1999; Wilson, 1999; Vincent, 2001).

During my observations of language arts and social studies classrooms at Charlestown High School, I noticed Holly, a history teacher, and Adrian, a language arts teacher, facilitate the use of flexible furniture to support collaboration between students in cooperative learning groups. Cooperative learning is a component of multiple means of engagement which has been shown to support reading achievement (Fuchs, Fuchs, & Burish, 2000; Fuchs, & Fuchs, 2005), writing (Graham, & Perin, 2007; Harris, Graham, & Mason, 2006), and access to peer scaffolds for students with disabilities (MacArthur, 1991; Mathes, Howard, Allen, & Fuchs, 1998; Mathes, & Fuchs, 1993; McMaster, & Fuchs, 2002; McMaster, Fuchs, & Fuchs, 2006). Researchers have demonstrated how flexible furniture can be used to provide students with alternatives in how they access instruction and cooperative learning experiences (Brown, 2004; Oblinger, 2005).

Limited Funding for Professional Development

At Nelsonville High School, teachers in the ninth-grade language arts department discussed having limited of access to professional development centered on UDL. They described how two or three teachers were sent to attend conferences focused on UDL and expected to share out the information gained with other teachers and specialists at Nelsonville High School. Teachers expressed their dissatisfaction that professional development focused on UDL did not extend beyond the occasional conference and was not widely accessible to more

teachers and specialists. They believed that limited professional development restricted their understanding of how to integrate UDL into instruction.

Implications

In this section I discuss implications and recommendations for practice informed by the findings of this study. The implications for practice are suggestions for school leaders seeking to support Universal Design for Learning (UDL) through Integrated Comprehensive Systems (ICS) for Equity, a systems-based framework designed to interrupt inequity in schools.

Proportional Representation

The principle of proportional representation should be applied to classrooms to ensure that teachers can manage designing lessons which offer all students different ways of receiving information, engaging in learning, and expressing what they have learned. This means that if 11% of students in a school district receives services under disability labels and 21% receive English Language Learner (ELL) services, then no more than 11% of students in a classroom should be receiving services under disability labels and no more than 21% of students in a classroom should be linguistically diverse. In ICS for Equity, it is the responsibility of the School Leadership Team (SLT) to ensure that the principle of proportionally representation has been applied to all school environments (classrooms, courses, teams, clubs, etc.). It is the responsibility of Co-Planning and Co-Serving™ Teams (CCTs) to support all students proportionally represented within their grade. School leaders should be aware of these responsibilities and help ensure that they are clearly understood by all members of the SLT and CCTs.

Co-plan to Co-serve™

In schools implementing ICS for Equity, CCTs consist of all teachers and specialists who are responsible for supporting students proportionally represented within their grade. CCTs meet regularly to co-plan lessons which offer students multiple means of representation, action and expression, and engagement. CCTs also provide opportunities for teachers and specialists to share each other's expertise to increase each other's capacity in designing instruction to accommodate a broad range of student needs. I was surprised to discover that neither Charlestown High School or Nelsonville High School had CCTs per ICS definition. At Charlestown High School, teachers were unable to co-plan or benefit from accessing the expertise of other teachers and specialists responsible for servicing students at their grade level. At Nelsonville High School, ninth-grade language arts teachers did not have consistent access to their ELL support teacher which limited their ability to co-plan lessons taking into account the needs of students who were linguistically diverse. School leaders should ensure that all relevant teachers and specialists responsible for servicing students at each grade level have access to a regular co-planning period for designing lessons based on an Identity Relevant Teaching and Learning (IRTL) framework. UDL is part of IRTL which is a component of Cornerstone Two: Transforming Teaching and Learning.

Regular Preparation Time

School leaders should provide teachers with sufficient time to design lessons which provide students with different ways to access information and demonstrate their understanding of what they learn. These individuals can help ensure that teachers have time to take into consideration different ways students may perceive or comprehend information and how to help them navigate the learning environment. They can also help ensure that teachers have time to

structure different options for students to express an understanding of content using their strengths.

Technology to Support All Learners

Teachers at both Charlestown High School and Nelsonville High School discussed using technology to provide students with alternatives for navigating content, interacting with peers, and composition. School leaders should seek to provide technology which helps ensure that lessons are accessible to all students. Teachers at Charlestown High School discussed how students who struggled with reading grade-level materials had access to text-to-speech software and picture dictionaries to assist them in accessing text. Ninth-grade language arts teachers at Nelsonville High School described how students were able edit each other's work through Google Docs™ which allowed them to collaboratively update documents in real-time. Teachers at both high schools described providing students who may have struggled accessing Common Core State Standards (CCSS) if limited to writing an essay with the opportunity to use video editing software for creating films expressing their understanding of content. School leaders should ensure that teachers have access to professional development centered on using different technologies to support multiple means of representation, multiple means of engagement, and multiple means of action and expression.

Professional Development

Teachers at Nelsonville High School did not have access to regular professional development focused on UDL, which limited their understanding of how the instructional methodology could be applied to meet the needs of all students. School leaders should seek to identify and supply professional development to ensure that teachers responsible for developing and implementing UDL have an understanding of how to develop lessons through which all

students can access their individual strengths. In schools implementing ICS for Equity, the District Leadership Team (DLT) and SLT are responsible for providing professional development to support CCTs in their efforts to provide all students with ways of accessing instruction through their individual strengths. CCTs are responsible for communicating needs for materials and professional development supporting IRTL practices which includes UDL.

Future Research

The findings of these two descriptive case studies were comprehensive in their scope. In this section, I seek to provide recommendations for future studies. In the future, additional qualitative, quantitative, and mixed-methods approaches may be useful in exploring related research problems surrounding Universal Design for Learning (UDL) and Integrated Comprehensive Systems (ICS) for Equity.

Effect on Student Achievement

Researchers should seek to further explore the effect of UDL on student achievement. This study was focused on what supports and barriers existed to integrating UDL as an instructional framework in schools implementing ICS for Equity.

Identity Relevant Pedagogy

In this study, I focused on supports and barriers to UDL as part of an Identity Relevant Teaching and learning (IRTL) framework. Identity relevant pedagogy is another part of IRTL which focuses on gender, racial, ethnic, sexual, disability, and class identities. UDL can be applied in absence of identity relevant pedagogy since multiple means of representation, action and expression, and engagement can be provided while instruction is focused on white-middle

class values (Frattura & Capper, 2015). Researchers should explore what supports and barriers exist to integrating identity relevant pedagogy into practice.

Administrative Perspectives

In this study, I focused on the perspectives of teachers who were responsible for designing and implementing lessons along the lines of the UDL instructional methodology. While administrative contacts were used to provide a preliminary picture of what steps were taken towards implementing ICS for Equity at both high schools, I did not interview administrators to gain insight into their perspectives of what supports and barriers exist to integrating UDL into instruction. Researchers should investigate administrative perspectives concerning supports and barriers to integrating UDL as an instructional methodology in schools implementing ICS.

Effect of the Four Cornerstones of ICS for Equity on UDL

In this study, I discovered that neither Charlestown High School nor Nelsonville High School had successfully taken all steps towards implementing ICS for Equity. Future research should be focused on whether ICS as an equity-based framework helps sustain UDL. In these descriptive case studies, I focused on teachers who were responsible for planning and implementing lessons along the lines of the UDL instructional methodology. Many of the findings were localized around Cornerstone Two: Aligning Staff and Students and Cornerstone Three: Transforming Teaching and Learning. Further research is needed on how UDL could be supported through Cornerstone One: Focus on Equity and Cornerstone Four: Leverage Funding and Policy to help determine if findings in these two descriptive case studies are transferable to other high schools. Researchers should seek to compare the integration of UDL into instruction at schools implementing ICS to schools not implementing ICS.

Conclusions

The findings of these case studies presented several new insights into practice. The principle of proportional representation should be applied to classrooms to ensure that the level of student need can be managed through Co-planning and Co-serving™. Teachers should have access to all relevant school professionals (e.g. general educators, interventionists, special education teachers, English Language Learner support teachers, etc.) so they can share knowledge and expertise to increase each other's capacity to better provide instruction to all students. Administration should allocate funding for technology and flexible classroom materials like tables and chairs with wheels and tables which can be written on to help teachers provide students with different ways of perceiving and comprehending information and demonstrating their understanding of what they learn. Professional development focused on UDL should be provided to support teachers in their understanding of designing lessons which provide multiple means of representation, action and expression, and engagement.

These descriptive case studies provide insight into supports and barriers to integrating UDL as an instructional methodology at two high schools faced with different contextual factors such as the level of ICS implementation, demographics, and funding. The findings are not generalizable to other high schools but can be used to inform practice beyond these cases (Patton, 2015). The findings of each descriptive case study revealed implications for practice and established a need for future research concerning UDL and ICS, both which are designed to promote equitable access for all students.

Meeting the needs of a diverse student population is an enormous task. School leaders and researchers can use insights gained from findings in this study to help inform their own

practices when seeking to implement ICS or support the integration of UDL into instruction. Teachers at both Charlestown High School and Nelsonville High School were able to identify supports and barriers which impacted the integration of UDL as an instructional methodology into daily practice. It is my belief the results of this study can assist school leaders seeking to implement ICS in identifying supports and potential barriers which may impact the integration of UDL into instruction.

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APPENDIX A

Interview Protocol

Section I: Rapport Questions

1. Tell me about your career as a teacher.
2. Why did you become a teacher?
3. What are your professional goals for this school?
4. How are they similar or different than your professional goals for your department and practice in the classroom?
5. I am interested in learning about ways that UDL is being implemented in the Language Arts/Social Studies Department of this school. To. Could you tell me what does UDL mean to you?
6. Would you be able to tell me what Integrated Comprehensive Systems for Equity (ICS) means to you?

a. **Read if teacher provides knowledge concerning ICS.** Are you familiar with the Four Cornerstone framework of ICS? If so, could you provide me with your explanation the Four Cornerstone framework?

Section II: Main Questions

It is likely that supports and barriers to implementing UDL exist in any school setting. I would like to ask some questions to gain insight into your views about ways teachers and administrators in [this school] provide support for implementing each of three elements of UDL, which include multiple means of engaging students in learning, multiple means of representing content to students, and providing students with multiple means of demonstrating what they have learned.

1. Tell me about ways you, your colleagues, and {school} administrators support multiple means of representing content to all students.

a. **Read if supports are provided.** How do these supports connect to student learning at the classroom level?

2. Could you share some specific examples of how you provide all students in your classroom with multiple means of representation?
3. How are the ways that you provide multiple means of representation to all students in your classroom similar or different than other teachers in your department?
4. Has this impacted or changed learning experiences for students with disabilities who receive instruction in your classroom? If so, how?

    a. **Read if asked to define "supports" or "barriers":** Supports are events or conditions in schools implementing ICS enabling the provision of UDL. Barriers are events or conditions in schools implementing ICS that makes the provision of UDL challenging. Supports could include in-services, workshops, administrative support, or opportunities for collaboration time with other school professionals. Barriers could include a lack of in-services, workshops, and opportunities for collaboration time with other school professionals.
    b. **Read if teacher provides knowledge concerning ICS.** Could you explain how ICS supports UDL in your school?

5. Tell me about ways you, your colleagues, and {school} administrators support multiple means of engaging all students in learning?

    a. **Read if supports are provided.** How do these supports connect to student learning at the classroom level?
6. Could you share some specific examples of how you provide all students in your classroom with multiple means of engaging in learning?
7. Do you do this done similarly or differently than other teachers in your department? If so, please explain.
8. Has this impacted or changed learning experiences for students with disabilities who receive instruction in your classroom? If so, how?
9. Let's discuss ways teachers and administrators in [this school] provide support for providing all students with multiple means of expression. Tell me about ways you, your colleagues, and {school} administrators are supporting students in accessing multiple means of demonstrating what they have learned or may already know.

    a. **Read if supports are provided.** How do these supports connect to student learning at the classroom level?

10. Could you share some specific examples of how you provide all students in your classroom with multiple means of demonstrating what they have learned or may already know?
11. Do you do this done similarly or differently than other teachers in your department? If so, please explain.
12. Has this impacted or changed learning experiences for students with disabilities who receive instruction in your classroom? If so, how?

13. How does your current classroom differ from your ideal UDL classroom?
14. What kind of support would go into transforming your current classroom into your ideal UDL classroom?
15. Have you noticed similar or different supports and barriers to implementing UDL in other departments? For example, in Math or Science. If so, please explain.
16. Why do you think these (similarities OR differences) exist?
17. How has your district supported teacher professional development in UDL?
18. Would you provide this professional development similarly or differently? Please explain why.
19. Now that we have discussed what supports exist for integrating UDL as an instructional methodology, I am interested to learn about what barriers exist to implementing each of the three elements of UDL. Tell me about barriers you, your colleagues, and {school} administrators have encountered which have made it challenging to provide all students with multiple means of representing content to all learners. Please share examples from practice.
20. How have these barriers made it challenging to represent content to students in multiple ways at the classroom level?
21. Why do you feel these barriers exist?
22. Explain what you feel could be done to address these barriers and why you hold these beliefs.
23. Tell me about barriers you, your colleagues, and {school} administrators have encountered which have made it challenging to engage all students in their learning. Please share examples from practice.
24. How have these barriers made it challenging to engage students in multiple ways at the classroom level?
25. Why do you feel these barriers exist?
26. Tell me about barriers you, your colleagues, and {school} administrators have encountered which have made it challenging to provide all students with multiple means of demonstrating what they have learned or may already know. Please share examples from practice.
27. How have these barriers made it challenging to provide students with multiple ways of demonstrating what they know at the classroom level?
28. Why do you feel these barriers exist?
29. Explain what you feel could be done to address these barriers and why you hold these beliefs.

Closing

30. Is there any information that you would like to share that has not been addressed in this interview?

APPENDIX B

Integrated Comprehensive Systems for Equity (ICS) Implementation Checklist

Cornerstone	**Checklist:** Check the box if the component has been implemented.	**Evidence Supporting ICS/Practices**
Cornerstone One: Focus on Equity	☐ The school has defined/clarified equity non-negotiables. ☐ A school or district mission has been developed to support the equity non-negotiables. ☐ The school or district has collected equity data to evaluate the present level of performance in providing an equitable and socially just education to all students. ☐ Funding and policies are aligned to support the needs of all students in heterogeneous learning environments.	

	☐ All students receive services with neighborhood peers (or through school choice) as opposed to some students receiving services in a different location within the school or district. ☐ Rooms/schools are not allocated specifically for servicing students receiving services under labels (e.g. LD, EBD, ID, ESL, or At-risk) ☐ All students receive instruction in heterogeneous school environments throughout the entire school day. ☐ All school professionals believe that the school needs to accommodate all students to prevent failure.	
Cornerstone Two: Align Staff and Students	☐ All teachers are organized into grade-level teams which include general and special educators, teachers in specialized areas (e.g. Title I, English Language Learner (ELL), At-Risk, Gifted, Speech & Language, etc.)	

	☐ Teams for shared-decision making have been organized to support co-planning and co-servicing to benefit all students. ☐ Teachers share expertise collectively with other school professionals and students. ☐ Teams for shared-decision making have aligned instructional content to meet the needs of all learners.	
Cornerstone Three: Transform Teaching & Learning	☐ School professionals understand that ability grouping, remediation, self-contained programming, core plus more and servicing students in separate schools do not increase student achievement. ☐ Response to Intervention (RTI) is used proactively through a UDL instructional methodology in Tier 1 as opposed to a system of remediation and ability grouping. ☐ School professionals understand the	

	Universal Design for Learning (UDL) framework and integrate it into practice to support the needs of all students. ☐ Teachers are organized in shared-decision making teams to co-plan and co-serve within Tier 1. ☐ Teachers apply culturally relevant practices. ☐ Students do not need to be labeled to receive a personalized education.	
Cornerstone Four: Leverage Funding & Policy	☐ Funding is merged to meet the needs of all learners as opposed to being allocated by program. ☐ Resources are allocated to construct teacher and systemic capacity in meeting the needs of all students ☐ Policies are merged to proactively meet the needs of all learners in heterogeneous environments.	

APPENDIX C

Project: SUPPORTS AND BARRIERS TO UNIVERSAL DESIGN FOR LEARNING (UDL) IN SCHOOLS IMPLEMENTING Integrated Comprehensive Systems for Equity (ICS)

Start Time of Observation:

End Time of Observation:

Date:

Place:

Observer:

Person Observed (Pseudonym):

Research Questions:

1) What supports exist for integrating UDL as an instructional methodology in schools implementing ICS for Equity Framework?

2) How do these supports bring about successful integration of UDL as an instructional methodology?

3) What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS for Equity Framework?

4) How do these barriers prevent the integration of UDL as an instructional methodology?

5) Why do barriers preventing the integration of UDL as an instructional methodology exist?

6) Do teachers working at schools demonstrating a higher level of ICS for Equity implementation along the lines of the Four Cornerstones experience more supports and fewer barriers to integrating UDL as an instructional methodology than teachers at schools with a low level of implementation?

1. Focus on multiple means of representation (document other observations that stand out as well).

a) How does the teacher offer multiple ways of displaying information?
b) How does the teacher offer alternatives for visual and auditory information?
c) How does the teacher clarify vocabulary, symbols, syntax, and structure?
d) How does the teacher illustrate concepts through multiple media?
e) How does the teacher activate or supply background knowledge?
f) How does the teacher represent main ideas and relationships to students?

g) How does the teacher guide information processing, visualization, and manipulation?
h) Are there any observed supports? If so, how do these observed supports help teachers provide students with multiple means of representation?
i) Are there any observed barriers? If so, how do these observed barriers prevent teachers from providing students with multiple means of representation?

2. Focus on multiple means of action & expressions (document other observations that stand out as well).

a) How does the teacher vary methods for response and navigation?
b) How does the teacher optimize access to tools and assistive technologies?
c) How does the teacher use multiple media to support communication?
d) How does the teacher provide guides for goal setting?
e) How does the teacher support the assignment or project planning process?
f) Are there any observed supports? If so, how do these observed supports help teachers provide students with multiple means of action and expression?
g) Are there any observed barriers? If so, how do these observed barriers prevent teachers from providing students with multiple means of action and expression?

3. Focus on multiple means of engagement (document other observations that stand out as well).

a) How does the teacher provide students with choice and autonomy?
b) How does the teacher minimize distractions?
c) How does the teacher vary task demands to support student engagement?
d) How does the teacher promote collaboration?
e) How does the teacher provide feedback?
f) How does the teacher support student self-management?
g) How does the teacher support students in collecting data on their own behavior and encourage reflection?
h) Are there any observed supports? If so, how do these observed supports help teachers provide students with multiple means of engagement?
i) Are there any observed barriers? If so, how do these observed barriers prevent teachers from providing students with multiple means of engagement?

SUMMARY:

APPENDIX D

Appointment Letter

Dear Participant,

I greatly appreciate that you are considering being part of a research study to assist me in preparing my doctoral dissertation at the University of Wisconsin – Milwaukee. The purpose of this study is to exploring what supports and barriers exist for integrating UDL as an instructional methodology at schools implementing ICS. As a participant, I will seek to schedule an observation of one period of classroom instruction. As a participant, you will be interviewed at a time and place convenient to you. I anticipate interviews to take between 60-110 minutes. The interview will be tape recorded and transcribed. I will provide you with an interview transcript and time to review it.

This research study should not result in any risks or discomforts to you, your organization, or to the public. Potential benefits to participants include developing a greater understanding of what supports and barriers exist for integrating UDL as an instructional methodology at schools implementing ICS.

Confidentiality may be difficult to maintain since I will possibly be seen conducting observations of your classroom. Student names will not be used in the write up as I will be focusing on how you provide students with multiple means of content representation, multiple means of engagement, and multiple means of demonstrating their knowledge. To help ensure confidentiality, I will assign all participants a pseudonym in the final write-up. Tape-recorded interviews and scripts of each interview will be kept confidential. Also, participating schools will be assigned a pseudonym to provide an additional safeguard to the confidentiality of participants. While the results of this study may be published, they will not contain identifying information for the purpose of protecting participant confidentiality. I will share a copy of the final write-up with all participants.

I will gladly respond to any questions you have relative to this research. If you have questions regarding your rights as a research participant, please contact the Institutional Review Board (IRB) office at irbinfo@uwm.edu or 414-229-3182/414-229-3173.

Thank you very much for your consideration,

Max Long
E-mail: longmj@uwm.edu
Phone: 920-645-7827

APPENDIX E

STATEMENT OF INFORMED CONSENT

Supports and Barriers to Universal Design for Learning (UDL) in Schools Implementing Integrated Comprehensive Systems for Equity (ICS)

You are welcome to participate in a research study conducted by Max Long, who is a doctoral student in the University of Wisconsin – Milwaukee Urban Education PhD Program. Max Long is completing a study on supports and barriers to Universal Design for Learning (UDL) in schools implementing Integrated Comprehensive Systems for Equity (ICS) for his dissertation. Dr. Elise Frattura is his Doctoral Committee chair.

Your participation in this study is voluntary. You are encouraged to read the information in this statement and ask questions concerning your involvement in this study prior to making the decision to participate or not. You are being asked to participate in this study for the following reasons:

1) You are presently employed at a school implementing or attempting to implement Integrated Comprehensive Systems for Equity (ICS).

2) You are a member of the English Language Arts/Social Studies Department.

3) You are presently employed at a school implementing or attempting to implement Universal Design for Learning (UDL).

PURPOSE OF THE STUDY

The purpose of this study is to explore what supports and barriers exist for integrating UDL as an instructional methodology at schools implementing ICS. In this study, Max Long will investigate the following six research questions:

1. What supports exist for integrating UDL as an instructional methodology in schools implementing ICS for Equity Framework?
2. How do these supports bring about successful integration of UDL as an instructional methodology?
3. What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS for Equity Framework?
4. How do these barriers prevent the integration of UDL as an instructional methodology?
5. Why do barriers preventing the integration of UDL as an instructional methodology exist?
6. Do teachers working at schools demonstrating a higher level of ICS for Equity implementation along the lines of the Four Cornerstones experience more supports and fewer barriers to integrating UDL as an instructional methodology than teachers at schools with a low level of implementation?

OBSERVATIONS

In Winter/Spring 2016, Max Long will conduct classroom observations of a minimum of fifteen English Language Arts/Social Studies Teachers across a minimum of two schools. The purpose of conducting observations is to gain insight into how the UDL

instructional methodology is being introduced at the classroom level in addition to what supports and barriers are visible at the classroom level. The observation field note form is organized into three sections along the lines of the UDL instructional methodology which includes the provision of multiple means of engagement, multiple means of representation, and multiple means of action and expression. Each section includes two sub-sections for observable supports and barriers.

ONE-ON-ONE INTERVIEWS

In Spring 2016, Max Long will conduct interviews with a minimum of fifteen English Language Arts/Social Studies Teachers across a minimum of two schools. Interviews will be conducted on-site in a private location such as a classroom or conference room. All interviews will last a minimum of one hour. Interviews will either be manually transcribed or tape-recorded per participant preference.

The interview protocol is divided into three sections designed to gain information related to the research questions.

Section I of the interview protocol contains six rapport questions. These questions are designed to establish rapport, provide the participant with an understanding of the purpose of the study, and understand their definitions of Integrated Comprehensive Systems for Equity (ICS) and Universal Design for Learning (UDL). The final rapport questions are designed to explore how the participant believes the high school is meeting the needs of all learners through UDL.

Section II of the interview protocol is designed to explore the following research questions:

1. What supports exist for integrating UDL as an instructional methodology in schools implementing ICS for Equity Framework?
2. How do these supports bring about successful integration of UDL as an instructional methodology?
3. What barriers prevent the integration of UDL as an instructional methodology in schools implementing ICS for Equity Framework?
4. How do these barriers prevent the integration of UDL as an instructional methodology?
5. Why do barriers preventing the integration of UDL as an instructional methodology exist?
6. Do teachers working at schools demonstrating a higher level of ICS for Equity implementation along the lines of the Four Cornerstones experience more supports and fewer barriers to integrating UDL as an instructional methodology than teachers at schools with a low level of implementation?

Section III of the interview guide has been designed to probe the participant for information they would like to share that was not addressed during the interview. Max Long will transcribe the interviews.

POTENTIAL RISKS AND DISCOMFORTS

An activity risk associated with this study concerns a loss of confidentiality. Since there are a limited number of teachers in any given Language Arts/Social Studies Department, there is a

risk of participating teachers being identified by other professionals at the selected school based upon answers provided during the interview. Max Long will be conducting observations in the classrooms of participating teachers which could also lead to a risk of participating teachers being identified by other professionals at the selected school.

In the instance that discomforts arise, you may discontinue participation. An activity risk associated with this study could include a loss of confidentiality of schools identified as implementing Integrated Comprehensive Services (ICS) and interview participants resulting from disclosure.

To safeguard against these risks and discomforts, Max Long will provide participant with the choice to be audio-taped or not to be audio taped. The identities of participants who opt in or out of the study will remain confidential. Max Long will assign individual participants and participating schools pseudonyms to ensure confidentiality.

In the instance that risks or discomforts arise, participants may discontinue participation. Participants have the right to choose whether or not to participate in this study. If participants choose to be in this study, there will be no consequences for withdrawing at any point in time. Participants have the right to refuse to answer any question they do not feel comfortable answering. If participants choose to withdraw from this study at any point in time, they are not required to provide a reason for doing so. Max Long will conduct interviews on-site at a private location to protect the confidentiality of participants.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Potential benefits to participants include developing a greater understanding of what supports and barriers exist for integrating UDL as an instructional methodology at schools implementing ICS.

COMPENSATION FOR PARTICIPATION

You will not receive any payment or other compensation for participation in this study. There is also no cost to you for participation.

CONFIDENTIALITY

To help ensure confidentiality, all participants will be assigned a pseudonym in the final write-up. Observation protocols, tape-recorded or interviews and scripts of each interview will be kept confidential. Also, participating schools will be assigned a pseudonym to provide an additional safeguard to the confidentiality of participants. Any information used for publication will not identify you individually. While Max Long may publish the results of this study in his dissertation and other publications, they will not contain identifying information for the purpose of protecting participant confidentiality. Max Long will share a copy of the final write-up with all participants. Max Long will keep all recordings from the interviews on a zip drive for a period of seven years after which they will be erased.

PARTICIPATION AND WITHDRAWAL

You have the right to choose whether or not to participate in this study. If you choose to be in this study, there will be no consequences for withdrawing at any point in time. You have the right to refuse to answer any question you do not feel comfortable answering. If you choose to

withdraw from this study at any point in time, you are not required to provide a reason for doing so.

TAPE-RECORDED OR MANUAL TRANSCRIPTION

You have the right to choose whether or not to be tape-recorded or to have the interview manually transcribed. If you provide consent to have the interview tape-recorded, you have the right to discontinue being recorded at any point in time without consequences. Please check the appropriate box below indicating your choice to have your interview tape recorded or manually transcribed. All tape-recordings will be stored on an encrypted Flash-drive by Max Long to protect the confidentiality of participants from being identified by voice. Max Long will store tape recordings on the encrypted Flash-drive for a period of seven years after which they will be destroyed.

- ☐ I understand my right to choose whether my interview is tape recorded or manually transcribed. I agree to have my interview **tape recorded**.
- ☐ I understand my right to choose whether my interview is tape recorded or manually transcribed. I refuse to have my interview tape recorded. I agree to have my interview **manually transcribed**.

STUDENT PRINCIPLE INVESTIGATOR

If you have any questions or concerns about the study, please contact:

Max Long
Student Principal Investigator
1036 N 17th St
Manitowoc, WI 54220
920-645-7827
longmj@uwm.edu

RIGHTS OF RESEARCH SUBJECTS

If you have any questions or concerns about your rights as a participant in this study, please contact the Institutional Review Board (IRB) office at irbinfo@uwm.edu or 414-229-3182/414-229-3173.

I understand the procedures described above. My questions have been answered and I have been provided with a copy of this form.

_____

Printed Name of Participant

_____ _____

Signature of Participant Date

_____ _____

Signature of Student Principle Investigator Date

Curriculum Vitae

Max Long

Updated April, 2018

EDUCATION

Ph.D.

Urban Education: Educational Administration

University of Wisconsin - Milwaukee – Milwaukee, WI

May 2018

(APA accredited & NASP approved)

Dissertation

Supports and Barriers to Universal Design for Learning (UDL) in Schools Implementing Integrated Comprehensive Systems for Equity (ICS)

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CREDENTIALS

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August 2016 to Present

Cross Categorical Special Education: Professional License

Wisconsin Department of Public Instruction

August 2015 to Present

APPLIED EXPERIENCE

Special Education Teacher

Sheboygan Falls Middle School, Sheboygan Falls, WI – August 2014 to Present

Lincoln High School, Manitowoc, WI – August 2008 to December 2011

Autism Program Coordinator/Autism Consult

Manitowoc Public School District, Manitowoc, WI – December 2011 to August 2014

Clinical Case Manager

Little Friends, Inc. – August 2004 to August 2007

TEACHING EXPERIENCE

Courses

Silver Lake College *- Manitowoc, WI – September 2015 to May 2016*

Special Education Assessment (SED 307)

Functional Skills Instruction (SED 310)

PRESENTATIONS

Long, M. & Shircel, A. (2017). Co-teaching to Facilitate Universal Design for Learning (UDL). Presented at Wisconsin Department of Public Instruction Collaborative Supports Conference, Wisconsin Dells, WI.

Long, M. (2016). Our Journey Implementing Co-teaching. Presented at CESA 2 Conference. Whitewater, WI.

Long, M. (2015). Universal Design for Learning (UDL): Integrating Evidence Based Practices into the Universal Classroom. Presented at Silver Lake College. Manitowoc, WI.

PAPER

Long, M. (2011). *The Use of a Teacher Developed Video Feed-forward to Increase Oral Reading Fluency and Comprehension Levels of Two Students with Autism*. (Unpublished master's thesis). Silver Lake College, Manitowoc, WI

OTHER PROFESSIONAL EXPERIENCES

Member of Statewide Co-Teaching Collaborative Committee for the Wisconsin Department of Public Instruction

Contributor to the Cross-pollination of Universal Design for Learning (UDL) and Culturally Sustaining Pedagogy (CSP) workgroup for the Wisconsin Department of Public Instruction