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Teachers Perceptions of Barriers to Universal Design for Learning

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Mary Jordan Anstead

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2016

Abstract

Teachers Perceptions of Barriers to Universal Design for Learning

by

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Ed S, University of Nevada, 2004

MA, Ball State University, 1982

BS, Taylor University, 1981

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

January 2016

Abstract

Universal Design for Learning (UDL) has been identified as a contemporary instructional model for promoting inclusion and equitable opportunities for diverse and struggling learners. However, research regarding teachers' perceptions of UDL and its effective implementation is limited, making planning, implementing, and providing professional development difficult for administrators. Guided by the constructivist views of Vygotsky and Piaget, this qualitative case study was designed to understand teachers' knowledge and perceptions of how UDL can be used to promote equitable inclusive instruction, implementation barriers, educational applications for UDL, and perceived needs to implement UDL. Participants were teachers who had implemented UDL from a public charter school serving only students in Grades 3-11 with low incidence disabilities; 20 participated in an online survey, 7 participated in an individual interview, and 3 participated in a group interview. Data were coded and analyzed for common themes. Participants expressed resistance to change, negative impressions of UDL, and disability bias. Recommendations for administrators included strategies for implementation of UDL, periodic collection of teachers' perceptions of UDL for formative purposes, modeling UDL for teachers, monitoring teachers' lesson plans, and classroom observations. This study contributes to social change by identifying teachers' perceptions of their own knowledge, needs, and barriers to implementation of UDL in order assist administrators in effectively preparing them for delivery of instructional services to enhance learning for all diverse and struggling students.

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Dedication

This study is dedicated to my many students with disabilities who taught me so much about instruction, learning, and how to be truly happy.

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Table of Contents

List of Tables	v
List of Figures.....	vi
Section 1: Introduction to the Study	1
Introduction	1
Background	2
Problem Statement.....	2
Purpose of the Study.....	3
Nature of the Study.....	3
Research Questions	4
Theoretical Framework	5
Operational Definitions	5
Assumptions	6
Scope	6
Delimitations	6
Limitations.....	7
Significance.....	8
Summary and Transition	9
Section 2: Literature Review	11
Introduction	11
UDL.....	12

Disability and Bias	13
Application of Universal Design for Learning.....	17
Implementation of Universal Design for Learning	19
Furthering UDL Within Professional Learning Communities	22
Key Research for UDL.....	24
Summary and Transition	25
Section 3: Research Method.....	26
Introduction	26
Research Design and Rationale	26
Role of the Researcher.....	26
Methodology and Design	28
Summary and Transition	35
Section 4: Results	36
Introduction	36
Setting	36
Data Collection and Response.....	37
Data Analysis.....	37
Evidence of Trustworthiness	39
Results	40
Evidence of Quality.....	50
Summary.....	51

Section 5: Discussion, Conclusions, and Recommendations.....	53
Introduction	53
Interpretation of Findings	53
Limitations of the Study	57
Recommendations	58
Implications for Positive Social Change	63
Conclusion	64

References	66
Appendix A: Offer Letter	77
Appendix B: Letter of Cooperation	78
Appendix C: Survey Monkey Screenshot	80
Appendix D: Survey Results	84
Appendix E: Individual Interview and Group Interview Questions.....	85
Appendix F: Interview Transcription	105
Appendix G: Group Interview Transcription	107
Appendix H: Group Interview Cumulative Theme Table	113
Appendix I: Interview Cumulative Theme Table.....	121

List of Tables

Table 1: Qualitative Data Alignment With Research Questions.....	31
Table 2: Teachers' Perceptions of Need for UDL Implementation.....	47
Table 3: Text Analysis Summary of Most Frequently Used Words	48

List of Figures

Figure 1: Conceptual framework for the study.....	13
Figure 2: Universal design for learning guidelines	17
Figure 3: Word cloud representing teachers perceptions of UDL.....	50

Section 1: Introduction to the Study

Introduction

Universal Design for Learning (UDL) is a “set of principles for curriculum development that give all individuals equal opportunities to learn” (CAST, 2014). This means that all diverse learners in general education, including students with disabilities receive flexible instructional methods, materials, and assessments to meet their unique needs. UDL is rooted in neuroscience research and strongly aligns with Vygotsky’s theory of constructivism and Piaget’s theory for cognitive thinking. These theories form the theoretical framework for this study. According to the Individuals With Disabilities Act (IDEA, 2004), the term “universal design” shares the same definition of Assistive Technology (AT) in the 2004 amendment of the Assistive Technology Act of 1998; which is particularly important for understanding the implementation and application of UDL in schools. Mace, a pioneer in disabilities advocacy, coined the term “universal design”. Part A of the 2004 amendment contained the most significant changes regarding technologies. Within Part A, universal design was described as “a concept or philosophy for designing and delivering products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.” This descriptive clarification within the law presented Universal Design as an acceptable framework for inclusive instruction. For this reason the UDL framework has been established as the conceptual model for this case study.

Background

The functional implementation of the amendment occurs at the local school level. Unfortunately, teachers and administrators are often unaware of why or how new technologies can be used to promote equitable and inclusive instruction as allowed by law (Edyburn, 2014; Grönlund, Å., Lim, N., & Larsson, H., 2010; New Mexico's Response to Intervention (RtI) Framework, 2014; Handley-More, Hollenbeck, Orentlicher, & Wall, 2013). This lack of understanding has become an unfortunate and unnecessary obstacle to student success despite a critical need for alternative and innovative solutions for academic and behavioral challenges. Additionally, there may be operational and/or philosophical barriers that impede the willingness of educators to apply UDL principles in the classroom. Other barriers may result from a lack of consensus among teachers as to how principles of UDL should be applied in the classroom (Rao, Ok, & Bryant, 2014). Without clear consensus regarding application, educators are unable to accurately measure the effects of UDL strategies on student performance.

Problem Statement

There is a challenge today among educators for more effective and evidence-based solutions to meet the complex needs of struggling learners. Evidence in the literature shows that Universal Design for Learning is an effective learning model that can be used to address the needs of all students. While current literature on UDL addresses the effectiveness of the model, it does not address teacher perceptions. As a

result, this gap in information leaves administrators to their own guesswork when planning for implementation and application of UDL.

Purpose of the Study

In order to contribute to the limited research on this topic, my study presents insights into teachers' perceptions of the barriers to implementation and application of UDL. In addition, a synthesis of current research on the social benefits of advancing UDL to promote inclusion, equity, and advocacy of students with disabilities, are presented. The endpoint of this research is the acquisition of a deeper understanding of teacher perceptions regarding UDL. Based on the findings of my research, implications for school administrators and suggestions for professional development training are included.

Nature of the Study

The rationale for this qualitative research design is based on the value of gaining deep levels of information regarding teacher perceptions of implementation and application of UDL (Cresswell, 2012). Given the sparse amount of current research on teacher perceptions regarding UDL in the classroom, the use of surveys, interviews, and group interview are appropriate research methods for this investigation.

In this study, there were several methods used to establish internal validity and reliability. Credibility was provided by the use of coding software to help identify emerging themes and patterns of participants' responses based on transcripts from interviews and a group interview. Individual and group interviews were tape-recorded to ensure accurate transcription. Surveys were conducted through the use of an Internet source for the purpose of ensuring participants' anonymity. Likewise, the use of an

Internet surveying tool contributed to consistency in the question and the prevention of researcher influence or bias.

Research Questions

The essential questions of this study were intended to identify teachers' perceptions of UDL in addition to perceptions of potential barriers to implementation and application of UDL in schools and classrooms. Teachers' perceptions underscore the fundamental link between knowledge and application. Research questions were designed to solicit perceptions that might ultimately enlighten administrators in their planning processes. In order to gain a deep understanding of teachers' perceptions, questions were designed to determine whether teachers lack knowledge and training, are resistant, or unable to implement UDL in their classroom instruction due to other factor(s).

1. What are teachers' perceptions about Universal Design for Learning?
2. What are teachers' perceptions of why or how UDL can be used to promote equitable and inclusive instruction?
3. What do teachers perceive as operational and/or philosophical barriers that impede their willingness to apply UDL principles in the classroom (i.e., lack of professional development, a lack of funding authorization, or internal policies and procedures)?
4. What are teachers' perceptions as to how principles of UDL should be applied?
5. What do teachers perceive they need from administrators to apply principles of UDL in the classroom?

Theoretical Framework

The study is rooted in theories of Vygotsky (2011) and Piaget (1997), because the concept of UDL is based on neuroscience research and cognitive development. Grounded in constructivism, this study is based on prior research dealing specifically with the implementation and application of inclusive instruction specifically relating to UDL. Research specifically addressing teachers' perceptions of UDL within the K-12 system is sparse even though a few states have begun to actively implement the UDL framework (Rao et al., 2014). Some research on teachers' perceptions of UDL implementation within the higher education environment exists, but its relevance to K-12 is somewhat limited.

Operational Definitions

The purpose of this section is to provide the reader with definitions that are a relevant within the context of this study. While there are other definitions for some of these terms, the context in which they are used dictates their general purpose.

At-Risk Student who is considered to have a higher probability of failing academically or dropping out of school ("Great school partnership," 2014a).

Inclusive learning environment Setting where modified pedagogical practices and technologies are utilized to provide equal opportunities for all learners (Zoss, Holbrook, & Moore, 2014).

Positive learning outcomes Evidence that students are learning what they are expected to learn by the end of an instructional period, such as a course, program, or school year ("Great school partnership," 2014b).

Assumptions

Within this study, it was assumed the participants are aware of the unique needs of students with disabilities based on their employment status within the school. The assumption is that participants are interested in supporting strategies that produce positive learning outcomes and the inclusion of all students. It was further assumed that participants understood the questions and responded honestly and objectively. Finally, it was assumed that an organized analysis of qualitative information gathered in the form of surveys, individual interviews, and a group interview occurred without unduly projecting my biases or preconceived theories.

Scope

Participants in this study are employed and fully certified to teach in a small public charter school where only students with moderate to severe disabilities are enrolled. Therefore, the perceptions of these participants may be skewed due to their lack of experience working in schools where both general education and special education students are served. By studying the perceptions of teachers working with both general education and special education a broader range of in-depth information may be gathered. As a result, implications for administrators generated from this study may be specific to the environment.

Delimitations

This study was conducted with a convenient and purposeful sample of teachers from a public school serving a population of students with disabilities, teaching various

areas of the curriculum and grade levels. All teachers of the public school were invited to participate in all aspects of the study.

The study is organized into five sections. Section 1 includes the introduction and description of the topic of study as well as a brief summary of the research. In addition, Section 1 contains the statement of the problem, the purpose of study, research questions, theoretical framework, nature of the study, operational definitions, assumptions, scope, delimitations, limitations, significance, and summary. Section 2 contains an introduction, concise review and synthesis of current literature, and summary. Section 3 includes an explanation of the role of the researcher and the research methodology. Further, Section 3 includes instrumentation, data gathering, validity and reliability. Sections 4 and 5 are comprised of the findings from the study as well as implications, recommendations for future research, and researcher reflections and conclusions.

Limitations

While this study presents some significant implications for the implementation and application of UDL, there are some limitations. One limitation is the size of the sample. The size of this study is small by design for the purpose of delving deeply into teachers' perceptions in keeping with the qualitative research model. Another limitation is the composition of the sample. The sample is limited to teachers who do not actively participate in inclusion since their student population is comprised solely of students with disabilities. In order to fully understand the perceptions of teachers regarding the implementation and application of UDL, basic educators must be included.

Significance

Given the critical need for innovative solutions to academic and behavioral challenges of struggling and failing students, it is imperative that educators implement evidence-based solutions for success. Information gained by the solicitation of teacher perceptions is paramount to the advancement of UDL. Identification of teachers' perceptions of barriers to implementation and application of UDL has tremendous potential to proactively impact administrative decisions benefiting teachers and ultimately students. By eliminating barriers that prevent the full integration of UDL, teachers might help student reach proficiency levels – even at an accelerated rate (Brand, Favazza, & Dalton, 2012). New technologies that support academic and behavioral interventions have the potential to bridge the gap between success and failure for many students in need (Katz, 2013). Implementing new strategies can be an arduous challenge, for many reasons, even when there is agreement among stakeholders that change is needed (Kotter, 2008; Lam & Robertson, 2012). While program evaluation can reveal the degree of implementation of UDL between classrooms and/or schools, it is imperative to understand why the differences exist in order to facilitate continuous improvement.

This study is unique in that it addresses teachers' perceptions of obstacles that impede their willingness and/or ability to implement UDL principles with diverse learners in an inclusive and equitable manner. The results of this study provide an in-depth examination of teachers' perceptions regarding the effectiveness of policies and procedures that promote, impede, or restrict the implementation and application of new technologies through UDL. In addition, this study was designed to examine teachers'

perceptions regarding types of administrative and/or training supports they believe are needed to apply UDL in the classroom. Finally, as a result of this study, new insights emerged that may enlighten administrators during their preplanning phase of UDL implementation and help them prepare for program evaluation, continuous improvement, and sustainability of student success.

Summary and Transition

In order for all students to have opportunities to learn instruction must be accessible. Unfortunately, instruction may be nonaccessible to students with unique needs such as those who have limited English proficiency or students with academic, emotional, and/or behavioral challenges. Assistive technology is available on the continuum of service for students with severe disabilities; Universal Design for Learning is an effective instructional model for at-risk students who do not qualify for assistive technology. Nevertheless, implementation and application of UDL in the classroom is dependent upon educators' awareness, acceptance, and training. To determine the status of awareness, acceptance, and training, solicitation of information regarding teachers' perceptions is necessary. Surveys, personal interviews, and a group interview generate themes that provide depth to the inquiry. Once teachers' perceptions have been gathered, organized, and thoroughly analyzed, the information can be used to enlighten administrators. Administrators may, in turn, be better equipped to develop strategies that eliminate and/or reduce barriers so that all students have access to instruction through UDL.

In Section 2 there is a comprehensive examination of the literature pertaining to the origins of Universal Design and its evolution as an evidence-based strategy for instruction. Exploration of the value of implementing the UDL model to minimize disability bias and promote inclusive education is provided. In Section 3 there is a description of the qualitative research design as well as the data collection process for determining teachers' perceptions. Within Section 4 are the findings of the qualitative case study investigation then describes implications of the data analysis. An interpretive summary of the research is presented in Section 5 as well as recommendations and implications for future research in the area of Universal Design for Learning for all students.

Section 2: Literature Review

Introduction

This section is a review of current literature related to barriers that impede implementation and application of Universal Design for Learning. The evolution of Universal Design for Learning from its historical roots in architecture has been outlined. The theoretical framework for Universal Design for Learning that relates to application within the K-12 curricula is presented. There is an in-depth evaluation of how Universal Design for Learning is implemented in districts, schools, and classrooms. There is also analysis of research relating to the barriers to implementation and application of UDL. Next, there is an examination of how Professional Learning Communities are emerging as the new forum where implementation and application of UDL may likely be presented to teachers. Finally, selected articles relating to the implementation and application of UDL are described due to their key relevancy to the study.

Research strategies focused on key words and themes within the literature, with emphasis on journal articles dated between 2010 and 2015. Key word searches encompassed such topics as *assistive technology*, *technology for learning*, *Universal Design for Learning*, *Universal Design*, *advocacy and leadership*, *teacher perceptions*, *special education*, and *instructional strategies*. In addition, searchable information regarding UDL was located through the National Center on Universal Design for Learning. Due to the relatively new evolution of UDL, the majority of research evidence focuses on strategies for application. The bulk of current literature pertaining to teachers' perceptions of UDL implementation and application examines higher education, not K-

12. There was a noticeable gap in the area of research on teachers' perceptions regarding implementation and application of UDL that further strengthened the need for this study.

UDL

According to the North Carolina State University's Center for Universal Design, architect Mace (1998) and his colleagues sought to design products and environments that could be easily accessible by all people without the need for special designs or other adaptations. During the development of architectural designs that resulted in more accessible buildings, Ronald Mace created the term "universal design" to describe the work (Institute for Human Centered Design, 2015). People quickly began to realize the benefits of building structures and product designs that could accommodate diverse needs and abilities while also providing aesthetic appeal (Young, 2013). It was discovered that discrimination and segregation of certain individuals was minimized or eliminated as the result of universal design principles. These positive developments in building inclusive communities by design caught the attention of advocates and educators who envisioned fully accessible learning for all students. It was from Mace's vision and architectural inspiration that Universal Design for Learning (UDL) evolved into an educational model for minimizing the individual differences of students and removing barriers to learning. Based on a constructivism theory, Mayer (1992) explains that the UDL framework integrates new technologies to enhance instruction and improve learning. This theory purports that knowledge is actively constructed as the individual acquires information then organizes his own individual world experiences (Mayer, 1992). To assist in

understanding the conceptual framework for this study a visual representation of the what, why, and how of the theory behind UDL is presented in Figure 1.

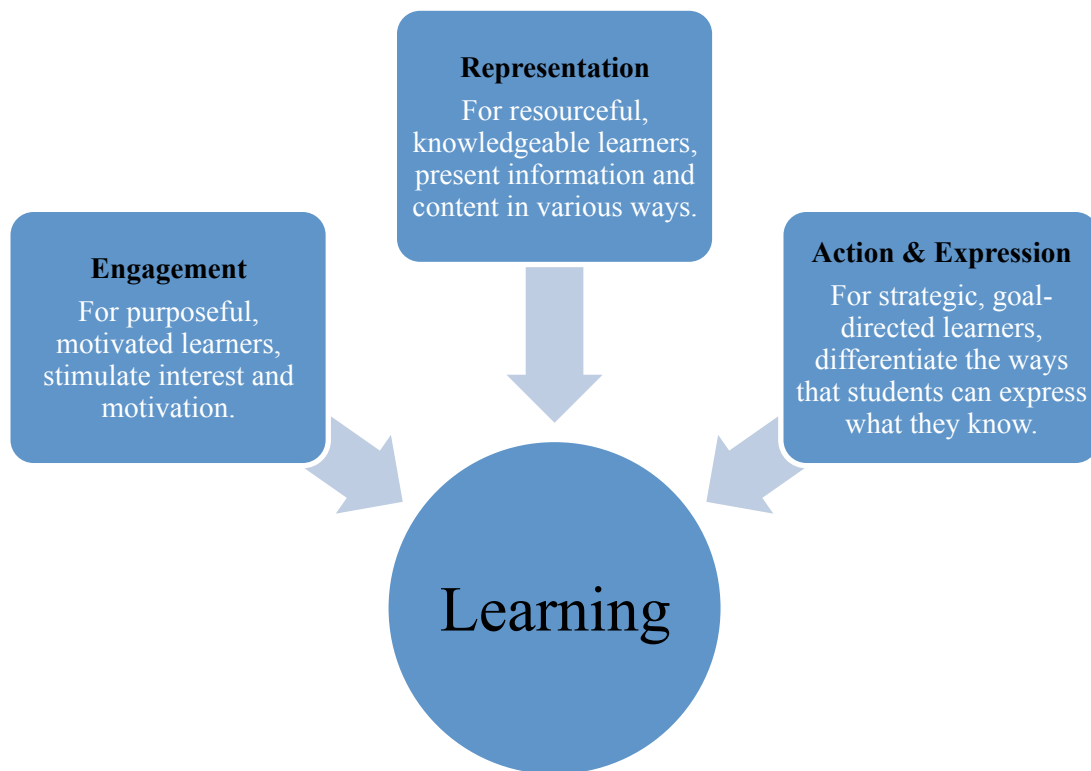


Figure 1. Conceptual framework for the study Adapted from Universal Design for Learning Guidelines, CAST, 2014.

Disability and Bias

Predetermined or negative biases against individuals with disabilities may directly or indirectly impact student learning. Understanding teachers' perceptions is important given the significance of their authority and influence over students and control over instruction (Al-Azidiyenn, Mei, & Fook, 2010). Evidence of biases against disability labels was uncovered in a study by Bianco (2005). One might assume teachers have their

students' best interests in mind; however, such may not always be the case. Bianco (2005) found the following:

The findings of the study demonstrate that teachers were clearly influenced by the disability labels LD and EBD when making referral decisions for gifted programs. Overall, both special education and general education teachers were much less willing to refer students with disability labels to gifted programs than students with no disability label. (p. 290)

This discovery presents a compelling basis for understanding the perceptions of teachers. In fact, in spite of their training, knowledge, and experience, the special education teachers who participated in this study were unable to formulate unbiased decisions about students once they became aware of the disability label. Bianco concluded the problem with teachers' biases were due to emphasis on "students' disability and weaknesses rather than attending to their strengths" (p. 290). Unfortunately, there are often potentially harmful "side effects" associated with disability labels. "The very term "disability" suggests a deficit mode of thinking about the labeled students" (Gold & Richards, 2012, p.144). Not only are there negative connotations disability labels, but also much deeper negative connotations based upon the *type* of disability. In a classic study by Semmel and Dickson (1966) the authors found discovered there is a generally perceived hierarchy of negative connotations associated with various disability labels. Research participants ranked disability labels from least favorable to most favorable as follows: "cerebral palsied and mentally retarded, epileptic and normal Negro, blind and deaf, stutterer, and normal white" (Semmel & Diskson, 1966, p. 449). Given the potential for significantly

damaging and emotionally crushing negative biases against students with disabilities implementation of the UDL framework has been formally mandated law. In response to legal mandates the culture of education continues to evolve and awareness of UDL expands.

UDL and Inclusion

In response to the No Child Left Behind Act as amended (NCLB, 2001) and the Individuals With Disabilities Act (2004), educators began, and continue, to move students to more inclusive environments. Florian (2010) states that emphasis on instructional delivery is shifting towards how services are delivered rather than where they are offered. As students with disabilities attend mainstream classes, the benefits of specialized instructional strategies are being recognized as potential solutions for other students who are struggling. For example, English language learners (ELL) students require the same opportunities as other students to achieve high standards such as those expressed in the Common Core State Standards Initiative (Council of Chief State School Officers and National Governors Association, 2011). Yet, finding the right way to provide these opportunities can be challenging. According to the amended National Education Technology Plan (U.S. Department Education, 2010), school reform is urgently needed to ensure the success of all students. UDL principles meet this need as the plan calls for improvements in student learning that include the use of new technologies. According to the U.S. Department of Education, UDL has been identified as a high funding priority for 2015 (www.udl4allstudents.com). In light of this funding

priority at the federal level, it is reasonable for educators to give consideration to implementation and application of UDL.

UDL Components

The concept of UDL is intended to primarily address the inflexible curricula that negatively impacts struggling students (CAST, 2015). Since no single strategy meets the needs of every student, there is a growing realization that flexibility and customization of options within the curricula are critical to student success. This promising framework has the potential for high value to student learning. Unfortunately, however, research on implementation of UDL is still lacking. Consequently, research evidence supporting UDL has been arranged through the National Center on Universal Design for Learning in correlation to the principles of UDL.

Older versions of the UDL framework include seven key principles. First, the design of the product is equitable to people with diverse abilities. Second, use of the product is flexible enough that it accommodates the broadest range of individual preferences and abilities. Third, the product must be easy to understand and intuitively operational. Fourth, information about the use of the product must be inherently communicated, by virtue of its design, to the broadest range of user abilities. Fifth, the tolerance range for errors in use must be such that the product does not cause hazards or accidentally harm users. Sixth, products must be designed in such a way that users experience minimal fatigue or discomfort. Seventh, the size and space of the product ensures easy of access regardless of the users' physical stature or physical capability (The Center for Universal Design, 2014). More recently, however, UDL guidelines have been

chunked into three primary principles with each relating specifically to applications within elementary, secondary, and postsecondary curricula are presented in Figure 2.

I. Provide Multiple Means of Representation	II. Provide Multiple Means Of Action and Expression	III. Provide Multiple Means Of Engagement
Perception Language, expressions, and symbols Comprehension	Physical action Expression and communication Executive function	Recruiting interest Sustaining effort and persistence Self-regulation

Figure 2 Universal Design for Learning Guidelines version 2.0 (CAST, 2011).

Likewise, UDL research evidence spanning a 10-year period is searchable according to various stages and corresponding checkpoints (CAST, 2011). Evidence for each checkpoint is available in two categories:

1. Experimental and quantitative evidence
2. Scholarly reviews and expert opinions

While this research establishes strong justification for the application of UDL, it is clear that more research is needed to thoroughly evaluate implementation challenges faced by administrators and teacher perceptions of UDL application.

Application of Universal Design for Learning

One of the primary roles of an educational administrator is to lead others through change processes through advocacy and strategic planning (Anderson, 2009). Some of the most innovative administrators are strong advocates of technology in the classroom (Peterson, 2014). Advocacy of technology in the classroom must be inclusive for all students. Therefore, having current knowledge of various technologies can be especially

critical given the rapid rate of product development throughout the world. Administrators must not only have a thorough understanding of curriculum and educational trends, but also prepare teachers to implement them in the classroom (Messinger-Willman & Marino, 2010). Teachers may more readily accept implementation of UDL because they can re-design existing lessons rather than spend time creating new ones (Katzel & Richards, 2013). In fact, general education teachers are likely to encounter UDL under the complimentary framework of Response to Intervention (RtI) (Shah, 2012; Sopko, 2009). As RtI team members seek to identify research-based interventions to meet specific needs of students, UDL is suitable (Firchow, 2014; Coyne, Pisha, Dalton, Zeph, & Smith, 2012). This is due, in part, because UDL addresses individual differences of diverse learners within the general education environment (Chita-Tegmark, Gravel, Serpa, Domingos, & Rose, 2011). By meeting students' diverse needs through early intervention, more students may have an opportunity to experience academic and social success.

General and special education teachers are already experiencing changes as technologies traditionally reserved for students with special needs are becoming a consideration for school-based intervention teams (Schaffhauser, 2013; DeCoste, 2013). School-based intervention teams such as Positive Behavioral Intervention & Supports (PBIS) are expanding the use of new technologies and allowing no-tech devices (i.e., pencil grips, word lists, color overlays) as interventions for basic education students. Many schools now require students to take their standardized tests online. In addition, assistive technology is blending more and more into general educational use (Davis,

2014; Fuchs, Fuchs, & Stecker, 2012). Many of the existing assistive technologies used by individual students in special education (e.g., text-to-speech software, writing templates, alternate keyboards, and tape recorders) can benefit other students. It is important to note that the key distinction between UDL and assistive technology is as follows: AT is always prescribed for one specific individual according to their individualized education plan as outlined in IDEA (2004). In contrast, CAST (2014) purports that UDL can be used by anyone, which adds to its appeal. UDL allows teachers go beyond the provision of special resources to specific students to providing barrier-free lessons in which students can demonstrate their understanding of the content (Poss, 2014). Teacher training on UDL implementation is relatively fast and easy (Courey, Tappe, Siker, & LePage, 2013). Since the impact of these tools on learning is evidenced in the classroom, teachers are the best source to explain their perceptions regarding barriers to the implementation and application of UDL in the changing school culture.

Implementation of Universal Design for Learning

While teachers are on the front line of instruction and learning, administrators also hold student success at the forefront of their efforts. School leaders are faced with increasing pressure from businesses to provide technologically literate graduates for the workforce (Slowinski, 2003; Baker, Sciarra, & Farrie, 2014). In addition to their numerous other responsibilities, school administrators are required to ensure opportunities for students to achieve technical literacy. Many secondary and post-secondary institutions now require a component of online instruction to the delivery format (Kennedy & Archambault, 2012; Project Tomorrow, 2011; Watson, Vashaw,

Gemin, & Rapp, 2011). Application of new technologies, including those that become part of UDL, has become part of a high-stakes endeavor where outcomes must be measured in order to ensure accountability of the educational system *and* its leadership. In fact, universal design has recently gained some attention in the realm of high-stakes testing as a way to *truly* assess students' knowledge rather than merely their testing abilities (Christensen, et. al, 2014). The authors further noted:

Universal design principles, empowered by modern technology, can improve access to instruction for students with learning disabilities. But if the assessments that purport to measure student learning are not also universally designed, those assessments can impose barriers or obstacles for students with learning disabilities, obstacles that interfere with their ability to demonstrate what they have learned. (p. 1)

Universal Design for Assessment (UDA) is also gaining ground in the area of accommodations for students with disabilities and English learners (Thurlow & Kopriva, (2015). As the culture changes, administrators must center their attention more heavily on evidence of teachers' use of technology. Evidence that teachers are meeting the needs of diverse learning levels is critical both in the classroom and through testing.

Although UDL is not limited to technology, it is often most associated with UDL (CAST, 2014). Further, the use of technology in the classroom should not be considered implementation of UDL. To support technical literacy and provide fair access, funding and personnel must be properly acquired and distributed equally. In reality, there is competition for resources that may factor into the complexity of the educational system

itself. This is evidenced by the fact that funding is one of the biggest barriers to acquiring specialized assistive technology for students with disabilities who have a documented need (Kemp, Hourcade, & Parette, 2000; Walker, Walker, & Bean-Kampwerth, 2012). The acquisition of assistive technology is often problematic for an individual student with a documented need; understandably, acquiring new technologies for many other students is likely a much greater challenge. In fact, the most frequently expressed concerns of school administrators pertain to the initial and ongoing cost of general technologies (Hogan, 2013; Sundeen & Sundeen, 2013). These concerns will likely continue since changes and improvements in new technologies are occurring at a rapid rate. Currently, there are numerous products and devices available that offer superb learning solutions for students, but funds may be limited. Funding challenges and budget restraints are far more of a challenge for administrators than finding the right technological innovations to meet students' needs (Ludi & Richlmayr, 2011). Administrators face increasing pressure to devise creative ways to support new technologies while, at the same time, maximizing efficiency and effectiveness of available resources.

Under the principles of UDL, administrators can maximize the impact of technology through existing infrastructure for the benefit of all students. For this to occur, teachers need to embrace change and be willing to implement instructional strategies that include UDL. Ultimately, teachers must be willing to relinquish their control over the methods by which their students access information; this is necessary in order for teachers to become *monitors* of the learning process (Kelly, 2013). Teachers may find this type of change difficult. Further, the implementation of new initiatives can be costly

in terms of time and money. Therefore, in order to thoroughly understand teachers' perceptions of barriers to implementation and application of UDL, an in-depth examination using surveys and interviews is necessary.

Furthering UDL Within Professional Learning Communities

Traditional faculty meetings were once used to dictate change initiatives to teachers. Meetings typically involved adherence to rules of parliamentary procedure; emphasis was placed on reinforcement of district policies and procedures (Wagner, 1961). Within this format, the teachers' primary responsibility was to listen and comply. Things are much different now; administrators expect teachers to collaborate in a meaningful and purposeful manner (Owen, 2014). In the spirit of school reform, the Professional Learning Community (PLC) is rapidly replacing traditional faculty meetings (Wastler, 2014). While not all schools have PLCs, those that do use PLCs as *the* forum in which teachers' metacognition is developed as a means for impacting student learning (Prytula, 2012). More specifically, within the county where this study was conducted, teachers are required to participate in PLCs and are expected to engage in purposeful professional conversations.

The real power of Professional Learning Communities comes from their potential to help bring about internal change. Potential internal change stems from the site-based involvement; site-based involvement is unique to each location and specific groupings of the staff members (Linder, Post, & Calabrese, 2012). The face-to-face collaboration and professional development that occurs during PLC allows teachers time to participate more fully and strengthen collegial bonds that are far more meaningful than a traditional

professional development format can allow (Stewart, 2014; McConnell, Parker, Koehler, & Lundenberg, 2013). PLC members gain an understanding of one another and learn to develop trust. Once trust has been established, teachers are better able to progress from basic planning and interactions to collaborative reform (Song, 2012). Interaction and planning, however, are insufficient to bring about reform that is meaningful and evidence-based; learning new information that can be put into practice is critical to continuous improvement and innovation.

Professional learning communities should, by virtue of their title, have members who are actively learning. Thus, the learning component of a PLC means that teachers should research the educational literature in order to increase their professional knowledge. Following professional dialogue, teachers should feel comfortable trying different ways to increase student learning (Opfer & Pedder, 2011; Owen, 2014). In addition, as teachers learn from professional practices that are supported by valid research, students can benefit (Hughes-Hassell, Brasfield, & Dupree, 2012; Tobia & Hord, 2012). Stewart (2014) found that the norms for professional development are now shifting as a result of the establishment of professional learning communities within schools (Stewart, 2014). DuFour, Eaker, & DuFour, 2005, describe expected outcomes of professional learning communities as “an ongoing process of identifying the current level of student achievement, establishing a goal to improve the current level, working together to achieve that goal, and providing periodic evidence of progress” (p. 39-40). Consequently, the entire culture of the district should promote collaboration for the

singular purpose which is student learning (Smith, 2012). Even when this is the case, teachers' resistance to change may interfere with expected outcomes.

Change, including implementation of new evidence-based strategies such as UDL, is heavily influenced by the intentions and motivations of PLC members (Hirsh, 2012). Consequently, enlightenment regarding teachers' perceptions may be beneficial and provide a catalyst for administrative planning strategies. Further, some of the motivations of members may be personal and/or political in nature. Alternate intentions of PLC members may become significant barriers to change (Wells & Feun, 2013). In addition, a lack of sufficient stakeholder acceptance of proposed changes will thwart successful implementation even after change has begun (Kotter, 2008). Ultimately, it is the responsibility of school administrators to identify reasons for stakeholder non-acceptance when implementing new programs and strategies for the classroom. Proactive analysis allows administrators to determine reasons for stakeholder non-acceptance thus reducing obstacles that impede accessibility (Fullan, 2006). Thorough analysis can aid administrators in their UDL preplanning efforts by allowing them to make efficient use of time and other resources.

Key Research for UDL

Universal Design for Learning guidelines are provided by the Center for Applied Special Technology (2011). These guidelines have been used to help formulate survey questions for this study. By purposefully exposing teachers to the UDL guidelines, they may be inclined to further develop classroom applications and share success stories during PLC meetings, if the school has PLCs. In fact, some districts are already involved

in implementation and application of UDL. Some states within the U.S. are presently in varying stages of their UDL implementation; an exemplar selected for this study comes from the state of New Mexico. New Mexico's Response to Intervention (RtI) (2014) outlines the framework for Universal Interventions (UI). UI is New Mexico's term for applying UDL in the classroom. New Mexico, Florida, Kansas, and Colorado are now in their maintenance and sustainability stages of UDL implementation.

Summary and Transition

Evidence regarding the value in advancing UDL to ensure that all students have opportunities to access instruction without being stigmatized is provided in current research (National Center for Learning Disabilities, 2009). For this expansion to occur, however, teachers' perceptions must be solicited and analyzed because they are the primary providers of instruction and behavioral supports. In section 3, there is a discussion of the rationale for the research methodology selected to gather this critical information. In addition, there is an explanation of the role of the researcher as it relates to the participants and setting. A full explanation of participant recruitment, data gathering, coding analysis, and validity and reliability measures for this study has been provided.

Section 3: Research Method

Introduction

This section contains information addressing the methodology used to gain a deeper understanding of teachers' perceptions regarding the implementation and application of Universal Design for Learning. The methodology is a qualitative case study using surveys, individual interviews, and a group interview to identify teachers' perceptions of the implementation and application of UDL. Emphasis is placed on the identification and coding of themes from the data gathered.

Research Design and Rationale

The qualitative research design was selected for this study to delve deeply into teachers' perceptions of barriers to implementation and application of Universal Design for Learning. To fully gain these deeper insights, it was necessary to conduct a case study in the natural setting where participants would more likely express their opinions and feelings. Being an educator myself, the qualitative design allows for probing and more information in addition to formally solicited responses as well as member checking for additional clarity.

Role of the Researcher

The role of qualitative researcher allows one to simultaneously become part of investigative process as well as a critical analyst (Bloomberg & Volpe, 2012). Due to my own experiences in teaching students with disabilities and personal biases, I committed myself to remaining open-minded and reflective regarding participants' responses. I made a conscious determination to refrain from reacting to participants' responses either

through verbal comments and/or facial gestures for the purpose of concealing my own personal biases.

Currently, I am employed as a teacher within the school where this study was conducted. In anticipation of my research and contingent to my acceptance of employment at this school I obtained written permission to conduct research on teachers' perceptions of UDL (Appendix A). As my employer was amenable to my research, I was granted written permission to conduct research and provided a formal letter of Cooperation (Appendix B). Upon approval by Walden University's Institutional Review Board (IRB number 08-18-15-0347048) to conduct research, written confidentiality agreements between participants and the researcher were secured. Additionally, I provided each volunteer participant with copy of my Invitation to Participate outlining my responsibilities as a researcher. Informal verbal invitations were extended to 27 colleagues requesting their consent to participate in the study. Of those, a total of 23 teachers agreed to participate in the survey, interview, and an audiotaped group interview.

No conflict of interest or programmatic bias contributed to the initiation or outcome of the research. Further, I had no administrative oversight of program or strategy implementation nor did I have an evaluative or supervisory role over the participants at the time of the study. Rather, my own personal biases relate to students' demonstration of mastery. I am biased in favor of students having multiple inclusive opportunities to demonstrate content mastery such as those afforded through UDL, not only in the classroom, but also during informal, formal, and high-stakes assessments. According to

Stake (1995), the experiences of the researcher play a key role in determining significant understanding and formulating robust interpretations. My own expertise includes certification and instruction in exceptional student education as well as educational leadership in K-12 and higher education.

Methodology and Design

According to Creswell (2012), qualitative research is suitable when the purpose of the study is to gain a deep understanding behind a problem or phenomenon. According to Stake (1995) a “qualitative study capitalizes on ordinary ways of getting acquainted with things” (p. 49). In addition, qualitative research allows the investigator to concentrate intently on the analysis of responses from a small number of participants. Thus, there is a more intimate exchange between participants during qualitative data gathering than would occur in a quantitative study. Individual interviews and a group interview permit the researcher to rephrase and clarify during data gathering. Qualitative methodology is consistent with interests in processes rather than outcomes (Merriam, 2009). Maxwell (2013) explains that qualitative and quantitative methodologies are distinctly different in both theory and process. In addition, quantitative methodology employs mathematical concepts to describe contexts while establishing statistical relationships between variables. In contrast, qualitative research focuses on people, situations, and events. The author further explains that qualitative methodology allows the researcher to explore and analyze themes and connections. The strength in qualitative research is on the process of gaining deeper levels of information that provide description rather than numerical data of quantitative research. For these reasons, qualitative

methodology was selected for this research; I was more interested in attempting to gain a significant understand the what, why, and how of teachers' perceptions relating to implementation and application of UDL.

Qualitative research methods such as grounded theory, ethnography, phenomenology, and case study were considered for this research. While each method provides valuable information from a different angle, the most illuminating method for this particular study was deemed to be the case study. According to Merriam (1988), case studies are classified into four types: ethnographic, historical, psychological, and sociological. This case study is sociological in that an educational phenomenon is being investigated. Case study, unlike other qualitative research design, allows the researcher to rely heavily on inductive reasoning to evaluate multiple sources of data. Coupled with a sociological emphasis, the qualitative method provides enlightenment via a thick description of variables impacting a practical issue. Consequently, the case study method was determined to have the greatest potential for yielding data intrinsic to the research questions.

To solicit intrinsic data, I designed original survey questions to specifically address the what, why, and how of teachers' perceptions. Survey questions 1 and 2 explored what teachers know about UDL and its potential use in the classroom. Survey question 3 was designed to solicit information regarding teachers' perceptions of operational and philosophical barriers to application of UDL. Survey question 4 was designed as a bridge between teachers' perceptions of why and how by soliciting more specific information about application of UDL. Teacher responses relating to consensus

(or lack of consensus) in application would likely provide a deeper level of understanding of personal and/or cultural dynamics. Finally, survey question 5 was designed to address how teachers determine their willingness to apply UDL principles in their classroom and help identify potential logistical and/or training needs.

Data Gathering

Qualitative data were collected for this study by using semistructured face-to-face interviews, a group interview, and open-ended survey items to establish an in-depth and holistic picture of teachers' perceptions. The invitation to participate in this research was distributed electronically to qualified staff. Staff were then informed the invitations would be collected individually sometime during the school day. Invitations were collected individually in case potential participants had questions or concerns that needed to be addressed. All potential participants were invited, but not required, to participate in each data collection process. Subsequently, when writing the questions, I designed each data collection process to serve a slightly different purpose. The purpose of my survey questions was to gather basic information. Interview questions, on the other hand, were designed to solicit a deeper response from participants and allow for more clarification of responses. Finally, group interview questions were designed to foster analytical dialogue, thus allowing an even greater depth of input from each participant than could be gained through survey or interview questions. While investigation of research questions were overlapping, information was solicited in the sequence of survey first, then interview, and then group interview. This sequence was based on the increasing depth of responses to

being gathered. Table 1 designates the alignment of data gathering processes with the research questions.

Table 1

Qualitative Data Alignment With Research Questions

Research Question	Data Type	Data Number	Data Source
1	Survey	Question(s) 1 & 2	20 Participants
	Interview	Question(s) 1, 2, & 3	7 Participants
	Group Interview	Question(s) 1 & 2	3 Participants
2	Survey	Question(s) 1 & 2	20 Participants
	Interview	Question(s) 2 & 3	7 Participants
	Group Interview	Question(s) 1 & 2	3 Participants
3	Survey	Question(s) 3	20 Participants
	Interview	Question(s) 2, 3, 4 & 5	7 Participants
	Group Interview	Question(s) 3 & 4	3 Participants
4	Survey	Question(s) 4	20 Participants
	Interview	Question(s) 4 & 5	7 Participants
	Group Interview	Question(s) 3 & 4	3 Participants
5	Survey	Question(s) 5	20 Participants
	Interview	Question(s) 5	7 Participants
	Group Interview	Question(s) 4	3 Participants

Participation in the survey, interview, and/or group interview was determined according to the signed consent portion of the Invitation to Participate in Research per university guidelines. While participants were not required to take part in all components of information gathering, they were required to participate according to the pre-determined progression of survey, then individual interview, and then group interview. Involvement in the survey was a pre-requisite to involvement in the individual interview and so on.

Full disclosure regarding the nature, purpose, and requirements of the study were provided in writing to each participant in order to maintain ethical standards (Cresswell, 2012). Participants were required to sign a consent form indicating their willingness to be involved in the study and acknowledgment of their rights. Throughout the study, participants were reminded of their right to discontinue involvement at any time during the study. The solicitation of this type in-depth information proved to be manageable as it allowed for personal interaction with participants. Rumrill, Cook, and Wiley (2011) encourage the use of qualitative research in the field of special education as a way to challenge assumptions and broaden knowledge of individuals with disabilities.

Ethical consideration was given to participants through the use of participation agreements outlining the scope and purpose of the research. I informed volunteer participants of the tape-recording of both personal and group interviews and obtained their consent to record the interactions. During the study, participants remained anonymous. Participants were not permitted to refer to one another by name during the group interview recording in order to maintain confidentiality. No incentives for participation were offered or provided to those who volunteered for this study.

Teachers were introduced to the study during a staff meeting in which I was invited to describe the study to the teachers and request their voluntary participation approximately four weeks prior to the formal invitation. At that time, I presented the consent information and progressive data gathering processes to all teachers. Teachers were instructed to notify me after the meeting if they were tentatively interested in

participating in the survey. This was done to protect participants from feeling pressured by their peers or administrator to participate.

I maintained full responsibility for the gathering of information from the survey, personal interviews, and group interview participants. According to Cresswell (2012), the researcher must validate the accuracy of findings against the existing research and one's own reflective expertise. By reading through transcriptions of teacher responses, the process of text coding leads the researcher to a clearer understanding about themes and patterns. In addition, the interpretive aspect of qualitative research allows personal perspectives to contribute to the overall analysis.

Since very little is known about teachers' perceptions regarding the implementation and application of Universal Design for Learning, the qualitative aspect of this study was advantageous in conducting a thorough inquiry. Glesne (2011) supports qualitative methodology as a way to gain an understanding of participants' "perceptions, attitudes, and processes" (p. 39). The use of open-ended questions gave participants an opportunity to respond and expand upon their thoughts without restriction. Interviews were effective in this qualitative study because they allowed the researcher to control the questions and probe for more clarification, but not impede participants' responses. Participants' individual and group interview responses were digitally recorded to permit the researcher to concentrate on the individual rather than note taking and allow for more thorough coding (Creswell, 2012). Teachers were able to provide in-depth personal experiences and background information to help clarify their responses.

As a result of the open-ended questions, I was able to ensure that participants had an opportunity to provide additional information. The instruments used in this study were appropriate for the intended purpose. Specifically, interviews provided cogent access to participants' perceptions that would not otherwise be available through quantitative measures (Weiss, 1994). Likewise, surveys extend well beyond numerical restrictions to provide depth and linkages within teacher perceptions.

First, the five survey questions were distributed to 20 volunteer teacher participants via Survey Monkey, an online format designed to provide anonymous, open-ended responses (Appendix C). Surveys were analyzed immediately following the two-day window of participation. Anonymous survey responses were reviewed on day 3 then responses were printed so they could be entered into the coding software. Similarly, interview responses were compiled for analysis using researcher coding and computer software coding to identify themes and categories. Interviews were transcribed from tape recordings then coded. Likewise, audiotapes of group interview responses were transcribed then entered into the coding software for analysis. Response discrepancies during individual interviews and the group interview were immediately addressed through the use of probing questions to obtain clarification of individual perspectives. Finally, all data gathered and transcribed was entered into NVivo, a software coding system for qualitative analysis. NVivo was the qualitative data analysis computer program selected because it provided a rapid coding and rigorous analysis of specific text and words. The use of coding software was implemented to ensure fidelity of the analysis process and strengthen connections (Cresswell, 2012). Findings of the research represent

an in-depth analysis of themes and connections between basic survey, interview, and focus group responses. Themes and connections pertaining to barriers to implementation and application of UDL were analyzed to determine core barriers. Responses have also been analyzed to identify potential solutions and/or training needs that might increase implementation and application of UDL.

Member checking was implemented to strengthen the validity and trustworthiness of my interpretation. Member checking was deemed to be more appropriate for determining the accuracy of analysis as opposed to peer or external review. This determination was based on the nature of the information solicited. Further, member checking helped preserve confidentiality and served to support my commitment of protecting participants' confidentiality. Participants were each invited to personally review their own data to ensure accuracy. Participants were also encouraged to meet with me personally to discuss the findings.

Summary and Transition

The purpose of this chapter was to give other investigators sufficient information to replicate the study. Information was provided with regard to the procedures for data collection, the data analysis tools used, ethical considerations to protect participants during the study, and safeguards for ensuring both internal and external validity. The following chapter represents the product and discussion of the analytic process. In addition, there is discussion of the results as they relate to the conceptual framework of the study.

Chapter 4: Results

Introduction

This chapter contains analysis of each of the five research questions as well as a broad analysis of the different data tools used. Data were analyzed with respect to the research questions presented in Chapter 1 to gain a deeper understanding of the what, why, and how of teacher perceptions about implementation and application of Universal Design for Learning. Emerging categories of information from the survey, face-to-face interviews, and group interview were coded then analyzed to match the relevant research questions. Both individual and group interviews were audio-recorded to ensure accurate transcription of responses.

Setting

Research was conducted in a natural setting – the school where teachers work - to gain a better understanding of their perspectives. This school is a fully therapeutic public charter school for students with mild disabilities for grades 3 to 11. Students are permitted to attend this school through a McKay Scholarship that affords them school choice within the county. At the time of the study, there were between 260-275 students enrolled in this school. All teachers employed at this school possess, or in the process of completing, certification for Exceptional Student Education. Many of the teachers also have dual or multiple certifications in other areas.

Participants of this study were public school teachers who were employed at the school where the study was conducted. Participants were all female with the exception of one male. Participant's teaching experiences ranged from first-year through 22 years.

Data Collection and Response

A brief introduction to the study was mentioned to 34 teachers during a regularly scheduled weekly staff meeting. Three weeks after the initial introduction, a face-to-face invitation was extended to all 34 teachers to volunteer to participate in the research. The initial introduction was then followed up with a personal conversation to identify willing participants. The survey link was forwarded to 20 teachers who elected to anonymously participate; they were asked to complete the survey the same, or next day. The following week, seven of the original 20 teachers were interviewed over a 2 day period. At the end of the same week, a group interview occurred with three of the participants. Of the three individuals participating in the group interview, one participated in the survey only, while the other two participated in both the survey and individual interview. The teacher who participated only in the survey was unavailable when individual interviews were conducted.

Data Analysis

Coding of responses was done using Survey Monkey and NVivo coding software. During my initial review of participants' responses, I drew conclusions that fell into specific themes and categories. Then I sorted responses according to my own interpretation, entering them as Nodes in the software. Coding of interview text was broken into three primary themes: (a) knowledge of UDL; (b) willingness to implement

UDL; and (c) perceived barriers to implementation of UDL. Knowledge was coded according to the level/degree of the participants' knowledge about UDL and UDL strategies. More specifically, responses were assigned to sub-categories as beginning/emerging, developing, or applying/operationalizing. Beginning/emerging was assigned to participants who expressed little or no background knowledge of the UDL model. Developing was coded to participants with some knowledge of UDL, but who do not implement UDL in their classroom. Applying/operationalizing was reserved for teachers actively implementing UDL in their classroom. It must be noted, however, that none of the participants were identified to fit the applying/operationalizing sub-category.

The coding category of willingness was divided into three sub-categories: (1) interested; (2) hesitant; and (3) resistant. Participants who expressed interest in the UDL model and/or implementation of UDL in their classroom received this code. Hesitant participants were those who expressed specific concern(s) relating to the implementation of UDL. These concerns were later clarified or otherwise addressed when participants were asked questions pertaining to barriers to UDL implementation and ways to motivate teachers to use UDL in their classroom. Resistant teachers were coded as such based on statements indicating their unwillingness to implement UDL.

The final category of coding pertained to barriers to implementation of UDL: time, supplies, professional development, lesson template, lesson modeling, and evidence of student success. Teachers, who expressed time as a barrier, referred to it in terms of needing more time to plan, more time to implement strategies, more time to collaborate with other teachers, and/or more time for professional development. Supplies related to

perceptions of inadequate materials, equipment, and/or other general supplies needed to implement UDL in their classroom. Professional development was generally referenced as training that would be presented to staff by a school administrator or UDL specialist. Lesson plan templates were expressed as a barrier and a deficiency in planning materials. Participants noted lesson modeling as a need since some teachers expressed a desire to see what a UDL lesson looks like. Further, participants wanted to see evidence of student success as a direct result of UDL. Participants explained that modeling a UDL lesson – specifically in traditionally content-heavy courses such as science and social studies – could be a potential motivator for teachers who are hesitant or resistant to implementing UDL. The point being that not all participants in this study were convinced UDL implementation is worth their time and energy.

Evidence of Trustworthiness

Using a Constructivist approach to research, as deemed appropriate for qualitative inquiry by Cresswell (2012) and Stake (1995), the evidence of each participant's trustworthiness was based on their declaration of having provided truthful responses. Analysis of data was trustworthy in that my knowledge as a researcher and educator enabled me to construct accurate and relevant findings for this setting. Participants who volunteered for the study expressed eagerness to offer opinions. Twenty survey responses aligned to the number of teachers who volunteered to participate. In addition, interviews as well as the group interview were conducted with volunteers from the group of 20 participants. Insight provided by participants was verified through member checking to confirm the dependability of my interpretation of their responses. Lastly, all participants

were encouraged to express clarification and/or correction to their responses. To determine the soundness of my participants' responses, each was evaluated based on his/her own believability. Participant responses were credible in that they were based on personal perspectives and insights.

It is reasonable to believe that similar results would be collected from the same participants asking the same questions. For this reason, the results are deemed to be dependable. Even if a different researcher were to replicate the study, it is likely the participants would respond with similar answers to the survey, interview, and group interview questions. Nevertheless, the degree to which this study can be transferred or generalized to other schools is limited.

Results

R Q 1: What are teachers' perceptions about Universal Design for Learning?

This question was addressed through responses of survey questions 1 and 2, interview questions 1, 2, and 3, and group interview questions 1 and 2. Based on the survey responses, most participants expressed general awareness of UDL. This general awareness was supported by their expression of positive impressions of UDL as a model for engaging all students in learning. In the survey, one participant noted, "I think it is GREAT. I like how it promotes opportunities for diverse learners." Another survey participant qualified her favorable perception of UDL by saying that it is a "good concept and works when done correctly."

Interview participants noted the broad application value of UDL with diverse learners. One participant stated, "Students can complete assignments in a manner that

best showcases their abilities and strengths.” Another participant stated, “It gives all students the ability to access information in the way that they will understand it.” Several participants expressed little or no knowledge of UDL; they were unable to formulate an opinion. As a result, these participants frequently made the comment, “I don’t know.” One participant resistant to UDL expressed professional concerns stating, “UDL is difficult to use.” This perception was consistently expressed across research tools.

When questioned specifically about policy, group interview participants were unaware of any district or school policies relating to the implementation of UDL. One participant stated that UDL implementation was “probably covered through the differentiated instruction” practices, but that no formal policy was in place. Group participants agreed that no policies should be implemented to mandate implementation of UDL. They expressed concern that lesson format should be selected by each teacher rather; they were adamantly opposed to having a specific formula or administrative edict regarding UDL implementation. However, all participants agreed that they would welcome being given general guideline for UDL implementation. In fact, one group participant stated, “I think it would be practical to use the concepts involved as long as we have the freedom to implement it the way that it works best.” The other participants agreed with this statement.

There was consensus among interview participants over the perceived high level of stress associated with implementation of UDL. This perception, according to responses, was rooted in prior implementation experiences and assumptions. Further, the participants were very concerned about the perceived time requirements associated with

implementation of UDL into lesson plans, instruction, and assessment. Two of the participants shared personal experiences in the implementation of UDL. Both concluded by describing how the time requirements for implementation contributed to their discontinuation of the UDL model. One participant stated, "...that school dropped (the) UDL concept after less than a year because they realized how stressed the teachers were getting." Both participants did, however, excuse their discontinuation by explaining that their other instructional strategies were effective.

R Q 2: What are teachers' perceptions of why or how UDL can be used to promote equitable and inclusive instruction?

This research question was addressed through survey questions 1 and 2, interview questions, 2 and 3, as well as group interview question 1 and 2. In general, most participants described ways to meet students' needs through implementation of UDL. Survey responses contained favorable statements such as "It's a great way to teach hands on learners". During interviews teachers identified ways to promote equitable and inclusive instruction by matching students' learning style to resources, completing assignments in a way that 'showcases' the students' strengths and abilities, aligning instruction to students' abilities, and providing flexible instructional formats. Consequently, participants with a developing knowledge of UDL strategies were able to recognize and express a basic grasp of the purpose of UDL for instruction and assessment.

In spite of participants' favorable comments regarding UDL as a way to promote equitable and inclusive instruction, their responses were punctuated with hesitation and

resistance. UDL was generally perceived as “difficult to implement, very time consuming, and requiring more work above and beyond their usual responsibilities.”

Participants’ perceptions about why or how UDL can be used to promote equitable and inclusive instruction were addressed in relation to teaching and assessment. Participants stated that they would like to implement UDL to accommodate the needs of different types of learners; yet, positive comments were paired with negative perceptions regarding the amount of time needed for planning and collaboration. One participant remarked, “As a math teacher, I have all the planning, data collection, and everything else on top of teaching. It’s too much.” Another participant agreed, “We’re up to midnight doing lesson plans for three different subjects that we are teaching and [do] not [have] enough planning time especially once we start having IEP meetings and stuff like that.” Thus, favorable comments of value relating to UDL were frequently counter-balanced against statements of hesitation and resistance.

R Q 3: What do teachers perceive as operational and/or philosophical barriers that impede their willingness to apply UDL principles in the classroom (i.e., lack of professional development, a lack of funding authorization, or internal policies and procedures)?

Research Question 3 was addressed by survey question 3, interview questions 2, 3, 4, and 5, and group interview questions 3 and 4. Participants responded to this question by presenting perceptions of both operational and philosophical barriers. During the survey responses, statements were generally favorable about the use of UDL. One participant stated, “It seems to take into consideration the needs of its target audience –

meeting the needs of diverse learners.” No barriers to UDL implementation were noted in any of the survey responses. However, 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. Thus, participants generally expressed concerns relating the day-to-day operational tasks related to implementation of UDL. Evidence of this perception is clearly expressed by one participant who stated, “While the overall concept is good, writing lessons to fit the model is prohibitive.” Another participant complained that the length of lesson plans was already too great without UDL components.

Philosophical barriers, on the other hand, were often associated with teachers’ openness to learning more and their willingness to try new strategies. One participant stated, “Given the appropriate time frame I could/would do it.” Conversely, “fear of change and/or something new” was mentioned as a barrier to implementation. During the group interview, one participant expressed her preference for more “training, modeling, and PLC-type meetings.” Another participant declared the lack of time as barrier to implementation of UDL, saying,

Time to collaborate with other teachers to share ideas, materials, experience, and expertise. Time to create the multiple means/modes materials. Time to address the effectiveness of instruction. Time to assess/reassess the students during units/constructs/concepts. (Appendix E)

R Q 4: What are teachers' perceptions as to how principles of UDL should be applied?

To determine teachers' perceptions regarding Research Question 4, survey question 5, interview question 5, and group interview question 4 were analyzed. Several survey and interview responses indicated a void of knowledge regarding principles of UDL and UDL application; they simply said, "I don't know" and "I don't know enough about this to give an opinion on my perceptions." In contrast, other participants were very specific as to how the principles of UDL should be applied; some gave examples. One participant responded to the question by saying, "Principles of UDL should be applied to all classroom instruction, and in a perfect world, we would see it in all classrooms." Another individual responded, "I think it should be applied in every aspect of every day."

Interview responses varied to this research question. There was a distinct gap between teachers' knowledge levels as evidenced by the number of "I don't know" responses compared to responses describing detailed suggestions and opinions. Responses also varied based on teachers' opinions of students' readiness and responsiveness to UDL. For example, one participant stated, "Their mature abilities to know if they can handle and be responsible with it. It's used throughout my planning – whether they are using technology or if I'm using technology." On the other hand, the same participant claimed, "You can't teach an old dog new tricks." The same participant further emphasized the perception by saying, "Some older teachers do not like change." Thus, responses focused on teachers' perceptions of their own willingness to implement UDL and student readiness for implementation of UDL.

R Q 5: What do teachers perceive they need from administrators to apply principles of UDL in the classroom?

Research Question 5 was addressed through responses gathered from survey question 5, interview question 5, and group interview question 4. The overwhelming consensus of participants regarding their needs from administrators to implement UDL pertained to professional development (see Table 1). Additionally, teachers perceived a need for someone to model instruction using UDL. The next most pressing concern noted by teachers' responses indicated concerns relating to time. While the need for supplies was noted, it was not identified to be a priority need. However, more training and more time to implement UDL were frequently described as a source for hesitation among participants. Furthermore, having an easy-to-use lesson template that incorporates UDL was established as a high priority in survey and interview responses. This was confirmed again through the group interview as participants explained how a simple UDL-compatible lesson plan template might make implementation of UDL more efficient and generally more palatable to teachers.

Overall, when teachers were asked what they need from administrators and what would likely motivate them to implement UDL, they identified professional development as their top priority (see Table 2). Being able to observe a modeled lesson was noted as the next most desirable form of assistance. Participants explained that observing an actual lesson would aid in their understanding of how UDL should be implemented in the classroom.

Time was also perceived as a strong inhibitor of participants' willingness to implement UDL in the classroom. Teachers were in agreement that implementation of any instructional model, other than what they are currently using, would need to involve as little additional time as possible to receive full consideration. Even so, the notion of expending *any* additional time for lesson planning was immediately perceived as a negative variable. The one caveat to this negative variable, however, involved the possibility of working for a stipend. One participant indicated willingness to do more "after hours" if there was some form of monetary compensation.

Table 2

Teachers' Perceptions of Need for UDL Implementation

Perceived Need	Number of Responses
Supplies/Equipment	2
Time	4
Professional Development	10
Lesson Template	5
Lesson Model	6

Further analysis of the most frequently used words from transcribed interviews provides basic insight into interview participants' responses and helps answer the research questions (see Table 3). By analyzing the more frequently used words, it is clear that participants have many questions regarding implementation and application of UDL.

Teachers' perceptions about UDL are likely underdeveloped due to their limited understanding of the UDL model and its potential use with struggling learners.

Table 3

Text Analysis Summary of Most Frequently Used Words

Word	Count
question	46
know	14
think	11
instruction	9
learning	9
technology	8
get	8
goal	8
use	8
different	7
lesson	7
specific	7
using	7
just	6
school	6
UDL	6
way	6

Participants' word frequency also shows that participants are aware of the connection between UDL and new technologies. They also understand that UDL is an instructional model. Word frequency analysis shows a prevailing need for professional development and assistance in planning UDL-compatible lessons. Word frequency does not, however, indicate perceived barriers to implementation, nor does it enhance understanding of what participants may need from administrators to apply UDL in the classroom.

Another way to capture the essence of the word count during face-to-face interviews is through a Word Cloud. A Word Cloud is a computer-generated visual depicting the word count results. The following Word Cloud represents word frequency analysis filtered by words occurring six times or more (see Figure 3). Words that have fewer than 4 letters have been excluded from this analysis.

As in Table 3, the results of the Word Cloud provide a picture of participants' responses. The results of the Word Cloud show most frequently used words whereas the largest words in the center of the Word Cloud radiate outwards. Less frequently used words diminish in size as they are farther from the center. The representation of frequently used words in the Word Cloud support the data collected and analyzed in the interviews. The Word Cloud confirms that while participants are aware of UDL as an instructional model, they have little knowledge regarding how or why UDL can be used in the classroom.

interview allowed for probing and clarification of responses. Participants were free to respond according to their own interpretation of the question. In addition, questions were open-ended to allow participants the opportunity to say whatever they wanted to say during their conversation. Responses were deemed to be trustworthy and truthful based on participants' statements agreeing to provide open and honest input.

Audio recordings were transcribed to preserve the accuracy of participants' responses as well as allow for coding and the emergence of relevant themes (see Appendix G and Appendix H). Consequently, I was able to explore these narratives through my own professional lens. My interpretation of data was based on rich contextual information and experience within the field of special education. Through the process of analysis, recurring themes provided illumination regarding my original research questions (Cresswell, 2012).

While the sample size was adequate for gaining sufficient data for this study, it is not possible to generalize the results beyond the school where the study was conducted. However, the reader may transfer results to similar situations. Since all students attending this school have an active IEP, teacher-participants were certified by the State and considered to have at least a foundational understanding of Exceptional Student Education - including students' right to equitable instruction. Work experience and state certification contributed to the credibility of each participant.

Summary

The purpose of this chapter was to present product results and provide analysis of data. Insights provided by participants revealed perceived barriers to implementation and

application of UDL. Participants expressed broad resistance to implementation of UDL. Willingness to voluntarily implement UDL for the benefit of students was consistently accompanied by a qualifying expectation or restriction. There was further resistance to potential administrative mandates regarding UDL implementation. Participants' survey responses emphasized student success and differentiated learning. In contrast to the survey, interview and group interview responses focused, almost entirely, on finding ways to reduce stress, simplify daily tasks, and maintain the status quo.

An in-depth discussion of participants' responses as related to the original research questions are addressed in the following chapter. Conclusions have been provided to summarize teachers' perceptions of barriers to implementation of UDL. Finally, recommendations based on the results and conceptual framework for this study are provided.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

An overview of the study, statement of the problem, a restatement of the research questions, and interpretation of the data is presented in this chapter. The analysis of responses as they connect to the conceptual framework of the study will be presented. Limitations, benefits, and social change elements of the study will also be discussed. UDL has been identified as an effective model for promoting inclusion and equitable opportunities for diverse and struggling learners. However, there is a void in current research regarding teachers' perceptions of the UDL model. Unfortunately, this gap in research deprives administrators of information that could otherwise assist them in planning and implementation of UDL. The purpose of this study was to gain deeper insight into teachers' knowledge of UDL, perceptions of how UDL can be used to promote equitable and inclusive instruction, implementation barriers, and educational applications for UDL, as well as their perceived needs to implement UDL. This chapter addresses the interpretation of findings, a review of the original research questions, general conclusions, and implications for further research, practice, and relevant social change.

Interpretation of Findings

Evidence from the survey, face-to-face interviews, and a group interview revealed three primary themes and corresponding categories (see Appendix H and Appendix I). Interpretation of findings is based on conclusions drawn from evidence collected.

Conclusions are compared to the literature review within Chapter 2 to explore whether or not the findings of this study are representative of current research.

R Q 1: What are teachers' perceptions about Universal Design for Learning?

Based on the survey results of 20 participants, input from seven interview participants, and three participants of the group interview, participants' perceptions about UDL were primarily negative. Participants' perceptions indicated their resistance more often than interest about implementation and application of UDL. Some teachers expressed hesitation by adding qualifying requirements to their expressions of interest. In addition, in spite of having little or no background knowledge about the UDL model, teachers' perceptions were resistant and potentially damaging for students (Al-Azidiyenn, Mei, & Fook, 2010).

R Q 2: What are teachers' perceptions of why or how UDL can be used to promote equitable and inclusive instruction?

Teachers' responses were focused on themselves and the ease in implementing and applying any new strategy, including UDL. In fact, responses were virtually devoid of perceptions of ways in which UDL can be used to promote equitable and inclusive instruction. Further, responses highlighted teachers' pervasive perceptions that implementing UDL would create additional work and overwhelming stress. Sparse hints of equitable and inclusive instruction were consistently accompanied by qualifying conditions. In general, responses indicated teachers' perceptions that they are already engaged in differentiated instruction and therefore do not need to implement the UDL model. Participants expressed negligible interest in giving their consideration to UDL as

a reasonable and appropriate way to promote equitable and inclusive instruction (CAST, 2014; Chita-Tegmark, Gravel, Serpa, Domings, & Rose, 2011).

R Q 3: What do teachers perceive as operational and/or philosophical barriers that impede their willingness to apply UDL principles in the classroom (i.e., lack of professional development, a lack of funding authorization, or internal policies and procedures)?

Participants' responses presented biases. This finding is consistent with Bianco's (2005) results. Bianco found that teachers purposefully withheld or restricted instructional strategies that would have otherwise helped to advance their skills. Teachers were against allowing all students access to UDL technologies to achieve their full potential as justified by concerns that some students would not be mature enough to use technology without additional supervision. The emphasis of these responses seemed to be more about the inconvenience of additional or focused supervision as opposed to providing high quality, equitable instruction.

Ludi and Richlmayr (2011) identified funding as one of the biggest administrative challenges to providing equitable technologies in the classroom. However, participants in this study had little to say about the issue. Whether unaware or disinterested, participants did not include additional technology, equipment, materials, or supplies as a priority need for UDL implementation and application.

Current literature also reveals that teachers often have difficulty relinquishing control of instruction in order to become a facilitator of learning (Kelly, 2013).

Participants in this study also confirmed this variable. Participants commented that they

were comfortable with their current instructional strategies and preferred not to make changes. Those who said they tried to implement UDL in the past confessed that they quickly reverted to their prior strategies, abandoning UDL altogether.

According to Katzel and Richards (2013), teachers should be able to easily adapt existing lessons to incorporate elements of UDL. Participants in this study were either unaware or unwilling to include UDL in their planning. Furthermore, resistance and hesitation were often linked to teachers' perceptions that implementation and application of UDL require significantly more work and longer lesson plans.

R Q 4: What are teachers' perceptions as to how principles of UDL should be applied?

Participants' responses indicated a pervasive lack of knowledge regarding the principles of UDL. Most of the responses contained some form of the statement, "I don't know." Of those who did attempt to respond more completely, their answers were generally unintelligible, negative, or essentially unrelated to UDL. One participant did, however, indicate that UDL should be implemented "all of the time." Since this statement addressed when rather than how principles of UDL should be applied, it was not considered to be an informative response (Cresswell, 2012).

R Q 5: What do teachers perceive they need from administrators to apply principles of UDL in the classroom?

Participants' perceptions of need generally fell into the categories of time, supplies, professional development, lesson template, and lesson modeling. Supplies were the least specific and simply indicated as "resources" and "technology." Professional

development was frequently mentioned as a need since most of the participants had little or no knowledge of the UDL model. To aid in the professional development, participants indicated a desire for lesson modeling. They stated a desire to see what a UDL lesson would look like and how it could impact student success. In addition, participants desired to have a simple, easy-to-use lesson plan template as a guide. However, participants also indicated that they would only like to have the guide for UDL as an option, not a mandate from administration.

Finally, participants expressed a desire for more time to learn about UDL, time to collaborate, and time to plan for the implementation and application of UDL. None of the participants mentioned a need for more time for research of best practices and UDL strategies or more time for reviewing student data.

The conceptual framework for this study suggests that students should have an active role in their learning to make sense of the information and develop a better understanding of information. Constructivist theories, such as those by Piaget (1997) and Vygotsky (2011), have provided the framework for implementation and application of UDL. In turn, the relevance and value of UDL is evidenced in current literature (DeCoste, 2013; Edyburn, 2014; Firchow, 2014). Elements of the conceptual framework have been address throughout the analysis of data.

Limitations of the Study

Various limitations may exist in this study. Sample size, while often considered a threat to validity, is not considered a limitation in this study since participants' responses provided an intimate expression of their personal perceptions. As previously stated, the

purpose of this case study was to determine deep levels of understanding regarding teachers' perceptions of barriers to implementation and application of UDL.

The primary limitation of this study may pertain to the setting of the participants. Participants are employed in a fully therapeutic public school for students with mild special needs in grades 3-11, which is atypical compared to most public schools. Although, given the purpose of this study, one might argue that participants of this study should be held to an even higher standard of knowledge and acceptance of than a typical, more traditional staff.

The intention of qualitative methods research is to provide an in-depth understanding of specific issues as perceived by participants (Lincoln & Guba, 1985). Additionally, credibility was established through member checking and participants' confirmation of my response analysis. As a result, the depth of participants' responses enhanced understanding of the UDL and barriers to UDL implementation through their eyes. Transferability and generalization is limited because this study was conducted within a public school serving only students with documented disabilities. Even though results tend to support existing research (Bianco, 2005), further research is needed to determine the extent to which the results of this study can be transferred.

Recommendations

For Administrators

Hall and Hord (2015) found that ownership in the change process is an essential ingredient for school change. To support ownership of the change process, administrators may want to solicit teacher input throughout various stages of UDL implementation.

This may also serve as a way to keep teachers abreast of the progress being made toward implementation of the UDL model.

Principals may wish to consider delivering professional development training during faculty and/or PLC meetings. Wastler (2014) found that Professional Learning Communities are, by their very design, conducive to intensive professional problem solving, strategizing, and training. Announcements and/or supporting resources pertaining to UDL implementation can be provided to staff in advance of faculty meetings or PLCs to allow more time for discussion and collaboration.

Professional development for teachers may best be conducted within a model that reinforces student instruction. There is a general belief that future professional development should be presented so it is “individualized, and collaborative, and that it models intended practices and comes with ongoing in-class support” (Burns, 2013, p. 14). In addition, teachers may benefit from blending their existing professional development strategies with the use of new technologies. This type of activity would allow teachers to *experience* similar UDL applications as their students. Moreover, teachers should be encouraged to participate in workshops, training activities, online or electronic media, college course work, and reading relevant books to advance their knowledge of how UDL can be used to help struggling students.

It is important for teachers to have timely access to assessment data so they can develop and manage their own individual professional development plan (Duffy & Scala, 2012). Teachers would benefit from having access to current and relevant data source that drives classroom instruction. In addition, administrators should consider advising

teachers to actively track formal and informal assessment data to determine the effectiveness of their instruction. As teachers collect evidence of student learning, they should be able to determine how students' performances have changed as a result of the implementation of UDL and what revisions, if any, are needed to help students succeed.

Administrators might review teachers' lesson plans to ensure equal opportunities for all learners. Perhaps teachers' lesson plans might contain elements of the guidelines of Universal Design for Learning (Center for Applied Special Technology, 2011). In addition, lesson plan formats should be streamlined in such a way that teachers are not over-burdened, but at the same time, include all necessary components required for accountability. Teachers should be active participants in the development of the lesson plan format.

As noted in the literature and confirmed in the results of this study, there is potential for teacher bias against students with disabilities (Bianco, 2005). Therefore, during teacher observations, administrators should remain alert for potential biases that prevent students from full access to learning. For example, to determine if teachers are fairly and accurately implementing UDL strategies, administrators should request evidence (e.g. lesson plans, student work samples). In addition to teaching strategies, students should be encouraged to use no-tech and/or high-tech tools that enhance their learning to ensure that all students are afforded equitable instructional and assessment opportunities that incorporate UDL strategies.

To facilitate rapid change, the school or district administration may elect to begin by determining teachers' knowledge and understanding of UDL. For example, rather than

requiring all teachers to attend the same general overview of UDL, implementation and application could be accelerated by providing multiple levels of information and/or information on specific aspects of UDL.

Social change within the K-12 environment will ultimately depend on a functional shift from the daily focus of instructional logistics and classroom survival to a more positive philosophical core. Most educators share a common belief that all students can learn. Yet, teachers in this study admitted to reverting to their most familiar, easiest, and/or fastest methods of delivering instruction. Administrators share responsibility for this behavior because of the high demand for accountability and detailed documentation. Consequently, policies may need to be created that outline specific, yet streamlined, requirements to ensure the equitable instruction of all learners. While teachers are required to submit seemingly endless piles of paperwork (i.e., reports, lesson plans, instructional and behavioral data, and assessments) they would likely benefit from changes that create new efficiencies in paperwork and allow them more time to engage with students. Consequently, it behooves administrators to work collaboratively with teachers, or at least provide time for them to work together, to reduce the amount of redundant information and establish work efficiencies.

By implementing changes within the educational system that remove barriers to implementation and application of UDL, there is a much greater potential for diverse and struggling learners to succeed. The impact of student success (or lack thereof) has a distinct and far-reaching impact on individuals, schools, districts, and society as a whole.

If we truly believe that all students can learn, then it is in the best interest of everyone to take the steps necessary to make it happen.

For Dissemination of Information

Given the negative perceptions of UDL within the participant pool of this study, there is a strong potential for similar perceptions among teachers in public schools where both general and special education students are served. Consequently, the results of this study should be distributed through professional journal articles and conference presentations.

For Further Research and Inquiry

The purpose of this study was to gain deeper insights into teachers' perceptions regarding the barriers to implementation and application of UDL. My findings show that perceived barriers are often related more to philosophical and behavioral issues than organizational or financial challenges. Thus, many more questions have emerged as a result of this study, which is the essence of qualitative research.

Some of the perceptions relating to what teachers need to be inspired and motivated to implement UDL in the classroom have been revealed through the results of this study. I recommend more research on ways to maximize faculty meetings and Professional Learning Communities to promote acceptance of UDL. I also recommend additional research regarding administrators' perceptions of barriers to implementation and application of UDL. It would be valuable to discover differences and/or similarities between teachers' and administrators' perceptions. Such a comparison could potentially result in more effective professional development for teachers and administrator training.

Another topic for further research relates to the effectiveness of mandating new instructional models versus allowing teacher autonomy to determine the model that best suits their individual style. Ultimately, accountability and student success are at stake. However, resistance to administrative directives regarding policy and practice may impede teachers' willingness to implement new and effective policies.

Participants in this study frequently expressed high levels of stress and frustration. However, school climate was not a variable under investigation for this study. It might be helpful to examine the role school climate plays on teachers' willingness to implement UDL.

Implications for Positive Social Change

Positive social change occurs when lives are transformed in a way that provides benefits. Positive social change can result from implementation of UDL based on benefits derived from student-directed learning and equitable access to the curriculum (CAST, 2012). In one respect, assistive technology serves to address the needs of a few students with disabilities (Edyburn, 2014). However, there are many other struggling students who would benefit from instruction embedded with universal design for learning and technology. As demand for accountability increases, educators are challenged to implement research-based, cost-effective models that provide the greatest return on their investment benefiting as many students as possible (Fuchs, Fuchs, & Stecker, 2012). Furthermore, schools must create inclusive communities so that every student has educational access and can experience a sense of greater belonging.

Research has shown that students at-risk benefit socially, emotionally, and academically from implementation of UDL. Yet, successful implementation and application of UDL are rooted in teachers' perceptions. Educational reform that promotes the use of Universal Design for Learning on behalf of equitable instruction for all students requires a positive perception of the UDL model. Teachers need to see evidence of student success rather than being forced to implement the instructional model of the year. Real systemic change calls for work designs that permit teachers to learn, plan, and implement UDL strategies through means such as shared planning schedules to allow department or grade level collaboration, Professional Learning Communities (Hirsh, 2012), administrative modeling, peer modeling, and formal professional development.

Conclusion

The purpose of this study was to gain a greater understanding of teachers' perceptions regarding barriers to implementation and application of UDL in the classroom. Participants' responses helped illuminate potential barriers in addition to various degrees of knowledge about UDL. Likewise, responses revealed some insights as to the participants' degree of interest or resistance to implementation and application of the UDL model.

Because UDL is grounded in constructivism and rooted in the research of neuroscience and cognitive development, it was deemed to be worthy of investigation with regard to teachers' perceptions. Investigation is worthy for the purpose of this study especially since UDL has already been identified as an effective way to provide equitable opportunities for learning and to promote inclusion.

Results of the study indicate that most of the participants' responses were both negative and self-serving as opposed to positive and student-focused. Likewise, participants have an aversion to administrative mandates and directives. As a result, administrators are presented with a difficult conundrum. While participants were expected to provide equitable learning services to all students, such as UDL, they were equally resistant to engaging in activities perceived to require more time, energy, and/or stress. In other words, while participants were opposed to established UDL mandates they were unwilling to apply UDL in the classroom. However, mandating instructional changes through policy may fail to produce more desirable long-term systemic change. Finally, results show that further research is needed to examine ways in which teachers might be effectively inspired to facilitate the UDL model in their classroom so that all students have an opportunity to learn.

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Appendix A Offer Letter



From: "[REDACTED]" <mailer-aa9je4cg6t88g7ieda49je4caf775@applicantstack.com> **Subject:**
RE:Requestforinterview

Date: November 12, 2014 7:36:10 AM EST To [REDACTED]

1 Attachment, 20 KB

Mary...It would be no problem to have you survey teachers at both [REDACTED] Campuses.
([REDACTED] the principal at [REDACTED] would approve also.) Please look over the
offer letter and let me know if this meets your needs.

I look forward to hearing from you soon.

[REDACTED]

You can reply to this email directly, or click the link below to view the entire thread:

[http://\[REDACTED\]applicantstack.com/x/reply/aa9je4cg6t88g7ied/a49je4caf775](http://[REDACTED]applicantstack.com/x/reply/aa9je4cg6t88g7ied/a49je4caf775)

Company [REDACTED] Job: Administrative Resource Teacher

[Mary Offer L...ocx \(20 KB\)](#)

Appendix B Letter of Cooperation



August 19,2015

Dear Mary Jordan Anstead,

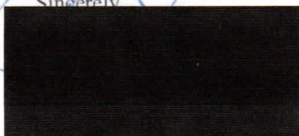
Based on my review of your research proposal, I give permission for you to conduct the study entitled Teachers Perceptions of Barriers to Universal Design for Learning within the [REDACTED]. As part of this study, I authorize you to invite teachers to volunteer to participate in an online survey, a personal survey, and a discussion group. Volunteer participants will be given specific opportunities during the research to clarify their personal survey and discussion group through memberchecking. Upon completion of the study, results will be shared with participants. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: providing the researcher with access to teachers through email and face-to-face communication, allowing the researcher to discuss the study with volunteer participants during non-instructional time, and providing a room where the researcher can meet with the discussion group after school hours. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,



Appendix C Survey “Survey Monkey” Screenshot

The screenshot shows a web browser window displaying a SurveyMonkey survey. The browser's address bar shows the URL: www.surveymonkey.com/s.aspx?PREVIEW_MODE=DO_NOT_USE_THIS_LINK_FOR_COLLECTION&sm=GgP. The page title is "SurveyMonkey Survey Summary - Universal Design for Learning Survey". The survey title is "Universal Design for Learning Survey". Below the title, there is a subtitle: "Universal Design for Learning Teachers' Perceptions Survey". The survey content includes an introductory paragraph: "Universal Design for Learning (UDL) promotes inclusion and equitable opportunities for diverse learners. The focus of this survey is to gather teachers' perceptions of Universal Design for Learning." followed by six numbered questions, each with a text input field:

1. What are your perceptions about Universal Design for Learning (UDL)?
2. What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?
3. What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?
4. What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)
5. What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?
6. Please add any additional comments you have about Universal Design for Learning.

At the bottom of the survey, there is a "Next" button and a footer that reads: "Powered by [SurveyMonkey](#). Check out our [sample surveys](#) and create your own now!"

Appendix D Survey Results

#1



COMPLETE

PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I think UDL works very well for students with special needs as well as all students, as it allows them to work on content in a way that suits their learning styles.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

I believe UDL provides the opportunities for students to show mastery of standards in flexible formats and helps students in inclusive settings to be able to work cooperatively.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

UDL is sometimes difficult to implement in the classroom due to limited staff members to help support students. Many students have difficulties working independently and need repeated guidance. When there is only one teacher in the room, it is difficult to have students working on individual work that varies from one student to the next. UDL also takes a lot of extra planning time which is not allotted to teachers during the work day.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I think UDL should provide options to students so they can choose from different ways to learn the same content and show mastery of content in different ways. I also think the teacher can match specific formats to individual students learning styles to allow them to be the most successful. For example, on a given topic, students may have the option of doing their own research utilizing guided search engines on computers or reading printed material and highlighting key information.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

I believe I need more training, modeling, and PLC-type meetings to discuss what works well.

Q6: Please add any additional comments you have about Universal Design for Learning.

None at this time.

#2

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I believe that UDL would be a great method if there could be professional development offered. UDL calls for a lot of things to happen simultaneously, and this type of teaching could be overwhelming.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

UDL could really apply to our students with learning difficulties because this is a way to differentiate learning strategies and methods while adhering to the common core curriculum. By introducing the material in various ways, every type of learning style will be provided with an opportunity to learn.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

My personal struggle will come when I have to implement technology and traditional/alternative methods in my classroom simultaneously. I am very willing to apply this method to my classroom, but will need assistance while becoming familiar with how to do so.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

UDL should be applied in the classroom after training sessions have been offered. This should not only apply to administrative officials, but to classroom teachers who would like to be trained as well. I would prefer to be trained by a specialist as opposed to administration because I would like to be taught in a way that would allow me to train someone else. I do not only want to be trained.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Professional development and training opportunities, flexibility with lesson plans and modeling how to

Q6: Please add any additional comments you have about Universal Design for Learning.

UDL seems to be an elegant solution to the common core curriculum. Considering that common core believes "one size fits all", it is nice to see that professionals within the field are still making their presence known.

#3



COMPLETE

PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I think UDL is a great model that is not fully understood by most educators. It gives all students the ability to access information in the way that they will be understand it.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

UDL provides teachers to opportunity to present information to students in a way taht they can understand them.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I dont feel as though there are barriers that impede my willingness to apply UDL in the classroom.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I think it should be applied in every aspect of everyday. For example if a student is a kinesthetic learner he/she should have opportunities to learn kinesthetically.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

I think more training on how to implement this in the classroom or what it looks like in a classroom today.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#4

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I think it is GREAT. I like how it promotes opportunities for diverse learners.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?*Respondent skipped this question***Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?***Respondent skipped this question***Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)***Respondent skipped this question***Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?***Respondent skipped this question***Q6: Please add any additional comments you have about Universal Design for Learning.***Respondent skipped this question*

#5

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

Good concept and works when done correctly.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

It allows for more focus in areas that need improvement.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

Lack coordination, material, and space.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

It should be applied whenever possible.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Learn more about it and more coordination to implement it better.

Q6: Please add any additional comments you have about Universal Design for Learning.*Respondent skipped this question*

#6

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

UDL is a way of teaching so that everyone is able to learn based on their needs.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

UDL gives all students the chance to learn based on areas that they shine in. This allows all students to do well in all areas.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

How to tailor each lesson to reach all students.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Being able to apply all areas to each student

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Resources and proper help in the classroom

Q6: Please add any additional comments you have about Universal Design for Learning. *Respondent skipped this question*

#7

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

It is looking at how we incorporate technology into the learning environment to engage all learners.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

it allows those who have expressive problems: writing, verbal, reading, etc to be able to be involved in the instruction and to engage them in as many modalities as possible to ensure learning.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

time to incorporate materials, to research materials, to be able to set up materials to be used.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Use as many different modalities of technology, information presentation, as possible to hit as many learners as possible.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Time to plan, time to plan collaboratively.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#8

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

It should be a given for the Pepin Pasco Environment...

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

It seems to take into consideration the needs of its target audience - meeting needs of diverse learners

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I am an advocate for meeting the needs of diverse learners by presenting concepts in multi-modal combinations...I do utilize some aspects of UDL...open to learning more

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I believe most teachers know how to present content in flexible ways, however, application always is strengthened through example and disussion. I believe the flexible options for engagement and methods for expression and assessment are areas where we will need more guidance. What are the viable flexible options for students given their learning difference...

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

I am willing.
Site visits and Demonstrations of how it is used in the classroom with ESE population.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#9

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

UDL is difficult to use

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

The language involved in the set up of UDL in my experience has been difficult to grasp.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

While the overall concept is good, writing lessons to fit the model is prohibitive.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Backwards design is a good concept but if administration is strict on language usage, it is an impediment.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Willingness on administrations part to put less stress on the vocabulary and wording of the lessons.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#10

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

Don't know what it is

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

Don't know

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

Don't know

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Don't know

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Don't know

Q6: Please add any additional comments you have about Universal Design for Learning.*Respondent skipped this question*

#11

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

N/A

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

N/A

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

N/A

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

N/A

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

N/A

Q6: Please add any additional comments you have about Universal Design for Learning.

N/A

#12

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I don't know much about it

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

I don't know much about it

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I don't know much about it

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I don't know enough about this to give an opinion on my perceptions

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Trainings on universal learning design

Q6: Please add any additional comments you have about Universal Design for Learning.*Respondent skipped this question*

#13

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I don't know much about UDL but would like to learn more about it. I like the idea of inclusion and equitable opportunities for students with learning differences.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

I don't know much about the topic to comment on other than, if all students are treated equally in the educational environment (how instruction is presented) students may not feel excluded or different (stigmatized) in any way.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

None that I can think of with my current knowledge base for the topic.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I really am not sure at this time, due to my limited knowledge for this topic.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Support/trainings made available

Q6: Please add any additional comments you have about Universal Design for Learning.

Just the brief description of UDL sounds like it is something I would like learn more about/be open to implementing in the classroom setting in the near future.

#14

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I think it offers teachers with a new perspective on students and ways to help them in all aspects.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

It offers students with tools and ways to express themselves and succeed despite having difficulty with the traditional way of learning.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I don't have any.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

It should be applied every day, in all aspects of the learning process. It gives students different ways to learn, as well as express their knowledge and still succeed.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Patience when trying new strategies in the classroom.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#15

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

It was created to allow participants to work on similar curriculum in a manner that best meets their educational abilities.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

Students can complete assignments in a manner that best showcases their abilities and strengths. It allows groups and classes to be constructed that utilize all learning styles and resources.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I believe the only thing that would impede me applying UDL in the room would be lack of time to effectively plan and organize for it. Given the appropriate time frame I could/would do it.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Respondent skipped this question

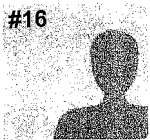
Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Respondent skipped this question

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#16



COMPLETE

PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

It's a great way to teach hands on learners.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

Using the design encourages students to understand concepts.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

Not being able to have the space or supplies.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Using objects that include all senses such as sound, smell, and touch,

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Doing workshops for teachers

Q6: Please add any additional comments you have about Universal Design for Learning.*Respondent skipped this question*

#17

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I am still learning more about it.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

Not sure willing to learn more

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

N/A

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

N/A

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

N/A

Q6: Please add any additional comments you have about Universal Design for Learning.

N/A

#18

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I don't know anything about UDL

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

I don't know about UDL

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

Fear of change and/or something new....

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I do not know but I would like to learn more...

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Training

Q6: Please add any additional comments you have about Universal Design for Learning.

I am interested in learning more

#19

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I think UDL is an excellent method for instructing / assessing all students both with and without learning difficulties but it is rarely used due to the time constraints it takes in the initial stages of instruction and lesson planning. UDL

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

UDL can be used in the classroom to tailor and design instruction/assessment for individual students. It meets the students where they are and uses their preferred learning styles and methods to instruct; if it is used correctly. UDL assists the teacher in designing instruction from the outset of the lesson, not retrofitting it or using the methods to reteach when the initial lesson plan failed.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

With the nature of UDL being multiple means of presentation of material, engagement and assessment, lessons can take longer to plan bc you are planning them in multiple ways. This requires different materials to do so. Teachers may be reluctant to or unable to find the time to plan the multiple modes necessary for true UDL. UDL also requires the instructor to teach in ways the students prefer to learn and not in the teacher's preferred teaching style (e.g. lecture based, etc.)

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

Principals of UDL should be applied to all classroom instruction, and in a perfect world, we would see it in all classrooms. As a starting off point, it would be great to see UDL used in Science and social studies classes where often the preferred method of instruction is lecture. Usually during these subjects, teachers are teaching one-level of curriculum and therefore may be an easier place to begin designing UDL instruction.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

Time!! Time to collaborate with other teachers to share ideas, materials, experience, and expertise. Time to create the multiple means/modes materials. Time to address the effectiveness of instruction. Time to assess / reassess the students during units/constructs/concepts.

Q6: Please add any additional comments you have about Universal Design for Learning.

Respondent skipped this question

#20

COMPLETE



PAGE 1: Universal Design for Learning Teachers' Perceptions Survey

Q1: What are your perceptions about Universal Design for Learning (UDL)?

I have heard of UDL, but I don't know the details.

Q2: What are your perceptions about why and how Universal Design for Learning can be used to promote equitable and inclusive instruction?

Any kind of strategies to help learning is valuable.

Q3: What do you perceive as operational and/or philosophical barriers that impede your willingness to apply UDL in your classroom?

I don't know.

Q4: What are your perceptions of how Universal Design for Learning should be applied in the classroom? (Please be as specific as possible.)

I don't know, because I don't know the details.

Q5: What do you perceive you need from administrators to enhance your willingness to apply the principles of Universal Design for Learning in your classroom?

The knowledge, resources, time for planning, & support.

Q6: Please add any additional comments you have about Universal Design for Learning.*Respondent skipped this question*

Appendix E Individual Interview and Group Interview Questions

Interview Questions and Probes

1. What information regarding Universal Design for Learning has been presented to you? Probe: Did you learn this information through your Professional Learning Community? What is your opinion of using the Professional Learning Community to further conversations regarding UDL? (Aligned to research questions 1)
2. How could UDL be used in your classroom or our school? Probe: How is UDL used in your classroom? (Aligned to research question: 1, 2, & 3)
3. What do believe to be the most important benefit of UDL for your students with disabilities? Probe: What other benefits are there? (Aligned to research questions: 2 & 3)
4. What factors do you consider when deciding to implement technology with your students? Probe: At what point in your planning do you incorporate UDL? Describe how you use UDL in your instruction and/or assessments. (Aligned to research questions: 3 & 4)
5. Why do you think some teachers resist implementation of UDL in their classroom? Probe: What do you think would likely motivate teachers to include UDL in instruction and/or assessment? (Aligned to research questions: 3, 4 & 5)

Group Interview and Probes

1. How are district policies relating to Universal Design for Learning implemented in the school and classroom? Probes: How did you become aware of these policies? If you were not aware of policies, would you be interested in more information? Why? What else would you like to say about district policies relating to UDL? (Aligned to research questions: 1 & 2)
2. How did you gain your own knowledge and information regarding UDL? Probes: If you received training, how would you describe its practical value to your instruction? How should UDL information be advanced to teachers? What additional opinions would you like to share? (Aligned to research questions: 1 & 2)
3. In your opinion, how should UDL be applied to the K-12 curricula? Probes: Do you discuss the application of UDL within your PLC? IF so, what was the outcome? What other opinions would you like to share relating to UDL and the curricula? (Aligned to research questions: 3 & 4)
4. If resources were unlimited, how would you implement UDL in the school and classroom? Probes: What services, training, and/or products would you secure to make this happen? What would your priority be in assigning resources to further UDL? What else would you like to say about implementation of UDL? (Aligned to research questions: 3 & 4)

Appendix F Interview Transcription

Participant 1

Question 1: I took a class for my degree and one of my professors that was her new passion – Universal Design so she kind of presented the three categories just as an overlay of a good way to differentiate instruction and instruction from the beginning rather than in hindsight. Uh...the second one was one of our assistive technology instructors that came and presented to the special education consulting teacher in VA. Yes, those were the only two time that UDL had been presented to me – that I didn't do research on it. The professional learning community touched on it but not in depth. I wrote a paper in grad school where I went in depth on it.

Question 2: Um...it's wonderful. So, I think it should be used. I think by getting to know the students' learning style and planning instruction from the beginning, it should make instruction more effective and easier. I think set-up-wise it takes longer to prepare because there is so much background work you have to do, but it should make your lesson planning easier in the long run and then easier to make those instructional decisions and tailor your instruction for those students.

Question 3: Um...I think it is instruction that is designed specifically for that student so every student getting their own instruction so then that is the benefit...they will reach their full potential.

Question 4: Oh boy, that is a loaded question. Um...to consider everything – their learning style, their capabilities, their memory, their cognition – everything.

It *is* their planning. So it should be from the get-go. Before they sit down to teach reading comprehension, they should have their lesson plans designed around UDL to there are multiple means of presentation and response.

Question 5: it's time consuming which is the time in the front-half of the year to get to know your kids, to design your instruction. And even throughout the year, your kids are coming and rotating groups so as they are learning new concepts they are not going to be in the same groups you had them in before – So you might need to switch them up, which takes a larger amount of time than lecture-based instruction. I think having a lesson modeled for them and even a lesson plan template showing here are the ways you can plan for multiple means of presentation/response and all that – um – so having a lesson plan template. Student success – once they saw how the students were performing and how they were learning better and quicker and maintaining and retaining the information would be the key.

Participant 2

Question 1: Very little. No college class training. I did take one education course that covered a bit of it but very little.

Question 2: That would be a much easier question to answer had I had more information.

Question 3: I cannot say.

Question 4: Um....their level of competencies as far as technology is concerned and how it might benefit them to get away from their standard textbook reading response.

Question 5: What I can infer about Universal Design based on the technology question is a little bit about implementing technology....Um...I can't really answer the question.

Um...I need greater access to technology and training. I'm open to it.

Participant 3

Question 1: Um I used UD at a former workplace. Uh they were using it as a way to write lesson plans. They did some training, they gave us a book to read and we were supposed to – we had somebody come in and talk to us about how to use it – uh, we tried awhile to use it. It was a school.

Question 2: I like the concept of UDL where you are thinking about the goal and how to get to the goal – it work, but the uh steps that we had to take to get there, with the very specific language required was an impediment to using it. The staff at that particular school found it extremely difficult to adhere to the specifics of how to write out their lessons and no you cant use that word and this word and it became very specific and we were so stressed out by it that it got dropped. And I do look at the concept and the goals, but I don't take all of the steps because they were just too difficult to follow.

Question 3: I think because we look at the final goal of what we want to achieve – knowing that they don't always pick everything up – uh, seeing that final goal gives us where we want to be and it then helps us be able to pace ourselves and say, okay, how are we going to get to that goal and what ways are we going to use to get there. Um....it's okay to take different paths as long as we all get to that same goal.

Question 4: I try to make sure the kids are in an environment where they are able to interact and learn in ways on their own as well. To be able to find ways to learn and

make things more interesting to them, and the technology, the games, and lighter research, and using computers for things like scavenger hunts and things like that , makes them think outside the box and makes them really able to look at different things and explore on their as opposed to here is the information I'm presenting to you.

Question 5: Um...if it's presented in the way it was presented to us, it's very complicated in its use. The language they require is so very specific in how you word your questions and your guiding thoughts and there were so many different specific things that were asked of us. And oh no – you can't ask it that way – that's the wrong type of question – it's a question and not a statement and it because so very specific that we were focusing on the wording and not on what we were doing. And it took away from the process and the product because we were so worried about the technique. And the technique became more important than what we were teaching. I think if we were able to use (UDL) as a guide, without having to worry about the specific language – I think taking the emphasis off of the oh no you have to word it this way and that way, because it's had for people to understand the concept being that specific. And we have to have more flexibility here at school as far as how we are teaching the children and we do have to look more at the process – what processes are working and not necessarily on the goal. The goal is great, but we have to try different processes and see what it working and what is not.

Participant 4

Question 1: Well, uh...I don't know because I don't remember the components of UDL.

Question 2: Well, it's learning new strategies - is a bonus.

Question 3: Uh...I don't know.

Question 4: Who can handle it – you know with some students its not going to work for them perhaps – you know, visually – it just doesn't register. Some students are (unintelligible) to monitor.

Question 5: It is learning more. Not all teachers are open to learning. It may be a little extra work. They may not agree with everything – especially veteran teachers – they have their own strategies. Uh...financial compensation. Knowing they are going to be evaluated on it, but they are just doing a dog-and-pony show for their evaluation.

Honestly, financial compensation. You'd like to think it would be seeing the success of the student – uh – and I believe in the majority of cases, that's what it would be – uh...for teachers who are resistant to it, perhaps financial incentive would help.

Participant 5

Question 1: Nothing

Question 2: I'm not really sure. I think it would be across the board – universal.

Question 3: I don't know.

Question 4: Um...I try to allow it to be universal as when I'm using all different tools for all different learning styles and all different abilities. I would say it depends on the lesson.

Question 5: Um....because they're not up to date with technology and not using it themselves. Training and professional development.

Participant 6

Question 1: I know through here at work we had one after school meeting and we talked briefly about it.

Question 2: I don't know enough about it to even say.

Question 3: I m not really sure.

Question 4: Their mature abilities to know if they can handle and be responsible with it. It's used throughout my planning – whether they are using the technology or if I'm using technology.

Question 5: Being that my knowledge of UDL is not strong enough to answer that but being teachers that are old school and have been in the profession a long time are more resistant to change. To whereas some teachers, even if they are older, but are new to the profession are more acceptant of it. It's like the old saying, "You can't teach an old dog new tricks." Showing them how it works – not just telling them how it works and letting them see the results. Whether it's letting someone sit in the room and see how its modeled might help them more. If it makes your life easier – yes, ease of use.

Participant 7

Question 1: Nothing, I don't know.

Question 2: I'm sorry, I just really don't know.

Question 3: Um...I don't know enough about it.

Question 4: If they like it and want to use it.

Question 5: I don't know; I can't really say.

Appendix G Group interview transcription

(3 participants)

Question 1:

I don't think we have a specific policy regarding UDL as of now as far as I know.

So I would say it's probably covered through the differentiated instruction that we're asked to do.

I don't know of any formal policy. We have never talked about Universal Design specifically. There was one discussion of it last year at the end of the year that I did not make so I don't know anything about it.

I don't think we should have a policy about it. I think it depends on if we can find comfortable formats to write our lessons in that addresses the students' needs. What works for that teacher. I think that's what would work as opposed to saying this is the formula we are following and you have to conform to this formula.

I agree with you. You're gonna change the type of UDL that you're using for each time of content area so for that aspect I still think it falls under the policy of differentiating instruction; it's another way to differentiate instruction.

A guideline would be great.

So when we have our pre-planning – our inservices at the beginning of the year – when Michael talked about differentiating instruction and meeting the needs of students – that was kind of where UDL fell in, because it is multiple means of presenting information more than something on a clipboard.

Question 2:

My knowledge of UDL came from a former employer who tried to use it as an implemented formula and failed miserably because of how they were implementing it and how strict they were about staying on the design.

I've never been introduced to it. I'm a very old teacher, so all of mine is experience in teaching – most of it with this type of population or the majority of it and what works for one doesn't work for another. To put it as, "you have to do it this way" doesn't cut it. For some it's too much stress. For others it doesn't cover everything they want it to cover. Um....I think as a guideline as you need to think on these questions you're developing – that's a great idea. Which I think is the premise behind what I understand Universal Design to be about.

And..my experience is that I did a research paper for my PhD on UDL so I have good knowledge of it and again to piggyback on what you said, it is very stressful to try to figure out what you're going to use with what kid, but it is that one size doesn't fit all that has to be planned in advance and not something you're going to wing once you get into the classroom.

I think it would be practical to use the concepts involved as long as we have the freedom to implement it the way that it works the best.

Right, you have to match your preferred teaching style with the student's preferred learning style.

And the way I had learned UDL was using a very specific set of vocabulary and the way you worded things and it caused stress among the teachers before it even got to the

students. And so it became too difficult to conform to it because it was an all-or-nothing attitude as opposed to....I think the way you go about doing research on suggested lessons – or what's a way to teach this topic – most lessons are written in an outline with essential questions and guiding practices – all that stuff. I think to some degree we do lessons in that format – we just don't use that very strict language that comes along with it if you are to follow it to the letter.

Yeah, I'm not sure what language you're talking about. I've never heard of that aspect of it. That would make it very overwhelming and stressful.

It was more along the lines of when you're writing out your guiding questions and your overarching big idea. We were told specifically what word – I mean they brought in an expert to teach us about it. And it was no it has to be worded like this and it can't be worded like that and it caused stress among the old teachers who just couldn't adapt. It was too prescriptive.

Yeah, it was too prescriptive – too restrictive. Because we were so focused on the process of writing the lesson that we lost the whole point of the lesson as the teacher.

I can see that. I don't have a background in Universal. I just know that in all the different places I've worked they've tried to cookie-cutter it and it doesn't work. It really doesn't work. And to put the teachers through so much extra work on top of all of the work they have to do is asking way to much – way to much.

That's my experience. After I wrote my paper and I was totally excited and into UDL I went in and started redoing all my lesson plans that I've already got for that week... it was very overwhelming because suddenly you're looking at this lesson that I would have

said I was presenting multisensory (my big thing) but now suddenly I have to look at it with a whole new lens of multiple, multiples. Now you know the different ways for them to answer the questions and it got to be a little overwhelming and I did revert back to my plain 'ol multisensory, which is half UDL.

That's the same reason why that school dropped UDL concept after less than a year because they realized how stressed the teachers were getting, and we hadn't even gotten into it deeply. And it just wasn't working, and you know instead of a prescription for how this works and use the knowledge that people have the concepts work – its just a question – we all use that to some degree. You know, but—but it doesn't have to fit into this recipe.

I think if – like – give more feedback on lesson plans that we hand in. I feel like last year, that was my weakness – lesson plans. But I don't feel like I got a lot of guidance on how to improve it. Or someone saying I see you're having problems in this area, lets sit down and discuss it so I can help you to figure out what's lacking or where I need you to go. And it wasn't really until the end of the year when I specifically said, ok, what is wrong with my lesson plan when I was told –oh – this is what's missing or this is what you didn't address most of the year. But I kind of had to find my through the year.

I think at one of our faculty meetings, just to do a 15-minute presentation or exploration of different materials with the staff- not just paper and pencil. You know, it could be construction paper where they are matching construction paper on a board, or it could be a click and drag on the computer or it could be a song or write me a story or whatever to show their knowledge. Different ways to approach teaching and assessment.

At Wesley Chapel when I was working there we have professional learning communities. We got together as a PLC and talked by department – of course we had many teachers teaching the same thing – at department, we took the standards and broke them into those – um – different sections and came up with different questions that we would ask. An in that it helped us guide our own lessons – um – to keep us on the same track. Here we don't have that ability because there's not so many as there but we could give time, if there was any time possible, um, maybe once a week when the kids leave early to allow the teachers to literally....

Collaborate

....collaborate. I don't have a single period where I can work with the other math teacher in the middle school because when I'm not teaching middle school she's teaching middle school. So we don't have the same planning period. We don't even have the same lunch. Also, I think that as far as lesson plans – they want us to hand in lesson plans and unit plans and things like that – giving us a list or not even that but here's the kind of things that we are looking for on – you know - Whatever format you use, whether you use an online program which I started using but it wasn't cooperating for me so I created my own format and um fill in the blank type thing – um – here's what we want to see on the lesson plan. We need to see your questions, what your objective is, what your materials – you know – I thought I waslast year I thought I was adequately explaining what my modifications or accommodations were and the impression I was given by my observations was that I didn't really address that enough. You know, I don't know how specific to get. So being given that feedback of here's what we are looking for would

help. We spent a lot of time last year in the beginning of the year looking at brain-target that didn't really work for us and kind of confusing.

What was that concept again?

Yeah, brain-based concept, but to put it into ideal practice, the lesson plans were like two pages long.

And that was the idea when I tried to implement full UDL.

As a math teacher, I have all the planning, data collection, and everything else on top of teaching. It's too much.

We're up to midnight doing lesson plans for three different subjects that we are teaching and not enough planning time especially once we start having IEP meetings and stuff like that. There's just not enough time in the day to get all of that done. So we need to have a lesson plan that works personally and everyone has their own formula of how they do it.

And once you get comfortable with how you want to write it, as long as you are including all the things – we know what they want to see – we want to see A-B-C then we can put it into a formula that works. I turned in lessons for the next two weeks and have yet to hear feedback on it.

Question 3:

We addressed that already. WE said, give up the guidelines. Give us the target. A checklist.

There is a website and on there they have already designed UDL plans.

Question 4:

I don't know.

What do you mean by resources? Time? If we had another planning period um that would make it much less stressful to get everything in.

Time. Because it's not just the writing of the lessons and preparing the unit, it's preparing the materials we're all fighting over the copy machine and reading and making time to enter the grades. There are so many things to keep up with.

IF we had more time it would make life more easy.

A Smartboard – equipment – technology in general.

I would be willing to work for a stipend after hours. ...Even a database for assessment.

And for me this year, I'm working so totally out of the box in math, how do I cookie cutter it into something you are looking for. It doesn't work really well for that type of thing – um – I'm going reading writing and math all at once and making it a group thing so I'm working social skills, group skills, and interaction. I'm working the whole thing and finding it quite a bit to bite off now, but it's gonna work. But to put that on top of what I trying to do and write it – it's daunting.

The other problem I see with it sticking to the UDL design is we have to also remember that there are certain classes that we have to really really, really be careful because we have standardized tests that the students (regardless of whether they should or not be taking it) and so as much as I don't want to have to teach to the test, I'm forced to leaving out information that I think would be important for our kids to know because it's not covered on the EOC. And so, looking at the big picture, UDL really has a lot to do with what is the ultimate goal that we want the kids to get out of it and it takes the emphasis

off of fact, fact, fact, fact, but I'm teaching a subject that I have to teach fact, fact, fact, fact otherwise our kids are going to fail, fail, fail, fail.

....And you're going to be out of a job, job, job, job.

Exactly!

So it's very hard to get UDL to coordinate with what the state expects of us. And I know I'm not the only teacher that feels that way.

Appendix H

Group Interview Cumulative Theme Table

<i>Theme: Degree of Implementation and Application</i>	<i>Category</i>	<i>Examples</i>
Knowledge of UDL	Beginning/ Emerging	"I don't think we have a specific policy regarding UDL as of now as far as I know", "it's probably covered through the differentiated instruction", "I don't know of any formal policy", "I don't know anything about it", "I've never been introduced to it", "I'm a very old teacher", "I think it would be practical to use the concepts involved", "they brought in an expert to teach us about it", "I don't have a background in Universal", "different ways to approach teaching and assessment", "what do you mean by resources"
	Developing	"it's another way to differentiate instruction", "I did a research paper for my PhD on UDL", "after I wrote my paper I was totally excited and into UDL", "I did revert back to my plain 'ol multisensory", "I'm working the whole thing and finding it quite a bit to bite off now"
	Applying/ Operationalizing	No responses were coded to fit this category
<i>Theme: Degree of Willingness for Implementation and Application</i>	<i>Category</i>	<i>Examples</i>
Willingness to Implement UDL	Interested	"A guideline would be great", "a guideline", "more feedback on lesson plans", "different ways to approach teaching and assessment", "give us a target", "a checklist", "a website and on there they yave already designed UDL plans", "I would be willing to work for a stipend after hours"
	Hesitant	"it all depends on if we can find comfortable formats", "use the concepts invoved as long as we have the freedom to implement", "very overwhelming", "we could give time, if there was any time possible", "if we had another planning period", "it's very hard to get UDL to coordinate with what the state expects of us"

	Resistant	"I don't think we should have a policy about it", "you have to conform", "strict", "you have to do it this way doesn't cut it", "too much stress", "too difficult to conform", "that would make it very overwhelming and stressful", "it caused stress", "old teachers who just couldn't adapt", "too prescriptive", "too prescriptive - too restrictive", "it doesn't work", "put the teachers through so much extra work", "stressed the teachers were getting", "fit into this recipe", "it's too much", "it's very hard to get UDL to coordinate with what the State expects of us"
<i>Theme: Barriers to Implementation and Application</i>	<i>Category</i>	<i>Examples</i>
Obstacles/Needs	Time	"more coordination to implement it better", "time to plan, time to plan collaboratively", "time", "time for planning"
	Supplies	"resources", "resources"
	Professional Development	"I believe I need more training", "PLC-type meetings to discuss", "professional development and training opportunities", "I think more training on how to implement this in the classroom", "learn more about it", "trainings on Universal Design for Learning", "support/trainings made available", doing workshops for teachers", "training", "knowledge"
	Lesson Template	"flexibility with lesson plans", "willingness on administrations part to put less stress on the vocabulary and wording of the lessons", "patience when trying new strategies in the classroom"
	Lesson Modeling	"modeling", "modeling how", "what it looks like in a classroom today", "proper help in the classroom", "demonstrations of how it is used in the classroom with ESE population", "support"

Appendix I

Interview Cumulative Theme Table

<i>Theme: Degree of Implementation and Application</i>	<i>Category</i>	<i>Examples</i>
Knowledge of UDL	Beginning/ Emerging	"very little", "I cannot say", "how I might benefit them", "what I can infer about UDL", "I don't know because I don't remember", "Uh...I don't know", "who can handle it", "I'm not really sure", "I don't know", "I don't know enough about it to even say", "I'm not really sure", "their mature abilities", "nothing, I don't know", "I'm sorry, I just really don't know"
	Developing	"I took a class...and she presented three categories", "I used UD at a former workplace", "we tried awhile to use it", "to be able to find ways to learn and make things more interesting to them, and the technology", "I try to allow it to be universal"
	Applying/ Operationalizing	No responses were coded to fit this category.
<i>Theme: Degree of Willingness for Implementation and Application</i>	<i>Category</i>	<i>Examples</i>
Willingness to Implement UDL	Interested	"I think it should be used", "so every student getting their own instruction so then that is the benefit...they will reach their full potential", "I'm open to it", "..and we have to have more flexibility ...as far as we are teaching the children"
	Hesitant	"it takes longer to prepare", "I like the concept of UDL...but the steps...", "found it extremely difficult...and we were so stressed out that it got dropped"
	Resistant	"all of the steps...were too difficult to follow", "it's very complicated...and the technique became more important than what we were teaching", "it is learning more", "not all teachers are open to learning", "especially veteran teachers - they have their own strategies"
<i>Theme: Barriers to Implementation and Application</i>	<i>Category</i>	<i>Examples</i>

Obstacles/Needs	Time	"before they sit down to teach reading comprehension, they should have their lesson plans designed around UDL", "it's time consuming"
	Supplies	"I need greater access to technology"
	Professional Development	"...and training", "training and professional development"
	Lesson Template	"having a lesson template"
	Evidence of Learning	"student success", "seeing that final goal", "see what is working and what is not", "seeing the success of the student", "letting them see the results"
	Monetary Incentive	"financial compensation"
	Fear of Change	"teachers that are old school and have been in the profession a long time are more resistant to change"
	Lesson Modeling	"having a lesson modeled for them", "showing them how it works", "see how it's modeled"