2019

Teachers' Perceptions About a High School Mastery-Based Learning Program

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Abstract

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Robert Searfoss

MA, Mercyhurst College 1998

BS, Lebanon Valley College 1997

Doctoral Study Submitted in Partial Fulfillment

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Abstract

A public suburban high school in South Carolina used a mastery-based learning program called Power of M that was created with the specific goal of decreasing the number of students who repeated the 9th grade. A large volume of 9th grade students who were enrolled in the English 1 mastery-based learning course failed, which prompted this study. The purpose of this qualitative study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Bloom's mastery-based learning theory formed the conceptual framework that guided the study. The research questions focused on English 1 teachers' perceptions and experiences about teaching practices in the mastery-based learning program, implementation of the program, and training needs. A case study design was used to capture the insights of 6 English 1 teachers through semistructured interviews and observations of mastery-based learning classroom. Teachers who were currently teaching in the English 1 mastery-based learning program or who had previously taught in the program in the past two years were invited to participate in this study. Emergent themes were identified through open coding, and the findings were developed and checked for trustworthiness through member checking, rich descriptions, and triangulation. The findings revealed that English 1 teachers recognize the benefits of mastery-based learning, that a system is needed to identify students' learning styles, and that teachers need training in planning and organization. This study has implications for positive social change by offering a structure to provide teachers with strategies and approaches for managing the mastery-based instructional program

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Dedication

I dedicate this to my two lovely children: Cole and Makenzie and my wife Cindy.

Table of Contents

Section 1: Introduction to the Study

Introduction

A public suburban high school in South Carolina, which will be referred to as UHS in this study, implemented a mastery-based learning program called Power of M. This program was created with the specific goal of decreasing ninth-grade in-grade retention rates. Students who fall behind academically in the ninth grade, traditionally suffer long-term negative educational consequences, and they do not graduate on-time (Korbey, 2015; Neild, 2009). Korbey (2015) found ninth-grade status to be the best indicator to predict whether a student would stay on track to graduate from high school. Power of M is based on Bloom's theory of mastery-based learning (Guskey, 2014). Mastery-based learning theory eliminates time constraints for students to master educational content and objectives (Guskey, 2014). According to the protocols used in the Power of M program, students can retake a failed test or quiz as many times as necessary to pass, provided they attend one tutoring session prior to each retake? They must improve their grade to a passing grade of at least 60%, but they cannot improve it higher than a ceiling of 77%. The Power of M program has been in place for the past six years at the high school.

UHS had 1850 students enrolled, of which 602 were ninth-grade students in 2018. UHS initiated the mastery-based learning program in the 2011-2012 school year with the stated goal of assisting students in mastering the standards and objectives of a course through targeted assessment and remediation. The program primarily targeted ninth-grade students enrolled in college preparatory level courses as well as any upperclassmen who

were enrolled in ninth-grade courses. Power of M courses included the following: English 1, Algebra 1, Biology, all foreign language courses and various elective courses.

In Section 1, I discuss the major organizational components of the study. The problem statement identified the local problem and provided a logical argument to address an identified gap in practice at a local school mastery-based learning program. The remainder of this section presents the problem and its significance, the nature of the study, the purpose statement, the research questions, key definitions, the assumptions, and the limitations of the study. Section 2 includes a review of the literature on mastery-based learning, remediation, and reading interventions

The Problem Statement

Background

Educators across the country have implemented mastery-based learning programs that increase students' time on task. These programs focused on differentiated instruction and assessment to help shrink in-grade retention rates and raise student achievement (Pearson & Flory, 2014). Three pillars of mastery-based learning theory are (a) students' time to complete mastering a learning objective is not minimized, (b) teachers use differentiated assessments to measure student learning acquisition, and (c) teachers use of differentiated instruction (Guskey, 2014). Chang (2014), who investigated student learning, found there were benefits to increasing a student's time on task; he found that this can improve students' academic success. However, there has been limited study into how increased time on task has been implemented and the effects it had on mastery-based learning programs.

There were an abundance of research studies pertaining to the relationships between student time on task and academic performance (After-School Alliance, 2013; Arlin, 1983; Bowan, Gulacar, & King 2014; Chang, 2014; Deweese, 2012; Henderson, 2011; Robinson, 2012). Researchers who conducted a study of online classes determined that students who increased their time on task outside the traditional school with no limitations placed on learning time had significantly higher academic success rates for their individual course (Bowman et al., 2014). Robinson (2012) defined behavior engagement as exerting intense effort and concentration on the implementation of learning tasks in the classroom. Robinson drew a strong correlation between behavior engagement and increased time on task through opportunities to reteach and relearn content. Students who participated in increased time on task opportunities outside the traditional school day displayed positive improvements in the areas of educational-based behaviors as well as academic performance (Robinson, 2012). Researchers for a national study of after-school programs found that participation in these programs appeared to increase a student's time on task and academic performance (After-School Alliance, 2013). The same researchers also concluded that a wide majority of parents felt that that their students' academic performance benefited from participation in programs that fell outside the regular school day (After-School Alliance, 2013).

Increased time on task is a major component of the UHS mastery-based learning program in conjunction with differentiated instruction and reassessment. Initial instruction and initial assessments were conducted during regular school hours. The remediation and reassessment portions of this program all occurred outside of the regular

school hours. To ensure that all students had the opportunity to increase their time on task, UHS offered a free busing system for all students who attended after-school tutoring, remediation sessions, or reassessment sessions.

The use of varied assessments is a pillar of mastery-based learning (Guskey, 2007). Additional assessments should be adjusted based on the student's specific areas of weakness and be varied in structure or form from original assessment for mastery-based learning (Bloom, 1968). Focused research into the area of differentiated assessment as it pertains to mastery-based learning theory is limited at this time. Studies related to mastery-based learning have been conducted in the areas of teacher perceptions, program implementation, and program results. Many of these studies mentioned the topic of differentiated assessment by identifying the short comings in the differentiated assessment process. Klecker (2008) noted the need for changes and increase use differentiated assessment in his study of mastery-based learning in higher education. Similarly, in a review of the implementation of nine-year mastery-based learning program at the high school level, Stainer (2013) identified problems with insufficient use of differentiated assessments as an area that needed improvement. As was the case in most of the mastery-based learning studies that have been reviewed, these two studies listed the needs for improvement in differentiated assessments, but they do not offer solutions or delve into the specifics of the problem. There appeared to be a specific need to examine how differentiated assessment is being implemented and what gaps in practice may exist.

A study of teacher perspectives on the implementation of a mastery-based learning program was needed. Educational program should be evaluated over time to ensure that the initial goals and intents of the programs are still being implemented (Anderson, 2014). Specifically, by examining how teachers apply the key mastery-based learning concepts of increased time on task and differentiated assessments, this study provided a basis for the improvement of the program. This study was needed because it investigated mastery-based learning theory with an emphasis on teachers' perspectives. Currently, there are no records as to which teachers have and have not received in-service training for the mastery-based learning program being implemented. If teachers need help implementing the program, the teachers' perceptions helped me to identify those needs. There were no data to demonstrate if teachers are implementing the program with fidelity outside of this study. Teachers' perceptions of these central concepts and their current implementation of master-based learning at UHS were the central focus of this study.

The Problem

The problem that prompted this study was that a large percentage of ninth-grade students who were enrolled in the English 1 mastery-based learning course in a local high school failed the English 1 course; and while teachers observed the problem, they struggled to find appropriate teaching strategies and approaches to improve student performance. A South Carolina suburban high school implemented a mastery-based learning program, referred to as the Power of M program. It was initiated during the 2011-2012 school year by school leaders to address the problem of high in-school failure rates for ninth-grade students (C. Alsip, personal communication, July 7, 2015). Overall,

the high school performed below other state high schools with comparable student demographics both in the subject of English 1 and ninth-grade retention rates at the time of program implementation (Education, 2015) After the initial implementation of the program in 2011, UHS witnessed a three-year trend of lower ninth-grade failure rates (Education, 2015). However, in the past two years there were an increase of the in-grade failure rates for ninth-grade students enrolled in the English 1 (South Carolina Department of Education, 2016).

This problem directly affected the in-grade repeater rates of the ninth-grade student population as all English 1classes were part of the mastery-based learning program. Specifically, this problem was more evident among ninth-grade students enrolled in the college prep courses. Students enrolled in ninth-grade honors program course had a minimal failure rate for the English 1 course. All students who failed the English 1 end of course test were students enrolled in college prep courses in 2016 (T. Bishop, personal communication January 10th, 2017).

Although mastery-based learning theory is not a new educational concept, it has recently reappeared under the name outcome-based learning or competency-based learning (Keenan, 2013). Outcome-based learning is derived from Bloom's (1968) and Carroll's (1963) principles of mastery-based learning (Keenan, 2013). Competency-based learning is an increasingly used educational practice compared to traditional learning structure of having set windows of time to learn specific educational standards with an ending assessment (Mogen, 2013). In 2015, the Mastery Collaborative introduced

mastery learning programs in 40 New York City schools with plans to expand the program to all New York City public schools (Nolan, 2016).

Recent studies have been conducted involving mastery-based learning effectiveness, but there was a lack of information about how programs are being implemented in the educational setting (Hill-Miller, 2011; Mogen, 2013). A study conducted by Hill-Miller (2011) found that the there was no statistical evidence that mastery-based learning was more effective than non-mastery-based learning in terms of improving students' attitudes towards reading. The study did show that students involved with mastery-based learning instruction statistically out performed students in non-mastery-based instruction in most reading-based exams (Hill-Miller, 2011). Mogen (2013) compared traditional instruction to mastery-based learning instruction for an eight grade English language arts class and found that mastery learning had "statistically significant with a medium effect size" on improving student scores (p. 35). Mogen found that traditional instruction did show improvement in student score but not enough that the improvement could be categorized as significant. While both studies contained data about the effectiveness levels of mastery-based learning, neither study explored how the programs were implemented. Program implementation and possible effects of the implementation approaches were not addressed in either study.

There have been several mastery-based learning studies that have focused on the success rate of mastery-based learning programs and student perceptions of these programs. Castillo (2011) conducted a study to research the implementation of mastery learning strategies learned during professional development workshops and the

effectiveness of these workshops on student achievement for an 11th grade English language arts class. Mogen (2013) found that that students had positive perceptions of the mastery-based learning process and classroom structure. Rowe (2010) concluded that students involved in a mastery-based learning curriculum had increased intrinsic motivation for learning. A study conducted in 2016 concluded that students who participated in a pilot mastery-based learning program showed increases in student achievement as result of the mastery-based learning instituted policies (Marshall, 2016). Thompson (2014) saw gains in student performance and perception of learning for outcome-based instruction. As with studies mentioned in the previous paragraph, there was an abundance of literature sources detailing the results and perceptions of mastery-based learning programs, but there was little investigation into how mastery-based learning was being implemented on a day-to-day basis. These studies were limited by the fact that at best they noted that program implementation may affect results and often the studies stated that they assumed programs were adhering to the principles of mastery-based learning theory.

The studies focused on results of mastery-based learning programs. This study focused on the perceptions of teachers about the implementation process. Mogen (2013) and Hill-Miller (2011) studied the effectiveness of mastery-based learning programs with conflicting results. This study I looked for a fresh perspective on the benefits and draw backs of mastery-based learning from teachers' perceptions. Mogen focused on eighth grade English language arts and Castillo (2011) focused on 11th grade English language arts and mastery-based learning. Castillo, Kahn (2016), Mogen, and Marshal (2016)

conducted studies that investigated students' achievement and perspectives into the mastery-based learning process. Marshall investigated the teachers' role in the grading process, and Kahn examined teachers' beliefs; however, in both studies, teachers were not the focus of the study. There appeared to be a significant need for investigation into teachers' perceptions of the mastery-based learning process and student performance within the program. Castillo specifically focused on professional development for mastery-based learning. This study built upon that as it explored the perceptions of teachers about program implementation and possible professional development. Castillo showed that relevant professional development is essential for success of a mastery-based learning program. Mogen showed that teachers' perceptions influence program implementation. This study extended those findings with a more in-depth focus on teachers' perceptions.

UHS has devoted both significant resources of both time and money into the mastery-based learning program. However, UHS has not conducted a study of any kind related to the program. Several teachers who were part of the original implementation of the program are no longer involved in the program. The school administrators have not conducted any follow up mastery-based learning professional development, nor have they conducted a program evaluation. This study investigated the gap in practice between the mastery-based learning model guidelines and the implementation approaches used in each Power of M English 1 classroom.

Nature of the Study

The purpose of this study was to investigate teachers' perceptions of and experiences with mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. I used individual interviews to gain detailed and extensive narratives from the participants. Observations were also used to gather data to compare teachers' perceptions of their implementation strategies compared to how they were implementing the program. A case study provides a structure for the researcher to explore a specific group, a person, or a phenomenon (Yin, 2014). I asked questions to discover how teachers implemented mastery-based learning instructional strategies of increased time on task and differentiated instruction and assessment for remediation in the English 1 course. A case study design was chosen because I intended to analyze shared experiences and concerns of teachers involved in program implementation. Maxwell (2012) listed case study design as a vehicle to explore common experiences shared among a collective or group. UHS focused on collaboration across common curriculum. A detailed and descriptive case study has the potential to create a detailed account of the phenomenon being studied and to provide valuable information (Laws & McCleod, 2006). Creswell (2012) described a case study as a methodology to create a detailed narrative that examines the phenomenon being studied. By achieving my purpose, I created a detailed narrative to present to school district administrators which may be used to evaluate the program and determine necessary professional development possibilities.

Research Questions

The following research questions were designed to guide the study. The questions are rooted in the problem and purpose of the study.

Research Question 1: What were English 1 teachers' perceptions regarding their teaching practices in the mastery-based learning program?

Research Question 2: How did English 1 teachers demonstrate their implementation of the mastery-based learning program?

Research Question 3: What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?

Purpose of the Study

The purpose of this qualitative study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. This study intended to inquire not only how teachers viewed the mastery-based learning program, but also how they implemented mastery strategies for ninth-grade English 1 curriculum, instruction, assessment, and remediation. Specifically, this study focused on the mastery-based learning concepts of increased time on task and differentiated instruction and assessment. School officials at UHS have not conducted an inquiry into the Power of M program's implementation. Because a study into the interworking of the program has not taken place, school officials have questions about how the program may be improved.

Conceptual Framework

Mastery-based learning theory provided the basis for the conceptual framework of the study. Mastery-based learning theory is built upon the key concepts of removing the constraints of time for learning, increasing feedback, increasing correctives, increasing and diversifying enrichment and instruction, and differentiating assessment (Bloom, 1968). Specifically, this qualitative case study focused on and examined three pillars of mastery-based learning: increased time on task, differentiated instruction, and differentiated assessment. Increased time for completion of goals and objectives is the first building block of mastery learning. Bloom's (1968) approach to mastery-based learning devalues the need to complete mastery of objectives in a certain amount of time. The focus is on the mastery of content not the amount of time it takes to master this content. The Power of M program does not put any limits on time for mastery of a unit. School principals use discretionary funds to fund a busing program to provide after-school remediation opportunities for all students.

Bloom (1968) explained that the mastery-learning approach must have sequential content presentation, regularly monitored academic progress, immediate student feedback, and criterion referenced standards evaluations. Bloom called for the need for assessments to vary and reassessments to be designed for the needs of specific learners (Guskey, 2001). Agboghoroma (2014) defined the key principles of mastery learning as isolating the content that students have not mastered and developing an instructional strategy to address this content. Assessments should be varied as to meet the needs of all

learning styles (Agboghoroma, 2014). The concepts of increased time on task and differentiated assessment will be discussed in greater detail in Chapter 2 literature review.

Operational Definitions

Differentiated assessment: Diffentiated assessments refer to test approaches that vary in scope and format from traditional classroom assessment forms and are customized to student individual learning needs (Guskey, 2010).

Differentiated instruction: Differentiated instruction refers to modifying instruction to meet the needs of all learners (Hartnell, 2011).

End of Course Test (EOC): End of course tests are South Carolina state mandated subject tests that are to be completed by all students at the end of the course. They are identical for all students for a given subject in a given year (South Carolina Department of Education, 2016).

Formative assessment: A formative assessment is an evaluation tool that provides feedback for students to help them monitor their own learning and feedback for teachers in use in modifying learning plans based on student needs (Cowles, 2011).

Mastery-based learning: Mastery-based learning is a program in which students are graded based on criterion referenced measures (Guskey & Gates, 1986). Mastery-based learning is often referred to as mastery learning (Guskey, 2014). Mastery-based learning or mastery learning programs provide for differences in student learning by allowing all students enough time and assistance to master concepts before moving to a new unit of study.

Reteaching: Reteaching is defined as finding different approaches to reach different learners. It is not merely a review of material; re-teaching requires teachers to use differentiated teaching strategies to reach all students (Guskey T. R., 2010).

Summative assessments: A summative assessment is focused on evaluating the program outcomes. The measure of progress of students over a defined interval of time is used to compare to benchmarks to evaluate student learning (Cowles, 2011).

Assumptions, Limitations, Scope, and Delimitations

Assumptions

It was assumed that all participants answered questions in depth and honestly. It was assumed that teachers openly shared classroom experiences and thoughts on the program without reservation. It was assumed that all participants were qualified personnel who had the appropriate mastery level knowledge to teach the English 1 curriculum and were certified teachers. I, at no time, had access to teacher background information including teacher certification documentation. This research was focused on program implementation and not on teacher competency. Any gaps in practice were not assumed to be a result of teacher qualifications.

Delimitations

The delimitations of this study were related to grade level, course section, and small sample size of teachers for this study. The study was limited to teachers who taught ninth-grade English 1 classes. This study does not factor in administrative support, prior professional development, the ratio of special education students on teachers' caseloads or class sizes. Parent and student perceptions were not included in this study. The study

was focused on teacher perceptions of the instructional principles of increased time on task, mastery-based instruction, and differentiated assessments. These concepts were in place and occurred outside of the regularly scheduled school day. UHS had a significant financial and time commitment for these two concepts of the mastery-based learning program. The focus of the study was on an after-school program and did not address the in-class curriculum and material presentation.

Scope of the Study

The scope of the descriptive study was only on the English 1 mastery-based learning program. The study included all English 1 teachers who were involved in the mastery-based learning program. The boundaries for this study were that only English 1 teachers were interviewed and only the English 1 mastery-based learning program were studied. The mastery-based learning program at UHS was a multiple course program.

Limitations

There were limitations to this qualitative case study. First, this study was specific to the English 1 curriculum at UHS, and it could not be assumed that the same findings would apply to other courses. Secondly, this study was specific to one school, one grade level, and one course level and it cannot be used as a generalization for mastery-based learning practices across all schools and curriculums. Third, the decision to not involve parent or guardians and students in this study did limit my ability to look at the program in terms of a true community perspective. Interviews with students and parent or guardians would have allowed for a more investigative and insight into student and parent or guardian perceptions of the program. The district, in which UHS is located, had

a policy that did not allow for individual teachers to interview or survey parents or teachers. A formal request was made but was denied by the school district. This study was also limited to aspects of the mastery-based learning program that occurred outside of the regular scheduled school day. The study did not investigate classroom procedures. Additionally, the study was limited in that it was not intended to explore direct correlations between the school's English 1 EOC scores and the mastery-based learning programs. I did not intend to show if a correlation exists between the mastery-based learning program and student achievement.

Significance

This qualitative study will have important implications at the local level. This study provides a report to the current school and district administrators on the state of the program. Since the school district administrators have not conducted a previous evaluation of the program, the study's findings provide school stakeholders with a document that could be the basis for improvement. The findings may be shared with faculty, parents, and community members to help determine how the mastery-based program will continue to be implemented moving forward to better benefit students.

When teachers share their perceptions of school programs, school officials are often provided with substantive information about program implementations (Feliciani, 2013). Gatling (2015) believed that studies of teachers' perceptions and concerns are worthwhile studies. With this study, valuable suggestions and observations were made that can enable the administrators to adjust the program accordingly and thus provide a more successful learning environment for students. Identifying gaps in educational

programs or gaps between the goals of the program and faculty members' perceptions of the programs is an important endeavor.

Additionally, this qualitative study will serve as a working model for the programs and will provide an outline of how the programs work and how a school can implement the programs. This study can serve as a guide for other schools considering implementing this program. Schools must balance budget concerns with the finite amount of time available to implement programs. It provides a breakdown of teachers' perceptions of advantages as well as limitations of the mastery-based learning program. It provides qualitative data on which program leaders can base their judgments. It can also provide a basis for discussion among stakeholders at schools that have implemented similar versions of this program. There are several versions of this program in the upstate area of South Carolina, and the current program at UHS is modeled after another program in a neighboring district.

This study was informed by the theory of mastery-based learning, specifically around Bloom's (1968) mastery learning approach. It was my intent to build upon the national literature pertaining to mastery-based learning theory. Mastery-based learning has become a recent trend in education under the name of competency-based learning (Torress, Brett, & Cox, 2015). Torress et al. (2015) stated that competency-based learning is derived from mastery-based learning and is a rebranding of mastery-based learning principles. Bloom's theories on mastery-based learning are the foundations of competency-based learning practices (Torress et al., 2015). Bloom's theories on mastery learning were important to this case study as they are the fundamental principles that the

programs are based upon. Mastery-based learning theory and outcome-based learning practices are both widely used and discussed nationally. Mastery-based learning theory has been implemented across the country for decades now, but there is no clear-cut consensus on its effectiveness (Pearson & Flory, 2014). School and school district officials were constantly looking for education models that have data and research to prove their effectiveness to increase student academic performance. Data provided by this study adds to the discussion of the effectiveness of mastery-based learning.

Summary

In Section 1, the problem that inspired this qualitative case study was introduced. Teachers and administrators raised questions about the mastery-based learning program being implemented in English 1 classes, following 2 years of declining EOC test scores, increases in English 1 failure rates, and increases in retention rates of ninth-grade students. There has been no prior study or evaluation. Section 1 also introduced the nature and purpose of the study, the conceptual framework, and research questions,

Section 2 is a review of the literature based on the problem, purpose and research questions that are guiding this study. Specifically, this literature review focuses on mastery-based learning, remediation programs to help students achieve academic success, and the effects of teacher perceptions on instituted programs. In Section 3, I present the research design and methodology. A qualitative case study design was used to provide an in-depth investigation of the mastery-based learning program and its implementation at the local school.

Section 2: Literature Review

Introduction

The purpose of this study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Specifically, this study focused on the mastery-based learning components of increased time on task and differentiated assessment at one specific secondary school, UHS. UHS experienced a large volume failure for ninth-grade students enrolled in English 1. A mastery-based learning program called Power of M was implemented in 2011 at UHS to address this issue. Mastery-based learning is an educational strategy in which there has been a revival in national education practice. Mastery-based learning theory is often viewed to raise student achievement and as a built-in remediation program. Mastery-based learning theory, the effects of increased time on task for educational performance, differentiated assessment, and teacher perceptions are discussed in detail in the upcoming sections.

This literature review focuses on mastery-based learning theory in practice. Mastery-based learning is clearly defined and studies that have been conducted using mastery-based learning will be reviewed. Two major components of the Power of M mastery-based learning program at UHS take place in time settings outside of the normal school day: increased time on task and differentiated instruction/assessment. This study has a narrow scope and focus on just the implementation of the English 1 portion of the program. This literature review examines remediation programs that focus on reading and that are offered outside the traditional school day. Finally, this literature review

investigates teachers' perceptions and influences on the mastery-based educational program.

Literature Search Strategy

For the literature review, I used EBSCO data bases, ERIC, SAGE, Google Search, ProQuest dissertations Walden Dissertations, and the County Library System to obtain relevant and current information. To conduct this literature review, I used the following key words and phrases: *Mastery-based Learning, Time on Task, After-school Programs, Graduation Rates, Academic Intervention, Teacher Perceptions, Reading Remediation, and English Language Arts*. Studies relating to either mastery-based learning, outcome-based learning, objectives learning theory, reading/writing remediation, increased time on task, differentiated instruction/assessment, and teachers' perceptions were found and reviewed. Fifty-eight articles were selected for use out of the 310 that were read and evaluated. These sources were filtered down to those that directly related to one of the following: increased time on task, mastery-based learning application and practice, differentiated assessment, and teachers' perceptions and/or influence on educational process. This literature review focuses on four areas: mastery-based learning theory, increased time on task, differentiated assessment, and teachers' perceptions and influences on the education process.

Mastery-Based Learning Theory: Conceptual Framework

Mastery learning theory provided the conceptual framework for this study. This section previews the current literature and views of the key concepts of mastery-based learning. The goals and the concepts of mastery-based learning that differ from the

traditional learning model are highlighted. Mastery learning is credited as having first been introduced by Carroll (1963), who postulated that all students can learn if given the ample time as dictated by their individual needs (Zimmerman & Dibenedetto, 2008). Zimmerman (2008) summarized Carroll's theory as "Carroll hypothesized that providing students with efficient time would enable them to compensate for limitations" (pp. 208). Educators are looking at both the process and the product with mastery learning, but the emphasis lies on the product. Hill-Miller (2011) defined mastery learning as an attempt to "capture the most effective components of individualized tutoring and replicate those strategies in a group setting" (pg. 3). Individual feedback on concepts not mastered is essential for a mastery learning program to be effective (Barrack-Tavaris et al., 2013). In a case study, Barrack-Tavaris et al. (2013) found that an important part of the mastery program studied was to "integrate content mastery with Amplified Assistance, instructor-initiated, individually tailored feedback on concepts not yet mastered and constructive support" (p. 147). Feedback should be presented in a form that is narrow and specific to areas of need.

Zimmerman (2008) stated that Bloom believed using a mastery-based learning model would lead to "90% of the students in class" achieving at levels "only the top 10% of students reach under traditional practices" (p. 208). According to Zimmerman, the work for teachers' in mastery learning breaks from traditional teaching models in that a majority of planning time comes after assessment instead of before. Mastery learning is formatted for common classroom situations where a single teacher is responsible for 25 or more students and instruction design is initiated by the classroom teacher (Gurskey &

Gates, 1986). This format does require teachers to be more diligent in their breakdown of student results and flexible in how they will reassess a student for that objective in the future. In terms of practical classroom application on a day-to-day basis, mastery learning is a group-based approach. The teacher in a mastery learning program is the classroom leader who has control of the presentation style, pace, and assessments of the units being studied (Bloom, 2007; Guskey, 2014). Learning is cooperative in nature and students learn in conjunction with their classmates working under their teacher as a facilitator.

Bloom's theories on mastery learning were important to this qualitative study as they are the fundamental principles upon which the programs are based. Learning is divided into specific units with well-defined goals. This is the first building block of mastery learning. Educators must plan and ensure that specific measurable objectives are in place for benchmarks that every student must meet on their way to mastery of the course subject. Research has shown the mastery learning is an extremely effective way for teachers to diagnose student weaknesses (Lin et al., 2013). Grading emphasis is placed on the completion and mastery of these specific objectives, not on the amount of time it requires a student to achieve them. This is a key concept of mastery-based learning theory and UHS current mastery-based learning program.

Mastery-based Learning: Increased Time on Task

This section focuses on studies conducted from 2008 to 2014. The works of Bloom (1968;1973) and Guskey and Gates (1986; 1994; 2014) are also included in this section for their connections to mastery-based learning theory. The section discusses the importance of increased time on task in mastery-based learning theory and its application

in remediation programs. Woods (2015) found that Massachusetts Expanding Learning Time Initiative increased instructional time by 300 hours and as a result participating schools experienced a doubled rate of students who scored proficient for English Language Arts. Additional studies into increasing the amount of time for the normal school day exist, but this literature review will focus on programs that increase time on task outside of the scheduled school day.

Stanier (2013) assigned time as the most important variable for mastery learning. Mastery learning is a process by which students are graded based on criterion referenced rather than norm referenced measures (Guskey & Gates, 1986). Learning is divided into specific, well-defined units with well-defined goals and limited emphasis on time for completion. In the traditional classroom learning is structured for set specific time constraints for students to master objectives, complete assessments, and move onto the next objective. Mastery-based learning theory allows students to work and complete learning objectives at their own pace, rather than work within a designated time to master the material. Students have continued opportunities to master objectives. Stanier) explained that because goals and objectives are detailed and specific, students can work at their pace to achieve them and move on to the next goal. A student may struggle in school and continue to struggle because they are moved along in a course or subject area without having the underlying building blocks essential to grasp higher level concepts. For mastery learning programs to be effective, students need to be allowed multiple chances to achieve mastery and should not be punished for needing extra time (Changeiywo, 2011).

A national study of after-school programs in 2011 showed that a wide majority of parents and voters surveyed supported increased funding of after-school programs and wanted more after-school tutoring opportunities for their children (After-School Alliance, 2013). The study found that participation in after-school, academic-based programs increases a student's time on academic tasks (Alliance, 2013). A national survey was conducted by the After-School Alliance found that 15% of American students participate in after-school programs, but an additional 30% would participate if it were available to them (Springer & Diffily, 2012). Increasing time spent at school does not appear to be a discouraging factor for today's students and parents (Springer & Diffily, 2012). Huang (2013) suggested that a high percentage of students would take advantage of extracurricular remediation programs if they were both offered and if the students had access to the programs. Barrack-Tavaris, et al. (2013) developed a similar conclusion, but added that higher achieving students traditionally took part in after-school remediation programs at a higher rate than their lower achieving peers. Barrack-Tavaris (2013) when reviewing students enrolled in a Language Arts Course noted "students, who knew they had already earned a final course grade of A, nearly all (92%) chose to study an optional content module that would not count toward their grade" (p. 151).

The use of time in remediation is a common theme across multiple studies. Huang (2013) stated that effectiveness of after-school remediation programs "presumably depends on (a) the content and mode of delivery of the tutoring, (b) the motivation of the tutors and the tutees, (c) the intensity, duration and timing of tutoring; and (d) the types of pupils who receive tutoring" (p. 692). While Kedron and Lindsay (2014) found a positive

correlation between increased time in remediation programs outside the traditional academic day and students' academic performance, they also found that a determining factor of the quality of instruction was a qualified teacher. The quality of instruction in a remediation program is often the most important variable in determining the success of the program. Kedron and Lindsay recommended that instruction in extra-curricular remediation programs should be based on traditional classroom practices and is more effective when provided by a certified teacher in the specific content area that needs remediation. Kedron and Lindsay concluded that focus on the areas that students were deficient in was more important than the time spent on remediation. Streamlining the re-teaching of content is essential. Focus on a student's area of weakness and teaching techniques that target those specific areas of weakness is key to ensure that time spent on remediation is useful. Though mastery-based learning theory principles of assessment were not stated in their study, Kedron and Lindsay pointed to a key principle in mastery-based learning theory of re-teaching only the areas that were found to be deficient during assessment.

Romero and Barbero (2011) found that an increase in time on task had a positive correlation to academic performance. Students who inconsistently participated in remediation programs found little success regardless of the total amount of time spent in remedial instruction. The quality of the instruction during remediation time was found to be a significant contributing factor to student success. Romero and Barbero found a strong correlation between the proximity of remedial instruction and reassessment. The

closer that remediation occurs to the time of original instruction or assessment, there is a greater chance that the remedial instruction will help students.

According to Guskey and Gates (1986), reinforcement time is an underlying factor in the improvement of academic success. Mastery-based learning or mastery-based learning theory is based on the belief that all children can learn when given the appropriate amount of time and the proper learning environment to succeed (Guskey & Gates, 1986). Huang (2013) found students' ability levels and the subject matter content are determining factors in the effectiveness of after-school remediation programs. The study showed direct correlations between after-school tutoring frequency and increases in academic achievement (Huang, 2013). Students who increase their academic time are more likely to improve their academic production (Huang, 2015). Huang (2015) concluded that a student's academic motivation was the key factor in determining if remediation programs are successful. Students who have a positive outlook and motivation towards a subject area are more likely to increase the time they spend on that academic subject area (Huang, 2015). Bowan et. al. (2014) study found that student motivation towards the subject matter greatly affected the time a student would spend on content areas outside the traditional day. Students who displayed a positive correlation with subject matter tend to increase their time spent on that subject matter.

Teachers are on tight schedules to complete content and keep classes on academic schedules to cover material for end of course testing and required state testing. Remediation during the school day has become increasingly more difficult to schedule for most school districts (Mirra & Rogers, 2015). Kendron and Lindsay (2014) found a

small, but significantly positive, correlation between time spent in after-school programs and academic motivation. For their study, they defined academic motivation as positive rates for school attendance, homework completion, and positive teacher and student feedback as compared to peers who did not regularly attend after-school programs (Kedron & Lindsay, 2014). Henderson (2011) found that students in an eighth grade English language arts class who participated in the after-school tutoring group scored significantly higher on post testing. The study compared student scores on pre- and post-tests. Henderson found that students in the after-school tutoring program gained a higher growth rate. Henderson concluded that consistent, regular attendance influenced the success rates of students.

Bloom (1968) believed that the mastery-based learning approach would greatly shrink the individual discrepancies in academic achievement between individual students (Zimmerman & Dibenedetto, 2008). But, not all studies have shown a positive correlation between increasing time on task and student academic achievement. For example, researchers found that attitude towards homework showed a positive correlation with academic performance, while amount of time spent on homework had a significant negative correlation to academic performance in a study of 207 students (Chang, Wall, Tare, Golonka, & Vatz, 2014). Students were placed into a group where they could choose their homework activity or have the activity chosen for them. All participants in the study spent at least one unit of the study in the homework choice group. The researchers found that student performed better when allowed to choose their homework activity, but time spent on homework for both groups had a negative effect the more time

spent on homework increased (Chang et al., 2014). This study found that the opportunity cost of time spent on homework had a negative effect on student academic performance and attitude (Chang et al., 2014). The study does raise questions relevant to this study. Participating in a required after-school remediation program comes at cost of time for that student. The cost that students pay for attending after-school tutoring programs include time away from family, friends, social media, jobs, after-school clubs, and sports. As well as cost of the program itself.

Increased time on task can be an effective remediation technique. The effectiveness of increased time on task remediation programs will improve if teachers know their students' weaknesses. A plan for remediation comes from quality individualized assessment.

Mastery Learning: Differentiated Assessment

Mastery-based learning requires a component for re-assessment. Bloom (1968) explained that assessments must be differentiated to accommodate all students' learning styles. Students should not be re-assessed for areas that they have mastered (Carroll, 1963). Mastery-based learning requires a different test form for re-assessment, not simply re-taking the same test over again. Re-assessment should only focus on the areas of weakness or deficiency (Carroll, 1963). Students who struggle to master a specific objective should not continue to retake the assessment without teaching interventions. In mastery-based learning teachers should go back and evaluate the assessments to look for gaps in student knowledge and reteach or give specific support in the needed areas. Re-teaching should not be simply restating but rather finding different approaches to reach

different learners (Guskey, 2010). Mastery-based learning assessment focuses on specific detailed feedback and narrowing of the scope of content (Guskey, 2001). Providing support to help students achieve mastery should not constitute merely re-teaching the subject matter, but rather strengthening the weak areas to complement the content that has been mastered. Educator feedback is crucial to ensure that mastery-based learning models are successful (Guskey, 2007).

Darling-Hammond (2015) recommended that teachers be given more flexibility to vary assessments for students in place of the standardized testing model. Teachers see a wide variety of learning styles in their classroom and the U.S. educational concept of "one size fits all" under the umbrella of standardized testing has become increasingly obsolete (Darling-Hammong, 2015). Hartnell (2011) concluded that the pressure of preparing for standardized testing limits teachers' willingness to differentiate and diversify from the traditional teaching model. Teachers often receive push back if assessment results come in forms that vary from the traditional number-based system, i.e.: 0-100 grading scale. Hartnell (2011) stated "a grade card that does not contain the traditional trappings will be met with resistance" (p. 92). A break from traditional assessment procedures and scoring is often met with push back from parents.

Assessments do not have to be one size fits all and can be individualized for a student's specific learning style. Stanier (2013) noted mastery-based learning gives the teacher more freedom: "Teachers are freed to interact with students on a one-on-one basis, this gives teachers the ability to give and receive feedback" (p. 15). Feedback should be detailed and individualized as to focus on specific areas of content that a

student may focus on to help ensure mastery. Initial presentation of material can be more holistic and all-encompassing. Mastery-based learning models are a fit for classrooms with 25 or more students to which school models adhere (Gurskey & Gates, 1986). Teachers present or facilitate large groups with initial presentations of new materials and concepts (Guskey, 1994).

Some educators believe that mastery-based learning deemphasizes the role of the classroom teacher. Literature has shown that this is not the intent of mastery-based learning. DeWeese and Randolph (2011) concluded that one of the positive aspects of mastery learning is the adaptable nature of mastery-based learning. This educational philosophy is advantageous for use in the classroom because of the variety of strategies that can be incorporated for instruction and assessment (DeWeese & Randolph, 2011). In mastery-based learning programs, the teacher oversees content presentation and classroom structure. It does not limit a teacher's creativity or classroom management. Teachers are not asked to perform under a set layout of educational guidelines for presentation, pace, or classroom structure (Guskey & Jung, 2011). Mastery-based learning theory allows for teachers to be creative with instruction and assessment, adapt to the needs of their individual classes, and feel empowered to use their individual teaching styles to reach their students.

The change for teachers comes in the way they assess their students' progress and offer support for students who have not mastered an objective during the initial assessment. Teachers, when looking at assessment, need to work backward and make sure that criteria for mastery are well defined at the beginning (Stanier, 2013). Mastery-

based learning is an educational model that looks to ensure that assessment portions of student work are highly prepared and that student performance in thoroughly critiqued. Pearson and Flory (2014) recommended that professional development was needed in the areas of assessment. Interpretation of the findings indicated that although instruction was often differentiated, assessment techniques had not moved away from traditional assessments. They recommended that teachers vary re-assessments and not use original assessments for re-testing for mastery of objectives.

Performance and improvement rely heavily on the student with the teacher providing the tools to repair gaps in learning. When looking to provide support for areas in which students are deficient, teachers must look for a varied approach and not present material in the original manner it was presented to the group (DeWeese & Randolph, 2011). Differentiated assessment relies on teachers identifying a student's specific area of need for remediation and designing instruction to meet that need. A review of mastery-based learning literature has led to the conclusion that a need for emphasis on assessment techniques for mastery-based learning programs. Digelman-Parente (2011) and Deweese & Randolph both emphasized the need for focus on improved assessment in mastery-based learning programs. Teachers must consider how the original material was presented, what alternative ways material could be presented, and what type of tutoring and support would best serve the student. Once students have been assessed and found to have a gap in mastery, a creative approach to help guide them to overcome this gap is needed (Diegelman-Parente, 2011). Assessment is the point at which teachers must know their students' needs and help develop a plan of intervention that is suited for individual

students (DeWeese & Randolph, 2011). Teachers must consider how was the original material presented, what alternative ways material could be presented, and what type of tutoring and support would best serve the student. Creativity in providing support is a key component for mastery-based learning to be effective (Guskey, 2007). Teachers will still be relied on to inspire and motivate students, but mastery-based learning adds to that motivation as students can move at their own pace and are not left behind. Students who feel they can no longer pass a subject area or feel that they are too far behind to catch up often become unmotivated students (Messacar & Oreopolous, 2013). This lack of student self-efficacy can lead to a variety of offsetting problems such as discipline and attendance.

Miles (2010) conducted a quantitative control group study to compare traditional - based and mastery-based education models for eighth-grade math students. The study compared student pre- and posttest scores for two different sections. The study was significant because it provided a basis of comparison for the two educational models and in its findings outlined the factors that may have contributed to the positive correlation found in the mastery-based learning model. Miles indicated having set mastery standards for each objective (80%) for this study may have improved students' academic motivations. Assessment became more individualized for the mastery-based learning students and helped them to over-come perceptions of low ability levels or learned helplessness. Students showed a positive correlation with accomplishing task individually compared to competing against the rest of the class in a collective grading system (Miles, 2010).

Assessment is teacher based, but it is primarily student driven (Stanier, 2013). Students must reflect on the assessment given to them from their teacher and develop a plan to master the areas in which they are weak. Many scholars who advocate for mastery-based learning maintain that benchmark assessments must vary (Guskey, 2010). If a skill or objective is not mastered, an alternative assessment from the original assessment should be used. This is done to ensure that students understand the concepts and that they are not learning the information necessary to pass a test. Re-assessment for specific objectives should be conducted with a different assessment instrument, and it should be administered on a different day. Stanier recommended strongly allowing students options for alternate assessment because students learn and produce in a variety of ways.

The effectiveness of mastery-based learning from a student, teacher, or school perspective is largely based on time. Time during the school day is finite. Lin, et al., (2013) list the two major components of mastery-based learning program success are: letting students perform at their own pace and finding time for student remediation after-school. Research has shown mastery-based learning is an extremely effective way for teachers to diagnose student weaknesses (Lin et al., 2013). Grading emphasis is placed on the completion and mastery of these specific objectives, not on the amount of time it requires a student to achieve them. The following section reviews remediation strategies and teachers' perceptions towards educational programs. One key concept that has become apparent during this review of educational literature is the focus on increased time on task for students. Reducing the emphasis on time one should have to learn a task

and opening a student's chance to master objectives by eliminating time restraints is a key component of mastery-based learning theory (Stainer, 2013).

Literature has shown that there is a clear correlation with increased time on task and student academic success. Programs that look to increase opportunities for students to be involved in academic based programs outside the traditional school day have shown to be a positive form of remediation. Programs must provide structure and content that relate to the in-class curriculum and content must be provided by competent teachers. Teachers' attitude towards a program and their educational background can have a profound impact on an educational program.

Teachers' Perceptions on the Implementation of Remediation Programs

Teachers' perceptions of program implementation may have a profound impact on the implementation of a remediation program. Research studies in this topical section were published from 2013 to 2015. The studies investigated how teacher understanding, goals, and training can influence teacher perceptions. The influence of teachers' perceptions is a common link between all studies reviewed.

As discussed earlier, Henderson (2011) found a positive correlation between after-school program attendance and performance on standardized testing. The researcher also concluded that teachers involved in the program were excited about the opportunity to work with program and excited by students' participation. Henderson postulated that the teachers' positive approach to the tutoring program impacted the students' performance in an auspicious fashion. The positive approach by the teachers could not be ruled out as a substantial factor.

Feliciani (2013) conducted a qualitative case study which was grounded in social learning theory. Feliciani investigated teachers' perceptions of the advantages and disadvantages of sustained silent reading. Eight teachers participated in this study in which data were collected in the forms of interviews, lesson plans, and archived documents. Feliciani (2013) found positive views in the intent of the program but also that teachers "feel that they need more instruction on the correct implementation and understanding of it and the needs to be incorporated into the curriculum" (p. 67). The researcher assumed that a gap existed in the need for more training and professional development for the program to be implemented properly. Felicaini concluded that the details and the goals of the program were not fully conveyed to the participants in the study. The researchers' findings showed that there was a perception that the participants were not engaged or interested in the program. The study recommended that that increased professional development in the areas of sustained silent reading lesson plans and communication between teachers and administrators was key to improvement of the program (Feliciani, 2013). Feliciani indicated that teachers participating in the study understood the purpose and the goals of the program, but they were unable or unwilling to appropriately implement the program.

Studies have shown that by examining the instructional decisions and practices of teachers, it is possible to discover whether a desired effect is occurring (Yurdakal, 2015). Teacher perception can have a direct influence on a program's success. Yurdakal took a specific look at how teacher perception affected curriculum implementation. The implementation phase of a program tends to leave room for flexibility of adaptation. The

study concluded that teachers' previous knowledge and practice had a far-reaching impact on their implementation of the program. Teachers incorporate strategies and techniques that they have previously used at a higher rate than unfamiliar strategies and techniques. Teachers implementing programs at the classroom level may have tendencies to adjust and implement programs based on their perception and feelings towards the program (Yurdakal, 2015). Teachers with a more positive view of the program are more likely to use new techniques and practices. On the contrary, teachers who have a more negative view of a program are more likely to revert to old practices and techniques. Yurdakal qualitative study concluded that the perceptions teachers have about curriculum is largely reflected in their instructional process and directly affect their choices about how to implement instruction.

Teachers' perceptions and philosophies can have a large impact on the effectiveness of school policy and program implementation. According to Napoles and Macleod. (2014), implementation of classroom-based programs may be most directly affected by a teacher's prior knowledge and perceptions of the material regardless of presentation style or format. This is a similar finding to Yurdakal (2015). Some factors of teachers' perceptions that can influence a program's implementation are: context, time spent, tools and materials used, and frequency of implementation (Yurdakal, 2015). Teacher training and previous use of classroom techniques will shape how teachers implement new educational policy. Ensuring that teachers understand the expectations and framework of a program being implemented is paramount. A lack of training or understanding can have a direct effect on the effectiveness of a program (Napoles and

Macleod, 2014). When conducting a program evaluation, it is essential to look at how teachers perceive and understand the program being evaluated. Yurdakal concluded that teachers implement neither the created or suggested curriculum, but rather the curriculum that they perceive. Teacher perception and program intention have the potential not to be aligned. This will directly impact the effectiveness of a program's implementation.

Reed (2015) conducted a qualitative study that investigated the teacher perceptions compared to the use of required interim measures of reading performance. Much like Yurdakal's study, Reed concluded that teachers' perceptions have a direct impact on program implementation. The study involved 12 teachers at the 6^{th} to 8^{th} grade level and investigated their use of data from required interim measures of reading performance to plan differentiated instruction and enrichment activities. School policy was being implemented which required teachers to use the reading assessment data to create enrichment activities that targeted specific areas of weakness identified by the data for individual students.

The study found that the higher the level of training for this program the greater the influence data collected was on future enrichment activities (Reed, 2015). Teachers with lower levels of training often used data to validate their perceptions rather than to influence future differentiated instruction (Reed, 2015). Some teachers may hold onto prior belief systems if not properly informed or trained on new techniques. Reed noted that his study findings "revealed tension between teachers' knowledge, beliefs, and expectations of assessments and testing policies mandated at the district or state level that seemed to discourage data- based decision making" (p. 8). Teachers will limit themselves

to old techniques and technologies unless properly instructed on new techniques (Oz, 2014). Oz (2014), in a study of student and teachers' perceptions of new interactive white board technologies, found teachers to be more rigid in the implementation and use of the new technology and accompanying plans than their students. Oz concluded that the level of teacher training had a direct correlation with their positive feelings about the program. Teachers who had high levels of training and felt more comfortable about using the interactive white board system found more positive results with their students' academic progress when using the system. Teachers play an important role in remediation. The structure and goals of a remediation program also are key factors in a program's success.

Reading Intervention Programs

Structure and application of a remediation program may affect the educational impact a program has on its students. The UHS mastery-based learning program has a built in after-school remediation program for the English 1 curriculum. Waleff (2010) conducted a one group nine-week pre-test and post-test mixed methods study investigating the relationship between mastery orientation goals and reading achievement for learners in a rural school district. Mastery goals were viewed as more student centered than program centered. Waleff distinguished between mastery goals and performance-based goals as "Mastery goals center on improving learning while performance goals focus on demonstration of the improvement in relation to others" (p. 29). The study "focused in the implementation of mastery orientation goals in the form of SMART goals

which are specific, measurable, attainable, results driven, time oriented and school related to the task of reading" (Waleff, 2010, p. 110).

Waleff (2010) identified specific areas for improvement and focused on those specific areas. Remediation focused on small areas that were deemed in need of improvement. Students were not asked to take reassessments on areas they already mastered. The remediation was student centered and need specific. Waleff stated that setting specific goals "help students to stay on task" (p. 114). Students were not burdened with the weight of performing positively or negatively on performance assessment but rather on mastery the specific goal set for themselves. The study theorized that the program achieved success through assessment and focus on the learning process and not on the specific results. Waleff (2010) stated "when a student failed to meet a goal in this study, an expert teacher was there to help the student analyze the reason why the student had fallen short" (p. 115).

Popwell (2014) conducted a qualitative case study to research the effectiveness of a reading class that was implemented to improve reading levels of at-risk students who had been identified with reading difficulties. Interviews and reviews of student class work were used as the primary data collection tools. The conceptual framework of this study was grounded in constructivist learning theory. Popwell (2014) defined constructivist learning theory in practice as "a variety of teaching practices are employed to facilitate students' learning." (p. 9). The program focused on the use of differentiated instruction focusing on presenting materials and strategies in a wide variety of styles and formats.

The study found that there was disconnect between participants in the study and administration views on what determined reading improvement (Popwell, 2014). The study concluded that the administration felt that student behavior directly correlated to reading growth. Teachers saw factors as student interest in the reading material, whether a student was placed or chose to participate in the program, and the format for learning were the key factors potential improvement in reading (Popwell, 2014). The study focused on the way materials were presented and the attitudes of the students towards the program and the instruction. The study failed to consider the assessment techniques and why teaching techniques were chosen. There did not appear to be any focus in the program on the specific learning styles or ways to improve specific gaps in a student's reading strategies. Popwell concluded that the program was not properly implemented, and the needs of individual students were not met. The program seemed to paint a broad stroke of remediation and not fill in specific gaps of learning for the students.

A 2011 study of mastery-based learning instruction for developmental reading class showed a significant positive statistical difference for groups that employed mastery-based learning techniques (Hill-Miller, 2011). Hill-Miller conducted a four-group research design to investigate into the effectiveness of mastery-based learning instruction. For this study, two sections were taught with non-mastery-based learning instructions while two sections were taught with mastery-based learning instructions.

The study found that participants from the mastery-based learning groups had higher mean scores on unit and final exams (Hill-Miller, 2011). The researcher pointed out that this was not the case for all initial exams. The mastery-based learning groups

could re-take assessments for unit exams and focus on weak areas from the original assessment. The non-mastery-based groups were not allowed re-tests and did have a higher mean average on some initial assessments (Hill-Miller, 2011). The study stated a focus on the instruction techniques of the program and found that there was a positive correlation in students' perception of the mastery-based learning techniques. The study indicated that it appeared that the mastery-based learning programs were successful, but questions about the nature of the study persist. It was not made clear if students in the mastery-based learning program were given alternate assessments or simply re-took the same unit assessments. The question could be asked as to how the non-mastery-based group would have fared if given the opportunity to re-test. Teachers' perceptions of the implementation of the program and its effect on their students were also not addressed.

Program structure and implementation are key factors in the success of a remediation program. Implementation process of remediation programs should be reviewed to ensure that a programs current implantation process matches the goals and parameters for the program.

Criticism of Mastery-based Learning

Mastery-based learning has perceived advantages as well as perceived disadvantages. Mastery-based learning is often described as holistic and an approach that stifles the success of the gifted as it focuses on the lower level students (Hill-Miller, 2011). Many researchers describe mastery-based learning as a remediation program that is not intended for competitive based classroom settings (Hill-Miller, 2011). Mastery-based learning allows all students to take as much time as they need to master objectives,

but does this process slow down the growth of those who master goals at a faster pace. Palardy (1986) suggested that mastery-based learning is ineffective because it only benefits slower learners and it slows down instruction as students must stop learning to wait for others to achieve mastery.

Mastery-based learning has also been accused of inflating grades. The ability to re-take assessments is often seen as an inherent grade inflator that does not equate to the normal grade distribution curve (Livingston, 1995). Reassessment that is required will cause schools to re-examine the traditional grading scale and methods (Stainer, 2013).

Mastery-based learning is also perceived as time consuming for instructors. Teachers are often over taxed with the extended amount of time it takes to implement mastery-based learning (Arlin, 1983). Arlin questioned if a teacher could feasibly create new assessments and new lessons for each student for every objective. Where in the school day would this time come from? Arlin questioned when teachers would have the time to plan individual lessons and what a feasible class size would be to implement mastery-based learning. School districts must manage teacher class loads with time tables to provide feedback to students and parents (Mirra & Rogers, 2015).

Literature Related to Methods

Qualitative research is more exploratory in nature and can be used when a researcher is attempting to understand the variables that make up a phenomenon (Creswell, 2003). Researchers who are interested in understanding the interpretations of a group and their experiences, would benefit from the qualitative research approach (Merriam, 2002). Teachers' perceptions and experiences with a mastery-based learning

program were the focus of this study. A qualitative approach allowed for discovery about the perceptions and experiences of teachers about mastery-based learning. Research conducted with a qualitative design is appropriate when questions pertain to meaning, understanding, and process (Merriam, 2002). This study was not concerned with the rates of achievement in the mastery-based learning program. Grade level and individual EOC scores, benchmark testing scores, and English 1 passage rates are readily available and easily accessible. Merriam (2002) stated "in qualitative research, we are not interested in how many or the distribution of predefined variables, rather it is important to understand the perspectives of those involved" (p. 25).

A case study methodology is ideal for researchers who are investigating a bounded system (Merriam, 2002). For this study, the focus was on English 1 curriculum and all English 1 teachers were invited to participate with the focus on mastery-based learning within the English 1 classrooms. The mastery-based learning program was specific to only the English 1 curriculum at UHS; all English 1 classes follow only the state guidelines with no other additional parameters in place.

All English 1 teachers were invited to participate in this study. Convenience sampling is often ideal when a study is targeting a specific group who has intimate and detailed knowledge that directly relates to the research question (Creswell, 2003). A convenience sampling selection process was used for this study as teachers in the English 1 curriculum have a direct experience with the implementation of the mastery-based learning program. Hatch (2002) stated "participants are the ultimate gatekeepers, they determine whether and to what extent the researcher will have access to the information

desired" (p. 51). A convenience participant selection process allows the researcher to answer specific research questions (Hatch, 2002). A participant pool of at least three teachers may have been ideal for this case study. A small focused group of participants can be extremely useful in developing understanding of a phenomenon (Creswell, 2012). A smaller group with intense knowledge of content can provide important insight for a researcher (Rubin, 2005). I used semi structured interviews to collect data about the perceptions and experiences of teachers. Semistructured interviews can provide rich, thick descriptions of what happened, what caused it to happen, and what meaning can be derived from it in a broader context (Rubin, 2005). Qualitative researchers search for data comprised of participants' responses that create detailed and descriptive information which can help the researcher answer the research questions (Creswell, 2003).

Literature Related to Using Differing Methodologies

Differing methodologies can provide different angles of perceptions and information to a phenomenon. A quantitative study approach is useful for testing a theory or explanation (Creswell, 2003). I did not intend to measure the success rate of mastery-based learning, but rather to understand the perceptions and experiences of the teachers implementing the program and their understanding of mastery-based learning theory and implementation. A case study design was determined to be the most appropriate for this study as it allowed for specific research into the implementation of the mastery-based learning program. I used interviews to investigate teachers' perceptions of varying aspects of the mastery-based learning program and implementation. Interviews are data collection tools that can be used to investigate participants' perceptions and experiences

(Creswell, 2003). Merriam (2002) stated that "qualitative researchers are not interested in people's surface opinions as in survey research, rather they want to know how people do things, and what meaning they give to it" (p. 19).

Summary and Conclusions

Based on the review of literature in the areas pertaining to mastery-based learning, remediation, and teacher perceptions, there are significant gaps in the literature. The purpose of this qualitative study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Kedron and Lindsay (2014) stated in their report findings that more investigation into the correlation for increased time on task and academic achievement is needed. They found that study in this area was lacking information about how it affects year-round school students and high school students (Kedron & Lindsay, 2014).

There was also a gap in the scholarly literature in terms of how teachers' perceptions impact the implementation of mastery-based learning programs. There were several studies conducted that weighed the benefits or the results of mastery-based learning, but few that looked at the teachers' perceptions and understanding of mastery-based learning programs and how those perceptions may impact program implementation. The qualitative case study model is a practice in trying to comprehend the participants' perceptions of a program or event (Creswell, 2012). This qualitative study was intended to add to the scholarly work for this subject matter and to provide new perspectives about mastery-based programs.

Section 3: Research Method

Introduction

The purpose of this study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. I chose a qualitative descriptive case study design for this study. A qualitative research design allows a researcher to develop an understanding of the lived experiences of the participants (Creswell, 2012). A qualitative case study provides the researcher with the potential to examine a program or phenomenon through a real-life lens (Yin, 2011). This qualitative case study investigated teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. This section contains a discussion of the design of the study and its potential effectiveness to answer the stated research questions. The research questions, participant criteria, data collection process, and data analysis procedures are explained and discussed in this section.

Research Design

A qualitative study was chosen as the optimal research method for this study. Specifically, a case study design was chosen to help investigate the perceptions and experiences of teachers directly involved with the mastery-based learning program. A case study design grants a researcher access to examine a phenomenon in the context of which the phenomenon is taking place (Yin, 2013). The case study approach is a study

that seeks to understand participants' perceptions and attitudes (Creswell, 2012). A successful qualitative case study requires detailed inquiry into participants' perceptions (Yin, 2011). Interviews and observations were used uncover teachers' perceptions about the implementation and effectiveness of the mastery-based program.

A quantitative study was deemed inappropriate for this study. The goal of quantitative research is not to consider the insights of the participants, but rather to study a limited scope of variables (Maxwell, 2012). Qualitative interviews will provide insight into the inner workings of the program and how the program is being implemented on a day to day basis. A quantitative study looks for objective and statistical data to support or disprove hypotheses in question (Creswell, 2012). This study is not concerned with proving or disproving the success of mastery-based learning. The program has been established, it is supported by administration, and funding has been secured for the program to continue into the foreseeable future at UHS.

I considered other qualitative approaches. An ethnography design provides the researcher with rich descriptions, but it would not have been appropriate since it focuses on culture-sharing behaviors of a group; for this study, one of the goals of this study was to gain an understanding of activities of individual teachers about a process instead of shared patterns. Ethnography is research that studies a cultural group in their natural setting over a prolonged period (Creswell, 2003).

The goal of a grounded theory study is to develop an abstract theory pertaining to a phenomenon derived from the views of those studied (Merriam, 2002). This research study was looking at a small group sample from a specific time frame. Mastery-based

learning theory was at the core of this study but developing a counter educational theory or suggesting adjustments to the current theory was not a goal of this study. Grounded theory uses constant comparison of data development of emerging categories to compare differences in groups and similarities in various groups (Creswell, 2003). A comparison of perceptions of program implementation between administration and teachers was not a component of this study and the goal of this study was not to develop an abstract theory as to why each group perceives things the way they do as would be warranted in a grounded theory study.

This study intended to maintain a narrow focus on the implementation of the mastery-based learning program from the teachers' perspectives. Narrative research can provide useful and detailed descriptions of individuals and their perceptions, relying on detailed narrative and retelling of the participants story (Creswell, 2003). While a narrative research approach could be helpful, for this study the focus is more centered on the participants' perceptions of the program and not their broader perceptions of larger concepts such as educational theory or background. Phenomenological research looks to understand lived experiences of a small group over an extended period (Merriam, 2002). Phenomenological research is used to determine meaning in the interactions of the participants and a phenomenon and the effects they have on each other (Merriman, 2002). To keep a focused perspective for this study, the effects the program has on the individual teacher was not of concern and there are no existing factors at this time that lead the researcher to believe the mastery-based learning program is having a profound effect on

the lives of the teachers involved. This study kept the focus on a small specific group about the implementation of a program over a single school year.

Research Questions

The following research questions were designed to guide the study. The questions are rooted in the problem and purpose of the study.

Research Question 1: What were English 1 teachers' perceptions regarding their teaching practices in the mastery-based learning program?

Research Question 2: How did English 1 teachers demonstrate their implementation of the mastery-based learning program?

Research Question 3: What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?

Context

Setting of the Study

UHS is a suburban high school in the northwest region of South Carolina. Upstate High School has approximately 1,850 students enrolled, of which the current ninth-grade class has an approximate size of 650 students. UHS is a magnet school for math and science, and it also offers students the choice of the traditional classroom setting or a project-based learning program. All ninth-grade students must enroll in an English 1 course, and all English 1 courses are mastery-based learning programs class regardless of level or instructional classroom setting. All ninth-grade students must pass English 1, which includes an EOC that accounts for 20% of the English 1 grade to be promoted to

the tenth grade. The EOC is and SC state mandated comprehensive end of course test. All English 1 teachers were invited to interview for this study.

Criteria for Selecting Participants

Teachers selected for this study met a set of criteria to ensure reliability of data collected. Participant criteria included: (a) participants must hold a valid South Carolina teacher certification with an English language arts endorsement, (b) participants must have experience teaching English 1 in the Power of M program, and (c) participants must have access to Google classroom pages. All current English 1 teachers were sent an invitation to participate in this study via e-mail. This invitation included a brief explanation of the study and the Informed Consent Agreement to review.

Justification for the Number of Participants

There were 1850 students enrolled in UHS, of which 602 are ninth-grade students in 2018. UHS current staff includes 94 teachers, 5 administrators, and 2 curriculum specialists. The focus of this study was narrowed to the English 1 curriculum. There are currently five teachers who are teaching at least one section of English 1 at UHS and 5 additional teachers who have taught the English 1 curriculum under the Power of M program with in the past 2 years. All English 1 sections at UHS are a part of the mastery-based learning program. The small sample group allowed for a more in-depth investigation of the mastery-based learning program from a narrow perspective. A research group consisting of between 6-8 participants is recommended to ensure that proper saturation of the subject matter (Creswell, 2012). The focus on only the current English 1 teaching group allowed for detailed and specific research into how the program

is being implemented in its current form for the current school year. All five English 1 teachers and the five on UHS staff who have taught the English 1 curriculum under the Power of M program with in the past two years were contacted and were given the opportunity to participate in the study. Research does not require a large group of participants, but rather it requires an accurate focus, participants with in-depth knowledge of the subject matter, and re-checking of meanings to validate findings (Rubin, 2005). Small sample sizes are appropriate for a study when the participants are selected because of the value that they may contribute to findings (Merriam, 2014).

Convenience sampling was chosen for selecting participants for this study. The use of a case study approach focused on a specific topic and curriculum suggest the use of convenience sampling (Yin, 2014). The narrow focus of the study in both topic and location creates a small pool of participants from which to pull. When a study is focused on a specific group who have detailed knowledge of an event or phenomenon, convenience sampling is appropriate (Yin, 2013). The participants for this study have extensive knowledge of the implementation process of the mastery-based learning program as it applies to the English 1 curriculum.

Measures for Ethical Protection of Participants

The appropriate district forms were completed through the School Districts' Department of Accountability and Quality Control in accordance with Walden IRB procedures. A district application requesting an onsite study was submitted detailing the nature of the study and who may possibly be involved. The Department of Accountability and Quality Control director in conjunction with the UHS administration granted

permission to conduct this study under the guidelines that no student will be involved in the study (Appendix, D). The Walden IRB process was completed and approved before the study began. The *Protection Human Research Participants* course through The National Institutes of Health Office of Extramural Research was also completed before the study began. Interviews were conducted in one of the school's conference rooms or media center common rooms outside of the normal school hours.

The school district for this high school has a strict data sharing agreement policy. All studies conducted within the school district must first be approved by the director of the Department of Accountability and Quality Control at the district level and Assistant Principal at UHS in charge of school information. All forms required by the school district were completed and approved along with meetings with the school principal and assistant principal in charge of monitoring school records has been held. The district and school administrators required an outline of the proposed study and definition of possible student and teacher involvement. Permission was granted to have access to all school wide related data, but not to any specific student data or teacher personnel files upon Walden's IRB approval.

Participants were contacted by e-mail to notify them of the nature of the study and to provide them with a copy of the consent to participate. All teachers were asked to review the information and, if they consented, to e-mail me at my Walden University email address indicating that they consent. A follow up e-mail was sent to teachers who do not respond to the initial e-mail. Interviews times and places were set up through e-mail contact at a time convenient to the participant. I assigned all teachers a letter

associated with their name to protect their identities; I am the only person who has a key to this code. Personal and background information or indicators were not gathered for this study.

Role of the Researcher

I am in my 21st year of teaching. In the past 11 years, I have worked for the current school district as a special education teacher, with the last 5 years specifically at UHS. I have worked as a resource support education teacher and an inclusion teacher. I have served on the school improvement committee for the past 4 years. I have developed a strong working relationship with many of my colleagues, and I have been asked each year by the UHS administration to help co-teach classes that they have designated as challenging. I do not serve on any committees with any of the teachers in the English 1 program, nor do I have any supervising role in the academic setting or in any after-school programs.

Various steps and precautions were put in place to ensure the ethical treatment of all participants. Interviews took place in the media center work rooms, conference rooms, or teacher planning rooms before or after school hours. These room were chosen because they are private and can be secured. Using a familiar place that is private helps to entice participants to give candid and valuable response (Yin, 2013). It is important to create an atmosphere that is relaxed and comfortable for a participant (Creswell, 2003). I used an audio recorder to collect responses from participants. In the interview setting it is best to use an audio recording device to ensure that they do not feel distracted by unnecessary writing or rushed to answer questions (Janesick, 2004). Teacher interviews and notes

were labeled and categorized as Interview Participant A, Interview Participant B, etc. Teachers' names do not accompany interview data collection sheets nor are any names of teachers who participated included in anywhere in the study. Teachers were assigned a letter and all information pertaining to them is referenced by the letter assigned.

I have worked in the role of co-teacher and resource support teacher for the English 1 curriculum. These experiences have given me extra insight into the curriculum and content of the English 1 program. I currently have a professional relationship with each of the English 1 teachers at UHS, but I do not supervise or evaluate them, nor do I have social connections outside of school with any of the English 1 teachers. Per the IRB, doctoral researchers may not interview their own subordinates for their doctoral study. Not only would the validity of the data be suspect, but such a research invitation would unethically strain the leader/subordinate relationship. I felt this helped to keep research and personal feelings separate and allowed me to break down responses in a truly objective fashion. I maintained a personal reflection log to personally answer the interview questions before I began collecting data and I kept personal notes and observations during the data collection process. This allowed me to fully disclose my personal responses and opinions, and thereby, reduce the possibility of bias with in my data or interpretations.

Transferability is a qualitative researcher's vision that all collected data and developed theories in the study are factual and not influenced by bias or prejudice of the researcher to develop themes that are useful and truthful (Creswell, 2012). Transferability was used to ensure that personal bias does not influence findings of the study. Intense

descriptive language developed from only descriptive detailed responses was used. Member checking was used for this study. All participants reviewed transcripts to ensure that their responses have been documented as they intended. The researcher gave an intensive, written description of each step of the data collection and analysis process and provided access to the participant to ensure interpretations are aligned with participant's intent. Participants' were provided a copy of the themes that were developed and the quotes they provided that were specific to those themes. I met with each participant one-on-one to go over findings and offer the opportunity for additional input or clarification. Current relevant literature was used to support analysis of participants' responses. A comprehensive literature review can show whether the findings of the study are in-line with current research and if the study is bringing useful additional information to this field of research.

Data Collection

Qualitative data were collected through open-ended interview questions with all study participants (Appendix, A). Qualitative Data were also collected through observations of after-school remediation and assessments (Appendix, C). Creswell (2003) stated that interviews should involve "unstructured and generally open-ended questions that are few in number and intended to elicit views and opinions of the participants" (p. 188). The open-ended interview data collection process is appropriate for research intended to investigate how a group feels about the phenomenon in which they are participants (Merriam, 2002). Data collected were used to investigate teachers' perceptions and experiences about mastery-based learning, about student performance

within this program, and about teachers' professional needs to improve program delivery. Interview questions (Appendix A) were developed for data collection via face to face interviews and observations of after-school remediation and assessments.

Interview Procedures

All teacher interviews were completed outside of normal school hours and did not interrupt the normal school day. All interviews took place at the campus of UHS in a private common planning room or media center common room. Interview sessions lasted between approximately 30 to 45 minutes. 12 interview questions were developed to elicit specific responses that provided rich detail and perspective to help answer the three research questions (Appendix A). Interview questions 1 through 4 pertain specifically to RQ1. Interview questions 5 through 9 pertain specifically to RQ2 and interview questions 10 through 12 specifically pertain to RQ3. Semistructured interview format was chosen to allow follow up questions to invoke detailed responses. Briggs and Coleman (2002) stated "A semi structured interview schedule tends to be the one most favored by educational researchers as it allows respondents to express themselves at length but offers shape to prevent aimless rambling" (p. 189). Interviews were recorded with Android Interview Recording Application. Teachers' names do not accompany interview data collection sheets, nor will any names of teachers appear in any section of the study. Interviews were transcribed into password protected Google Docs for analysis. All information is kept on my private password protected computer under a password protected file. All paper copies of interviews have been stored in a lock box that is kept in secured filing cabinet.

When conducting an interview, I used a journal to take notes. Emerging themes, patterns, and important points were noted during the interview process. After each interview had been conducted, a review of the interview notes took place to create a preliminary journal narrative for that interview. Each answer from the interview was commented on in a journal fashion and correlations to the research question were drawn. An outline of themes and corresponding subtexts was then created. Rubin (2005) stated that the outline coding of data "allows you to see the relationships among your coding categories" (p. 221). Once the interviews were transcribed, I took notes as I read through the transcript with important quotes and conversation points highlighted. The journal narrative and notes were compared to the notes and highlighted statements from the interview transcript to develop a true understanding of the participants' thoughts and perceptions. The original outline of themes and sub-texts were then reevaluated.

Observations

Observations can be a useful tool in conjunction with interviews to see if participants' perceptions are aligned with actual practice (Creswell, 2012). Field notes on behavior and activities should be recorded at the research site (Creswell, 2003). Observations were conducted to investigate the connections between the interview responses abut mastery-based learning and the implementation of mastery-based learning strategies. For this data collection procedure, I took on the researcher role of complete observer. A *complete observer* is "one who observers without participating" (Creswell, 2003 p. 186). A researcher can observe from a spectrum of complete observer to active participant (Merriam, 2002). Observation is best when there is an activity that can be

observed first hand. Observations allow a researcher to see and to understand variables that the participant may not wish to divulge in the interview setting (Merriam, 2002).

Four of the teachers interviewed were observed twice in the after-school remediation setting. Observations were conducted after interviews had taken place. During the observation process, notes were taken as to which themes pertaining to the program implementation process were being used and how they were affecting implementation. Notes were taken focusing on what remediation strategies were being implemented, what re-assessment strategies were being used, and how teachers were differentiating remediation and assessment for the variety of students in a single setting. The goal of the observation was to collect data pertaining to the actual application of the mastery-based learning program setting. Specifically, observations were used to collect data about what assessments and remediation techniques are being implemented for the mastery-based learning program and how these assessments and remediation techniques are structured.

Data Analysis

This study used an open coding process of the qualitative data collected. Rubin (2005) stated that "open coding works better with shorter projects and in projects in which you are very familiar with the concepts you are looking for" (p. 222). Data were collected from participants' interviews because the participants have a depth of knowledge and insight to the phenomenon at the heart of this study. All data collected were coded. In qualitative research, data analysis occurs simultaneously with data collection (Rubin, 2005). Inductive reasoning is used in qualitative research to assist with

collecting, categorizing, and analyzing the data (Creswell, 2013). The importance and meaning of codes may change as one works through the data analysis process (Rubin, 2005). Categories and themes were developed throughout the data collection process. At times, themes become irrelevant and new themes emerge as once data have been collected and begun to be sorted (Hatch, 2002). An outline of themes and corresponding sub-texts was created. Rubin (2005) stated that the outline coding of data "allows you to see the relationships among your coding categories" (p. 221). Once the interviews were transcribed, notes were taken on the transcripts with important quotes and conversation points being highlighted. The journal narrative and notes were compared to the notes and highlighted statements from the interview transcript to develop a true understanding of the participants' thoughts and perceptions. The original outline of themes and subtexts were then reevaluated.

The following steps as detailed by Rubin (2005) were used to analyze the data collected:

Step 1: Examination of the first few interviews. The first few interviews were examined to start to develop and create emerging themes. Hatch (2002) stated "data analysis starts by dividing the overall data set into categories" (p. 152). First impression of notes from interviews should help the researcher to gather ideas for themes and patterns that will help guide data analysis (Hatch, 2002). It is essential to make sure that the project makes senses and information received is relevant (Rubin, 2005). Rubin (2005) stated "as you complete each interview, you examine its content to see what you have now learned and what you still need to find out" (p. 202). Observations can provide

a point of references to see if participants' perceptions align with data gathered from the interview process (Hatch, 2002). Based on this analysis a researcher should modify follow up questions to investigate emerging themes.

Step 2: Develop a systematic coding system. The qualitative researcher "looks for understanding rather than knowledge" (Briggs and Coleman, 2002, p. 267). Justifiable choices will be made as to what is valuable and should be included in the analysis process (Briggs and Coleman, 2002). Data that were deemed important were coded. The outline format was used as the system for coding data. Themes and sub-texts that emerge were set into a computer program outline format file system. All relevant or connecting data were placed in the accompanying folders. Data sorted and categorized according to themes in an outline format allow the researcher to go back to their computer to pull important information (Rubin, 2005).

Step 3: Organizing data into common themes. Once data are coded all, they were re-sorted, ranked, and compared across categories and themes. In comparing data, a researcher will further suggest questions to ask of the data to help theorize about what is occurring (Rubin, 2005). Data collected from interviews were weighed and combined. Observations helped to provide weight to evidence from different interviewees when there is a disagreement between participants (Creswell, 2003).

Step 4: Conclusion for analysis to writing. Rubin (2005) stated that "the goal of analysis is to understand core concepts and to discover themes that describe the world you have examined" (p. 245). Briggs and Coleman (2002) stated that "some findings of qualitative research only really start to emerge when you begin drafting the final report"

(p. 275). The process of writing a report often leads a researcher to a better understanding of the data collected and themes developed (Merriman, 2002). A narrative conclusion of the findings from data collection were compared against studies of similar backgrounds.

Research Accuracy and Credibility

Unlike quantitative data analysis, qualitative data analysis is a non- numerical examination process for interpreting data (Creswell, 2012). This study used triangulation to ensure reliability of findings and interpretation of data. Researchers should use triangulation across multiple data sources for qualitative research (Yin, 2014). For this study, interviews and observations were used for data triangulation. These data sources helped to develop themes and provide comparisons of participants' interpretations of mastery-based learning program versus the actual practice. Information collected in the interview process were cross-referenced and compared with observation data. Research looked to determine if plans, techniques, and methods align across all data collections. Research also looked to determine if gaps exist between how teachers communicate their actions and actual practice. Observations helped to verify if themes that were discovered in the interview process were products of the inward perceptions or are they actual outward practices.

Member checking was used to ensure reliability of findings. Member checking is a key component to ensure accuracy of findings (Denzin & Lincoln, 2011). Hatch (2002) defined member checking as "verification or extension of information developed by the researcher" (p. 92). Participants were provided a copy of the interview transcripts to read and were given a chance to add, clarify, or delete any statements. Each participant was

given a copy of the findings, specifically the developed themes along with input they provided for these themes. Member checking may consist of participants giving their reactions to a written summary of interpretations (Hatch, 2002). Each participant was given an opportunity to add, delete and clarify thoughts or practices as I have portrayed them in my initial findings. It is imperative in qualitative research to ensure that participants' thoughts and ideas are correctly interpreted by the researcher (Creswell, 2012). Follow up questions and verification statements are forms of member checking used in the interview process to help ensure reliability (Hatch, 2002).

Discrepant Cases

Having a set plan and procedures in place for discrepancies in documents is needed to ensure reliability and accuracy of a study (Creswell, 2013). It is important ensure that data collected are accurate and that the researcher's interpretations of responses are valid (Creswell, 2013). A review of data was conducted to search for discrepant cases. Merriam (2002) stated "you should purposely seek cases that might disconfirm or challenge your expectations or emerging findings" (pg. 27). Merriam (2002) labeled this strategy as "discrepant case analysis" and concluded that it is vital to ensure validity of research findings (pg.27). When analyzing data researchers should look for alternative views and themes that the data may be suggesting (Creswell, 2003). Once themes emerged during the data analysis process, a list of alternative themes that the data may be suggesting was created and each theme investigated. The study findings include all data, including discrepant cases, as all conclusions and findings are presented to

provide a complete and accurate account of participant's views and thoughts pertaining to the research questions.

Summary

The research method that was used for this study was outlined in this section along with why this method is the most ideal for this qualitative study. The role of the researcher in ensuring ethical treatment of the participants, storing of data, and creating the structure for collecting data was outlined in this section. Data were collected through interviews and observations. Data collected from participants' interviews provided a depth of knowledge and insight to the phenomenon at the heart of this study. Observations offered visual representation of participants' practices as described in the data collected through interviews. Categories and themes were developed throughout the data collection process. An outline of themes and corresponding sub-texts was created. The instrument, sample, and the role of the researcher are all detailed. The measures that were taken to ensure validity and reliability of the data and expected findings were also discussed. Section 4 provides a detailed discussion of the data analysis processes and the themes and findings that resulted from the analysis.

Section 4: Results

The purpose of this qualitative study was to investigate teachers' perceptions of and experiences with mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. This section contains the presentation of the results of the data collection process and analysis implemented to answer the corresponding research questions for this study. In this section, I discuss the categories and themes that were developed from the data collected and present the conclusions that were drawn from the corresponding themes. The accuracy of data will be established through measure of trustworthiness of this study are also presented at the end of this section.

Process for Collecting and Analyzing Data

Qualitative data were collected through face to face open-ended interview questions and observations. Permissions to collect data were granted by Walden University IRB (#06-11-18-0043917) and by UHS School District Department for Research and Quality Assurance on April 25, 2018. Convenience sampling was used to select the subjects to be invited to participate in this study. Yin (2013) recommended the use of convenience sampling when focusing on a small group who has detailed knowledge about a specific event or phenomenon. Ten teachers who taught in the English 1 mastery-based program in the last 2 years were invited to participate in this study. To invite teachers to take part in this study, I sent an e-mail that contained a detailed description, purpose, and design of the study. Participants consented to participation in the study by replying "I Consent" to the initial request for participation e-mail. Six

English teachers who taught in the Power of M mastery-based learning program for English 1 in the last two years volunteered to participate in this study. Small sample sizes are appropriate and useful when the group sampled has specific and detailed knowledge that can contribute to meaningful findings (Merriman, 2014). For a specific phenomenon where participants have expert knowledge a sample size as small as two to six may be appropriate (Merriman, 2014). All teachers hold teaching certification in South Carolina for English Language Arts. Interviews were conducted in a one-on-one setting. The interviews were conducted between June and July 2018.

Data were also collected through observations of the implementation of the after-school tutoring/reassessment portion of the mastery-based learning program. Observations were conducted for four of the six participants in this study. Participants B and E were not observed because they are not teaching English 1 for the current school year, though they have taught English 1 under the mastery-based program during the past two years. Observations were conducted between August 2018 and September 2018. The four participants observed were each observed twice for a duration of at least 20 minutes in the after-school session. All observations were completed after the interview process was completed for each participant.

An open coding process was used to code the qualitative data collected. An open coding process is effective for studies that are narrow in focus and in which participants have expert knowledge (Rubin, 2005). Inductive reasoning was used for this qualitative research to assist with coding and category and theme development. Categories and themes were developed throughout the data collection process. An outline of themes and

corresponding sub-texts was created. Rubin (2005) stated that the outline coding of data "allows you to see the relationships among your coding categories" (p. 221). A journal narrative and notes were created from data collected through the interview process and were compared to the notes and highlighted statements from the interview transcript to develop a true understanding of the participants' thoughts and perceptions. Observation notes were coded and a journal narrative for each observation was created. Observation notes and narratives were then compared to the developed categories and themes from the interview process. The original outline of categories and themes was then re-evaluated. This section will include details about the data collection process.

Interviews

Before beginning the question portion of the interview, I reminded the participants that the interviews were voluntary and that they could withdraw from the study at any time. Participants were also reminded that I would ask additional information and conduct member checking after transcription, coding, and analysis. Participants were informed that all interviews would be recorded and that journal notes would be taken during the interview process. All journal notes were stored in a locked filing cabinet in my home, and all audio transcripts were store in a password protected file.

All interviews followed the plan which consisted of the 13 open-ended interview questions that were designed to best answer the three research questions for this study. An open-ended question interview format is ideal when researcher is attempting to understand participants' thoughts and feelings towards a phenomenon (Merriam, 2002).

All interview questions were asked in the same order (Appendix A). All interviews lasted approximately 40 minutes. To ensure participants privacy, all participants were assigned a corresponding letter to mark their responses and all relating material. All material and data pertaining to the participants were referred to and marked down as their corresponding pseudonym. Their real names were not recorded or mentioned anywhere in the data collection or data analysis process or on any corresponding documents. All interviews were recorded with an android recording application and notes were taken during the interview process to record tone, speech patterns, and body language. All interviews were transcribed to a password protected Google Docs document. All documents and journal notes were stored in a password protected file on my personal computer. Original audio recordings were saved in a protected file on my personal computer. Member checking is used in qualitative research to ensure trustworthiness of findings (Creswell, 2012). I met with each participant between July 2018 and August 2018 to allow them to go over their transcribed interview and to offer any clarifications or ask if they wanted any statements deleted from the transcript.

Observations

Observations are often used in qualitative studies that use interviews to discover if participants' perceptions align with actual practice (Creswell, 2012). Observations will often allow a researcher to discover details that participants do not offer in the interview setting (Merriam, 2002). For these observations, I took on the role as a complete observer. A complete observer does not participate in the activity that is being observed (Creswell, 2003). Rich, descriptive, and detailed notes were taken during each

observation. Data pertaining to the actual application of the mastery-based learning program setting were collected. Detailed and descriptive data were collected about what assessments and remediation techniques were being implemented for the mastery-based learning program and how these assessments and remediation techniques were structured. Specific attention was paid to what remediation-specific strategies were being implemented, what form remediation strategies were being presented in, what reassessment strategies and techniques were being used, and what the structure of interactions formats between the teacher and students were, and how different student learning styles were being addressed. Upon review and coding of my observation notes a journal narrative was created for each observation.

Process for Recording Data

Interviews were recorded with android interview recording application. Interviews were transcribed into password protected Google Docs for analysis. All information is stored on my private password protected computer under a password protected file. All paper copies of journal and observation notes were kept in a lock box in secured filing cabinet. Participants were each assigned a letter as a pseudonym, and all corresponding observations, notes, and transcripts were assigned the corresponding letter.

When conducting interviews, I took interview notes to capture tone, body language, and speech patterns of participants. Emerging categories, patterns, and important points were noted during the interview process. After each interview was conducted, a review of the interview notes was used to create a preliminary journal

narrative for that interview. Each answer from the interview were coded based on categories that emerged. An outline of themes and corresponding sub-texts were created.

System for Keeping Track of Data and Emerging Themes

For this study, the data analysis evolved into an iterative process where I sorted information into categories that emerged, reviewed and modified those initial categories as new interviews were conducted, and compared and contrasted journal notes and coded transcriptions of interviews. Once I transcribed the interviews, I made notes in the margins of the transcript to highlight important quotes and conversation points. I created a journal narrative from my notes about each interview. During the coding process, I searched for emerging patterns. I observed how sequencing of words and phrases were used to describe participants' thoughts. Inductive reasoning is a key component to qualitative data analysis and is an ongoing process as data is collected (Creswell, 2013). Once I completed the transcribing and coding of the interview data, I made notes on the transcripts with important quotes and conversation points being highlighted. The face to face interviews helped me to gather pertinent information that gave insight to create categories from the perceptions of participants about how they implemented the mastery-based learning program. A consistent review of new data helps to strengthen existing themes and to add new themes (Hatch, 2002). The importance and meaning of codes changed as themes developed and evolved from continued analysis of the data.

I conducted two observations of four participants during classroom lessons, for a total of eight observations. I took rich and descriptive journal notes during each observation. Notes from each observation were then coded based on the I then coded the

categories of data that were developed from my analysis of observation data. I created a journal narrative for each observation. The original outline of themes and subtexts were then reevaluated.

For this qualitative study, I coded all data for transcripts, journal entries, and observations by using color coding in google docs software. Transcripts, journal entries, and observations were typed into a google doc. I developed a color-coding system for themes, and I used the color-coding apps in google docs accordingly. As I developed, changed, and deleted categories, data were re-coded. I repeated this process several times throughout the data analysis process. A final list of categories was then created. The categories were matched to the appropriate research questions. Two categories were then eliminated from the list. One of the categories eliminated did not align with either of the three research questions and one category was eliminated because I determined it did not have enough supporting data to be deemed relevant for inclusion in the study. The final list of categories was then matched to the research questions.

Table 1

Research Questions and General Categories of Data

Research Questions	Categories of Responses
RQ1: What were English 1 teachers' perceptions regarding their current teaching practices in the mastery-based learning program?	1. Standardized skills test data provide important information for designing remediation, delivering instruction, and conducting reassessments. 2. An effective program for determining students' learning styles does not exist. 3. The after-school portion of the mastery-based learning program is a highly effective tool. 4. The remediation and reassessment portions of mastery-based learning are pathways for teachers to connect to their students. 5.Planning for the mastery-based learning program is extensive
RQ2. How did English 1 teachers demonstrate their implementation of the mastery-based learning program?	1. The remediation portion of the mastery-based learning program is underutilized and not fully implemented. 2. Teachers are not consistently implementing the reassessment portion of the mastery-based learning model. 3. The after-school portion of the mastery-based learning program is under-utilized. 4. Planning mastery-based lessons is time-consuming. 5. Reassessment variation is limited.
RQ3. What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?	1Additional training is needed for initial assessments and reassessments. 2Planning individualized remediation is an obstacle for program implementation 3. Training for identification and use of student learning styles is needed.

Once I completed a list of categories from the research data collected, five themes became apparent. I applied these five themes in relation to each research question. I used the combination of these categories and themes to create my narrative of my final data analysis and recommendations.

Table 2

Research Questions, Categories of Data, and Themes

Research Questions	Categories of Data	Themes
RQ1. What were English 1 teachers' perceptions regarding their current teaching practices in the mastery-based learning program?	1. Standardized skills test data provide important information for designing remediation, delivering instruction, and conducting reassessments. 2. An effective program for determining students' learning styles does not exist. 3. The after-school portion of the mastery-based learning program is a highly effective tool. 4. The remediation and reassessment portions of mastery-based learning are pathways for teachers to connect to their students. 5.Planning for the mastery-based learning program is extensive	1: Teachers identified the individualized nature of mastery-based learning is most beneficial to student learning 2: A system for determining students learning styles and academic needs beyond standardized skills tests is needed
RQ2. How did English 1 teachers demonstrate their implementation of the mastery-based learning program?	1. The remediation portion of the mastery-based learning program is underutilized and not fully implemented. 2. Teachers are not consistently implementing the reassessment portion of the mastery-based learning model. 3. The after-school portion of the mastery-based learning program is under-utilized. 4. Planning mastery-based lessons is time-consuming. 5. Reassessment variation is limited.	3: Participation rates for the after-school portion of the mastery-based learning program are hindering the implementation of the program. 4: Teachers are developing their own individualized plans to implement the remediation and re-assessment portion of the mastery-based learning program.
Research Question 3. What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?	1Additional training is needed for initial assessments and reassessments. 2. Planning individualized remediation is an obstacle for program implementation 3. Training for identification and use of student learning styles is needed.	2: A system for determining students learning styles and academic needs beyond standardized skills tests is needed 4: Teachers are developing their own individualized plans to implement the remediation and re-assessment portion of the mastery-based learning program 5: Organization in the pre-planning phase is a major component for positive feelings about implementation of the mastery-based learning program.

The Findings

The purpose of this qualitative study was to investigate teachers' perceptions of and experiences with mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Three research questions guided this study:

Research Question 1: What were English 1 teachers' perceptions regarding their teaching practices in the mastery-based learning program?

Research Question 2: How did English 1 teachers demonstrate their implementation of the mastery-based learning program?

Research Question 3: What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?

Through data collection and the data analysis process, distinct categories became apparent. Twelve categories of data were developed through the interview and observation process. These categories led to the development of 5 themes that directly correlated to each research question that were developed. In this section, I introduce and review each theme and how they align with their appropriate research questions. I also discuss in this section how each category connects and builds to a corresponding theme.

Theme 1: Teachers Identified the Individualized Nature of Mastery-Based Learning is Most Beneficial to Student Learning

Two categories developed from the collection of data created the development of this theme: the after-school portion of the mastery-based learning program is a highly effective tool and the remediation and reassessment portions of the mastery-based learning program are pathways for teachers to connect to their students. A report published by researchers for After-School Alliance (2013) based evaluations of various after-school program across the country. The researchers suggested that students who regularly attend after-school programs

have benefits beyond academics in the areas of school attendance, discipline, and parental involvement. In my study, Participant B echoed this thought when stating, “students who didn’t feel confident speaking up in class, felt more confident speaking up and asking questions during the tutoring time, so I heard from students who I had not heard from in class.”

There was an average of four students who participated in the eight after-school mastery-based learning sessions that were observed. Participants in this study all indicated a positive benefit of the small group and one-to-one aspects of the after-school portion of the mastery-based learning program. Begeny, Levy, and Field (2017) concluded that one-on-one and small-group instruction offered a more advantageous approach for serving the educational needs of students who might be struggling academically because they lacked efficiency with both time and resources. Begeny et al. concluded that small group instruction was a highly effective strategy for increasing reading fluency levels for struggling readers. In a review of literature based on studies that involved small group instruction and reading comprehension, Begeny et al. found that in “eight of the 12 studies that reported data at the individual level, 100% of the students receiving small group intervention outperformed the control condition” for the area of reading fluency (p. 55).

Most of the study participants reported positive results for student growth when they were able to work with students one-on-one or in small group settings within the mastery-based learning program. Participant C stated, “Most of my

students just do better with that one-on-one connection. If I can sit next to a student, then I can help them create like a web chart." Participant E believed the small group setting helped with student confidence. Participant E stated, **"**Working with students after-school removes some of the hesitation that students may have during the regular class setting". Ozdemir (2018), referencing the benefits of small group instruction, stated, "Environment can have considerable effect on the learning performance of students" (p. 209). Participant C believed that students who tend to be discipline problems, work better in small group settings. Participant C stated, "My students who are just disruptive, who are lost in class, do a lot better when they come after-school, because we can just have that one-on-one connection, that one-on-one time."

Teachers consistently conveyed thoughts detailing how the after-school portion of the mastery-based learning program was a highly effective tool. Participant E explained the benefits of the small group setting when they stated,

> The kids who do come to after-school see tremendous growth. It gives you an opportunity to work with kids in a small group and at times one-on-one. You can discover their strengths and weaknesses. That has been an advantage of the program.

The ability to better understand the academic needs of a student in a one-on-one after-school setting and how to better design the instructional environment around those needs was a common discussion amongst teachers. Participant D echoed this

point when sharing this thought,

> Students, when they come for Power of M you kind of get to know them a little bit better. You learn that they are better at responding orally to something or that they are better at writing things down. But, they usually won't write anything down, or take notes. Or, they don't do things like that. So, giving them the opportunity to essentially answer your question however they prefer in Power of M I think is a good idea.

Teachers' indicated that the after-school portion of the mastery-based learning program was a useful opportunity to make connections with students. Teachers offered numerous statements that conveyed that the remediation and reassessment portion of the mastery-based learning are pathways to connect to their students. Ozdemir (2018) stated that to succeed academically "students may need motivational support and structure" (p. 209). Participant A referred to the after-school remediation session as a more "personalized experience" for the students. Participant A echoed these thoughts when stating the benefit of the mastery-based learning program, "It also allows you to work with students one-on-one. A lot of kids really respond to the individualized attention. It also helps to connect with students". Participant C viewed the re-assessment in the after-school mastery-based setting to boost student confidence by stating, "Really, for me, it is like making sure that giving them the extra chance is something that boosts their confidence as opposed to lessens it". Participant D explained the positive effects of connection portion of the program,

> I think the relationship between the student and the teacher is part of why Power of M does work. Because, students want you to explain things to them again. With our classes being so large sometimes they don't feel that they get as much direct attention as they need. The Power of M gives them that.

Participant C shared an example of how the after-school one-on-one and small group portion helped carry over with one student to the classroom setting,

> So, Derek in my 7th period, I have gotten to know him well. We connect very well, and that connection has served really me in class. Whenever he gets off task, I know that if I tell him, "Hey look, get back on task", it is something that works for him. We have that relationship now, and he has the skills that we worked on one-to-one to break down more abstract concepts.

All teachers interviewed indicated positive feelings about running the after-school sessions and about the potential the after-school sessions must be effective for students. Data collected during observations supported this as well. Interactions that were coded as positive were noted in each observation at a minimum of four positive interactions. The following terms were used to describe the classroom atmosphere: positive, welcoming, educational, comforting, jovial, and engaging. No negative remarks concerning atmosphere or classroom settings were noted on observation data collection forms or journal notes. Positive interactions between the students and teachers were observed multiple times for each observation.

There was only one indication during the interviews that indicated

teachers had some negative reactions to the extra time needed to run these after-school mastery-based learning sessions. Participant A who indicates throughout the interview that the program as a whole is a positive did add this statement as a counter point, “We have the late buses three days a week but that does not always work with sports and other things like that if it is just after-school but, I feel like if it was during the school day instead of after-school you would have more involvement because kids are tired by the end of the day”. This was the only statement from any of the teachers that hinted at feelings that the after-school program should be stopped.

Some of the participants indicated modifications they would like to see to help increase student participation in the program and techniques that could be done to add on, modify, or expand the program. Participant B stated that expanding the program may help. “I think having a lunch based tutoring program would be super helpful especially for students involved in athletics”. There were no indications from any teachers outside of Participants A about replacing or eliminating the after-school portion of the program.

Theme 2: A System for Determining Students’ Learning Styles and Academic Needs Beyond Standardized Skills Tests is Needed

Three categories were emerged during the data analysis process that led to the identification of this theme: (a) standardized skills test data provide important information for designing remediation, delivering instruction, and conducting assessments, (b) an effective program for determining students’ learning styles

does not exist, and (c) planning for mastery-based learning is extensive. Teachers indicated that standardized skills test data provide important information for designing remediation, delivering instruction, and conducting reassessment. Five out of six teachers who were interviewed stated a reliance on standardized skills tests for initial assessment for new learning objectives. Outside of standardized skills test, each teacher reported varying attempts and methods used to better understand student learning styles and their grasp of material. All teachers mentioned the use of standardized skills tests or MasteryConnect (2018) skills tests as a first assessment tool for either new standards or initial assessments for units covered in class. MasteryConnect skills tests are the on-line version of the standardized skills tests that are used at UHS for the English 1 curriculum. Every re-assessment and remediation class that I observed during this study was based on an initial assessment from the MasteryConnect skills test.

Teachers often mentioned standardized skills tests first when discussing assessment methods used with English 1 curriculum. Burns (1987) discussed the need for ongoing assessments for mastery-based learning programs to be successful. In mastery-based learning programs, the ongoing assessments are aligned with students' preferred learning styles to provide effective remediation and re-assessment opportunities. Other assessment forms were discussed when examining the re-assessment portion of the mastery-based learning program, but interviews indicated that a heavy reliance on standardized testing to discover students' strengths and weakness appeared to be present.

An effective program for determining students' learning styles does not exist. A common concern of all participants was the desire to have a better system for determining students' learning styles and academic needs. When Participant B was asked what methods were used to measure students' weakness, they responded, "The students experience difficulty with the skills test, so I kind of look at what area they are struggling with." Participant E stated, "I would prefer to have varying assessments for students that better fit, but for time sake I rely on the MasteryConnect skills assessment tests". Teachers may be facing a difficult task as Berry (2010) found in his study that "ninth grade students have difficulty identifying their preferred learning styles" (p. 21).

Individuals differ in their capabilities of understanding and thinking, and it is important to understand their preferred learning styles (Ozdemir, 2018). Berry (2010) expressed that it is essential to view "the perspective of a student's learning style and how the student learns and prefers to learn" (p. 33). Teachers expressed a desire to understand student learning styles. Participant C stated, "I enjoy small group instruction because it allows me to better understand how a student best learns, otherwise I am just relying on class observations and test scores". Participant D conveyed that when working with students who are having difficulties they would often try to ask past teachers what learning techniques worked with that student. Participant D did indicate that skills test that are often on the computer are still the most important and most commonly used form of data collection. Participant D stated,

> Looking at the data is helpful. Knowing specifically what the students are struggling with which is why we give our skills test three times. Seeing that our students struggle so much on a certain aspect gives us the opportunity to either reteach it directly or to indirectly reteach it by having them practice those skills.

Also, when discussing how determining student area of weakness Participant D first noted the need to look at skills test scores "I can look at their test scores or their MasteryConnect testing can show us the standard that the child is struggling with**."** The MasteryConnect skills assessment is the most common initial assessment. Participant F stated that, "Actually, since MasteryConnect was initiated, I've done a lot of MasteryConnect." When asked about the most common assessment in Participants A's classroom the answer was, "We did skills tests; they would take three skills tests each quarter to show mastery."

Planning for the mastery-based learning program is extensive. Whether discussing the area of planning, whether for lessons or for remediation, skills tests results were most often referred to by participants more than any other technique or source. Five of the six teachers surveyed mentioned skills tests as part of their planning process for either lesson planning or remediation planning. All teachers indicated that they would either use or prefer alternatives to skills tests for their students. Participant F stated, "I would ideally like to individualize assessments for my students, I think that would be a way to better gauge where they are performing". Participant D echoed a similar sentiment when stating, "Some

students do not test well, or they need special education accommodations for testing, this often does not give a true indication of how they are performing in my class". Participant D stated, "In a perfect world, I would have instructions broken down into more options to meet students learning preferences or learning styles. I would do the same thing with assessments."

Interviews indicated that teachers are relying heavily on skills test for planning future lessons. When asked about planning a unit Participant C stated, "Before introducing a unit about The Great Gatsby, I first looked at the skills test we completed from a previous unit to get a better idea of where the areas of weakness were for my kids". Participant F noted that when planning a lesson, "I try to look at the most recent skills test first to help guide the design of the presentation model that I want to use on the upcoming unit. " When discussing planning a unit, Participant A mentioned, "In my PLC, I try to come up with days where we will do an extra skills test or a day where we are going to do that."

Review of data gathered from interviews also indicated that skills tests were the most often used tool for planning remediation. When asked about planning for remediation, part of Participant A's response was, "The tests were chunked in skills instead of listed randomly. I could see that a skill is figurative language or poetry terms. I could see the students' strengths and weaknesses in skills based on what parts of the test they were not doing so well in." Participant D stated that when planning for remediation,

In Power of M, I have had students come in for me to essentially reteach a

lesson or a skill. These are small group situations. In these smaller settings, I can say, "Okay what exactly are you struggling with?" I can look at their test scores or their MasteryConnect results to identify the standard with which the child is struggling.

Teachers' indicated that although they are using skills tests as the number one form of data collection to measure student performance levels and to plan for future remediation and lessons, teachers would prefer a different approach.

Theme 3: Participation Rates for the After-school Portion of the Mastery-Based Learning Program is Hindering the Implementation of the Program.

Three of the data categories that were developed combined to form this theme: (a) the after-school portion of the mastery-based learning program is under-utilized, (b) the remediation portion of the mastery-based program is underutilized, and (c) teachers are not consistently implementing the reassessment portion of the mastery-based learning model. These three categories are closely intertwined and connected because according to the UHS mastery-based learning plan the remediation and reassessment portions of the program were to be implemented in the after-school component of the program. A common topic of concern among teachers was the low participation rates for students in the after-school portion of the mastery-based learning program. Participant D stated the dismay of teachers, "For our students, really planning that they are going to show up after school is sort of pointless because they usually don't show up after-school." When participants were asked what roadblocks are affecting

implementation of the program, all cited low student participation in the after-school program. Even with the free busing program for students who stay for after-school remediation or assessment, teachers perceive student participation as extremely low and as a hindrance for proper implementation of the program. This trend is counter to findings by Springer and Diffily (2012) who found that most students and parents surveyed would prefer to attend academic after-school programs if offered. The average number of participants for the eight after-school sessions who were observed was four, while the average number of students assigned to attend the after-school sessions was twelve. One-third of the students assigned for after-school sessions attended.

Teachers cited a variety of reason for possible low participation including student and parent lack of understanding of what the after-school component of the program is, conflicts with other activities in the school, and the lack of consequences for students who do not attend assigned remediation sessions. Teachers consistently used language that indicated a frustration with student participation in the after-school portion of the program. For example, participant C noted "If students show up for the program it is great, but that is a big 'if'." While discussing the planning process, Participant F indicated that remediation and reassessment were planned into the weekly in-class schedule because, so few students take advantage of the after-school program. Participant E shared frustrations with after-school participation levels:

Students not coming is an issue. We provide them transportation. They

> just do not come. If they do come, they haven't prepared. So, most kids that have failed a test will come and they will fail that test again, or they will fail it again after that, even.

Participant A relayed similar thoughts:

> Sometimes you can't get kids to come to Power of M. I mean, they allow the late buses, but you can't make them come. Those kids are still getting zeros and still not learning the content. There are no consequences for not coming to remediation or assessments after-school.

Participant B sees student attendance as a major problem stating, "There is no support if a student doesn't come to tutoring. I assign them after-school tutoring and then they don't show and there is really no discipline for them not showing up."

Interview data indicated that there was a problem with perceptions of the program that may be affecting participation rates. Participant D described this perceived perception problem,

> I don't think the parents understand what Power of M is. I don't think the students understand what the Power of M is. In both sections, I have gotten crazy comments from parents. Comments like: my kid says he is going to get detention if he doesn't come to Power of M today. At the same time, I have parents saying: well if he comes to Power of M you will just raise his grade, right? There is a big disconnect with the parents. The kids also just think it is extra time to make up stuff they have missed. They do not see it as an

opportunity to relearn things.

Participant E also indicated that a perception problem for the program is hurting student attendance and effort:

> They know that it is there, and they use it as a crutch. Some kids will come, and they will just bomb the test knowing that they could do Power of M to improve that grade. They will use it as an opportunity to not do well the first time knowing that can have that retry. Often, they do not come for the required remediation and the cycle continues.

Along with participation rates, students' perceptions also affect implementation. The remediation portion of the mastery-based learning program is underutilized and not fully implemented. Participant C shared a story of how perception is affecting implementation,

> I have other students like Ronald and Malik, who will do nothing in class. During class time, they like to talk to their neighbors and they like to talk to me about their grades not immediately moving up. When I tell them to get on task they will just say that they are just going to come stay with me after-school. They believe that after-school is really where their class time is. I don't know if it is because they feel the environment is much more relaxed after-school and they don't have to perform for their classmates or if they feel like they are getting the answers much easier than if they had to struggle to do it on their own. I have kids who won't work in class, but they will stay after class to work.

Data gathered indicate that increasing student attendance in the after-school program are key to increasing the success rate of the program. Teachers are not consistently implementing the reassessment portion of the mastery-based learning model. Teachers indicated that they do not have time during the regular class day to implement remediation and reassessment. Participant B best summarized this dilemma:

> With the EOC being given in the beginning and middle of May, it takes out a lot of core instruction time. Sometimes it comes down to, do I teach them this or do I give them a chance to retake this? I must choose if I am going to leave out content or not. The struggle that comes when planning a unit is determining when to have the time to build in remediation with this test looming over on a certain date.

Theme 4: Teachers are Developing Their Own Individualized Plans to Implement the Remediation and Re-assessment Portion of the Mastery-Based Learning Program.

Data analysis of the interviews conducted indicated that there is not a consensus on how the remediation and reassessment portions of the mastery-based learning program should be implemented. Three categories of information emerged which led to the identification of this theme: (a) teachers are not consistently implementing the reassessment portion of the mastery-based learning model, (b) planning mastery-based learning lessons is time consuming, and (c) reassessment variation is limited. There is little consistency from teacher to

teacher how they plan or implement remediation lessons or how they conduct reassessment. The lack of consistency affected that implementation of the reassessment portion of the mastery-based learning model. Although all teachers have indicated the use of skill-based tests to identify areas of weakness for students, there was little commonality among teachers in how they addressed those weakness or how they conducted reassessment for them.

A review of data directly related to remediation and reassessment indicated that teachers used a wide breadth of strategies for determining how remediation was implemented and what constituted proper reassessment mastery. There were no school wide guidelines or modeling to demonstrate what is expected for remediation and reassessment. Teachers were left on their own to plan and design curriculum implementation, remediation, and reassessment. Planning mastery-based learning lessons was a time-consuming venture. Observations showed that remediation was the area of program implementation that varied the most from teacher to teacher while reassessment was very similar with slight variations. Participant A used four different styles of instruction during my observations: (a) a video modeling the skill that was the focus of remediation, (b) a visual presentation on a PowerPoint platform, (c) a small group discussion, and (d) one-on-one instruction. The styles of instruction were the same for both observations. For the first observation, Participant A explained that the students worked in peer groups to define, model, and practice the skill being taught. For the second observations, the material was originally taught using a lecture approach with

teacher modeling used as a follow up reinforcement technique. Participants C, D, and F all used at least two different teaching styles for each session, and all used one-on-one instruction for all the sessions. Participants C, D, and F used a form of modeling and a form of visual presentation during observations. Remediation in the after-school sessions were in line with recommendations for mastery-based instruction identified in Bloom's original design. Bloom (1968) emphasized that re-teaching techniques should consist of a different presentation style than the original instruction. Educational providers working in a mastery-based learning program should differentiate instruction styles to meet the needs of a diverse learning population (Cooperman, 2011).

Data collected from the observation process indicated that teachers observed are uniformly using the same assessment used in class for reassessment after remediation. Reassessment variation was limited. Reassessment occurred during four of the eight observations. The four reassessments observed were either retakes of the original assessment or retakes of a condensed version of the original assessment. In addition, all students in each session were given the same reassessment for each observation. Reassessment in a mastery-based learning program should be varied from original assessment and individualized for each student (Guskey, 2014).

Observations indicated that there was uniformity in the implementation of the remediation portion of the program and for the reassessment portion of the program. Beyond teacher statements about one-on-one remediation or the use of

small group remediation, interviews differed from observations. Interviews indicated that there appears to be little uniformity as to the implementation of remediation and reassessment practices. There appears to be uncertainty about what is expected from teachers concerning where to look for areas of weakness. Participant D indicated that student consistency in attending the after-school program affects how he would conduct assessment for determining remediation techniques stating, "I would spend a little bit more time looking at their classwork than I do because usually we don't see their classwork as an assessment."

Another discrepancy among teachers for remediation was observed when students were required to complete remediation before engaging in a reassessment activity. The guidelines for the Power of M program state that a student must complete a remediation activity before completing a reassessment, but teacher interview data indicate that this is not the practice. About this point, Participant E stated,

> I would like to see them improve in some aspect of just making the kids accountable for actions and being held responsible for, "Hey, I didn't study." The program should operate in the following way: To retake the test, you must go to an hour of tutoring. You must complete a review assignment and show that you have taken the steps to improve that score. This should replace the current practice of showing up on a random day and taking a reassessment without proper instruction.

Participant D explained the steps for remediation to reassessment process in the

following way:

> Students who are assigned after-school remediation are given the opportunity to come and review and learn more about what we have just done and go back over things that have confused them. A lot of times students do not come and must take the test back over again before the grades are due without remediation.

Participant B explained problems in the remediation to reassessment process in much the same way, indicating that not completing remediation was an option for students. Participant B stated, “They may have failed the test the first time around and I assign them after-school tutoring. Then, they don’t show and there is really no discipline for them not showing up. So, they retake it and they have not really relearned the material.” Participant B also added, “Last year was more successful because I would not let them retake the test unless they showed up for tutoring. I think this year I slacked on that but that is something I am going to go back to in the future.”

Some teachers are aligned about the methods used for reassessment. Participant D described the use of varied assessments based on circumstances and needs:

> With some of our re-assessments, we just change them completely; we do not just change the questions. We will go back, and I will change the passages that are being read, the questions that are being asked, and the length of the assessment. Some of our assessments are long. For some children, when a

> retest is given, the length of the assessment might be too long to maintain students' concentration, and long assessment does not reflect the abilities of the students. Giving them either a couple of shorter passages or one long passage with fewer questions is an option.

Participant A had a similar approach:

> I find out what their lowest score was in a specific area. If the tests were chunked in skills instead of being random, I could see this skill is figurative language and now this skill is poetry terms. I can see exactly where they are the weakest based on what parts of the test they were not doing so well in. I would use the same skill but different questions. If it is like a poetry analysis activity, I would not use the same poems but the same types of questions.

Participants A and D were the only two who addressed reassessment in a similar manner. The remaining participants all had varying views on reassessment from giving the same test over again, to pulling out small sections of the original assessments for re-assessment, to completing correction projects, and finally completing an alternative assignment or project.

Theme 5: Organization in the Pre-planning Phase is a Major Component for Positive Feelings about Implementation of the Mastery-based Learning Program.

The importance of organization and pre-planning were common discussions among the participants interviewed. Three data categories led to the development of this theme: (a) additional training is needed for initial assessment and reassessment, (b) planning for individualized remediation is an obstacle for

program implementation, and (c) training for identification and use of student learning styles is needed. It appeared the need to have strategies in place for remediation and re-assessment for each unit before beginning the unit were paramount. A correlation appeared between teachers who conveyed a more positive message about the implementation of the mastery-based learning program and their perceived strengths of being organized for remediation and re-assessment strategies. Teachers who had a higher level of negative comments about the program, seemed to have a common variable of limited remediation and reassessment options.

Having options ready for students to help with the remediation process appears to be critical for success. Participant A, who voiced predominately positive comments about the mastery-based learning program, spoke of the number of options and amount of pre-planning for remediation and reassessment. On the remediation portion, Participant A commented, “Usually there was a list, or I would create a document that indicated students’ weakness skill areas and a corresponding list of activities to address the weaknesses.” Also, Participant A added, “We did a lot of remediation activities; I looked at the skill set. If I noticed that several students were weak in a subject area, I would model the thought or behavior process to use that particular skill.” The use of the word “list of activities” and “a lot of remediation activities” indicated that Participant A had an extensive and encompassing plan for remediation. When asked about success in the mastery-based learning program, Participant A responded, “It is a lot of work

up front, and you have to be willing to come up with the activities before the assessment. It is important to not rush and to do the work before students take the assessments."

Participant F spoke of the mastery-based learning program in positive terms. Comments about the low rates of attendance were the only negative comments made by Participant F. Participant F also used the terms, *differentiated, varying, options*, and *choices* several times when describing implementation of remediation and reassessment. Participant F also described several remediation examples and several re-assessment examples when describing one of the mastery-based learning lessons that was implemented. When asked about what is important to the success of program implementation, Participant F stated, "Pre-planning your assessments, remediation, and re-assessments, you have to have multiple plans for students with multiple learning styles."

Participant B pointed out that planning is one of the roadblocks for implementing the mastery-based learning program because of the time constraints associated with getting students ready for a state mandated end of course test stating, "The EOC being given in the beginning and middle of May removes core instruction time. Sometimes I must decide if I should teach or retest the students. I have to decide if I am going to leave out content"

Participant B recommended professional development in planning would be beneficial. Participant D added to the need for a better planning system for the mastery-based program stating, "Without a system of accountability for student

attendance, planning is an exercise in futility and I honestly have to make plans at the last moment."

Participant E had dismissive comments about planning for the after-school portion of the mastery-based learning program: "Power of M is more than anything else just paperwork that I have to do and accountability that I have to have to note whether the kids are or are not coming. I don't think it goes into the actual planning of what you are going to do." Two other participants indicated through comments that they put little emphasis on the planning portion of the after-school portion of the mastery-based program. Participant A stated, "It's tough to plan for the after-school program when students' participation is often limited, so my focus is usually elsewhere." Participant D expressed similar sentiments when stating, "I sometimes just ask the students who show up what areas they feel they need help with and then go from there. I sometimes have a plan and sometimes I just wing it." A direct need for professional development for planning mastery-based lessons for in-school and after-school portions of the mastery-based learning program is apparent. There does not appear to be consistency among teachers implementing the program for planning and mastery-based program implementation structure.

Discrepant Cases

In this qualitative case study, the data collected from one-on-one interviews and observations were used to investigate teachers' perceptions of and experiences with mastery-based learning, about student performance within this

program, and about teachers' professional needs to improve program delivery. All data collected were aligned with the research questions and the emerged themes. There were no discrepant cases for this study.

Evidence of Quality

To ensure the quality of the study several steps were taken. Qualitative data were collected through face to face open-ended interview questions and observations. Before any data were collected, permission to collect data was granted by Walden University IRB in June 2018 and by GCSD Department for Research and Quality Assurance in April 2018.

Interviews were conducted in a one-on-one setting. The interviews were conducted between June and July of 2018 All interviews followed the same detailed plan consisting of the13 open-ended interview questions that were designed to best answer the three research questions for this study. All interview questions were asked in the same order (Appendix A). All interviews lasted approximately 40 minutes.

Data were also collected through observations of the implementation of the after-school tutoring and re-assessment portion of the mastery-based learning program. Observations were conducted of four participants. Observations were conducted between August and September of 2018. The four participants were each observed twice for a duration of at least 20 minutes during after-school sessions.

After all the data were gathered and analyzed, I triangulated by comparing

the two sets of data to substantiate the validity of the emerging themes and findings. By comparing one data source with another, I was able to cross check for less obvious findings, potential bias and possible issues within the data. The findings revealed that the participants' responses to my interview questions were displayed in their actions in the classroom during observations. While participants responded differently to both forms of data collection, the emerging themes were in alignment.

I used a member checking process to verify the information gained from the participants' interviews and to provide the participants an opportunity to read and respond to my initial findings. I sent out an email copy of my projected findings to each participant in the study. I asked each participant to review the findings to ensure that I captured their perceptions and thoughts accurately; each participant was invited to discuss the findings with me.

Two participants requested a meeting to add additional thoughts and perceptions. I wanted to ensure I understood what everyone was saying. This member checking process assisted me in decreasing the chance of incorrect interpretation of data and allowed me to ask participants for feedback on emerging findings. By using triangulation and member checking, I ensured all findings reflected the participants' thoughts and perceptions.

Section 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to investigate teachers' perceptions of their experiences with mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. This study intended to inquire not only how teachers viewed the mastery-based learning program, but also how they implemented mastery strategies for ninth-grade English 1 curriculum: instruction, assessment, and remediation. Through data analysis, I found that teachers' have positive perceptions of the mastery-based learning program, specifically the opportunity for and the positive impacts of small group instruction. While teachers perceive the program as positive, teachers also perceive deficiencies in the program, specifically in the areas pertaining to: the after-school portion, planning, understanding student learning styles, remediation, and reassessment. These perceptions were conveyed through one-on-one interviews, observations, and the member checking process.

A case study design was used for this study. Case study design was used because I intended to analyze shared experiences and concerns of teachers involved in program implementation. The following research questions were designed to guide this case study. The questions were rooted in the problem and purpose of the study.

Research Question 1: What were English 1 teachers' perceptions regarding their teaching practices in the mastery-based learning program?

Research Question 2: How did English 1 teachers demonstrate their implementation of the mastery-based learning program?

Research Question 3: What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?

Data were collected through face to face interviews and observations. Convenience sampling was chosen for selecting participants for this study. The use of a case study approach focused on a specific topic and curriculum suggest the use of convenience sampling (Yin, 2014). The narrow focus of the study in both topic and location created a small pool of participants. Data were collected from six teachers who taught English 1 within the mastery-based learning program with in the last 2 years.

Five themes emerged from the data analysis of the data collected: (a) teachers identified the individualized nature of mastery-based learning is most beneficial to student learning, (b) a system for determining students' learning styles and academic needs beyond standardized skills tests is needed, (c) participation rates for the after-school portion of the mastery-based learning program are hindering the implementation of the program, (d) teachers are developing their own individualized plans to implement the remediation and reassessment portions of the mastery-based learning program, and (e) organization in the preplanning phase is a major component for positive feelings about implementation of the mastery-based learning program. Section 5 details the

interpretations of my findings, recommendations for further study and program improvement, and the implications for social change.

Interpretations of the Findings

The problem that prompted this study was that a large percentage of ninth-grade students who were enrolled in the English 1 mastery-based learning course in a local high school failed the English 1 course, and while teachers observed the problem, they struggled to find appropriate teaching strategies and approaches to improve student performance. The purpose of this qualitative study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Mastery-based learning theory was the conceptual framework that guided this study. Mastery-based learning theory is built upon the key concepts of removing the constraints of time for learning, increasing feedback, increasing correctives, increasing and diversifying enrichment and instruction, and differentiating assessment (Bloom, 1968). Data were analyzed to determine how teachers perceived the mastery-based learning program and how that connected to implementation strategies for ninth-grade English 1 curriculum, instruction, assessment, and remediation.

The following conclusions are based on the five themes that addressed the three research questions which were developed for this study. Conclusions were derived from one or more of the themes developed from the analysis of data and supported by literature. The analysis of collected data led to the identification of

categories of information from which the themes were derived. Below, I address each research question and the accompanying conclusion.

Research Question 1: What were English 1 teachers' perceptions regarding their teaching practices in the mastery-based learning program?

Teachers perceived that the individualized nature of the mastery-based learning program had a positive effect on student performance, but they need additional resources to improve their teaching practices. Two of the themes discussed in detail in Section 4 directly led to this conclusion: theme 1 states teachers identified the individualized nature of mastery-based learning is most beneficial to student learning, and theme 2 states a system for determining students learning styles and academic needs beyond standardized skills tests is needed. The after-school remediation and reassessment portion of the mastery-based learning program was rated as a highly effective tool for implementing the remediation and reassessment portions of the mastery-based learning program. Teachers expressed that this portion of the mastery-based program was a positive pathway for teachers to connect to their students. Six interviews expressed positive feelings about their interactions with students in the after-school portion of the program. Teachers indicated that the after-school remediation and reassessments had academic and social benefits for students.

Socially, teachers noted students showed signs of having more confidence in the small group after-school portion of the program. Participant C stated, "Most of my students just do better with a one-on-one connection." Participant B felt the

small group setting helped with student confidence. Participant B stated, **“**Students who didn’t feel confident speaking up in class, felt more confident speaking up and asking questions during the tutoring time, so I heard from students that I had not heard from in class.” Participant A noted that the after-school remediation lessons allowed for a chance to get to know the students better on a personal level. Rothman (2010) found that after-school programs often have positive implication for students that go beyond the academic. Teachers’ indicated that the after-school portion of the mastery-based learning program was a useful opportunity to make connections with students. Participant A stated, “A lot of kids really respond to the individualized attention. It also helps to connect with students.” Teachers offered numerous statements that conveyed that the remediation and reassessment portion of the mastery-based learning are pathways to connect to their students. Participant D shared a story of how connecting with a student in the after-school program greatly helped with the student’s behavior during regular classroom time. Participant D stated, “As I got to know him, we really connected, and his in-class behavior improved as the year went on.” Offering students chances to make corrections and work towards improvement can help teachers to build positive relationships with their students (Ramos, 2015). Eight observations included notes of positive teacher-student interactions during remediation or reassessment sessions.

Academically, teachers perceived that students who worked within the mastery-based learning program guidelines, experienced real academic growth.

Mastery-based learning theory allows for students to work with teachers on intervention strategies that target their areas of weakness without having to rehash all content areas (Livingston, 1995). Teachers expressed examples and thoughts of how, through remediation offered by the mastery-based program, students have built in opportunities to master the skills and content being taught. Participant E stated, "The remediation portion allows you to go back and see what a student is getting hung up on and fix that issue before moving forward. Often you would just move on." Mastery-based learning can help to ensure that students build a stronger educational foundation as students are freed from time restraints that often prevent mastery of learning content (Rowe, 2010). A key pillar of mastery-based learning theory is the removal of time constraints for student mastery (Guskey, 2014). The assessment process for mastery-based learning is an on-going process that occurs over multiple intervals (Nolan, 2016). Participant D stated, "I know that the students fail to appreciate that they have a chance to retake a test." Six teachers interviewed made at least one positive comment relating to the effect that students who participated in the remediation portion of the mastery-based learning program had on academic performance. Teachers expressed concerns that at time students were not using the reassessment portion of the program as it was intended. Participant B stated that, "Often students do not study for a test since they know they can always retake it." While teachers expressed the positives of the remediation and reassessment portions of the program, six teachers felt that participation in this portion of the program is underutilized. The

after-school portion of the mastery-based learning program is intended to be where remediation and reassessment occur. As noted in Section 4, teachers perceived this portion of the program was poorly attended by students.

Improving student attendance in the remediation and reassessment activities in the after-school portion of the program is not the only drawback that teachers perceived with the program. Three categories were developed during the data analysis process that led to the creation of the Theme 2: a system for determining students learning styles and academic needs beyond standardized skills tests is needed. The three categories that support Theme 2 are the following: (a) standardized skills test data provided important information for designing remediation, delivering instruction, and conducting assessments, (b). An effective program for determining students' learning styles does not exist, (c) planning for mastery-based learning is extensive. Teachers indicated that the mastery-based learning program is almost solely reliant on standardized tests for assessment. The standardized skills test data were the primary, and for some teachers the sole, source teachers used for information for designing remediation, delivering instruction, and conducting reassessment. Mastery-based learning assessments should be varied according to students' learning styles (Livingston, 1995). Five out of six teachers stated a reliance on standardized skills tests for initial assessment for new learning objectives. Outside of standardized skills test each teacher reported limited attempts and methods used to better understand student learning styles and their grasp of material. During the interview process, teachers

provided little evidence of alternative assessments outside of standardized skills tests. Three participants interviewed only mentioned standardized skills tests when answering questions pertaining to assessment. This reliance on one form of assessment is counter to the recommended form that mastery-based learning theory recommends for assessment. Assessments throughout a course should use a differentiated approach to ensure that all students learning styles are met (Guskey, 2011). Participants mentioned the use of standardized skills tests or MasteryConnect skills test as a first assessment tool for either new standards or initial assessments for units covered in class.

During the interview process, five out of six teachers expressed either a desire to better understand student learning styles or directly stated how they independently attempt to understand their students individual learning styles. Participant A discussed how helpful it would be to know what each student's learning style is, but time constraints in the program prevent this from occurring. Teachers expressed a need to better understand student learning styles. Participant F stated, "I try to understand what techniques work for each of my students, this helps with instruction and assessments, but it is difficult to do when you have over 100 students." A process for better identifying students learning styles appears to be needed according to teachers to better help implement the program.

Research Question 2: How did English 1 teachers demonstrate implementation of the mastery-based learning program?

Themes that became apparent through data analysis led to the conclusion

that the implementation process of the mastery-based program needs modification to correctly align itself with mastery-based learning principles. Specifically, modification is needed in the areas of remediation and reassessment implementation. Three of the data categories that were developed during data analysis combined to form Theme 3: Participation rates for the after-school portion of the mastery-based learning program is hindering the implementation of the program. Those three categories included: the after-school portion of the mastery-based learning program is under-utilized, the remediation portion of the mastery-based program is underutilized, and teachers are not consistently implementing the reassessment portion of the mastery-based learning model. These three categories are closely intertwined and connected because according to the UHS mastery-based learning plan the remediation and reassessment portions of the program were to be implemented in the after-school component of the program. Theme 4 was developed from data analysis related to this research question: Teachers are developing their own individualized plans to implement the remediation and re-assessment portion of the mastery-based learning program. Three categories emerged that built this theme: (a) teachers were not consistently implementing the reassessment portion of the mastery-based learning model, (b) planning mastery-based learning lesson is time consuming, and (c) reassessment variation is limited. There was little consistency from teacher to teacher about how they planned or implemented remediation lessons. Themes 3 and 4, when overlapped, provided the following conclusion pertaining to research question 2:

The implementation process of the mastery-based program needs modification to correctly align itself with mastery-based learning principles.

It is essential that remediation for a mastery-based learning program be individualized and implemented before reassessment (Guskey, 1994). The implementation of the remediation portion of the English 1 mastery-based learning program at UHS was always not being implemented. Students are often taking reassessments without any remediation intervention beforehand.

UHS has set up an after-school program that is specifically being implemented with a school funded busing program to provide students and teachers the opportunity for remediation and reassessment for their multiple curriculum mastery-based learning program. It is the intention of the mastery-based learning program at UHS that all remediation and reassessment occur during this after-school setting. Mastery-based learning theory states that specific intervention based on individual student's needs must occur before re-assessment (Blom, 1968). Six English 1 teachers indicated that poor student attendance in the after-school portion of the mastery-based learning program was preventing remediation from occurring. When asked about planning for remediation, Participant D stated, "For our students, really planning that they are going to show up after-school (remediation) is sort of pointless because they usually don't show up after-school." Participant F indicated when discussing the planning process that remediation was planned into the weekly in-class schedule since "so few" students would take advantage of the after-school program. Participant E stated that

remediation often does not occur, “So, most kids that have failed a test will come, and they will fail that test again, or they will fail it again after that.” Redundant?

When asked about remediation implementation Participant A stated, “it’s a problem because students just do not attend.” Differentiated support that is individualized to each student is an essential component for mastery-based program implementation (Nolan, 2016). Participants B and E described modifying their class schedules during the regular school day to account for remediation time, because they cannot count on students to regularly attend after-school sessions. Participants C and D openly shared that students will often take reassessments in class without having completed any remediation. Mastery-based learning theory is not a second chance at reassessment, but rather a process of implementing a specific intervention for an individual who is having difficulty in a specific area of learning (Guskey, 2014).

There did not appear to be any school wide guidelines or modeling for what is expected for remediation. Teachers were left on their own to plan and design curriculum implementation and remediation. Observations showed that remediation was the area of program implementation that varied the most from teacher to teacher.

Research Question 3: What types of professional development did teachers perceive could enhance instructional delivery to support mastery-based learning instruction?

Three of the themes developed in Section 4 led to the conclusion that

teachers need training to properly plan and implement differentiated assessment strategies with in the mastery-based learning program. The three themes that developed this conclusion were: (Theme 3) a system for determining students learning styles and academic needs beyond standardized skills tests is needed, (Theme 4) teachers are developing their own individualized plans to implement the remediation and re-assessment portion of the mastery-based learning program, and (Theme 5) organization in the pre-planning phase is a major component for positive feelings about implementation of the mastery-based learning program. A lack of understanding of how differentiation is to be applied by teachers in an educational program that is dependent on differentiation will greatly impact student success in the program (Hartnell, 2011).

Re-assessment in a mastery-based learning program should be intentional, with emphasis on the specific needs of the student. It should also be diversified and limited to just the specific areas where a student is deficient (Pearson & Flory, 2014). Data collected from the observation process indicated that teachers observed are uniformly using the same assessment used in class for reassessment after remediation. Reassessment variation was limited. Reassessment occurred during four of the eight observations. All four reassessments fell under two categories: a retake of the original assessment or a retake of a condensed version of the original assessment. In addition, all students in each session were given the same re-assessment for each observation. Reassessment in a mastery-based learning program should be varied from original assessment and individualized for

each student (Guskey, 2014).

During the interview process, teachers consistently discussed the need for more training in planning. Participant B recommended professional development in planning would be beneficial stating "planning for someone comes in and talks about the different online stuff that they use or teachers who have taught this for years successfully." Participant D added to the need for a better planning system for the mastery-based program when stating,

> It's difficult to plan for, you do not know who is coming or who will show up. It is kind of like having another class to teach. You do sort of need to plan for Power of M. But, just knowing that it doesn't have to be as formal and it doesn't have to be as structured, but it still must be as direct.

Participant E had dismissive comments about planning for the reassessment portion of the mastery-based learning program when stating, "The lack of constancy for students attending the program makes planning a crap shoot. I have planned detailed lessons only to have few or no students attend." Two other participants indicated through comments that they put little emphasis on the planning portion of the reassessment portion of the mastery-based program. Participant C and E both stated that they traditionally have students re-take their original assessments until they pass. Only two participants offered specific examples of differentiated re-assessment techniques. The lack of discussion and examples indicates that there is little differentiation occurring through the reassessment process.

This component (reassessment) of mastery learning instruction requires time and an instructor needs to take this factor into account when planning instruction for the semester (Miller, 2011). When asked about what is important to the success of program implementation Participant F stated, "Pre-planning your assessments, remediation, and re-assessments, you have to have multiple plans for each for the multiple learning styles that are in your class."

Summary of Conclusions

Data were collected through interview and observations to answer the three research questions developed for this study. The analysis of data created five themes that developed into the following three conclusions: 1. Teachers perceived that the individualized nature of the mastery-based learning program had a positive effect on student performance, but they need additional resources to improve their teaching practices, 2. The implementation process of the mastery-based program needs modification to correctly align itself with mastery-based learning principles, 3. Teachers are in need of training to properly plan and implement differentiated assessment strategies with in the mastery-based learning program. Later in this section, I discuss the recommendations for action that are based on a response to these conclusions.

Mastery-based learning theory was the conceptual framework that guided this study. Mastery-based learning theory is built upon the key concepts of removing the constraints of time for learning, increasing feedback, increasing correctives, increasing and diversifying enrichment and instruction, and

differentiating assessment (Bloom, 1968). The findings of this study showed that teachers need additional resources to ensure that all these principles are being incorporated into the program. Individual feedback on concepts not mastered is essential for a mastery learning program to be effective (Barrack-Tavaris et al., 2013). Interpretation of the data collected indicates that portions of the program, such as individualized feedback, were not being implemented to the extent called for under mastery-based learning theory. Differentiated and individualized assessment and reassessment are an essential pillar of mastery-based learning theory (Guskey, 2001). My interview and observation data demonstrated that assessments and reassessment strategies being used were largely homogenous. While the spirit of mastery-based learning theory was apparent in the collected data, the program was not being implemented with fidelity. The mastery-based learning theory provided the guiding concepts to investigate the problem and to interpret the collected data.

Implications for Social Change

The implications for social change are that the mastery-based learning program might be reviewed and revised to address the participants' concerns. The results of this study may allow for administrators to address the concerns of the teachers to help teachers better implement the program.

Improvement to the mastery-based learning program may improve the academic performance of the students being served with in the program. The proper implementation of the remediation and reassessment portions appear to need

improvement. Improvement to either area may be beneficial to the academic success for students in the program. Ensuring that remediation instruction takes place at a higher has the potential to increase student academic success rate. Also, mastery-based learning theory calls for divers and differentiated assessment and re-assessment opportunities for students (Guskey, 2014) Students working in a mastery-based program that meets their specific assessment preferences tend to be more successful (Burns, 1987). An improvement in teachers' ability to properly implement the reassessment portion of the mastery-based learning program that is more in line with mastery-based learning theory has the potential to be highly beneficial to students. There was a need for a study to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Many researchers have conducted studies to assess the effectiveness of mastery-based learning theory, but, few have looked at the implementation process (Agboghoroma, 2014; Coooperman 2011; Deweese, 2012; Dieglman-Parente, 2011; Guskey, 2014; Guskey & Lung, 2011; Hartnell, 2011; Hill-Miller, 2011; Klecker, 2011; Marshall, 2016; Miles, 2010; Miller, 2011; Mogen, 2013; Nolan, 2016; Pearson & Flory, 2014; Rowe, 2010). After an extensive search of mastery-based literature, I found that Grant, Fazzaro, and Steinke (2014) incorporated and investigated mastery-based learning program implementation. This study provides findings based on the perceptions of teachers about the implementation of a mastery-based learning program. The findings and conclusions of this study may inform teachers and administrators who work in schools where mastery-based learning programs are

being considered. The findings presented here may offer valuable suggestions for improved delivery of mastery-based learning programs that might be implemented in curricula other than English 1. For administrators, the findings provide focus to the topics that need greater professional development and training; to ensure that teachers are implementing mastery-based learning programs as mastery-based learning theory intends.

At the local level this study may provide valuable suggestions and observations that can enable the administrators to adjust the program accordingly, and thus, provide a more successful learning environment for students. Identifying gaps in educational programs or gaps between the goals of the program and faculty members' perceptions of the programs are important endeavors. This study provides a report to the current school and district administrators on the state of the program. Since the school district administrators have not conducted a previous evaluation of the program, the study's findings may provide school stakeholders with a document that could be the basis for a future program evaluation. The findings can be shared with faculty, parents, and community members to help determine how the mastery-based program will continue to be implemented moving forward to better benefit students.

Recommendations for Action

Based on the findings for this study there are three recommendations for action. These recommendations are based on analysis of the data gathered from teacher interviews and observations. Investigation into teachers' perceptions of and experiences with mastery-based learning, about student performance within this program, and about

teachers' professional needs to improve program delivery led to the following recommendations.

Recommendation 1: Online remediation lessons should be added to the remediation portion of the mastery-based learning program to increase students' opportunities to participate in remediation before reassessment. Deweese and Randolph (2011) stated "mastery learning process is as follows: students learn the material as a whole group, they are tested once, they are assigned correctives based on their first test, and then students are tested again to show growth" (p. 5). It is essential that intervention strategies are implemented before reassessment (Guskey, 2001). According to teachers interviewed the after-school portion of the mastery-based learning program, where remediation is scheduled to take place, is poorly attended by students. Poor attendance is hurting the implementation of the remediation portion of the program.

UHS transitioned to a one-to-one school for the 2018-2019 school year where every student was issued a google chrome book. The one-to-one computer implementation should be used to help ensure that the remediation portion of the mastery-based learning program is utilized. Teachers should use and create on-line remediation lessons and activities that students can view and complete as part of the remediation process. According to the guidelines of the UHS mastery-based learning program, all students must complete at least one remediation session before they can participate a reassessment activity. Offering an online option as a form of remediation in conjunction with the after-school remediation option would help to ensure that this portion of the mastery-based learning program is completed. The online option would

also present several advantages for students. Students could pause, rewind, and review lesson activities and work at their own pace. Students would have the option to have materials read to them through online apps. Students can used closed caption services for online material that is presented in video fashion. ESOL (English as a second language) students can use online translation apps to help with material presentation.

This option would also allow teachers another option to offer differentiated forms of instruction for the remediation process. It is recommended that intervention activities are individualized for students to help ensure effectiveness and educators should avoid generalized intervention activities (Fazzaro and Steinke, 2014). Teachers can utilize free online instructional services such as Kahn Academy, YouTube Education, and Edhelper.org to offer a variety of presentation styles for forms of content. A bigger challenge was finding appropriate enrichment activities. Mogen (2013) when discussing overcoming the challenge of implementing remediation of a mastery-based learning program state that "the use of online activities answered this challenge" (p.42). Mogen (2013) also found that online interventions were the preferred format for students stating, "on-line activities became the most likely activities for the mastery level students to engage in" (p. 43). There are ever increasing ways that students and teachers interact through online sources. It would be advantageous for UHS to incorporate online activities into the remediation portion of their mastery-based learning program.

Recommendation #2: Teachers should be provided professional development opportunities pertaining to how to properly and successfully implement the reassessment portion of a mastery-based learning program. An increased knowledge and understanding

of the implementation of the reassessment portion of a mastery-based learning program is needed at UHS for the English 1 curriculum. It is essential for the success of a mastery-based learning program that assessments and reassessments be differentiated in nature (Guskey, 2001). Reassessments need to be individualized and focused on the content that was determined to be deficient during the original assessment (Guskey, 1994). Teachers implementing a mastery-based learning program may fall into a pattern of using the original assessment for reassessment which goes against the Bloom's original principles (Stainer, 2013).

When asked questions pertaining to reassessment implementation and process the most common responses demonstrated a low level of differentiation from the original assessment. Teachers interviewed appeared to be either unaware of the importance of differentiating reassessment as it pertains to mastery-based learning theory or because of outside factors, limited in their ability to implement differentiated reassessments for their students. Observations supported this conclusion. All reassessments observed were either a re-take of the original assessment or a re-take of a portion of the original reassessment. Reducing the original assessment into smaller portions is a step towards being in line with mastery-based learning theory further improvement would increase the benefits to students. A new round of professional development training would be extremely advantageous to help improve implementation of the program and ensure an accurate measure of student mastery of learning objectives. Professional development training should focus on ensuring that teachers understand the importance of differentiating and individualizing reassessment for students. Also, professional development should focus

on reassessment strategies and how to create differentiated and meaningful reassessments.

Recommendation #3: A course-wide online bank of assessments and remediation lessons for each English 1 standard skill set should be created and made available to all teachers. One of the biggest obstacles to implementing a mastery-based learning program is the enormous amount of time required for planning remediation and reassessment (Stanier, 2013). Concerns over the increased time it takes to plan for implementation of the mastery-based learning program was pointed out by several teachers during the interview process. The creation of a course-wide bank of assessments and remediation lessons that teachers could pull from would help to elevate planning time. Teachers would not be forced to consistently create new assessments and remediation intervention lessons. Teachers would have access to a pool of resources to help with remediation and reassessment. This course wide bank would also allow more collaboration between teachers as they use and add resources to this on-line bank.

As this bank grows it would also help teachers to provide students with a variety of reassessment options as teachers have more options to pull from. This bank would also help new teachers transition into the program as they would have a wealth of resources at their disposal. Teachers working together to share and to exchange ideas is vital for success of an educational program that is reliant on differentiation (Hartnell, 2011). Remediation and reassessment strategies for a mastery-based learning program should be individualized to meet the students' specific needs (Guskey, 2001). Having a bank of varying remediation and assessment strategies will help to enable teachers the

opportunity to find assessments and remediation strategies with better fit a specific student's needs. This could help teachers to better implement the program. When conducting remediation teachers often have several different learning styles engaging in the same remediation session. Having a bank of remediation techniques for each skill set on hand will help teachers in the planning and implementation of their remediation sessions.

Recommendations for Further Study

Mastery-based learning theory, when properly implemented, can be an effective educational practice. This study opens possibilities for further studies concerning mastery-based learning. This study narrowed its investigation to the area of high school English 1 curriculum. Further study in the other curriculum areas and grade levels would be valuable additions to educational literature pertaining to mastery-based learning. This study found that UHS needed to improve their remediation and reassessment implementation portions of their mastery-based learning program as it pertains to the English 1 curriculum. This study was limited in that it did not collect quantitative data as to the effectiveness of current remediation techniques. Quantitative research would be appropriate to help determine what remediation techniques are most effective for the English 1 curriculum. For this study, a quantitative portion may have provided different and meaningful data and provided recommendations based on student performance scores which could be used to inform improvements to the mastery-based program. Quantitative data pertaining to student performance on varying

reassessment strategies might also be beneficial data for improving implementation of a mastery-based learning program**.**

There is a plethora of studies that investigated the overall impact of mastery-based learning programs across various grade levels and curriculum content. However, there does not appear to be a deep pool of studies that investigate the implementation of mastery-based learning programs. Specifically, there are few studies that investigate into what the level of effectiveness is for various remediation techniques or how various mastery programs are implementing that remediation.

There also appear to be a need for investigation into what forms of remediation best fit with various learning styles. Teachers presented data that indicated that they spent varying portions of time to trying to understand what student learning styles were and how to best assess their understanding of content. Further study into this area could be extremely beneficial for teachers implementing a mastery-based learning program. This information could help teachers with planning of initial assessment and re-assessment creating more effective strategies for assessing students' understanding of new ideas and concepts.

Summary

A public suburban high school in South Carolina used a mastery-based learning program called Power of M that was created with the specific goal of decreasing the number of students who repeat the ninth grade. The problem that prompted this study was

that a large percentage of ninth-grade students who were enrolled in the English 1 mastery-based learning course in a local high school failed the English 1 course, and while teachers observed the problem, they struggled to find appropriate teaching strategies and approaches to improve student performance. The purpose of this qualitative study was to investigate teachers' perceptions and experiences about mastery-based learning, about student performance within this program, and about teachers' professional needs to improve program delivery. Bloom's mastery-based learning theory provided the basis for the conceptual framework of the study. The research questions that guided this study were focused on the perceptions and experiences of English 1 teachers about their teaching practices in the mastery-based learning program, their implementation of this program, and their suggestions for training to more efficiently implement the program. I concluded that while teachers perceive the mastery-based learning program as a positive approach to help students, modifications to the program could assist teacher efficiency and alleviate teachers' concerns about implementing the program. Mastery-based learning has the potential provide teachers with options to better reach a larger percentage of their students. Mastery-based learning theory has the potential to provide students with more avenues to be successful in their educational endeavors. As an educator, I am hopeful about the future of mastery-based learning as an instructional approach that may allow students to progress at their own individual paces. A refined and streamlined mastery-based learning program will offer students a customized learning experience.

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Appendix A: Teacher Interview Questions:

Research Question 1: What are English 1 teachers' perceptions regarding their current teaching practices in the mastery-based learning program?

1. Describe your teaching practices for the English 1 curriculum within the Power of M program.
    a. Follow up question: Which practices are meeting the stated Power of M goals for UHS students?
    b. Follow up question: Which practices are NOT meeting the stated Power of M goals for UHS students?
2. Describe the advantages and disadvantages of the mastery-based program for classroom instruction for the English 1 curriculum.
3. What are the most effective mastery-based learning strategies that you use in your classroom?
4. What roadblocks have you have encountered while implementing the power of M program?
    a. Follow up question: How would you recommend overcoming these roadblocks?

Research Question 2: How do English 1 teachers describe their experiences implementing the mastery-based learning program?

5. What are the key components to planning a unit for English 1 under the Power of M Program?
    a. Follow up question: What are the obstacles, if any, that prevent you from implementing your teaching plan?

6. Describe a typical mastery-based learning lesson.

    a. Follow up question: How do you incorporate the after-school component to the classroom content?

7. What assessment strategies do you most commonly use in your classroom?

    a. Follow up question: Can you please describe in detail these assessment strategies and why you use them?

8. Describe the techniques you use to re-teach content in your classroom in conjunction with the mastery-based learning program.

9. What is your process for determining a student's area of weakness?

    a. Follow up question: What mastery-based learning strategies do you use to address areas of student weakness?
    b. Follow up question: How do you develop an effective reassessment for a student once you have determined what the weakness is?

Research Question 3: What professional development opportunities could enhance teachers' instructional delivery to support master-based learning instruction?

10. What type of teaching strategies or approaches do you believe help students retain knowledge?

11. What skills do you recommend for a teacher who is new to a mastery-based learning program?

12. Are there teaching approaches that you would like to learn more about to create more student engagement in learning?

What do think should be included in professional development that you have done with mastery-based learning that can help other teachers

Appendix B: Observation Protocol

The researcher will use the Observational Protocol form during two after-school Power of M sessions that are part of the Power of M Program. Preservice teachers will be attending a mandatory course that runs concurrently with their field service practicum. The researcher will observe two sessions for each English 1 curriculum teacher. The Observation Protocol form below will be used to write descriptive and detailed reflective notes that will include my observations, impressions, and questions. The goal of using this form to compare teacher thoughts about program implementation vs the actual practice of program implementation.

Observation Protocol
Location: Teacher Classroom Power of M After-school Component
Length of Activity: 20 minutes

Teacher Code: _____

Descriptive Notes	Reflective Notes