2020

Understanding the Use of Learner-Centered Teaching Strategies by Secondary Educators

Carmen M. Cain
Walden University

Walden University

College of Education

This is to certify that the doctoral study by

Carmen M. Cain

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Heather Caldwell, Committee Chairperson, Education Faculty
Dr. Michelle McCraney, Committee Member, Education Faculty
Dr. Barbara Schirmer, University Reviewer, Education Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

Understanding the Use of Learner-Centered Teaching Strategies by Secondary Educators

by

Carmen M. Cain

MA, University of Mary, 2016

BS, University of Mary, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

June 2020

Abstract

Use of learner-centered teaching strategies (LCTS) in the classroom practices improves academic achievement. Secondary educators do not consistently demonstrate the use of these strategies. The purpose of this study was to investigate how secondary educators were using LCTS in their instruction and what support they perceived to need to use such strategies. The conceptual framework for this dissertation was based on the Dreyfus and Dreyfus model of skill acquisition. The research questions focused on how secondary educators use LCTS and the support they need to use these strategies in their classrooms. This study was a basic qualitative design that examined the classroom practices of secondary teachers and the support they needed to use LCTS. The data collection instrument was an individual interview protocol of 12 randomly selected secondary education teachers from a midwestern high school in the United States. In vivo and pattern coding of the transcribed interview data and thematic analysis revealed 3 overarching themes: (a) student ownership, (b) use of LCTS, and (c) content-specific professional development. The overall findings of this study indicated that secondary educators used LCTS in their classrooms by having students take ownership of their learning and using a variety of LCTS in their classes. The findings also indicated that teachers considered content-specific professional development an important means of support for using LCTS. The use of LCTS by teachers increases student engagement, which then improves academic achievement. When academic achievement increases for all students, positive social change occurs. Secondary school administrators and teacher preparation programs would benefit from the research by providing them knowledge for developing professional development that supports the use of LCTS.

Understanding the Use of LCTS by Secondary Educators

by

Carmen M. Cain

MA, University of Mary, 2016

BS, University of Mary, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

June 2020

Dedication

This degree and dissertation are dedicated to the memory of my mother, Lynette Jacobs, who passed away as I was completing my doctoral program. She would have loved to call me “Dr. Cain.” I love you and miss you, Mom.

Acknowledgments

I would first like to thank my husband, Paul, for his continued support as I indulge in furthering my education. I am sure he is most thankful that this is a “terminal” degree! To my sons, Justin and Nathan and my daughter-in-law, Breanna - thank you for your encouragement and support. To my granddaughters, Harper and Sawyer – always remember that an education is something for which to be grateful.

Thank you, Dr. Heather Caldwell, the chair of this dissertation, for your succinct advice and quick turnaround with feedback. Thank you to my second committee chair, Dr. Michelle McCraney, for your encouragement and feedback.

Finally, thank you to my colleagues, who allowed me time off to work on my dissertation and gave me encouragement and feedback to finish this labor of knowledge.

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Student engagement is essential for academic achievement. Students who are engaged in their learning have a better attitude toward learning and achieve higher academic success (Erdogdu, 2019; Konold, Cornell, Jia, & Malone, 2018). However, fewer than half of students' report being engaged in their education, primarily those in secondary schools (Gallup Student Poll, 2017; Greenleaf & Valencia, 2017). One issue that may lead to a lack of engagement in secondary schools is that many secondary educators use teaching strategies that are considered teacher centered. In teacher-centered strategies, the teacher acts as the primary source of knowledge, conveying that knowledge to the students, primarily in the form of a lecture (Mahmood & Iqbal, 2018; Weimer, 2013). In addition, the teacher controls the learning environment, such as what and how the content will be learned, at what pace it will be learned, and how it will be assessed (Arseven, Sahin, & Kiliç, 2016; Weimer, 2013). Teacher-centered instructional strategies may dampen student curiosity because of the high level of control teachers have in these classrooms, leading to lower levels of engagement and academic achievement (Carrabba & Farmer, 2018; Weimer, 2013).

Learner-centered strategies are different from teacher-centered strategies in that students have more control of their learning, which often leads to higher engagement. Learner-centered education includes instructional approaches that engage the student in active construction of knowledge (Lattimer, 2015; Somani & Rizvi, 2018; Weimer, 2013). During learner-centered instruction, students are active participants in their learning, which increases student motivation and engagement significantly and

statistically more than traditional, or teacher-centered, instruction (Edwards, 2017; Scarrow, 2017). However, secondary teachers often struggle with implementing learner-centered teaching strategies (LCTS) (Ndirangu, 2017; Sendurur, 2018; Whitener, 2016). Although LCTS are taught in most teacher preparation programs, many preservice and novice teachers do not subscribe to student-centered pedagogy (Edwards, 2017; Kelly, Gningue, & Qian, 2015; Scarrow, 2017; Sendurur, 2018). In addition, secondary educators often find that professional development is irrelevant to them. Bonghanoy, Sagpang, Alejan, and Rellon (2019) found that secondary educators did not deem professional development useful because it was not specific to their content area and, therefore, not applicable to their classroom.

The purpose of this dissertation was to explore the LCTS secondary educators used in their instruction and what support they needed to use such strategies. The knowledge generated from this dissertation may provide school administrators and teacher preparation programs insight for planning teacher professional development in using LCTS. Students in a learner-centered environment experience higher academic achievement. By increasing academic achievement for all students, positive social change occurs.

This chapter begins with an overview of the why the study was conducted, the potential for positive social change, and the context and background that frames the study. Following that is the problem statement, purpose of the study, and research questions. Also included in this chapter is the conceptual framework for the study, a discussion of the methodology, definitions of key terminology, and the researcher's

assumptions. The chapter concludes with a description of the scope and delimitations, limitations, and significance.

Background

Many benefits exist for students when teachers use LCTS. LCTS and student-centered education motivate students intrinsically to construct meaning for knowledge and encourage students to be self-motivated and independent learners (Lattimer, 2015; Walker, 2015; Weimer, 2013). Although these teaching strategies are known to be effective for student learning and teachers can identify LCTS, teachers do not always demonstrate the skills of these strategies in their practice (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017; Scarrow, 2017; Weimer, 2013). Teachers express the beliefs that they are utilizing LCTS, but observations of these classrooms do not support that belief (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017; Scarrow, 2017).

Student engagement is essential for learning. LCTS are effective because students are engaged in the learning process, resulting in the active construction of knowledge (Lattimer, 2015; Somani & Rizvi, 2018; Weimer, 2013). However, fewer than half of students' report being engaged in their education (Gallup Student Poll, 2017). LCTS increase student motivation and engagement significantly more than tradition, or teacher-centered, instruction (Edwards, 2017; Scarrow, 2017). Although teacher-centered strategies do not engage students at the same level as LCTS, they do have benefits.

Teacher-centered, or traditional, strategies can be beneficial to student learning when done well. In teacher-centered strategies, the teacher acts as the primary source of knowledge (Weimer, 2013). This puts the responsibility for learning directly on the

teacher, instead of sharing that responsibility with the students. Direct instruction is a common teacher-centered strategy where the assumption is that all students can learn with well-designed instruction (Stockard, Wood, Coughlin, & Rasplica Khoury, 2018). The teacher is responsible for ensuring that the instruction is designed so all students can learn. Direct instruction can be an effective and efficient form of instruction that allows students to learn new material in less time (Head, Flores, & Shippen, 2018). Teachers often feel pressured to cover a certain amount of material so direct instruction is a way of meeting that goal. Drawbacks to direct instruction are that students become passive observers in their education resulting in lower problem-solving skills, less creativity, and poorer teamwork skills (Lattimer, 2015; Weimer, 2013). This leads to the issue of students being less engaged in their learning. Direct instruction tends to be the primary teaching method among secondary educators (Mahmood & Iqbal, 2018). Direct instruction is effective but secondary educators need to ensure their students are engaged during direct instruction for effective learning to occur.

In secondary schools, educators teach a specific content area and rely heavily on teacher-centered strategies. Unfortunately, these strategies do not tend to engage students. Instruction that engages students is uncommon in United States secondary schools (Greenleaf & Valencia, 2017). In addition to lecturing, secondary educators use note-taking, quizzes, tests, demonstration, and discussion as their primary modes of teaching strategies (Mahmood & Iqbal, 2018). Some content areas are better suited for direct instruction than others. For instance, math and science instruction is well-suited for teacher-centered strategies (Baker & Robinson, 2018; Stockard et al., 2018; Zhang,

2017). However, some math and science teachers do implement student-centered strategies. Studies have found that when math and science teachers attempt to implement LCTS in their classrooms, they are often unsuccessful (Ndirangu, 2017). In other content areas, LCTS are more successfully implemented. When LCTS were used in secondary physical education courses, students were more willing to engage in physical activity (Oliver, Oesterreich, Aranda, Archeleta, Blazer, de la Cruz, & Robinson, 2015). In addition to physical education, LCTS make history relevant to students (Van Straaten, Wilschut, & Oostdam, 2016). For teachers to be expected to use LCTS, they must have had training either in their teacher-preparation program or as professional development.

It is not only experienced teachers that have difficulty implementing LCTS. Although LCTS are taught in most teacher preparation programs, many preservice teachers do not subscribe to student-centered pedagogy (Sendurur, 2018). Studies indicated that preservice teachers need more exposure to LCTS in their teacher preparation programs in order to successfully implement these strategies in their own classroom (Scarrow, 2017; Sendurur, 2018). As graduates from teacher preparation become novice teachers, they continue to experience a disconnect between what they learned about LCTS and what they put into practice (Edwards, 2017; Kelly et al., 2015). Both experienced teachers and preservice secondary educators struggle with implementing LCTS. The reasons why are unclear and need to be studied further.

The gap in practice this dissertation addressed was secondary educators understanding the importance of LCTS but using primarily teacher-centered strategies, such as lecture and note-taking. Current research reports the need for further investigation

into the underlying reasons for discrepancies between the knowledge and use of secondary educators regarding LCTS (Arseven et al., 2016; Kaymakamoglu, 2018; Onurkan Aliusta & Özer, 2017; Scarrow, 2017). Researchers reported the need for development of effective teacher training in the adoption of LCTS (Kaymakamoglu, 2018; Onurkan Aliusta & Özer, 2017; Scarrow, 2017; Sendurur, 2018). Novice teachers reported experiencing a disconnect between what they learned in their teacher preparation programs and their experiences as a novice teacher (Edwards, 2017; Kelly et al., 2015). This study investigated the perceptions of secondary educators about LCTS and the support they needed to carry out these strategies.

Problem Statement

The research problem under investigation is the that secondary teachers across the nation do not consistently demonstrate the use of LCTS in their classroom practices. According to Scarrow (2017), teachers could identify both learner-centered and teacher-centered methods. However, they could not demonstrate the skills of learner-centered methods in their practices. Researchers have found that although teachers express the belief that they are utilizing LCTS in their classrooms, observations in these classrooms show teacher-centered strategies are predominantly used (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017). A disconnect occurs between what teachers believe they are doing (student-centered) and what they are doing in the classroom (teacher-centered).

LCTS, also known as student-centered learning and student-centered education, motivate students intrinsically to construct meaning for knowledge (Walker, 2015). Many teachers believe they have adopted student-centered practices; however, studies show that

these perceptions are not accurate (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017). Learner-centered education includes instructional approaches that engage the student in active construction of knowledge (Bailey & Colley, 2015; Lattimer, 2015; Somani & Rizvi, 2018; Weimer, 2013). Teachers recognize the importance of students having an active role in the learning process but often consider students as passive learners and describe themselves as transmitters of knowledge (Bailey & Colley, 2015; Lattimer, 2015; Weimer, 2013). Students have a similar outlook as they perceive they lack control over their education, including instruction and evaluation methods (Lattimer, 2015; Weimer, 2013).

Local school administrators and teacher mentors in a Midwestern town identified a gap in the practice of using LCTS. Secondary school administrators observed teachers defaulting to teacher-centered strategies by primarily using a lecture and note-taking approach (High School Assistant Principal, personal communication, January 16, 2019). Surveys indicated that students saw themselves listening to the instructor much more than being actively engaged in the learning process (High School Assistant Principal, personal communication, January 16, 2019). Secondary school classrooms tended to be traditional, with teacher-driven activities being the primary method of teaching (Academic Dean, personal communication, January 25, 2019; Curriculum Director, personal communication, January 17, 2019).

In traditional, or teacher-centered classrooms, students passively observe what the teacher is doing rather than being active participants (Bailey & Colley, 2015; Lattimer, 2015; Weimer, 2013). Direct instruction can result in “low creative thinking and

teamwork skills among students", although these skills improve when paired with LCTS such as problem-based learning (Carrabba & Farmer, 2018; Winarno, Muthu, & Ling, 2018, p. 119). One source of student motivation is curiosity; however, traditional instructional strategies may dampen student curiosity because of the high level of control teachers have in these classrooms (Carrabba & Farmer, 2018). Students who are passive participants in the classroom are not motivated by what they are learning, leading to low creativity and curiosity.

Novice and preservice teachers experience a disconnect between their knowledge and use of LCTS. Studies indicated that preservice teachers need more exposure to LCTS in their teacher preparation programs to successfully implement these strategies in their own classrooms (Scarrow, 2017; Sendurur, 2018). The most helpful resources for new teachers are support from school administrators, adequate resources, and mentors (Edwards, 2017; Kelly et al., 2015). By understanding secondary teachers' use of these strategies in secondary classrooms, school administrators can create professional development opportunities that support the use of LCTS and university teaching programs can analyze the preservice teacher curriculum and determine any needed adjustments in the area of LCTS.

Purpose of the Study

The purpose of this study was to investigate how secondary educators are using LCTS in their instruction and what support they needed to use such strategies. There appears to be a disconnect between teachers believing they are utilizing LCTS and demonstrating the use of such strategies in their classroom practices (Arseven et al.,

2016; Onurkan & Ozer, 2017; Scarrow, 2017). This study focused on secondary educators and their perception of how they are using LCTS in their instruction, in addition to the support they needed to use such strategies. The research paradigm for this study was that of constructivism. The central assumption of constructivism was that the participants bring their own reality to the study, based on their individual experiences, and the researcher's role was to understand the multiple perspectives of the participants (Bloomberg & Volpe, 2019).

The phenomena studied was teachers' perceptions of LCTS and the support needed to use such strategies. The findings of this research may contribute to the national conversation, as well as to secondary schools by looking closer at the strategies used by secondary teachers and determining if they apply their knowledge of LCTS in the classrooms. This goal was accomplished by studying secondary teachers from a high school in a midwestern city in the United States. Current research reports the need for further investigation into the underlying reasons for discrepancies between knowledge and skills of secondary educators regarding LCTS (Kaymakamoglu, 2018). Also, researchers reported the need for the development of effective teacher training in the adoption of LCTS (Kaymakamoglu, 2018; Onurkan Aliusta & Özer, 2017). By understanding secondary teachers' use of these strategies in secondary classrooms, school administrators can create professional development opportunities that support the use of LCTS and university teaching programs can analyze the preservice teacher curriculum and determine any needed adjustments in the area of LCTS. This dissertation may contribute to the field by its investigation of these issues.

Research Questions

The research questions for this study were meant to determine teachers' perspectives and experiences with learner-centered teaching strategies and the support they needed to use the strategies in their classrooms. The purpose of the current study was framed by the concept that teachers will move from remembering the information about LCTS as preservice teachers to using the strategies as competent performers, who apply their learning to certain situations. The following research questions were developed in relation to the conceptual framework for this study, which was the Dreyfus and Dreyfus (1986) model of skill acquisition.

1. How are secondary educators using LCTS in their classrooms?
2. What support do secondary educators perceive to need to use LCTS in their classroom?

Conceptual Framework

The conceptual framework for this study was based on the Dreyfus and Dreyfus (1986) model of skill acquisition, which described how learners acquire skills by formal instruction and practice. According to this model, the learner passes through 5 stages of professional practices - novice, advanced beginner, competent performer, proficient performer, and expert (Dreyfus & Dreyfus, 1986; Flyvbjerg, 2001). The Dreyfus and Dreyfus model informed this research study as a conceptual framework for "conceptualizing the development of teacher expertise, in a way that recognizes the role of practicing and context, as well as the development and shifts toward expertise from preservice teaching to experienced teaching" (Flyvbjerg, 2001, p. 107).

Within the context of the skill acquisition model, the novice and advanced beginner levels are relevant to preservice teacher education. At this level, preservice teachers develop their knowledge of teaching practice, with a concentration of "remembering the rules for specific skills" (Miles & Knipe, 2018, p. 106). In the advanced beginner level, preservice teachers apply the knowledge learned in the novice level to real-life situations such as practicum experiences and student teaching. As graduates of a teacher preparation program, novice teachers are considered "competent performers" within the context of the skill acquisition model (Miles & Knipe, 2018). As a competent performer, novice teachers take personal responsibility for their decisions made in the classroom, from instructional strategies to classroom management. Teachers grow in their teaching expertise through professional development and personal experience, and it is in this stage of learning that teachers become proficient performers. At this stage, teachers use their experience to respond to situations and make decisions in their classrooms (Miles & Knipe, 2018). Finally, as experts within this model, teachers use their intuition to demonstrate a "flowing, effortless, performance" as they conduct the teaching and learning in their classrooms (Miles & Knipe, 2018).

The research questions were designed to explore how secondary teachers use their knowledge of LCTS in the classroom and what support they need to use such strategies. The purpose of the study was framed by the concept that teachers will move from remembering the information about LCTS as preservice teachers, to using the strategies as competent performers who apply their learning to certain situations. The interview protocol was constructed to include the relevant constructs of this framework.

In addition to the Dreyfus and Dreyfus (1986) model of skill acquisition, Weimer's (2013) learner-centered teaching approach was used to frame the nature of the study, literature review, and research questions. Weimer's (2013) book was written with higher education faculty as the intended audience and was part of the researcher's doctoral studies. The content of the book prompted questions by the researcher on how secondary educators were using LCTS in their own practices.

According to Weimer (2013), the key changes teachers can make to their teaching in order to incorporate learner-centered teaching strategies include (a) the role of teacher as facilitator, (b) the balance of power shifting toward the students, (c) the function of content as being uncovered versus covered, (d) the responsibility of learning being primarily on the students, and (e) using evaluations for learning rather than for grades. In learner-centered instruction, the teacher acts as a facilitator of learning and engages students in the process. The second key change involves a shift of power in the classroom, from the teacher to the students. Weimer (2013) described the balance of power as one that is to be shared with the students and where students have some say in what they are learning and how they will learn it. A common teacher practice is to cover content; however, Weimer (2013) described content as something to be taught in depth, which leads to more quality instruction, rather than quantity. In the fourth key change, teachers need to create a climate in their classroom that encourages students to be responsible for their learning, which leads to independent learners (Weimer, 2013). The final key change to a more learner-centered approach is changing the purpose of an evaluation from that of a grade to a way for students to assess if they are learning.

Weimer (2013) argued that students need to turn their focus away from working for a grade to how they can improve their own learning.

The research questions were designed to explore how secondary teachers use LCTS in the classroom and what support they needed to use such strategies. The purpose of the current study was framed by the concept that teachers will move from remembering the information about LCTS as preservice teachers to using the strategies as competent performers, who apply their learning to certain situations. In addition, the dissertation was based on Weimer's (2013) learner-centered approach. The 5 key changes Weimer described were initially used to frame the nature of the study, research questions, and literature review. After the study was completed, the results were compared to Weimer's key changes. The interview protocol was constructed to include the relevant constructs of this framework. Data analysis was grounded in the framework by using *in vivo* codes that included the relevant constructs of this skill acquisition theory.

Nature of the Study

The methodology for this study was a basic qualitative design that focused on secondary teachers' use of LCTS in their classrooms. Researchers use qualitative methods to understand "individuals, groups, and phenomena in their natural settings" (Ravitch & Carl, 2016, p. 2). The rationale for selecting a basic qualitative design for this study was because its purpose was to investigate what LCTS secondary educators were using in their instruction. According to Ravitch and Carl (2016), qualitative research is the study of phenomena, and the attempt to make sense of them through the meaning people bring to them (p. 8). Yin (2016) listed interviewing as one method of qualitative data collection

where the data is the participants' viewpoint and explanation of the phenomena being studied, which is teachers' perceptions of LCTS and the support needed to use such strategies.

The collection instrument for this study was one-to-one qualitative interviewing that focused on the research questions of how secondary teachers are using LCTS in their classrooms, and the support they needed to use these strategies in their classrooms. According to Rubin and Rubin (2012), qualitative interviewing is an appropriate research tool when a study's research questions look to examine layers of discovery, as the research questions for this study exemplify. Qualitative interviewing is the dominant mode of interviewing in qualitative research, according to Yin (2016). It was an appropriate method for this study because it presented an opportunity for a two-way interaction between the researcher and participant on a broad topic (Yin, 2016).

The sample size for this study was 12 secondary education teachers purposefully selected from a high school in a Midwestern city. The sample size was selected using purposeful sampling from among faculty at the high school, resulting in participants from different content areas with a range in years of experience and having graduated from different teacher preparation programs. Purposeful sampling added credibility to the qualitative study, reduced bias, and was useful when the category of participants was larger than could studied in the available time and resources (Ravitch & Carl, 2016).

Data saturation was achieved by asking the same interview questions of each of the participants until no new data or themes emerged (Fusch & Ness, 2015). This qualitative analysis may provide a greater understanding of the use of LCTS in secondary

classrooms, and the support teachers need to use these strategies. Potential risks and burdens to the participants may include anxiety from being interviewed and questioned about their teaching practices.

Definitions

The following list includes terms and definitions that are pertinent to this dissertation:

Active learning: Pedagogical strategies that engage students in the learning process (Murthy, S., Iyer, S., & Warriem, J., 2015).

Continuous professional development: The process by which teachers enhance or acquire new knowledge, skills, or values in the field of education (Özdemir, 2019).

Educators: Persons, professional and paraprofessional, who work in schools; includes school administrators, teachers, librarians, school counselors, and other support staff (U.S. Department of Education, 2018).

Pedagogy: The method and practice of teaching, especially as an academic subject or theoretical concept ("Pedagogy", 2019).

Preservice teacher: University student who is enrolled in a teacher preparation program (Sendurur, 2018).

Secondary education: Grades 6-12; typically includes middle and high school level education (ND ESPB, 2017).

Social change: Actions that lead to the wellbeing of society (Yob, 2018).

Support: Resources provided by schools, for teachers, whose purpose is derived from the goals of the school and teachers (De Vries, van de Grift, & Jansen, 2014).

Teacher preparation program: University program that prepares students to become licensed teachers (Mahmood & Iqbal, 2018).

Assumptions

The researcher assumptions were statements believed to be true and from which the researcher could draw conclusions (Bloomberg & Volpe, 2019; Yin, 2016). Based on the researcher's experience as a past secondary educator and current university instructor who observes preservice teachers in the practicum setting, 3 primary assumptions were made regarding this study. First, secondary educators primarily use teacher-centered strategies, such as lecture, in their classroom, although they may claim to use more LCTS (Mahmood & Iqbal, 2018). This assumption is based on the premise that teachers believe they are using LCTS when, upon observation, they are using teacher-centered strategies. In the context of this study, it was necessary to identify this assumption as the data collected was from interviews gather teachers' perceptions of their use of LCTS.

Second, teachers in certain content areas, such as Social Studies and English, are more likely to incorporate LCTS in their classrooms, although mathematics and science teachers are more likely to use teacher-centered strategies in their practices. This assumption is based on the premise that some content areas lend themselves better to learner-centered activities because students have background knowledge from which to draw. The subjects of math and science may not lend themselves as well to strategies such as discussion and collaboration. This assumption is necessary in the context of this study because the participants were teachers from multiple content areas in secondary education and may have affected their responses.

Third, teachers who have recently graduated from a teacher-preparation program are more likely to have had instruction on LCTS than those teachers who graduated a greater number of years ago. This assumption is based on the premise that teacher preparation programs are focusing their instruction on LCTS because of the abundance of the benefits of these strategies. The importance of this assumption is that the participants of this study had varying years of experience, with some having graduated from a teacher preparation program within the last 10 years and other having graduated more than 10 years ago. Again, these varying years of experience may have affected the answers used in data analysis.

Scope and Delimitations

The specific focus of this dissertation was chosen because of the researcher's role as observing secondary education preservice teachers in their practicum experiences. The researcher's observations were that secondary preservice teachers primarily used the teacher-centered strategy of lecture in their practicum even though their teacher preparation coursework emphasized the importance of LCTS (Mahmood & Iqbal, 2018). When preservice teachers were questioned why they used the teacher-centered strategy, they typically explain that the classroom teacher preferred the lesson to be taught in a similar fashion to how they would have; hence, the lecture format. Because the researcher only observes secondary education preservice teachers as a program director for secondary education, elementary educators were not included in this study.

The researcher made intentional and specific choices that characterized the boundaries of this study (Bloomberg & Volpe, 2019; Yin, 2016). For this study, there

were 3 delimitations. The first delimitation of this study pertained to the secondary school in the Midwest and was selected because the researcher was a principal there in the past. However, by the time the data collection process was underway, it had been over 5 years since the researcher was a principal in that school. In addition, there were many new faculty members at the school who were part of the study and never had the researcher as a principal. The second delimitation of this study was the researcher being a professor at a university where some of the teachers at the secondary school may have graduated from a teacher preparation program or were earning master's degrees. These delimitations were included in the Informed Consent (see Appendix D) and informed the participants that the researcher's past and current roles had no bearing on the study.

The third delimitation is the population of the participants being limited to only those in secondary education. The focus of this study was on the use of LCTS by secondary educators; therefore, the participants were from a high school in a Midwestern town. Elementary educators were not included in this study because they were outside the scope of this study.

One conceptual framework related to this study and not investigated was the constructivist theory of knowledge and learning. This theory focuses on developing skills and competencies, which in this case would be the use of LCTS. With the purposeful sampling of secondary educators with a range of years of experience, different teacher preparation programs, and a variety of content areas, the knowledge produced by this study could be applied to similar contexts such as elementary educators. Using the

research strategies of purposeful sampling, thick description, and detailed information could increase the transferability of the study.

Limitations

The purpose of this study was to investigate how secondary educators are using LCTS in their instruction and what support they needed to use such strategies. When researchers consider the limitations of a study, they must think about how the quality, source, or types of data or how the data is analyzed might weaken the integrity of the research methodology (Levitt, Bamberg, Frost, Creswell, Josselson, & Suarez-Orozco, 2018). This study contains certain limiting conditions, some of which are characteristic of qualitative studies and others are specific to this study's research design (Bloomberg & Volpe, 2019). This qualitative interview study had 4 limitations. The first limitation was that actual pedagogical practices were not be observed for this study. The research questions focused on teacher perspectives and, therefore, observations of classroom practices were not necessary. To ensure the participants were able to freely share their experiences with LCTS, the researcher showed respect for the feelings and opinions expressed by the participants during the interview process (Ravitch & Carl, 2016).

The second limitation for this study was that teachers' perspectives were used to draw conclusions about the use of LCTS for all secondary educators. Within the confines of time and resources, this study included participants from a Midwestern high school, which was in the same city as the researcher. This allowed the researcher ease of access for interviewing participants. Most importantly, the site and participant selection matched the research goals for this qualitative study (Ravitch & Carl, 2016).

The third limitation was sample size; however, measures were taken to ensure data saturation. For this study, the researcher anticipated needing between 12 and 15 participants to reach data saturation and 12 interviews accomplished data saturation (Fusch & Ness, 2015). Data saturation was achieved by asking the same interview questions of all 12 participants and when there were no new data and themes emerging, it was decided that data saturation had been reached (Fusch & Ness, 2015).

Finally, the last limitation of this study was potential researcher bias as the researcher was a former principal at the school where the study took place. To reduce bias, the researcher reminded the participants of the purpose of the study and that the researcher was no longer in a position of authority with them. Yin (2016) stated that the conversational nature of qualitative research interviews could lead to the researcher ignoring comments that are not a formal part of the interview. The researcher anticipated when it might be tempting to exclude comments made by the participants and ensured the inclusion of such comments in the data analysis (Yin, 2016). Bias can also occur in the form of deficit orientation, where the researcher views the participants as lacking in knowledge or skill (Ravitch & Carl, 2016). In order to prevent deficit orientation, the researcher reminded the participants that they were the experts in their own experiences and the ones who hold the wisdom (Ravitch & Carl, 2016).

Significance

Research shows a disconnect in how teachers perceive their use of LCTS and the strategies observed being used in classrooms (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017). Scarrow (2017) found that teachers had difficulty identifying LCTS in their

practice. The contributions of this dissertation may advance knowledge in the perceptions of LCTS by secondary educators. This dissertation may advance the practice of secondary educators using LCTS in their classrooms and what support they need to use these strategies. It is important for school administrators to create professional development opportunities that support the use of LCTS.

Students in a learner-centered environment experience high academic achievement. Practices aimed at improving academic achievement have resulted in higher graduation rates for high school students (Allensworth, Healey, Gwynne, Crespin, & University of Chicago Consortium on School Research, 2016). High school graduation is important because it gives students greater opportunities for college and employment, in addition to improving health and life expectancies and decreasing incarceration rates (Allensworth et al., 2016). By increasing academic achievement for all students, positive social change occurs.

Summary

The research problem under investigation was that secondary education teachers do not consistently demonstrate the use of learner-centered teaching strategies (LCTS) in their classroom practices. The importance is that academic achievement is improved using these strategies. The purpose of this dissertation was to investigate how secondary educators are using LCTS in their instruction and what support they perceived to need to use such strategies. The conceptual framework for this study is the Dreyfus and Dreyfus (1986) model of skill acquisition, which described how learners acquire skills by formal instruction and practice. The key research questions for this study focused on how

secondary educators use LCTS and the support they need to use these strategies in their classrooms. This study was a basic qualitative design that examined the classroom practices of secondary teachers and the meaning of how they used LCTS. The collection instrument was a one-one qualitative interview of 12 randomly selected secondary education teachers from a Midwest high school. The results of the study were that participants use LCTS by having students take ownership of their learning. They accomplish this by allowing students to discover the knowledge, instead of teachers directing the learning. When students take ownership of their learning, they monitor their progress, engage with the material, exhibit curiosity, and learn by doing most of the work. The teacher acts as a facilitator and resource during the use of LCTS. When academic achievement increases for all students, positive social change occurs. Secondary school administrators and teacher preparation programs would benefit from the research by providing them knowledge for developing professional development that supports the use of LCTS.

The next section provides an overview of the relevant body of literature regarding LCTS and its use by secondary educators. The researcher reviewed over 125 peer-reviewed research articles on LCTS, with 85 used for resources. The major themes that emerged from the literature review include characteristics of learner-centered teaching strategies, teacher-centered strategies, secondary education content areas, and teacher preparation. Also, Chapter 2 contains the conceptual framework of the study, the strategies used for the literature search, and key variables and concepts of the literature review.

Chapter 2: Literature Review

The research problem under investigation was that secondary teachers do not consistently demonstrate their use of LCTS in their classroom practices. The purpose of this study was to understand the use of LCTS secondary educators are using in their instruction and what support they needed to apply such strategies. According to Scarrow (2017), teachers could identify both learner-centered and teacher-centered methods. However, they could not demonstrate the skills of learner-centered methods in their practices. Researchers have found that although teachers express the belief that they are utilizing LCTS in their classrooms, observations in these classrooms show teacher-centered strategies are predominantly used (Arseven, et al., 2016; Onurkan Aliusta & Özer, 2017). A disconnect occurs between what teachers believe they are doing (student-centered) and what they are doing in the classroom (teacher-centered).

This chapter begins with a description of the library databases and search engines used for the literature review, the key search terms used to identify relevant scholarship, the research phenomenon, researchers of the phenomenon, and how the framework benefits the study. Also included in this chapter is an exhaustive review of the current literature related to LCTS and a description of studies that used a basic qualitative design. Studies related to the research questions are reviewed and synthesized. The chapter concludes with a summary of the major themes in the literature and what is known and not known, related to LCTS. A description of how the dissertation will extend knowledge related to a gap in practice in secondary education and how the gap connects to the research method will conclude Chapter 2.

Literature Search Strategy

For this dissertation, the researcher used multiple search strategies to locate current research on learner-centered teaching strategies. Google Chrome (Scholar) was used to search for terms related to the dissertation and non-data base articles that would help lead to key terms and relevant research articles in the Walden Library databases. The library databases used for this literature review were Education Source, ERIC, SAGE Journals, Taylor and Francis Online. Also, Walden dissertations completed by Doctor of Education graduates who had conducted qualitative studies with similar phenomena and research questions were used for guidance and finding more key terms and research articles for database searches.

The key search terms used in the literature review were *LCTS, secondary education, instructional methods, pedagogy, student engagement, instructional delivery, direct instruction, and indirect instruction, professional development, teacher-centered strategies, novice educators, preservice teachers, and student engagement*. The terms used to identify the research articles most relevant to the phenomenon were "LCTS" and "student-centered strategies," and the researcher used them in both Education Source and ERIC library databases. The phenomenon of this dissertation was LCTS, which are teaching methods in which the instructor is a facilitator, and the focus is on the students and what they are learning (Weimer, 2013).

The researcher encountered several challenges during the search for literature. Most of the research articles focused on the aspect that teachers were not using LCTS but, generally, did not specify why that was happening. Also, common research findings

were that teachers thought they were using LCTS, but the strategies did not consistently demonstrate when researchers observed teachers during instruction. Again, there were few studies focused on why that phenomenon was occurring.

Conceptual Framework

There were two conceptual frameworks used for this study. The first conceptual framework was the Dreyfus and Dreyfus (1986) model of skill acquisition, which describes how learners acquire skills by formal instruction and practice. The second conceptual framework was on Weimer's (2013) work on learner-centered teaching strategies, and the 5 key changes that teachers need to incorporate to make their teaching more learner-centered.

Model of Skill Acquisition

According to this model, the learner passes through 5 stages of professional practice to become an expert in the desired skill – novice, advanced beginner, competent performer, proficient performer, and expert (Dreyfus & Dreyfus, 1986; Flyvbjerg, 2001; Miles & Knipe, 2018). The Dreyfus and Dreyfus model informed this research study as a conceptual framework for "conceptualizing the development of teacher expertise, in a way that recognizes the role of practicing and context. It also recognizes the development and shifts toward expertise from preservice teaching to experienced teaching" (Flyvbjerg, 2001, p. 107).

Stage 1: Novice. In this stage, the student is taught the basic elements and rules of the desired skill, without the full context of the skill. Dreyfus and Dreyfus (1986) used the example of a person learning to drive. In the novice stage of skill acquisition, the

student driver learns the basic elements, such as how to read the speed on a speedometer, and the rules, such as shifting gears at a certain RPM (rotations per minute). In the context of this study, a student in a teacher preparation program might learn the definition of learner-centered teaching strategies and the psychological and pedagogical frameworks of these strategies. At this level, preservice teachers develop their knowledge of teaching practice, with a concentration of "remembering the rules for specific skills" (Miles & Knipe, 2018, p. 106). The student might also learn about Weimer's (2013) key changes to instructional practice that lend themselves to learner-centered teaching. These 5 changes are: (a) the role of the teacher as a facilitator, (b) the balance of power shifting from the teacher and shared with students, (c) the function of content changing from teachers covering a certain number of topics to teachers offering a curriculum that is uncovered by students and leads to deeper understanding and acquisition of life-long skills, (d) the responsibility for learning falls primarily on the students, but not solely, and (e) the purpose of evaluations changes from being done mainly for grades to being done for students to evaluate their growth and direction for learning.

Stage 2: Advanced Beginner. As an advanced beginner, the student begins to develop an understanding of the relevant context of the desired skill. Real-life experiences, and examples of meaningful aspects of the skill, develop this understanding. Continuing to use the case of the student driver, Dreyfus and Dreyfus (1986) explained how the driver now applies the knowledge of shifting gears by using the sounds of the engine and vehicle speed to decide when to shift the vehicle into another gear.

In the advanced beginner level, preservice teachers apply the knowledge learned in the novice level to real-life situations such as practicum experiences and student teaching. In the context of teaching, the preservice teacher would extend their knowledge of learner-centered teaching strategies by learning about specific examples such as project-based learning, student collaboration, stations, and debates. They would begin to practice those strategies in the real-life experience of practicum and student teaching, where they observe skilled teachers using these strategies in the classroom and can apply those strategies under the supervision of the experienced teacher.

Stage 3: Competence. As a person works toward competence in acquiring a skill, they may experience many unpleasant feelings. The learner becomes overwhelmed with the number of elements and procedures that are part of the desired skill. Because the learner is still not able to determine what is essential or not, in a situation, the performance of the skill becomes nerve-wracking and exhausting (Dreyfus & Dreyfus, 1986). It is through these uncomfortable experiences that the learner gains an understanding of how to devise a plan to determine what elements are essential. Through this understanding, decision making becomes less complicated.

Competent performers look for rules and procedures to use as they try to adapt the skill to a real-life situation. However, the rules and procedures may not precisely fit the case, and performers must decide how their prior learning best fits into their current position. This stage is frightening to the competent performer because, unlike in the past where the blame was placed on a lack of knowledge, the learner feels responsible for the choices he or she makes. However, when things go well, the competent performer

experiences feelings of elation that are not experienced by beginners (Dreyfus & Dreyfus, 1986).

Dreyfus and Dreyfus (1986) explained that the competent driver starts to consider all the variables present when driving – road conditions, traffic, time constraints – and adjust their speed accordingly. The driver no longer needs to think about when to shift gears, as it happens automatically now. At this stage, the driver must decide whether he or she is going too fast, subsequently letting up on the accelerator or stepping on the brake, and when to perform these actions. The driver experiences feelings of relief when successfully navigating a turn, or the driver arrives at his or her destination without an accident.

In the context of teacher training, in the advanced beginner level, preservice teachers apply the knowledge learned in the novice level to real-life situations such as practicum experiences and student teaching. As graduates of a teacher preparation program, novice teachers are considered "competent performers" within the context of the skill acquisition model (Miles & Knipe, 2018). As a competent performer, novice teachers take personal responsibility for their decisions made in the classroom, from instructional strategies to classroom management.

Stage 4: Proficiency. As a learner moves from a competent performer to a level of proficiency, emotional attachment to a task further advances the desired skill. When a performer experiences a negative emotion while carrying out a task, it will inhibit him or her from doing that task again. That choice will be strengthened and chosen repeatedly if a positive emotion is evoked. Therefore, positive and negative emotional experiences will

strengthen successful actions and inhibit unsuccessful ones. In the first 3 stages of skill acquisition, the performer, at some level, relies on rules and principles to make decisions. The proficient performer has had practice in selecting and performing tasks related to the desired skill, resulting in decisions that are more continuous and based on situational knowledge and judgment (Miles & Knipe, 2018).

Using the driver example, Dreyfus and Dreyfus (1986) described the proficient driver as one who can feel if he or she is driving too fast for the current conditions and circumstances. The driver does not need to think about the road conditions or traffic situation to know, intuitively, the speed necessary for safe travel. The proficient driver is more likely to safely negotiate a curve than a competent driver because less time is needed to make essential decisions about tasks, such as braking.

Teachers grow in their teaching expertise through professional development and personal experience, and it is in this stage of learning that teachers become proficient performers. At this stage, teachers use their experience to respond to situations and make decisions in their classrooms, such as when to use more teacher-centered instruction and when to use more learner-centered instruction (Miles & Knipe, 2018). The primary mode of professional development is through experience and engagement.

Stage 5: Expertise. Although the proficient performer has adequate experience to determine what needs to do in a certain situation, they still need to decide how it is done. The expert sees what needs to do and can fairly quickly determine how it is achieved. The ability to make an immediate judgment is primarily due to a vast amount of experience in contextual situations. The experts' responses to situations are more intuitive

than thought-based. The expert is also able to apply their skills to many different situations. For example, as the driver becomes an expert, they feel the speed, as did the proficient driver, but can react to negotiating the curve without any calculating thoughts (Dreyfus & Dreyfus, 1986). Expert performers practice in intuitive ways, and their performance is seamless when encountering many different situations. Finally, as experts within this model, teachers use their intuition to demonstrate a "flowing, effortless, performance" as they conduct the teaching and learning in their classrooms (Miles & Knipe, 2018). Experienced teachers are considered experts if the students in their classrooms are learning at their given capabilities.

The Dreyfus and Dreyfus model of skill acquisition informed this research study as a conceptual framework for "conceptualizing the development of teacher expertise in a way that recognizes the role of practicing and context, as well as the development and shifts toward expertise from preservice teaching to experienced teaching" (Miles & Knipe, 2018, p. 107). The model of skill acquisition promoted the development of this dissertation's literature review, research questions, and data analysis. Teacher expertise develops through the practice of teaching strategies and developing that expertise from preservice teaching to experienced teaching.

Learner-centered Teaching Approach

In addition to the Dreyfus and Dreyfus (1986) model of skill acquisition, Weimer's (2013) learner-centered teaching approach framed the nature of the dissertation, literature review, and research questions. Weimer's (2013) book was written with higher education faculty as the intended audience and was part of the researcher's

doctoral studies. The content of the book prompted questions by the researcher on how secondary educators were using LCTS in their practices.

According to Weimer (2013), the key changes teachers can make to their teaching to incorporate learner-centered teaching strategies include (a) the role of the teacher as facilitator, (b) the balance of power shifting toward the students, (c) the function of content as being uncovered versus covered, (d) the responsibility of learning being primarily on the students, and (e) using evaluations for learning rather than for grades. In learner-centered instruction, the teacher acts as a facilitator of learning and engages students in the process. The second key change involves a shift of power in the classroom, from the teacher to the students. Weimer (2013) described the balance of power as one shared with the students and where students have some say in what they are learning and how they will learn it. Common teacher practice is to cover content; however, Weimer (2013) described the content as something to be taught in-depth, which leads to more quality instruction, rather than quantity. In the fourth key change, teachers need to create a climate in their classroom that encourages students to be responsible for their learning, which leads to independent learners (Weimer, 2013). The final key change to a more learner-centered approach is changing the purpose of evaluation, being merely for a grade, to a way for students to assess if they are learning. Weimer (2013) argued that students need to turn their focus away from working for a grade to how they can improve their learning.

The researcher designed the research questions to explore how secondary teachers use LCTS in the classroom and what support they needed to use such strategies. The

purpose of the current study was framed by the concept that teachers will move from remembering the information about LCTS as preservice teachers to using the strategies as competent performers, who apply their learning to certain situations. Also, Weimer's (2013) learner-centered approach was the basis of the dissertation. The 5 key changes Weimer described framed the nature of the study, research questions, and literature review.

The researcher designed the research questions to explore how secondary teachers use their knowledge of LCTS in the classroom and what support they need to use such strategies. The purpose of the study was framed by the concept that teachers will move from remembering the information about LCTS as preservice teachers to using the strategies as competent performers who apply their learning to certain situations. The interview protocol included the relevant constructs of this framework. Data analysis was grounded in the framework by using *in vivo* codes that include the relevant constructs of this skill acquisition theory.

Literature Review Related to Key Concepts and Variable

An exhaustive literature review of the key phenomena of LCTS, teacher-centered strategies, secondary education content areas, and teacher preparation are in the following sections. The library databases and search engines used for this literature review were Education Source, ERIC, SAGE Journals, Taylor and Francis Online, and Google Chrome (Scholar). In total, the researcher reviewed approximately 125 articles, and 85 articles referenced. Most of the literature reviewed had a publication date within 5 years of the start of this dissertation in 2018. The exception to this is the research comprising

the conceptual framework, published in 1986. Information obtained from the Internet included the definition of secondary education from the North Dakota Education Standards and Practices Board.

The key search terms used in the literature review were *LCTS, secondary education, instructional methods, pedagogy, student engagement, instructional delivery, direct instruction, and indirect instruction*. The researcher used the terms "LCTS" and "student-centered strategies" to identify the research articles most relevant to the phenomenon and placed them in both Education Source and ERIC library databases. The phenomenon of this dissertation is LCTS and is teaching methods in which the instructor is a facilitator, and the students are self-motivated and independent learners (Bailey & Colley, 2015; Weimer, 2013).

Learner-centered Teaching Strategies

The goal of using learner-centered teaching strategies is that students become autonomous, self-directed, and self-regulated learners (Bailey & Colley, 2015; Weimer, 2013). To successfully shift teaching strategies from teacher-centered to learner-centered, Weimer (2013) identified 5 key changes that needed to instructional practices. These key changes include (a) the role of the teacher as facilitator, (b) the balance of power shifting toward the students, (c) the function of content as being uncovered versus covered, (d) the responsibility of learning being primarily on the students, and (e) using evaluations for learning rather than for grades (Weimer, 2013).

Role of the teacher. The first key change to make instruction learner-centered is for the teacher to be the facilitator of learning in the classroom (Weimer, 2013). When

the teacher's role is that of facilitator, students become more engaged in their learning, according to Weimer (2013). As a facilitator, teachers guide students in collaborative activities, meaningful discussions, and student-driven questions and answers. The teachers are there to support students through the learning process, which should include students struggling with the content and, ultimately, coming to a deeper understanding of the content as a result of the struggle. As a facilitator or guide, the teacher considers individual student's needs, strengths, and weaknesses and adjusts the learning materials in response to them. Ultimately, it is the student's responsibility to master the material and it is the teacher's role to support the student in that endeavor (Weimer, 2013). The following key principles guide facilitative teaching:

1. Teachers allow students to do the work.
2. Teachers do less lecturing on the content so students can discover it for themselves.
3. Teachers design instruction based on student's needs, strengths, and weaknesses.
4. Teachers offer instruction that models how experts learn in specific content fields.
5. Teachers facilitate opportunities for student collaboration so they can learn from each other.
6. Teachers and students create a climate for learning.
7. Teachers use evaluation for purposes of student learning (pp. 72 – 84).

Balance of power in the classroom. The second key change to instructional practice outlined by Weimer (2013) was to change the balance of power in the classroom from the teacher to the student. In a learner-centered classroom, students are autonomous learners and have a say in what they learn and how they will learn it (Weimer, 2013). Students are often resistant to this type of responsibility as it usually means more work for them than the traditional method of teaching by lecture and note-taking (Weimer, 2013). When students and teachers share power, a greater sense of community and collaboration develops in the classroom (Weimer, 2013). According to Weimer (2013), examples of giving students power include allowing them to help decide classroom policies, course content, and evaluation methods.

Function of content. The third key change to instructional practice outlined by Weimer (2013) involves the function of the content and the role of teachers using it. In many classrooms, teachers are concerned about covering all the content laid out in the required curriculum. Weimer contented that content should not be covered; instead, it is uncovered. When the curriculum is covered, it is done so quickly, and students do not remember what they learned on a long-term basis (Weimer, 2013). When the curriculum is uncovered, teachers focus on teaching content so that students can learn it, internalize, and apply it to their lives, which results in deep learning (Weimer, 2013). To uncover content, Weimer recommended that teachers teach students study skills, such as summarizing and synthesizing, so they can apply the information they learn. Also, teachers refrain from telling the information to students, and students should find the information they need to solve authentic problems. The goal for changing the purpose of

content should be for teachers to care less about the amount of content they cover, to use the content to develop deep learning (Weimer, 2013).

Responsibility for learning. The fourth key change in instructional practice that leads to learner-centered instruction is to allow students to take responsibility for their learning (Weimer, 2013). Weimer contents that when teachers see students struggling to learn content, many believe it is their responsibility to fix the problem. Teachers may fix the problem by using extrinsic rewards such as extra credit or giving them additional instruction to clarify the content (Weimer, 2013). However, Weimer does not believe these practices motivate students. Instead, Weimer suggests that teachers create a climate that encourages them to be independent and responsible for their learning by holding students responsible for their actions and establishing consequences when students do not complete their work. Teachers should be consistent in their actions and have high standards for learning, all while showing students they care through establishing relationships (Weimer, 2013). As stated earlier, students often resist accepting responsibility for their learning because it is more work for them. Teachers need to work toward this expected responsibility in small increments until the culture is established (Weimer, 2013).

Purposes and processes of evaluation. The final key change to instructional practice involves the purpose and processes of evaluations (Weimer, 2013). There are two purposes for grading, according to Weimer. The first is to show if students mastered the content, and the second is to motivate students to learn the material. These purposes need to change because evaluations do not always measure all types of learning, nor do

they assess higher-order thinking skills (Weimer, 2013). Students typically see evaluations as a means to earn a grade instead of a way to improve their learning. Teachers can help students see evaluations as a way to improve learning by allowing them to analyze their work as a means of self-assessment, in addition to facilitating peer assessments (Weimer, 2013). Weimer also contended that teachers need to make evaluations less stressful for students by utilizing formative assessments, reviewing material before tests, allowing students to use class notes during tests, and debriefing after the tests to help students retain what they learned.

Research indicated that teachers understand the meaning of learner-centered teaching strategies. However, when researchers' observed teachers in their classrooms, teacher-centered strategies were used more predominantly. Learner-centered education includes instructional approaches that engage the student in the active construction of knowledge (Lattimer, 2015; Somani & Rizvi, 2018; Weimer, 2013). Teachers recognize the importance of students having an active role in the learning process but often consider students as passive learners and describe themselves as transmitters of knowledge (Lattimer, 2015; Weimer, 2013). Students have a similar outlook as they perceive they lack control over their education, including instruction and evaluation methods (Lattimer, 2015; Weimer, 2013). Although these studies indicate students and teachers acknowledging the passive roles of students, the reasons for this passivity were not indicated.

In learner-centered instruction, the teacher acts as a facilitator of learning and engages students in the process. The second key change involves a shift of power in the

classroom, from the teacher to the students. Weimer (2013) described the balance of power as one that is shared with the students and where students have some say in what they are learning and how they will learn it. Common teacher practice is to cover content; however, Weimer (2013) described the content as something to be taught in-depth, which leads to more quality instruction, rather than quantity. In the fourth key change, teachers need to create a climate in their classroom that encourages students to be responsible for their learning, which leads to independent learners (Weimer, 2013). The final key change to a more learner-centered approach is changing the purpose of evaluation, from merely a grade, to a way for students to assess if they are learning. Weimer (2013) argued that students need to turn their focus away from working for a grade to how they can improve their learning.

LCTS are important for many reasons. First, the Common Core Standards emphasize teaching strategies that engage students (Litman & Greenleaf, 2018; Stockard et al., 2018). According to the Gallup Student Poll (2017) of United States students, only 47% of students reported they were engaged in their school-work and learning. The other 53% of students were “not engaged” (29%) or “actively disengaged” (24%). During learner-centered instruction, students are active participants in their learning (Bailey & Colley, 2015; Weimer, 2013). Learner-centered teaching strategies increase student motivation and engagement significantly and statistically more than traditional or teacher-centered instruction (Edwards, 2017; Scarrow, 2017). Although these studies indicate a perceived lack of engagement on the students’ part, they do not indicate the reason the students lacked engagement in their studies.

The instruction, curriculum, and assessment of learner-centered teaching are driven by student interests. For teachers to implement LCTS, they must have a deep understanding of their students and be responsive in their use of teaching strategies (Lattimer, 2015). In a learner-centered classroom, students appear motivated to learn, eagerly participate in class, respect one another, and discuss the material with other students (Lattimer, 2015). The curriculum draws from standards, in addition to the interests of the students, and formative assessment assesses and responds to students' differences (Lattimer, 2015). According to these studies, students are motivated to learn when learner-centered teaching strategies are employed. However, new and experienced teachers sometimes have difficulty implementing these strategies.

Many new teachers have been educating in the use of LCTS and expect to use these strategies in their practice (Emre-Akdogan & Yazgan-sag, 2018; Mahmood & Iqbal, 2018). However, they face the challenge of being novices in the subject content knowledge and pedagogy (Mahmood & Iqbal, 2018). In particular, preservice mathematics teachers have difficulties related to mathematical concepts while designing their lesson plans (Emre-Akdogan & Yazgan-sag, 2018). Preservice teachers commonly use teacher-centered approaches (Duru, 2015; Emre-Akdogan & Yazgan-sag, 2018). Mahmood & Iqbal (2018) found that preservice teachers have limited experience in practicing the learned strategies in actual school settings, and this may be the reason for primarily using lecture as a teaching strategy. Preservice teachers are more likely to use student-centered pedagogies when their professors use student-centered teaching methods (Emre-Akdogan & Yazgan-sag, 2018; Mahmood & Iqbal, 2018). Although these studies

indicate the important role professors have on preservice teachers, they did not address the role classroom teachers hosting the preservice teachers had on the choice of strategies used in the classroom. Mahmood and Iqbal (2018) recommend that schools create an academic environment supporting LCTS teaching strategies for them to be used regularly (Mahmood & Iqbal, 2018).

Effective professional development can assist teachers in implementing LCTS. According to Burner, Madsen, Zako, and Ismail (2017), a university offered professional development seminars focused on increasing student involvement and participation in the learning process. As a result of the professional development, teachers reported that students were more engaged in their lessons, participated more actively, and teachers expressed professional satisfaction (Burner et al., 2017). The results of this study did not indicate the role of content-specific pedagogy has in increasing student involvement and participation.

Teacher-Centered Strategies

Unlike LCTS, where the role of the teacher is that of a facilitator, in teacher-centered strategies, teachers exercise considerable control over the way students learn. In teacher-centered strategies, the teacher acts as the primary source of knowledge, conveying that knowledge to the students in the form of a lecture (Mahmood & Iqbal, 2018; Weimer, 2013). Also, the teacher controls the learning environment, such as what and how the content will be learned, at what pace it is learned, and how it will be assessed (Weimer, 2013). Direct instruction is considered one of those teacher-centered strategies.

As a teacher-centered strategy, direct instruction can be an effective way to teach. Direct instruction refers to a wide scope of teaching strategies where the teacher presents information in an "explicit, logically organized, and sequenced" manner (Stockard, et al., 2018, p. 502). The assumption with direct instruction is that all students can learn with well-designed instruction that includes ensuring students have mastered the material before moving on to new material and that students have the prior knowledge needed to learn new content (Stockard, et al., 2018). Direct instruction is an effective and efficient form of instruction that allows students to learn new material in less time. In a meta-analysis by Stockard et al. (2018), direct instruction positively impacted student outcomes in most academic subjects. Direct instruction also reduces the achievement gap between sociodemographic groups and students with developmental delays and autism (Head et al., 2018; Stockard et al., 2018).

There are drawbacks to teacher-centered instruction, too. In traditional or teacher-centered classrooms, students passively observe what the teacher is doing rather than being active participants (Bailey & Colley, 2015; Lattimer, 2015; Weimer, 2013). Direct instruction can result in "low creative thinking and teamwork skills among students," although these skills improve when paired with LCTS such as problem-based learning (Carrabba & Farmer, 2018; Winarno et al., 2018, p. 119). One source of student motivation is curiosity; however, traditional instructional strategies may dampen student curiosity because of the high level of control teachers have in these classrooms (Carrabba & Farmer, 2018). Students who are passive participants in the classroom are not motivated by what they are learning, leading to low creativity and curiosity. The findings

of these studies were that teacher-centered instruction lowered the creativity of students; however, they did not indicate the quality of teacher-centered instruction that led to decreased student creativity and curiosity.

When teacher-centered strategies were used, classrooms appear well-organized, and students appear to be attentive. According to Lattimer (2015), students in a teacher-centered classroom appear to be motivated by classroom rules, rather than the content. In a teacher-centered classroom, classroom management appears to be effective. Teachers and students appear respectful of each other in a teacher-centered classroom; however, the dialog consists primarily of the teacher asking questions of students (Lattimer, 2015). Students do not complete assignments because they have an interest in them but because they are required. The curriculum is based primarily on standards and textbook content, and assessment emphasizes the completion of tasks (Lattimer, 2015). Students who are passive learners may not construct their knowledge as effectively as those who are active learners.

Secondary Education Content Areas

Instruction that engages students is uncommon in U.S. secondary schools (Greenleaf & Valencia, 2017). The lecture is the primary teaching method among secondary educators, and taking notes is the primary learning activity for students (Mahmood & Iqbal, 2018). Other methodologies include questioning, activities, tests/quizzes, and demonstration and discussion (Mahmood & Iqbal, 2018). Lectures, note-taking, demonstrations, and discussion are all examples of direct instruction. Although these studies indicate that direct instruction may lead to lower student

engagement, they do not address the academic achievement of the students. The use of direct instructional strategies were shown to improve academic outcomes in academic areas such as math and science (Baker & Robinson, 2018; Stockard et al., 2018; Zhang, 2017). Direct instruction is well suited for learning basic skills in the areas of math science and vocabulary (Carrabba & Farmer, 2018). The use of teacher-centered strategies were shown to be effective for student learning.

Secondary teachers often struggle with implementing LCTS. In a study by Ndirangu (2017), science teachers in secondary classrooms were unsuccessful in the implementation of LCTS in their classrooms. It was not a lack of effort on the teachers' part that led to the failed implementation. Researchers found that negative administration attitudes and ineffective professional development were the causes of unsuccessful implementation (Ndirangu, 2017). Although teacher-centered strategies are used primarily in secondary schools, there are benefits to teachers in using LCTS.

A shortage of teachers is a reality in the United States, especially in the areas of math and science. School administrators understand the importance of recruiting and retaining these teachers. Researchers found that science teachers who use LCTS are more likely to persist in the science teaching profession for over 3 years (Wong & Luft, 2015). Persistence in science teaching is a particularly important statistic, given that approximately 50% of science teachers leave teaching within their first 5 years in the classroom (Wong & Luft, 2015). Using LCTS could help retain teachers in subjects that are in high demand.

Retaining teachers is not the only possible benefit of using LCTS. These strategies help students learn at a deeper level in math. In mathematics classrooms, traditional methods focus on students acquiring the correct answer to assigned problems (Lattimer, 2015). In student-centered classrooms, the emphasis is on students understanding of the why and how of how to solve mathematics problems (Lattimer, 2015). LCTS, such as in-class problem solving and discussion sessions, enhance the deep understanding of mathematics for students (Lattimer, 2015; Vajravelu & Muhs, 2016). LCTS benefits students and teachers in mathematics and science, as well as other content subjects.

The areas of Science, Technology, Engineering, and Mathematics (STEM) are of high importance in a world today. Using LCTS in these areas help students persist in these courses. In a study of students enrolled in STEM courses, the findings showed that students taught with only lecture were 1.5 times more likely to fail the courses than those who taught with collaborative work and discussions, which are LCTS (Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt, & Wenderoth, 2014). In math classes where LCTS were used, students experience higher achievement, improved attitudes, more interest in math, and greater self-efficacy (Outlaw, Keene, & Downing, 2018). LCTS not only increase academic performance in STEM classes but improve overall attitudes in students (Brigati, 2018). With the importance of professionals in STEM careers, using LCTS may help students in STEM courses be successful completers.

Learner-centered teaching strategies were effective in other content areas, such as English/Language Arts. Students who are English Learners (EL) benefit from these

strategies. Project-based learning (PBL) is a learner-centered instructional method and facilitates student learning through realistic problem-solving activities. In a study by Somani and Rizvi (2018), Pakistani students taught the English language using PBL showed significantly more improvement in their writing skills than did those students whose teachers used traditional methods of teaching. Also, these students showed significant improvement in higher cognitive domains, compared to minimal improvement in their traditional method counterparts (Somani & Rizvi, 2018). LCTS assist students in the English/Language Arts and those who are English Learners.

Music is another content area in which LCTS are shown to be beneficial for students learning. Band classes are prevalent music classes in secondary schools across the United States (Whitener, 2016). These classes are typically teacher-centered because they are "teacher/conductor-centered, teacher-transmitted, and content/repertoire-driven" (Whitener, 2016, p. 220). One of the struggles of music teachers is to get their students to understand the importance of learning music. Students taught with these teacher-centered strategies are rarely taught to be independent musicians who deeply understand, create, and respond to the art of music (Whitener, 2016). This is compared to a learner-centered classroom where cooperative learning, a characteristic of learner-centered instruction, improves students' efforts to achieve, interpersonal relationships, and psychological health (Whitener, 2016, p.232). Although teacher-centered strategies are the norm in most music classes, using LCTS can help students truly understand the art of music.

The benefits of LCTS are not exclusively in academic achievement. These strategies can assist the teacher in creating a learning community within their classroom.

In a study by Chen (2016), the learner-centered strategy of a flipped classroom was an intervention method in a high school health classroom. In a flipped classroom, students do most of the reading, learning, and lectures at home by video; however, in class, time was spent on the application of the lesson and collaboration with other students and the teacher (Chen, 2016). Although there were no significant differences in the academic outcomes in this study, Chen (2016) found that more group discussion occurred, and students practiced their skills with immediate feedback from the instructor. Lee and Kim (2018), who found that the flipped classroom model supported a student-centered learning environment and developed a community of inquiring students, also supported this finding. LCTS improve academic achievement and they have additional benefits that enhance the community of a classroom.

Secondary education content areas have varying goals for their subject. In social studies, the goal is to develop students into informed, democratic citizens (Saye, Stoddard, Gerwin, Libresco, & Maddox, 2018). LCTS lead to the development of such citizens. To accomplish this, teaching and learning require the construction of knowledge, rigorous inquiry, complex explanations, and student products presented to the community (Saye et al., 2018). In a study of 62 social studies classrooms, Saye et al. (2018) found that most classrooms did not feature these characteristics in teaching and learning.

The goal for secondary educators of history is to make the subject relevant to present events. History standards outline the importance of students understanding the past so they can make decisions about the future (Van Straaten et al., 2016). Unfortunately, research shows that many students consider history largely irrelevant (Van

Straaten et al., 2016). Strategies that make history relevant to students have characteristics of LCTS. They include teaching with analogies, developing essential questions (a PBL component), studying themes or narratives longitudinally, and creating scenarios and using history knowledge to make decisions and predict future outcomes (Van Straaten et al., 2016). Although the goals of secondary education content areas differ, what remains consistent is that LCTS can assist educators in obtaining those goals.

Teacher Preparation

Effective teacher preparation is important to the longevity of teachers in the classroom. The better prepared a teacher is at the start of their career, the longer they will stay in the profession (Darling-Hammond, Furger, Shields, & Sutcher, 2016; Podolsky, Kini, Bishop & Darling-Hammond, 2016). Teachers who have not completed a teacher preparation program are 2 to 3 times more likely to quit teaching than those who finished a teacher preparation program before teaching (Darling-Hammond et al., 2016). According to research, one of the 5 major factors that influence teachers' decisions to remain in the profession is preparation (Podolsky et al., 2016). An important component of that preparation is in classroom management. Coursework in classroom management is part of most teacher preparation programs. Although student engagement is a primary goal of effective classroom management, teachers do not always associate their teaching strategies to student behavior (Timor, 2015). Teachers who use "differentiated, diversified, and interesting instructional methods" create a positive classroom environment (Timor, 2015, p. 47). Teachers who use LCTS create a climate of engagement and, ultimately, a well-managed classroom.

Although LCTS were taught in most teacher preparation programs, many preservice teachers do not subscribe to student-centered pedagogy. In a study on pedagogy and preservice teachers, Sendurur (2018) found that most preservice teachers used both student-centered and teacher-centered strategies, no one used student-centered strategies alone, and a few used teacher-centered strategies solely. In that same study, students with teacher-centered beliefs expressed how hard it was to maintain control of the class and gain attention (Sendurur, 2018). That study supports the findings by Timor (2015) that LCTS leads to better classroom management.

Novice and preservice teachers experience a disconnect between their knowledge and use of LCTS, but there are ways to increase implementation of these strategies. Studies indicated that preservice teachers need more exposure to LCTS in their teacher preparation programs to successfully implement these strategies in their classrooms (Scarrow, 2017; Sendurur, 2018). The most helpful resources for new teachers are support from school administrators, adequate resources, and mentors (Edwards, 2017; Kelly et al., 2015). Preservice teachers benefit from repeated exposure to LCTS through the support of school administrators.

Novice Teachers

Many novice teachers have difficulty executing the strategies they learned in their teacher preparation program once they get into their classroom. Many novice teachers experience a disconnect between what they learned in their teacher preparation programs and their experiences as a novice teacher (Edwards, 2017; Kelly et al., 2015). Kennedy (1999) called the phenomenon of novice teachers abandoning their ambitious

instructional ideals when faced with the realities of the classroom is called the “problem of enactment” (as cited in Zimmerman, 2017). Although teacher preparation programs include LCTS in their curriculum, using these strategies proves difficult once the preservice teachers become novice teachers.

Veteran teachers are not the only ones who have difficulty carrying out LCTS in their practices. Novice teachers can identify the characteristics of a learner-centered classroom; however, they have difficulty in consistently using them in their classrooms (Scarrow, 2017). Scarrow’s (2017) findings indicated that preservice teachers need more exposure to learner-centered pedagogy to more fully enact them in their classrooms as novice teachers.

The experiences a teacher has during their first year in the classroom can determine the longevity of their career. First-year teachers reported stress, lack of support, and feeling unprepared to deal with the academic and behavior problems with their students (Darling-Hammond et al., 2016; Kelly et al., 2015; Timor, 2015). A primary goal in classroom management is active student engagement. In a study by Timor (2015), 80% of novice teachers indicated their preference toward using a student-centered approach to classroom management, which included problem-solving strategies and peer mediation, although they did not perceive their teaching to effective classroom management. Novice teachers who used LCTS found it easier to keep students engaged, thus having fewer classroom management problems (Edwards, 2017).

In addition to engaging students, novice teachers must respond to the differences in their students. Novice teachers do not always feel prepared to meet the various needs

of all their students (Smets, 2017; Subban & Round, 2015). Although they may have learned about the learner-centered teaching strategy of differentiated instruction in their teacher preparation program, novice teachers need intense professional development to respond to the differences in their classroom (Smets, 2017). Smets' (2017) findings showed that teacher preparation programs and in-service training include a curriculum to help teachers meet the needs of all their students.

Professional Development

Professional development is a means by which teachers continue to learn about all aspects of teaching after they have entered the field. Because education is always changing, teachers must learn about things such as curriculum and new teaching strategies through professional development programs (Balta & Eryılmaz, 2019). Teacher professional development is the process of teacher training that increases a teacher's subject matter knowledge and skills (Balta & Eryılmaz, 2019; Šimić Šašić, Šimunić, Ivković, & Ključe, 2018). The purpose of professional development is to prepare teachers to be effective in their classrooms and, ultimately, increase student achievement (Balta & Eryılmaz, 2019; Bonghanoy et al., 2019; Kiemer, Gröschner, Pehmer, & Seidel, 2015; King, 2016).

However, secondary educators often find that professional development is irrelevant to them. Bonghanoy et al. (2019) found that secondary educators did not deem professional development useful because it was not specific to their content area and, therefore, not applicable to their classroom. Effective professional development has specific characteristics that make it relevant to secondary educators (Balta & Eryılmaz,

2019). First, the professional development must have a content focus with activities specific to the subject matter. Second, teachers should have the opportunity to observe expert teachers or be observed by an expert teacher in their content area. To follow up on these observations, the expert and the teacher have interactive feedback and discussions on the teaching methods used in the classroom. Similarly, an instructional coach helps less experienced teachers by using demonstrations, observations, and conversations with the new teachers as they implement new curriculum and teaching strategies. Another characteristic of effective professional development is coherence, the extent to which professional development training is consistent with teachers' knowledge and beliefs. If teachers do not have an adequate background in the topic or do not believe in what was presented in the professional development, the training will not be effective. Finally, professional development must be offered in a sustained and intensive manner, giving the teachers adequate and immediate opportunities to practice the new skills they have learned from professional development. Through the effective use of professional development, secondary educators can use new knowledge to increase student success.

Summary and Conclusions

This literature review provided a background to the study of the perceptions of secondary educators on LCTS and what support they need to use such strategies. The review of literature provided themes on LCTS, teacher-centered strategies, what strategies were used in secondary content areas, teacher preparation in LCTS, the support novice teachers need to implement these strategies in their practice, and professional development. There are many benefits to learner-centered teaching strategies. Students

play an active role in the learning process, engaging the students in the active construction of knowledge. These strategies increase student motivation and engagement significantly. Teachers who use these strategies act as facilitator and shift the responsibility of learning to the students. If students lack background knowledge or skills, LCTS are less effective.

Teacher-centered strategies include those where the teacher acts as the primary source of knowledge and controls the environment. Students are passive learners and show lower levels of creative thinking and collaboration skills. This type of instruction does not engage students to the level of LCTS, but students will learn with a well-designed lesson if they have the necessary prior knowledge.

Secondary educators across all content areas use mostly teacher-centered strategies. The lecture is the primary teaching method among secondary educators (Mahmood & Iqbal, 2018). Science teachers who used LCTS were more likely to stay teaching over 3 years. Math teachers occasionally use LCTS, such as in-class problem solving and discussions, to enhance learning. However, most math teachers who tried to implement these strategies consistently failed to do so. Some English secondary educators used project-based learning, a learner-centered strategy, and doing so improved writing skills more so than those who used traditional teaching methods. Music classes tend to be teacher-centered because the conductor/teacher controls all aspects of learning music, not allowing students to become independent musicians who deeply understand the art of music. Finally, physical education teachers found those who used LCTS were able to get their students to participate in physical education.

Learner-centered teaching strategies were taught in most teacher preparation programs. However, preservice teachers have difficulty implementing these strategies in their practicum experiences. Researchers agree that teacher preparation programs need to place more emphasis on LCTS. When students graduate from a teacher preparation program, they continue to have difficulty implementing LCTS as novice teachers. Support from school administrators and effective professional development help novice teachers implement LCTS in their classrooms.

The literature review revealed that most secondary educators do not use learner-centered teaching strategies. What is not known is why this is, and the perceptions secondary educators have on LCTS. This study will attempt to fill the gap in the literature and knowledge on the perceptions of secondary educators related to LCTS.

Chapter 3: Research Method

The purpose of this dissertation was to investigate how secondary educators are using LCTS in their instruction and what support they need to use such strategies. The findings of this research may contribute to the national conversation, as well as to secondary schools, by looking closer at the strategies used by secondary teachers and determining if they apply their knowledge of LCTS in their classrooms. This goal was accomplished by studying secondary teachers from a high school in a Midwestern city. Current research reports the need for further investigation into the underlying reasons for discrepancies between knowledge and skills of secondary educators regarding LCTS (Kaymakamoglu, 2018). Also, researchers reported the need for the development of effective teacher training in the adoption of LCTS (Kaymakamoglu, 2018; Onurkan Aliusta & Özer, 2017). This dissertation may contribute to the field by investigating these issues further.

This chapter begins with the research questions, design, and rationale. It also includes my role as the researcher and any biases or ethical issues that could affect the study. Also, this chapter identifies the data collection instrument and any other sources of data used to sufficiently answer the research questions. The chapter concludes with a description of the internal and external validity of the study, in addition to ethical procedures that were followed.

Research Design and Rationale

For this study, the researcher used the research tradition of a basic qualitative design that focused on secondary teachers' use of LCTS in their classrooms. The rationale

for choosing a basic qualitative design was because the purpose of this dissertation was to investigate the phenomena of LCTS and secondary educators' perceptions about them. According to Ravitch and Carl (2016), qualitative research is the study of phenomena, and the attempt to make sense of them through the meaning people bring to them (p. 8). Qualitative research can also be described as a way to understand how people "cope in their real-world settings" (Yin, 2016, p. 3). Also, Yin (2016) listed 5 features of qualitative research:

1. Studying the meaning of people's lives, in their real-world roles;
2. Representing the views and perspectives of the people in a study;
3. Explicitly attending to and accounting for real-world contextual conditions;
4. Contributing insights from existing or new concepts that may help to explain social behavior and thinking; and
5. Acknowledging the potential relevance of multiple sources of evidence rather than relying on a single source alone. (p. 9)

This study contained elements of all 5 of Yin's (2016) features. The purpose of this study was to gather data on the experiences of teachers in the use of LCTS in their role as secondary educators (features 1 and 2). The third feature of Yin's (2016) list was represented by the delimitations of this study, in that the study site was a secondary school in the Midwest, which took into account the institutional and environmental conditions of the site where the participants experienced their real-life roles as secondary educators. The results of this study added to the existing research on LCTS, thus fulfilling Yin's (2016) fourth element. Finally, this study collected data from 12 participants,

which Yin (2016) described as valuable because collecting data from a variety of sources that adds value to qualitative research.

The researcher developed the following research questions about the phenomena, conceptual framework, problem, and purpose of this study:

RQ1. How are secondary educators using LCTS in their classrooms?

RQ2. What support do secondary teachers perceive to need to use LCTS in their classrooms?

The central phenomenon of this qualitative study was the use of LCTS by secondary educators. LCTS are teaching methods in which the instructor is a facilitator, and the focus is on the students and what they are learning (Bailey & Colley, 2015; Weimer, 2013). A learner-centered approach to teaching encourages students to be self-motivated and independent learners (Bailey & Colley, 2015; Weimer, 2013). Arseven et al. (2016) described the basic principles of learner-centered education as those in which students were included in decisions regarding their learning and how they were assessed; students' interests, backgrounds, abilities, and experiences are valued; and, each student is a partner in the teaching and learning process. The researcher used qualitative research methods to explore how secondary educators used LCTS in their classrooms. Also, the researcher explored teacher perceptions about the support they needed to use these strategies in their classrooms.

Role of the Researcher

The role of the researcher is central to qualitative research. Ravitch and Carl (2016) claimed the importance comes from the researcher's role as the primary

positionality and reflexivity during the entire research study (Ravitch & Carl, 2016). Positionality refers to the researcher's role in the context of the study, such as the relationship with the participants and the setting for the study (Ravitch & Carl, 2016). For this study, the author was the sole researcher. The researcher's role included contacting the secondary school administrators for approval to interview their teachers and to secure the e-mail addresses of the school's teachers. Also, the researcher contacted secondary educators as participants and collected, recorded, transcribed, analyzed, and stored data for this research study. The researcher was a former secondary science teacher and principal at the school where data was collected. There was a potential for professional relationships with participants as some of the teachers were former colleagues. The researcher is currently a professor of education at a local university where some of the participants are current or graduate students. It had been over 3 years since the researcher was principal at said high school, so the participants no longer viewed the researcher in a supervisory role. The researcher did not interview participants who were current graduate students in her courses.

Ethical issues that could have arisen were the participants' perceived power differential based on past teacher-principal relationships and student-professor relationships. The researcher managed this potential ethical issue by reminding the participants that the researcher was asking the questions for research purposes only and not to evaluate their performance as teachers. To create transparency, the researcher informed participants of the goal of the research, the expectations of the participants, the process and timeline for the interviews, the anonymity of their role as a participant, and

who would be able to access the results of the study (Ravitch & Carl, 2016). It is important to recognize bias in the role of a researcher. Yin (2016) stated that the conversational nature of qualitative research interviews could lead to the researcher ignoring comments that are not a formal part of the interview. The researcher anticipated when it might be tempting to exclude comments made by the participants and ensured the inclusion of such comments in the data analysis (Yin, 2016). Bias can also occur in the form of deficit orientation, where the researcher views the participants as lacking in knowledge or skill (Ravitch & Carl, 2016). To prevent deficit orientation, the researcher reminded the participants that they were the experts in their own experiences and the ones who hold the wisdom (Ravitch & Carl, 2016).

Methodology

The methodology for this study was a basic qualitative design. The population for this study was full-time secondary educators from a secondary school in the Midwest, with varying years of experience and having graduated from different teacher preparation programs. The sample size was 12 participants chosen from a staff of approximately 20 teachers. The data collection instrument was one-to-one qualitative interviewing of the participants. The researcher recorded the interviews using the Rev app, then sent the recordings to Rev to be transcribed. The researcher created themes and codes using NVivo data analysis software and completed the analysis of the data.

Participant Selection

The sample population for this study was full-time secondary educators teaching in a secondary school in the Midwest. This study employed a purposeful sampling

strategy. The justification for using purposeful sampling was that it allowed the researcher to deliberately select individuals who could answer the study's research questions because they were secondary educators teaching in a school in proximity to the researcher (Ravitch & Carl, 2016). The participant site selection was a local secondary school in the Midwest. The site selection was relevant to the researcher because of the proximity and availability of the faculty.

The criteria for selecting participants was that they were full-time educators at a Midwest secondary school with varying years of experience and having graduated from different undergraduate teacher preparation programs. Also, the study included participants from various content areas. The researcher established that the participants met the criteria by confirming with the principal of the participating teachers.

The sample size for this study was 12 secondary education teachers purposively selected from a staff of approximately 20 teachers from a secondary school in a Midwestern city. The researcher achieved data saturation by asking the same interview questions of each of the participants, and when there was no new data nor themes that emerged (Fusch & Ness, 2015). The researcher identified participants with the assistance of the school's principal, who knew the criteria and which teachers met those criteria. Participants were contacted and recruited via their school e-mail, provided by the principal, inviting them to participate in the research study. The researcher explained the purpose of the study in the email, along with an overview of their role in the study, the methodology for data collection, and information regarding confidentiality (see Appendix B).

Instrumentation

The collection instrument for this study was one-to-one qualitative interviews focused on the research questions of how secondary teachers are using LCTS in their classrooms, and the support they need to use these strategies in their classrooms. According to Rubin and Rubin (2012), qualitative interviewing is an appropriate research tool when a study's research questions look to examine layers of discovery, as the research questions for this study exemplify. The researcher recorded the interviews using the Rev application on an I-phone, which were used to transcribe the interviews and, ultimately, be the data that was analyzed by the researcher (Rubin & Rubin, 2012).

The researcher developed the data collection instrument and used it to interview participants within the study (see Table 1) (De Vries et al., 2014; Francis, 2018; Scarrow, 2017). The validity of the content in the data collection instrument was established by asking university professors trained in validity and reliability to review the interview questions and, if needed, reword the questions (De Vries et al., 2014; Francis, 2018; Scarrow, 2017). Based on the feedback of these professors, no changes were deemed necessary.

Table 1

Research Questions and Interview Questions Used for Data Collection

Research Questions	Interview Questions
RQ1. How are secondary educators using LCTS in their classrooms?	1. How do you define LCTS? 2. Describe pedagogical methods and instructional practices that support that definition 3. Would you describe yourself as a student-centered or teacher-centered educator? Explain. 4. What experiences during your teacher education program helped to inform your definition of teacher-centered teaching? 5. What LCTS are you using in your classroom? a. Probe: provide an example of how you use a learner-centered teaching strategy in your instruction.
RQ2. What support do secondary teachers perceive to need to use LCTS in their classrooms?	1. How much exposure have you had to LCTS in your teacher preparation program or through professional development? 2. How prepared do you feel to apply LCTS in your instruction? 3. What obstacles have you encountered when applying LCTS? 4. What support do you feel you need in order to use LCTS?

Procedures for Recruitment, Participation, and Data Collection

The Institutional Review Board (IRB) at Walden University is responsible for ensuring that all Walden University research complies with the university's ethical standards as well as U.S. federal regulations (Walden University, 2018). The researcher

obtained ethics approval for a doctoral study from Walden University's IRB before recruiting participants and collecting data for the study. The researcher followed the IRB-approved procedures for recruitment, participation, and data collection.

Recruitment

After receiving IRB approval, the researcher contacted the selected secondary school principal to request permission to conduct the study with the school's faculty. Preliminary conversations had already been in progress between the researcher and school administrators before the start of the study. The administration expressed approval about the idea of participating in the study as the study's purpose aligned with the school's improvement goals (High School Assistant Principal, personal communication, January 16, 2019).

The procedures for participant recruitment of this study was that the researcher contacted the principal of the chosen site, a secondary school in a Midwestern city. The researcher requested the names and school email addresses of all faculty that met the criteria of the study. After obtaining a list of names, the researcher emailed each faculty members with information about the purpose of the study, an overview of their role in the study, the methodology in which data was to be collected, and information regarding confidentiality.

Participation

For this study, the researcher anticipated needing between 12 and 15 participants to reach data saturation, and 12 interviews accomplished data saturation (Fusch & Ness, 2015). The researcher requested in the email that if the faculty member was willing to

participate in the study, they send a response expressing their interest in participating in the study. Twelve teachers responded within a few days of the researcher sending out the email, and all twelve of those respondents participated in the study. After the data collection was underway, another teacher expressed willingness to participate, but the researcher did not, ultimately, need that teacher for the study. After receiving emails expressing interest, the researcher contacted the teachers via email, welcomed them, and explained the process of the study, and asked if they have any questions. Informed consent was obtained by emailing the consent form to those identified by the school's administration as meeting the participant criteria. See Appendix D for Informed Consent form.

Data Collection

The locations of the interviews were all chosen by the participants, which ended up being in their classrooms. The researcher set up an interview time, in advance, with each participant and met them in their classrooms at the agreed-upon time. The frequency of data collection events (interviews) was one interview per study participant, although participants could contact the researcher with additional information by the end of the week interviews took place. A responsive interviewing style of qualitative interview was employed by the researcher, with the researcher devising additional questions during the interview to obtain depth and detail to the participants' responses (Ravitch & Carl, 2016; Rubin & Rubin, 2012).

The duration of the interviews was no longer than a half-hour, which the researcher explained to the participants at the onset of the interviews. Setting a time limit

on the interview showed respect for the participants (Rubin & Rubin, 2012). The researcher recorded the interviews using Rev, an Apple application, which also produced a written transcript of the interview. The researcher had used this application before and found it easy to use, and it provided an accurate transcript of a conversation. It also provided a convenient location for storing both the audio recording and transcript, in the event, the researcher desired repeated interactions with the recording and transcript. Ravitch and Carl (2016) stressed the importance of researchers discussing the use of such technology and possible issues that could arise with the research participants. Researchers must also have a plan in case the data are compromised (Ravitch & Carl, 2016).

Data Analysis Plan

According to Levitt et al. (2018), data analysis strategies may include interpretation, unitization, coding, and eidetic analysis in a qualitative study. The data collection for this study consisted of 12 interviews with the participants. Each interview question was developed by the researcher and aligned to the research questions. The connection of the interview questions to each specific research question is demonstated in Table 1 (see Appendix A). The interview protocol are included in Appendix C.

The first research question for this study was: How are secondary educators using LCTS in their classrooms? The data for this research question was collected by asking the study participants how they defined LCTS, their description of LCTS, and what types of LCTS they were using in their classrooms. The second research question was: What support do secondary educators perceive to need to use LCTS in their classrooms? The researcher

collected data for RQ2 by asking participants about their exposure to LCTS in their teacher preparation programs and professional development they had participated in since becoming a licensed teacher. The researcher also asked them to share what specific types of support they needed to use LCTS in their classrooms.

Saldaña (2016) pointed out that coding is one way to analyze data and is the method the researcher plans to use to analyze data from the qualitative interviews with the participants of this study. For this qualitative study, the researcher analyzed data at two levels. At the first level, the data from the interviews and field notes were analyzed using in vivo coding that Saldaña (2016) recommended for qualitative research. The first cycle of coding involved the selection of direct language used by the participants that reflected their overall response to the interview questions. These were either single words or short phrases identified in the transcripts. Key words and phrases were highlighted in the transcripts as the first round of in vivo coding and transcribed onto a Microsoft Word document (see Appendix E).

The second cycle of coding involved pattern coding, where the researcher used the frequency of words and phrases from the first cycle to identify patterns (Saldaña, 2016). A pattern emerged when the word or phrase occurred more frequently than others. The researcher developed these patterns into themes. The researcher used NVivo 12 Plus qualitative data analysis software to organize the data and as a means of inter-rater reliability for the creation of codes, categories, and themes. The codes, categories, and themes created by the researcher and the NVivo 12 Plus qualitative analysis software

were similar and verified for validity and reliability by a statistics professor at a local university.

The researcher used in vivo coding for the data analysis of the transcribed interviews. Using in vivo coding, the researcher used words and short phrases from the interview transcripts to identify patterns (Saldaña, 2016). When the researcher identified patterns during the process of coding, categories began to emerge. Categories are groups of codes based on "similarity and regularity" (Saldaña, 2016, p. 9). As the researcher created categories from the coding process, themes emerged from the transcript data. Themes are summary statements that show a relationship between two or more categories (Rubin & Rubin, 2012). In addition to examining themes, the researcher analyzed discrepant data to support alternative explanations that challenged the emerging themes. According to Merriam and Tisdell (2015), researchers look for the preponderance of evidence, and the discrepant cases can disconfirm or challenge the emerging findings.

Trustworthiness

In qualitative research, trustworthiness is also known as validity and refers to how researchers assure their findings truly represent the participants' experiences (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). One way a researcher can ensure trustworthiness is through credibility, which can be described as the accuracy of how the researcher presented the phenomena (Ravitch & Carl, 2016). The procedures in this study supported trustworthiness, validity, and credibility by using the strategy of saturation in data collection, establishing relationships, researcher reflexivity, member checks, and peer debriefing.

The researcher used the strategies of data saturation, establishing relationships with participants, reflexivity, and member checks to achieve credibility. The researcher achieved data saturation by asking the same interview questions of all 12 participants, and when no new data and themes emerged, data saturation was achieved (Fusch & Ness, 2015). The researcher formed a relationship of trust and confidence by introducing herself to the participants, describing the purpose of the study, asking questions without showing judgment to the answers, and showing empathy when appropriate (Rubin & Rubin, 2012). Finally, to combat the threat to validity, member checks, also known as respondent validation, were employed (Ravitch & Carl, 2016; Yin, 2016). The researcher emailed all 12 participants the themes and codes that resulted from data analysis and asked for their feedback (Ravitch & Carl, 2016; Yin, 2016). Eight of the participants responded with their acknowledgment that the themes and codes accurately represented their input from the interviews. The other 4 participants did not respond to the request.

The extent to which the results of this study can be applied to a broader population was established through purposeful sampling and thick descriptions of the participants' experiences (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). The researcher selected participants who were full-time educators at a Midwest secondary school with varying years of experience and having graduated from different undergraduate teacher preparation programs. Also, participants from various content areas participated in the study. The participants provided thick, rich descriptions of their experiences as supported by the average word count for each interview, which was approximately 1,600 words per interview. The researcher used detailed information

regarding the findings from the interviews so that readers of the study can make comparisons with other similar contexts (Bloomberg & Volpe, 2019).

The researcher ensured the dependability of the study by adhering to the entire research process, including the purpose, research questions, research design, participant selection, data analysis, and reporting the findings (Bloomberg & Volpe, 2019). A journal was kept as an audit trail to ensure dependability by ensuring that the researcher regularly reflected on the research activities and experiences during the research process (Bloomberg & Volpe, 2019). The researcher used the journal as part of the data analysis process to establish the dependability of the research findings.

The researcher of this study established confirmability by eliminating bias and subjectivity from the interview and data analysis processes of the study (Bloomberg & Volpe, 2019). Also, the researcher used reflexivity to understand how the researcher's assumptions impacted the analysis of the study's findings. The researcher reminded the participants of the researcher's current role as a researcher and not as a former principal or faculty member. Researcher reflexivity was an ongoing process throughout the study with the researcher reminding the participants of the role as researcher, not former teacher or principal of the school. Also, the researcher listened to the recording of each interview upon completion to evaluate the researcher's listening skills and comments made during the interview. A research journal was also maintained and reviewed during the entirety of the interview process.

Ethical Procedures

To gain access to the selected research site and participants, the researcher obtained approval from Walden University's IRB (approval number 01-02-20-0729502). The researcher ethically conducted this study, ensuring the anonymity and confidentiality of the participants. Anonymity was maintained by identifying participants by an alpha-numerical value (N1 – N12). Ethical issues that could have arisen are the participants' perceived power differential based on past teacher-principal relationships and student-professor relationships. The researcher managed this potential ethical issue by reminding the participants that the researcher was asking the questions for research purposes only and not to evaluate their performance as teachers. To create transparency, the researcher informed the participants about the goal of the research, the expectations of the participants, the process and timeline for the interviews, the anonymity of their role as a participant, and who would be able to access the results of the study upon completion (Ravitch & Carl, 2016). The researcher also reminded the participants that they could withdraw from the study at any time. Although the researcher had been a principal of some of the participants in the past, the participants were reminded that the relationship no longer existed and that identifying information would not be included in the results of the study.

The treatment of data collected and noted documentation for the study will be locked in a file in the researcher's home for 5 years after completion of the study. The keys for the file can only be accessed by the researcher. Electronic files, such as transcripts, codes, themes, and consents, are stored in software requiring passwords for

access. These passwords are only known to the researcher. The researcher has sole access to the locked file and software, maintaining the confidentiality of the participants.

Summary

The purpose of this dissertation was to investigate how secondary educators are using LCTS in their instruction and what support they need to use such strategies. The central phenomenon of this qualitative study was the use of LCTS by secondary educators. The researcher used qualitative research methods to explore how secondary educators were using LCTS in their classrooms. The researcher's role included contacting the secondary school administrators for approval to interview their teachers. Also, the researcher contacted secondary educators as participants and collected, recorded, transcribed, analyzed, and stored data for this research study. The methodology for this study was a basic qualitative design, with the population being full-time secondary educators from a secondary school in the Midwest. The sample size for this study was 12 secondary education teachers purposively selected from a staff of approximately 20 teachers from a secondary school in a Midwestern city. The collection instrument for this study was one-to-one qualitative interviews that focused on the research questions of how secondary teachers are using LCTS in their classrooms, and the support they needed to use these strategies in their classrooms. The researcher obtained ethics approval for a doctoral study from Walden University's IRB before recruiting participants and collecting data for the study. The researcher established trustworthiness by achieving data saturation, using thick descriptions, creating trusting relationships with the participants of the study, maintaining reflexivity, and utilizing member checks. Ethical procedures

included obtaining IRB approval from Walden University and maintaining anonymity and confidentiality of the participants. Data from the study will be secured and remain in possession of the researcher for 5 years after the completion of the study.

Chapter 4: Results

The purpose of this study was to investigate how secondary educators were using LCTS in their instruction and what support they needed to use such strategies. The key components to learner-centered teaching strategies include (a) the role of the teacher as facilitator, (b) the balance of power shifting toward the students, (c) the function of content as being uncovered versus covered, (d) the responsibility of learning being primarily on the students, and (e) using evaluations for learning rather than for grades (Weimer, 2013). Secondary educators from a high school in the Midwest described their understanding and experiences about LCTS through in-depth interviews to provide insights on the following research questions.

RQ1. How are secondary educators using LCTS in their classrooms?

RQ2. What support do secondary teachers perceive to need to use LCTS in their classrooms?

This chapter contains a description of the results of the study, in addition to the methodology of the study, the setting of the study and data collection procedures. It also includes a thorough explanation of how the data was analyzed, the results of the study, and the evidence of trustworthiness. In addition, a summary of the answers to the research questions is provided.

Setting

The researcher conducted this study with 12 secondary educators from a high school in the United States Upper Midwest. This school was chosen to be the site of the study because of the proximity to the researcher and the past connections between the

researcher and the school (researcher as former teacher and administrator). The school, in existence since 1916, enrolled 341 students in grades 9-12 for the 2019-2020 school year.

Demographics

The faculty included 24 full- and part-time teachers at the time of the study. The participant pool included teachers with varying years of experience, teaching in various content areas, and graduates from a variety of universities' teacher preparation programs. The participants' years of experience ranged from one year to over 30 years, with half the participants having more than ten years of experience and half having less than ten years of experience. The teachers who participated each taught in their licensed content areas of English/Language Arts, Social Studies, Mathematics, Science, Foreign Languages, Business, and Religion. Most of the participants had graduated from teacher preparation programs at public and private universities within the state of the study's school location. Eight of the participants were female, and 4 were male.

At the time of the study, the entire faculty of the school was participating in their second year of professional development on incorporating project-based learning (PBL) in their classrooms. The program used for this professional development was Cultivate 21, whose mission is to provide educators with the tools to meet the needs of 21st Century learners (Cultivate 21). Cultivate 21's professional development encourages educators to use the 4 C's (critical thinking, communication, collaboration, and creativity) to make learning real and relevant using projects, activities, and life lessons (Cultivate 21). The purpose of this study, to investigate how secondary educators were using LCTS in their instruction and what support they needed to use such strategies aligned with the school's

continuous improvement goal to have teachers incorporate more LCTS in their instruction.

Recruitment Process

The total number of invitations to participate in the study was 19, which was the number of full-time teachers at the school during the study. The researcher sent invitations to potential participants using the Participant Recruitment email (see Appendix B). Twelve teachers agreed to participate in the study, one teacher responded later in the study expressing willingness to participate, and 6 did not respond to the invitation. All 12 participants preferred to be interviewed in their classrooms so that is where the interviews were conducted. The participants chose the interview times, which was during one of their preparation periods, with the exception of two interviews, one which was during the teacher's lunch and the other after school.

Data Collection

The procedures for the data collection complied with the Walden University IRB guidelines (approval number 01-02-20-0729502). The researcher also gained permission from the school's principal to conduct the study. After receiving permission to conduct the study, the researcher obtained a list of potential participants with email addresses from the principal of the study site. After receiving the list, the researcher contacted all potential participants via email. The original intent of the number of participants for the study was 12 – 15, depending on when data saturation was reached. Participant recruitment and data collection began immediately after obtaining IRB approval. The researcher sent invitations to 19 teachers at the high school asking them to participate in

the study. Twelve teachers responded to the email and expressed interest in participating in the study. The researcher emailed these teachers a consent form asking them to read it over carefully and if they were still willing to participate, respond in an email with "I consent." All twelve teachers consented and agreed to participate in the study, one teacher responded after the interviews concluded and expressed a willingness to participate, and 6 did not respond to the invitation. All 12 participants chose to interview in their classrooms at the school, which is where the researcher conducted the interviews. In face-to-face interviews, the participants were asked the same 9 questions (see Appendix C), with probing or clarifying questions asked when necessary. The researcher achieved data saturation with 12 participants.

Interview Process

At the beginning of each interview, the researcher reminded the participants of the purpose of the study and that they were free, at any time, to stop the interview for any reason. The researcher informed participants that the interviews would be no more than 30 minutes in length and asked if they had any questions before the interview started. With the consent of the participants, the researcher recorded interviews using the Rev application on the researcher's phone. In addition to recording the interviews, the researcher created field notes throughout each interview. The interviews lasted between 6 minutes and 20 minutes, with the average interview time being approximately 15 minutes. The shortest interview (6 minutes) was at the end of the school day on a Friday. Conducting the interview on a Friday afternoon, in addition to that day being the participants' child's birthday, may have influenced the short responses given by the

participant. In another interview, the participant was not feeling well, which may have affected the responses. During the other ten interviews, there were no personal nor organizational conditions that appeared to influence the participants or their experience at the time of the study. The researcher conducted the interviews during the participants' planning period, during lunch, or after school on two separate days during the same week.

Interview questions. There were 9 open-ended interview questions designed to engage participants in a dialogue focused on discovering their experiences on how they are using learner-centered teaching strategies and what support they need to use these strategies. The interview began with the researcher asking the participants if they had any questions about the informed consent they had agreed to by email, or any other questions about the interview process. The researcher reminded the participants that the interview would take no longer than a half hour and they were free to stop the interview at any time and for any reason. Participants were also reminded that the researcher was the only person to the recordings and that they would be deleted after the transcription process was completed. The researcher asked participants general questions about their years of experience, the content area in which they taught, and how many years ago they had graduated from a teacher preparation program. Table 2 presents the two research questions and 9 interview questions associated with each.

Table 2

Research Questions and Interview Questions Used for Data Collection

Research Questions	Interview Questions
RQ1. How are secondary educators using LCTS in their classrooms?	1. How do you define LCTS? 2. Describe pedagogical methods and instructional practices that support that definition 3. Would you describe yourself as a student-centered or teacher-centered educator? Explain. 4. What experiences during your teacher education program helped to inform your definition of teacher-centered teaching? 5. What LCTS are you using in your classroom? a. Probe: provide an example of how you use a learner-centered teaching strategy in your instruction.
RQ2. What support do secondary teachers perceive to need to use LCTS in their classrooms?	6. How much exposure have you had to LCTS in your teacher preparation program or through professional development? 7. How prepared do you feel to apply LCTS in your instruction? 8. What obstacles have you encountered when applying LCTS? 9. What support do you feel you need in order to use LCTS?

Data Analysis

After completing the interview, the data analysis phase started by having the interview recordings transcribed by the Rev transcription service. Rev is an Apple application audio recording and transcription service, with a guaranteed turnaround time of fewer than 12 hours with 99% accuracy of the transcriptions. In vivo and pattern coding, in addition to the qualitative data analysis software, NVivo (version 12), was used to delineate emergent themes.

Organizing the Data

Upon completion of the transcripts, which was less than two hours from submitting the audio recordings, interview transcripts were reviewed for accuracy by the researcher using field notes and audio recordings of the interviews. The researcher broke down the responses in the transcripts into codes, categories, and themes (Saldaña, 2016). Each transcript was read in its entirety, then it was read again, and key words and phrases were highlighted. Recurring words and phrases structured the emergent themes. In Vivo coding was used because it revealed the ontologies that address the participants' reality (Saldaña, 2016). The research questions for this study aligned with this type of coding because they are ontological questions, addressing the participants' perceptions about LCTS (Ravitch & Carl, 2016). The researcher coded the responses and transformed the raw data into a collection of themes that represented the experiences of the secondary educators' use of learner-centered teaching strategies.

Data Coding

Coding is one way to analyze data and is the method used by the researcher to analyze data from the qualitative interviews with the participants of this study (Saldaña, 2016). For this qualitative study, the researcher analyzed data at two levels. At the first level, the data from the interviews and field notes were analyzed using in vivo coding that Saldaña (2016) recommended for qualitative research. During the second level of data analysis, the researcher used pattern coding to identify the frequency of words and phrases (Saldaña, 2016).

In Vivo coding. The first cycle of coding involved the selection of direct language used by the participants that reflected their overall response to the interview questions. These were either single words or short phrases identified in the transcripts. The reasearcher highlighted key words and phrases in the transcripts as the first round of in vivo coding. These keywords and phrases were put into a document and listed by interview questions (see Appendix E).

Pattern coding. The second cycle of coding involved pattern coding, where the researcher used the frequency of words and phrases from the first cycle to identify patterns (Saldaña, 2016). The researcher created spreadsheets with the codes in columns and the participants' identifier in rows. The researcher made an "x" in under each code in the transcripts. A pattern emerged when the word or phrase occurred more frequently than others, which was identified by the totals at the bottom of each code's column (see Appendix F). The researcher used these patterns to develop themes.

The researcher used NVivo 12 Plus qualitative data analysis software to organize the data and for inter-rater reliability in the creation of codes, categories, and themes. The software created nodes, which were used to identify emergent themes. The passages that were identified as nodes were compared to the researcher's themes and used to create tables. Interview questions 1-7 answered RQ1 and interview questions 8, and 9 answered RQ2. Themes were grouped by research question and placed in a spreadsheet, which the researcher converted into a table in Microsoft Word (see Appendix F). Transcripts, codes, and themes were reviewed, again, in the context of each interview and research question.

The researcher analyzed the data throughout the interview process, and, as a result, determined that data saturation occurred after interviewing 12 participants. Therefore, it was not necessary to interview any additional participants, as was proposed in the original number of 12-15 participants. The researcher reached data saturation earlier than the 12th interview but determined that it would be beneficial to complete all twelve interviews in the event the data did not sufficiently answer each interview question.

Results

The results of this study yielded insights on how teachers are using LCTS and the support they needed to implement these strategies. From the broadest perspective, teachers believed students should have ownership of their learning, and their role, as a teacher, was to be a guide in the learning process. More specifically, teachers gave examples of the LCTS they used, such as PBL's, discussions, debates, student-choice activities, and using online resources.

In response to RQ2, participants identified content-specific professional development as a resource that would assist them in using LCTS. Content-specific training through AP, NMSI, NEED, and STEM was recognized as effective professional development because they gave specific strategies according to the teachers' content areas. Participants also identified peer observations and mentoring as a resource they felt would help them effectively use LCTS in their classrooms.

Themes for RQ1

The first research question for this study was: How are secondary educators using LCTS in their classrooms? In order to answer this question, the researcher asked the participants to define LCTS and describe instructional practices that supported that definition. Also, the researcher asked participants if they identified as being learner-centered or teacher-centered educators. Finally, the researcher asked participants what LCTS they used in their classroom and how prepared they felt to use LCTS. The themes that emerged for the first research question were student ownership, teacher as facilitator, engaged learners, PBL, student choice, active learning, online resources, practicum, and student teaching, and authentic problems.

Student ownership. The participants shared similar beliefs about students having ownership of their learning by defining LCTS as those strategies in which students were the owners of their education. Participant N01 stated, "I would define them as having the students taking ownership of their learning. So, instead of me standing in front saying, 'This is what you should learn,' it's them trying to find it themselves or discover it themselves". Participant N04 added, "someone from outside the classroom would see

students as the driver and teacher as more of a tour guide." Another participant described LCTS as instruction that was tailored to the students and expressed the reflective question, "…how much of the day was spent lecturing and how much of the class are students actively engaged with the material?" (N02). The strategies participants gave as examples that supported this definition included student-driven questions, ideas, activities, and assessments. Some participants described activities where students knew the objectives for the lesson and could choose how to accomplish the objectives.

Teacher as facilitator. Another common component of the definition of LCTS was that the teacher was a facilitator of learning. Participant N06 stated, "I define them as the students are doing the most work, and the teacher is there to facilitate." Participant N07 added, "I define it as the students take the major role in their learning, and I'm just there as a guide to point them in the right direction."

Engaged learners. The third predominant theme to the definition of LCTS was engaged learners. Participants used phrases such as "engaging with the material," "students doing the most work," and "monitoring their own progress" to describe what engaged learners are doing when using LCTS in the classroom. Participants gave examples of engaged learners as when students were involved in PBL's, student-choice activities, mock trials, discussions, debates, stations, and using online resources. The study site school was in its second year of professional development on the implementation of project-based learning, and PBL was the most used example of LCTS used in the classroom.

Student-centered instruction. Nine out of twelve participants described themselves as student-centered teachers or that their goal was to be more student-centered. Some participants confidently answered that they were student-centered in their instruction, such as when Participant N08 confidently stated, “I am student-centered, for sure!”. Others shared that they were working toward being more student-centered. Participant N01 stated, “I strive to be much more student-centered, but it's been a process.” Participant N05 added, “I’m progressing more and more towards student-centered, but I started as teacher-centered.” Although no one claimed to be teacher-centered in their instruction, some participants acknowledged they were more teacher-centered than learner-centered. Participant N07 admitted, “I try to be student-centered, but I’m still more teacher-centered in my instruction.” The other 3 participants described themselves as both learner-centered and teacher-centered educators. Participant N03 shared, “A lot of my practice is learner-centered, but my instruction also tends to be teacher-centric.” Also, Participant N04 shared, “my goal is definitely to be student-centered. some days, it seems I’m more teacher-centered. So, I would say I’m a hybrid.”

Preparation. When the researcher asked participants how prepared they felt to implement LCTS in their classrooms, half of them felt “prepared,” 5 participants felt “somewhat prepared,” and one did not feel prepared at all. Many of those who felt “somewhat prepared” said they were “more confident than in the past” (Participants N01 and N09), “More prepared than when I got out of college” (N05), and “more prepared than when I started teaching” (N03). The researcher asked participants what experiences prepared them for using LCTS, considering both teacher preparation and professional

development once they were fully licensed teachers. All but one participant reported having had exposure to LCTS during professional development. This aligns with the fact that the study site school was in its second year of PBL training. Four of the 12 participants identified content-specific training such as AP, NMSI, NEED, and STEM as exposure to LCTS in professional development. Half of the participants did not remember or recognize learning about LCTS during their teacher preparation programs. Of note, these participants graduated from their teacher preparation programs more than 10 years ago. The other half of the participants expressed that they learned about these strategies during practicum and student teaching experiences. Those who had experiences with LCTS in their teacher preparation program did so primarily in a practicum experience or during student teaching. Participant N02 shared, "When I went through student teaching, I got to do a project-based learning opportunity, and that taught me a lot about tailoring things to students, and how much time lecturing is too much time and things like that." Participant N06 added, "One of my [teacher preparation program] teachers was really good… had a good amount of background on student-centered [learning]". Participant N09 responded to what informed her definition of LCTS with, "… my different practicums". Five of the 12 participants did not recall learning about LCTS in their teacher preparation courses. These 5 participants all graduated from their teacher preparation programs more than 10 years ago.

Themes for RQ2

The second research question was: What support do secondary educators perceive to need to use LCTS in their classrooms? The researcher asked participants what

obstacles they had encountered when implementing LCTS and what support they needed to use LCTS. The themes that emerged as a result of the participants' answers to this question were content-specific professional development, time and resources, and collaboration with experts.

Content-specific professional development. The most common response from participants when asked what support was needed to use LCTS was content-specific professional development (8 out of 12 participants). Multiple participants discussed the benefits of participating in programs such as Advanced Placement (AP), National Math and Science Initiative (NMSI), and Science, Technology, Engineering, and Math (STEM) workshops. Participant N01 had participated in several content-specific professional development sessions and stated, "I had NMSI and AP training… those two pieces of training changed so much about how I taught and looked at things… and they were specific to English… and that has been instrumental in helping me become a better teacher." Another participant expressed appreciation for the professional development training but acknowledged struggling on how to incorporate the strategies in a specific content area. Participant N05 stated that "knowing about them (NMSI, STEM)" is an obstacle to utilizing the professional development offered by these initiatives. Two participants added that they were members of Facebook groups whose members shared content-specific strategies and found their participation in these groups very helpful. Participant N04 offered an insight into professional development, "Okay, we are given a broad strategy, but how can I incorporate that into my specific subject matter"?

Time and resources. The theme of time and resources emerged when the researcher asked participants about the obstacle's teachers have when they implement LCTS and what support they need to implement the strategies. Participants wanted more time to teach (longer class periods or block scheduling) and more time to find resources for teaching LCTS. Participant N03 stated, "A modified block schedule would allow me to see students for longer periods a couple of days a week so I could front-load during the shorter periods and have more activities during the longer periods." Two participants explained that they are often asked to substitute teach during their planning periods, which takes time away from exploring resources that would help them implement more LCTS.

The participants who thought resources would help support them in their use of LCTS gave examples such as technology, money, and pre-made resources. A few participants relayed that not every teacher has access to computers, and those that did have computers expressed the need for professional development in the effective use of technology. Other participants defined resources in budgetary terms and referred to budget constraints as an obstacle to using LCTS.

Collaboration with experts. When asked what support teachers need to implement LCTS, collaboration with experts emerged as a predominant theme. Collaboration with experts included mentorship and coaching by other teachers or experts. Participant N02 stated, "I think it'd be good to have a coach, somebody who is really well-practiced in employing these strategies." Participant N05 added, "I had a really good mentor so that mentorship helped." Collaboration with experts also meant

observing other teachers' classes where learner-centered teaching strategies are effectively implemented, as expressed by Participant N07, "I would like to observe my (content) area… to see a class using these strategies in my content area". Also, participants expressed the desire to "collaborate with other teachers," "use the experts within our building," and "work with the talented teachers around me" (Participants N10, N11, and N04). Table 3 represents the themes and codes that correspond to each research question.

Table 3

Themes and Codes

RQ	Themes	Codes
RQ1	Student Ownership	Discover it themselves Ownership of their learning Directly involved Students take a major role Monitor their own progress Students control where they're going
	Teacher as a facilitator	Tour guide Facilitator Resource
	Engaged learners	Engaging with the material Curiosity Instruction centered around their involvement Active learning Students doing the most work
RQ1	Student-centered instruction	Focus on the students How students learn best Discussion Choice Stations Debates Mock trials

		PBL Collaboration Labs Active learning Online resources Hands-on
	Preparation	Practicum experience Student teaching Professional development Prepared Somewhat prepared Not prepared
RQ2	Content-specific PD	NMSI NEED AP STEM PBL
	Time and Resources	More teaching time Computers/technology Planning time Limited budget Pre-made resources
	Collaboration with experts	Coach Observe in the content area Mentorship Peer experts

Evidence of Trustworthiness

In qualitative research, trustworthiness is also known as validity and refers to how researchers assure their findings truly represent the participants' experiences (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). One way a researcher can ensure trustworthiness is through credibility, which is the accuracy of how the researcher presented the phenomena being studied (Ravitch & Carl, 2016). The procedures in this study supported trustworthiness, validity, and credibility by using the strategy of saturation in data

collection, establishing relationships, researcher reflexivity, member checks, and peer debriefing.

Credibility

The researcher used the strategies of data saturation, establishing relationships with participants, reflexivity, and member checks to achieve credibility. The researcher achieved data saturation by asking the same interview questions of all 12 participants, and when there were no new data and themes emerging, the researcher decided that data saturation had been reached (Fusch & Ness, 2015). The researcher established a relationship of trust and confidence by introducing herself to the participants, describing the purpose of the study, asking questions without showing judgment to the answers, and showing empathy when appropriate (Rubin & Rubin, 2012). Finally, to combat the threat to validity, member checks, also known as respondent validation, were employed (Ravitch & Carl, 2016; Yin, 2016). The researcher emailed all 12 participants of the study the themes and codes that resulted from data analysis and asked for their feedback (Ravitch & Carl, 2016; Yin, 2016). Eight of the participants responded with their acknowledgment that the themes and codes accurately represented their input from the interviews. The other 4 participants did not respond to the request.

Transferability

The extent to which the results of this study can be applied to a broader population was established through purposeful sampling and thick descriptions of the participants' experiences (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). The researcher selected participants who were full-time educators at a Midwest secondary

school with varying years of experience and having graduated from different undergraduate teacher preparation programs. Also, all the participants in this study were from various content areas. The participants provided thick, rich descriptions of their experiences as supported by the average word count for each interview, which was approximately 1,600 words per interview. The researcher used detailed information regarding the findings from the interviews so that readers of the study can make comparisons with other similar contexts (Bloomberg & Volpe, 2019).

Dependability

The researcher ensured the dependability of the study by adhering to the entire research process, including the purpose, research questions, research design, participant selection, data analysis, and reporting the findings (Bloomberg & Volpe, 2019). A journal was kept as an audit trail to ensure dependability by ensuring that the researcher regularly reflected on the research activities and experiences during the research process (Bloomberg & Volpe, 2019). The researcher used this journal as part of the data analysis process of establishing the dependability of the research findings.

Confirmability

The researcher of this study established confirmability by eliminating bias and subjectivity from the interview and data analysis processes of the study (Bloomberg & Volpe, 2019). Also, the researcher used reflexivity to understand how the researcher's assumptions impacted the analysis of the study's findings. The researcher reminded the participants of the researcher's current role as a researcher and not as a former principal or faculty member. Researcher reflexivity was an ongoing process throughout the study

with the researcher reminding the participants of the role as researcher, not former teacher or principal of the school. Also, the researcher listened to the recording of each interview upon completion to evaluate the researcher's listening skills and comments made during the interview. A research journal was also maintained and reviewed during the entirety of the interview process.

Summary

The first research question was: How are secondary educators using LCTS in their classrooms? The teachers in this study use LCTS by having students take ownership of their learning. They accomplish this by allowing students to discover the knowledge, instead of teachers directing the learning. When students take ownership of their learning, they monitor their progress, engage with the material, exhibit curiosity, and learn by doing most of the work. The teacher acts as a facilitator and resource during the use of LCTS.

The secondary educators in this study offered several examples of the LCTS they use in the classroom. The most common example was project-based learning (PBL), which was not surprising as the participants were in their second year of PBL professional development offered through the site study school. Other examples were debates, mock trials, Jigsaw, discussion, student-generated questions, stations, flipped classrooms, and online resources (i.e., Khan Academy).

Although all participants were able to define LCTS and give examples of how they are used in the classrooms, fewer than half of the teachers in this study felt fully prepared to use the strategies. Teachers who graduated from teacher preparation

programs in the past 10 years learned about LCTS, primarily, in their practicum and student teaching experiences. Those who graduated more than 10 years ago did not remember learning about LCTS in their teacher preparation programs but had gained their knowledge through professional development. In addition to the PBL professional development, teachers cited training with NMSI, STEM, AP, and NEED.

The second research question was: What support do secondary educators perceive to need to use LCTS in their classrooms? Overwhelmingly, the teachers in this study cited content-specific professional development as a means of support for using LCTS in their classrooms. As mentioned above, teachers who engaged in NMSI, STEM, AP, and NEED training felt this to be most beneficial. Related to this, teachers expressed the desire to observe and collaborate with other teachers/mentors who use LCTS successfully in their classrooms.

Some teachers felt that time and resources were needed to implement LCTS in their classrooms further. Time is always at a premium for teachers and these participants expressed that they were often asked to substitute teach for fellow teachers during their preparation periods, not allowing for time to explore teaching strategies. Others felt that money for more computers and ready-made teaching resources would help them implement LCTS more readily. The school had multiple carts with computers but there were not enough computers for each student to have access to one throughout the day.

Finally, many teachers perceived resistance in their students when learner-centered teaching strategies were used. Teachers hypothesized that students were accustomed to a traditional lecture and note-taking format of teaching and were resistant

to the hard work required when LCTS were employed. When teachers encountered the resistance from students, they found themselves using more teacher-centered approaches in their instruction

The following chapter will contain the researcher's interpretation of the findings of this study. In addition, the limitations to the study and recommendations for further research are discussed. Finally, implications for positive social change, and a message that captures the key essence of this study is found at the end of the chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

There are many benefits to students when teachers use LCTS. Learner-centered teaching strategies and student-centered education motivate students intrinsically to construct meaning for knowledge and encourage students to be self-motivated and independent learners (Lattimer, 2015; Walker, 2015; Weimer, 2013). Although these teaching strategies are known to be effective for student learning and teachers can identify LCTS, teachers do not always demonstrate the skills of these strategies in their practice (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017; Scarrow, 2017; Weimer, 2013). Teachers express the belief that they are utilizing LCTS, but observations of these classrooms do not support that belief (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017; Scarrow, 2017). In secondary schools, educators teach a specific content area and rely heavily on teacher-centered strategies, rather than LCTS (Greenleaf & Valencia, 2017).

The purpose of this study was to investigate how secondary educators used LCTS in their instruction and what support they needed to use such strategies. Secondary educators were asked their perceptions about LCTS and what kind of support they needed to use these strategies. The first research question was: How are secondary educators using LCTS in their classrooms? The results of the study found that secondary educators used LCTS in their classrooms by having students take ownership of their learning. They accomplished this by allowing the students to discover the knowledge instead of teachers directing the learning. When students took ownership of their learning, they monitored their progress, engaged with the material, exhibited curiosity, and learned by doing most

of the work. The teacher was a facilitator and resource during the use of LCTS. The second research question was: What support do secondary educators perceive to need to use LCTS in their classrooms? The participants in this study cited content-specific professional development as a means of support for using LCTS in their classrooms. They also expressed the desire to observe and collaborate with other teachers/mentors who use LCTS successfully in their classrooms. Some participants felt that time and resources were needed to implement LCTS in their classrooms further. The findings gained from this study may provide teacher preparation programs and school administrators with the insight they can use to develop curriculum and professional development on LCTS.

Interpretation of the Findings

The purpose of this study was to investigate how secondary educators used LCTS in their instruction and what support they needed to use such strategies. The overall findings of this study indicated that secondary educators were using LCTS in their classrooms by having students take ownership of their learning, with the teachers being facilitators and students monitoring their learning, being engaged with the material, exhibiting curiosity, and learning by doing the most work. The participants used many different LCTS in their classrooms. The most common strategy was project-based learning, which aligned with the fact that the faculty in the school was in their second year of PBL professional development. Participants were also using LCTS such as discussions, collaboration, debates, mock trials, student-generated questions, stations, flipped classrooms, and online resources (i.e., Khan Academy).

Although participants were able to define LCTS correctly and identify several strategies that were considered learner-centered, fewer than half of them felt fully prepared to use such strategies consistently in their classrooms. Most of the participants in this study recognized that they used both learner-centered and teacher-centered strategies but wanted to try to be more student-centered in their instruction. The PBL professional development had helped them learn more about that specific LCTS, but they felt they had more to learn to use different LCTS in their specific content areas. None of the participants in this study used only teacher-centered instructional strategies. However, some were more prepared to use LCTS than others.

The participants who had graduated from a teacher preparation program in the past 10 years stated they had learned about LCTS in their coursework but had only applied their knowledge during their practicum and student teaching experiences. It was during these experiences that they began to understand what kind of strategies constituted LCTS more fully and the positive impact using these strategies had on engaging students. This finding aligned with the conceptual framework of Dreyfus and Dreyfus (1986) and the model of skill acquisition, which described how learners acquire skills by formal instruction and practice. According to the model, the learner passes through 5 stages in professional practices – novice, advanced beginner, competent performer, proficient performer, and expert (Flyvbjerg, 2001). Those who are in teacher preparation programs are considered novices, according to this model. As they progress through their student teaching and into their first years of teaching, they are considered advanced beginners.

The model of skill acquisition promoted the development of this study's literature review, research questions, and data analysis. Teacher expertise develops through the practice of teaching strategies and developing that expertise from preservice teaching to experienced teaching. The participants in this study identified the importance of the PBL professional development in which they had been participating. They recognized PBL as a learner-centered teaching strategy and had successfully implemented a PBL in the courses they taught. This recognition of learning how to apply their knowledge of PBL in their classrooms aligns with the model of skill acquisition of moving from an advanced beginner to a competent performer (Dreyfus & Dreyfus, 1986; Flyvbjerg, 2001). To move from a competent performer to proficient performer, study participants expressed the need to engage in professional development specific to their content area. They also recognized that being able to observe other teachers who are competent in using learner-centered teaching strategies would help them, more consistently, implement the strategies in their classrooms.

The findings indicated that teachers cited content-specific professional development as a means of support for using LCTS in their classrooms. Additionally, they identified a means of support as observing and collaborating with other teachers/mentors who use LCTS successfully in their classrooms. Participants felt that more time to plan for LCTS and additional resources in technology and content was needed to implement LCTS in their classrooms further.

The study participants described using LCTS in their classrooms by having students take ownership of their learning and the teacher as a facilitator and resource

during the use of LCTS. This finding confirms the current literature description of LCTS as the shift of ownership in learning from the teacher to the student (Bailey & Colley, 2015; Weimer, 2013). Bailey and Colley (2015) and Weimer (2013) described learner-centered teachers as those who create a classroom culture where students are responsible for their learning and that the teachers act as a facilitator to student learning. Participants described student ownership in their learning as students who monitored their progress, engaged with the material, exhibited curiosity, and learned by doing most of the work. This finding is confirmed by multiple studies that indicate LCTS increases student motivation and engagement (Bailey & Colley, 2015; Edwards, 2017; Scarrow, 2017).

The participants in this study described working toward student ownership of learning by allowing the students to construct knowledge instead of teachers directing the learning. This finding was also supported in the literature, indicating that learner-centered education includes instructional approaches that engage the student in the active construction of knowledge (Lattimer, 2015; Somani & Rizvi, 2018; Weimer, 2013). Weimer (2013) also described learner-centered teaching as the teacher not being the center of the learning process but, instead, supporting the students' learning experiences.

The purpose of the second research question was to find out what support secondary educators needed to implement LCTS in their classrooms. The participants in this study cited content-specific professional development as a means of support for using LCTS in their classrooms, which was confirmed from the results of multiple research studies. For example, according to Balta and Eryılmaz (2019), a characteristic of effective professional development for secondary educators is that it is content-specific

and includes activities that focus on subject matter content and how students learn that content. Also, Bonghanoy et al. (2019) found that when professional development was structured to meet the specific needs of teachers, they become empowered, creative, and resourceful increasing student engagement and knowledge retention.

Study participants also expressed the desire to observe and collaborate with other teachers/mentors who use LCTS successfully in their classrooms. This finding was also supported by current research, which identified effective professional development as secondary teachers having the opportunity to observe expert teachers or be observed by an expert (Balta & Eryılmaz, 2019). The ensuing interactive feedback and discussions help teachers implement curriculum and new teaching methods that could be used in their classrooms (Balta & Eryılmaz, 2019).

Finally, participants felt that time and resources were needed to implement LCTS in their classrooms. Some participants expressed that planning time was often limited because of the study site school's policy of having teachers substitute teach for absent teachers during their planning periods. Others cited that researching LCTS took the time they did not have in their normally busy schedule. Participants also expressed that resources, such as ready-made materials and technology, were needed to support the use of LCTS. These findings are confirmed and add to the current research. For example, recent studies found that the most helpful resources for new teachers support from school administrators, adequate resources, and mentors (Edwards, 2017; Kelly et al., 2015).

The findings of this study revealed the participants' perceptions of LCTS included the need for support in the form of content-specific professional development, observing

and collaborating with other teachers/mentors who use LCTS successfully in their classrooms, and more time and resources to implement LCTS in their classrooms. Although the participants generally appreciated the current professional development of project-based learning, they expressed the desire for content-specific professional development such as that provided by NMSI, STEM, AP, and NEED training. These perceived means of support may develop the skills of secondary educators for implementing LCTS.

Limitations of the Study

The purpose of this study was to investigate how secondary educators are using LCTS in their instruction and what support they needed to use such strategies. When considering the limitations of this study, the researcher thought about how the quality, source, or types of data and how the data was analyzed might weaken the integrity of the research methodology (Levitt et al., 2018). This qualitative interview study had 4 limitations, as outlined in Chapter 1. These limitations applied throughout the study. However, knowing these limitations, the researcher worked to ensure they had minimal impact on the results of the study.

The first limitation was that the study did not include observations of actual pedagogical practices. The research questions focused on teacher experiences and, therefore, observations of classroom practices were not necessary. Although participant observation was often coupled with in-depth interviewing, insightful data can come from interviews alone (Rubin & Rubin, 2012). The researcher used qualitative interviewing to collect data from the participants' responses. Participants were each asked the same

questions during the interview process (see Appendix C). However, follow-up or clarifying questions were asked of participants to confirm the researcher's understanding of the response (Yin, 2016).

The second limitation of this study was that teachers' perspectives were used to conclude the use of LCTS for all secondary educators. Within the confines of time and resources, this study included participants from a Midwestern high school, which was in the same city as the researcher. This allowed the researcher ease of access for interviewing participants. The extent to which the results of this study can be applied to a broader population was established through purposeful sampling and thick descriptions of the participants' experiences (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). The researcher selected participants who were full-time educators at a Midwest secondary school with varying years of experience and having graduated from different undergraduate teacher preparation programs. Also, the study included participants from various content areas. The purposeful sampling and thick description of the participants' experiences allow the readers of this study to decide whether similar results would apply to their settings and communities (Bloomberg & Volpe, 2019).

The third limitation was sample size; however, measures were taken to ensure data saturation. The sample size was 12-15, and data saturation was reached with 12 participants. The sample size for this study was 12 secondary education teachers purposively selected from a staff of approximately 20 teachers from a secondary school in a Midwestern city. The researcher achieved data saturation by asking the same

interview questions of each of the participants, and when there was no new data nor themes that emerged (Fusch & Ness, 2015).

The final limitation of this study was potential researcher bias as the researcher was a former principal at the school where the study took place. To reduce bias, the researcher reminded the participants of the purpose of the study and that the researcher was no longer in a position of authority with them. It was important to recognize bias in the role of a researcher. Yin (2016) stated that the conversational nature of qualitative research interviews could lead to the researcher ignoring comments that are not a formal part of the interview. The researcher anticipated when it might be tempting to exclude comments made by the participants and ensured the inclusion of such comments in the data analysis (Yin, 2016). Bias can also occur in the form of deficit orientation, where the researcher views the participants as lacking in knowledge or skill (Ravitch & Carl, 2016). To prevent deficit orientation, the researcher reminded the participants that they were the experts in their own experiences and the ones who hold the wisdom (Ravitch & Carl, 2016).

Recommendations

Much research still needs to be done on the instructional strategies secondary educators use and the effectiveness of those strategies. Current research reported the need for further investigation into the knowledge and skills of secondary educators regarding LCTS (Kaymakamoglu, 2018). The purpose of this study was to investigate how secondary educators used LCTS in their instruction and what support they needed to use such strategies. This study included data from 12 secondary educators with varying years

of experience, teaching in various content areas, and graduates from a variety of universities' teacher preparation programs. The results of the study provided a generalization of the secondary educators' perceptions of LCTS and the support needed to implement these strategies. Three recommendations for future studies reflect on the limitations of this study and teacher preparation programs, as outlined in the literature review.

The first limitation of this study was that actual pedagogical practices were not observed in the participants' classrooms. In this study, the researcher collected data using the methodology of qualitative interviewing. A recommendation for future studies would be to add classroom observations to the methodology to compare the teachers' perceptions of LCTS and their actual use of the strategies in the classroom. Multiple studies revealed that teachers express the belief they are utilizing LCTS, but observations of these classrooms do not support that belief (Arseven et al., 2016; Onurkan Aliusta & Özer, 2017; Scarrow, 2017). Observing teachers as they conduct instruction in their classrooms could give the researcher a firsthand account of the teaching strategies being employed rather than relying on the teachers' perspective or interpretation (Bloomberg & Volpe, 2019). Another data collection tool would be to interview or survey high school students to compare their perceptions of LCTS with those of their teachers. One of the findings of this study was that teachers had experienced resistance from students when they employed LCTS in their classrooms. Asking students about their perspectives when LCTS are used in the classroom would possibly provide insight into why resistance occurs among students and what teachers could do to minimize that resistance.

The second limitation of this study was that teachers' perspectives were used to conclude the use of LCTS for all secondary educators. The results of this study were limited to the perspectives of 12 secondary educators. A recommendation for future studies would be to conduct a similar study using a quantitative approach so that more participants could be used in the study. The extent to which the results of this study are applied to a broader population could be accomplished through a quantitative study (Bloomberg & Volpe, 2019; Ravitch & Carl, 2016). A quantitative research study using a survey that gathers the perceptions of secondary educators could increase the number of possible participants and, therefore, the scope of the study findings.

The final recommendation for future study pertains to teacher preparation programs. Novice and preservice teachers experience a disconnect between their knowledge and use of LCTS. Studies indicated that preservice teachers need more exposure to LCTS in their teacher preparation programs to successfully implement these strategies in their classrooms (Scarrow, 2017; Sendurur, 2018). The results of this study found that secondary educators gained most of their knowledge about LCTS during their practicum and student teaching experiences. Future studies may be on how to construct those experiences to move preservice teachers from the knowledge level of LCTS to the application of such strategies.

Implications

Secondary educators understand the definition of LCTS and can identify these strategies in their classrooms. The model of skill acquisition by Dreyfus and Dreyfus (1986) applies to teachers and how they progress from learning the definition of LCTS in

their preservice teacher education programs to developing the skills to practice these strategies in their classrooms. Teachers pass through 5 stages of professional practice - novice, advanced beginner, competent performer, proficient performer, and expert (Dreyfus & Dreyfus, 1986; Flyvbjerg, 2001). The Dreyfus and Dreyfus model informed this research study as a conceptual framework for "conceptualizing the development of teacher expertise, in a way that recognizes the role of practicing and context, as well as the development and shifts toward expertise from preservice teaching to experienced teaching" (Flyvbjerg, 2001, p. 107). Participants in this study identified that the most valuable experience in their teacher preparation program regarding LCTS was during practicum and student teaching experiences. They also identified content-specific professional development as the best way to support them in effectively implementing LCTS in their classrooms. This study has contributed to the existing research on LCTS, how secondary educators use them in their classrooms, and what support teachers need to implement the strategies. Students in a learner-centered environment experience higher academic achievement. By increasing academic achievement for all students, positive social change occurs. More research is needed on the use of LCTS by secondary educators (Kaymakamoglu, 2018). This study extends the knowledge about LCTS and used by teachers, administrators, and teacher preparation programs to ensure effective professional development is available to secondary educators. Teachers and administrators can use the finding that content-specific professional development was deemed most useful as a resource to implement LCTS when they choose professional development opportunities and resources. Teacher preparation programs can use the

finding that practicum and student teaching experiences are where most preservice teachers learn about LCTS when planning these placements and experiences in their programs. Effective learner-centered teaching strategies help students learn. When students are effectively learning, positive social change occurs.

Conclusion

The purpose of this study was to investigate how secondary educators used LCTS in their instruction and what support they needed to use such strategies. This qualitative study involved interviewing twelve secondary educators about their perspectives of LCTS and examining their responses. The overall findings of this study indicated that secondary educators used LCTS in their classrooms by having students take ownership of their learning, with the teachers being facilitators and students monitoring their learning, students being engaged with the material, exhibiting curiosity, and learning by doing the most work. These findings were congruent with Weimer's (2013) methodology in learner-centered teaching. The common components of this study to Weimer's (2013) learner-centered teaching strategies included (a) the role of the teacher as facilitator, (b) the balance of power shifting toward the students, and (c) the responsibility of learning being primarily on the students. Secondary educators should provide their students with opportunities to take ownership of their learning as teachers take on the role of facilitator. Several strategies constitute being learner-centered, so secondary educators need to become comfortable implementing these strategies in their classroom. Although direct instruction has its place in effectively helping students gain new knowledge, LCTS

enables students to engage in deep learning that involves an application, synthesis, and evaluation of that knowledge.

The findings of this study also indicated that teachers considered content-specific professional development an important means of support for using LCTS in their classrooms. This study brings to light the value of professional development opportunities for teachers that meet their specific needs. Similar to the importance of differentiating instruction for students, professional development should be differentiated for teachers, as well. Additionally, teachers identified a means of support as observing and collaborating with other teachers/mentors who use LCTS successfully in their classrooms. These findings are important for school administrators as they plan professional development opportunities for their teaching staff. Through the process of teacher evaluations, principals are aware of the teachers who use LCTS. Through this awareness, principals should facilitate partnerships that include time for teachers to observe each other using LCTS in their classrooms, in addition to collaboration time.

Finally, participants felt that more time to plan for LCTS and additional resources in technology and content was needed to implement LCTS in their classrooms. As budgets become tighter, teachers are asked to take on more responsibility and extra duties. Teachers in this study were often asked to substitute teach for fellow teachers who took away valuable planning time. School administrators must decide how to make the limited time available to teachers the most valuable for them. When teachers have opportunities to partake in effective professional development and given the time and resources to collaborate with other effective educators, students will be the beneficiaries

in terms of increased academic achievement. When all students have access to teachers who are provided these opportunities, social change occurs.

References

Allensworth, E. M., Healey, K., Gwynne, J. A., Crespin, R., & University of Chicago Consortium on School Research. (2016). High school graduation rates through two decades of district change: The influence of policies, data records, and demographic shifts. Research Report. In *University of Chicago Consortium on School Research*. University of Chicago Consortium on School Research. Retrieved from ERIC.

Arseven, Z., Sahin, S., & Kiliç, A. (2016). Teachers' adaptation level of student centered education approach. *Journal of Education and Practice, 7*(29), 133-144. Retrieved from ERIC.

Bailey, G., & Colley, H. (2015). 'Learner-centered' assessment policies in further education: Putting teachers' time under pressure. *Journal of Vocational Education & Training, 67*(2), 153-168. doi:10.1080/13636820.2014.983956

Baker, M. A., & Robinson, J. S. (2018). The effect of two different pedagogical delivery methods on students' retention of knowledge over time. *Journal of Agricultural Education, 59*(1), 100-118. doi:10.5032/jae.2018.01100

Balta, N., & Eryılmaz, A. (2019). The effect of the "teacher-led PD for teachers" professional development program on students' achievement: An experimental study. *Teacher Development, 23*(5), 588-608. doi:10.1080/13664530.2019.1659176

Bloomberg, L. D., & Volpe, M. (2019). *Completing your qualitative dissertation: A road map from beginning to end*. Sage Publications.

Bonghanoy, G. B., Sagpang, A. P., Alejan, R. A., Jr., & Rellon, L. R. (2019). Transformative professional development for mathematics teachers. *Journal on Mathematics Education*, *10*(2), 289-302. doi:10.22342/jme.10.2.6882.289-302

Brigati, J. (2018). Student attitudes toward active learning vs. lecture in cell biology instruction. *The American Biology Teacher*, *80*(8), 584-591. doi:10.1525/abt.2018.80.8.584

Burner, T., Madsen, J., Zako, N., & Ismail, A. (2017). Three secondary school teachers implementing student-centred learning in Iraqi Kurdistan. *Educational Action Research*,*25*(3), 402-419. doi:10.1080/09650792.2016.1162186

Carrabba, C., & Farmer, A. (2018). The impact of project-based learning and direct instruction on the motivation and engagement of middle school students. *Online Submission, 1*, 163-174. Retrieved from ERIC.

Chen, L. (2016). Impacts of flipped classroom in high school health education. *Journal of Educational Technology Systems*, *44*(4), 411-420. doi:10.1177/0047239515626371

Corkin, D. S., Coleman, S. L., & Ekmekci, A. (2018). Navigating the challenges of student-centered mathematics teaching in an urban context. *The Urban Review*, 1-34. doi:10.1007/s11256-018-0485-6

Cultivate 21. (n.d.). *Company Profile*. Cultivate 21. Retrieved from https://www.Cultivate21.com

Darling-Hammond, L., Furger, R., Shields, P.M., & Sutcher, L. (2016). *Addressing California's emerging teacher shortage: An analysis of sources and solutions.*

Palo Alto, CA: Learning Policy Institute. Retrieved from https://learningpolicyinstitute. org/wpcontent/uploads/2016/03/LPI-Report-AddressingCA_TeacherShortage. pdf.

De Vries, S., van de Grift, W. J., & Jansen, E. P. (2014). How teachers' beliefs about learning and teaching relate to their continuing professional development. *Teachers and Teaching*, *20*(3), 338-357. doi:10.1080/13540602.2013.848521

Dreyfus, H. & Dreyfus, S. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. New York, NY: Free Press. doi:10.1109/MEX.1987.4307079

Duru, S. (2015). A metaphor analysis of elementary student teachers' conceptions of teachers in student- and teacher-centered contexts. *Eurasian Journal of Educational Research (EJER)*, (60), 281-300. doi:10.14689/ejer.2015.60.16

Edwards, S. (2017). Like a chameleon: A beginning teacher's journey to implement active learning. *RMLE Online*, *40*(4), 1-11. doi:10.1080/19404476.2017.1293599

Emre-Akdogan, E., & Yazgan-sag, G. (2018). An investigation on how prospective mathematics teachers design a lesson plan. *Ondokuz Mayis University Journal of Education*, *37*(1), 81–96. doi:10.7822/omuefd.313310

Erdogdu, M. Y. (2019). The mediating role of school engagement in the relationship between attitude toward learning and academic achievement. *International Journal of Education and Literacy Studies*, *7*(2), 75–81. doi:10.7575/aiac.ijels.v.7n.2p.75

Eronen, L. (2018). Students acquiring expertise through student-centered learning in mathematics lessons. *Scandinavian Journal of Educational Research, 62*(5), 682–700. doi:10.1080/00313831.2017.1306797

Flyvbjerg, B. (2001). *Making Social Science Matter*. Cambridge: Cambridge University Press. doi:10.1017/S0003055402294319

Francis, L. (2018). *Instructional strategies that homeschooling parents use to teach their children mathematics* (Order No. 10839191). Available from Dissertations & Theses @ Walden University. (2079254551). Retrieved from https://ezp.waldenulibrary.org/login?url=https://search-proquest-com.ezp.waldenulibrary.org/docview/2079254551?accountid=14872

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences of the United States*, (23), 8410. doi:10.1073/pnas.1319030111

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The qualitative report*, *20*(9), 1408-1416. Retrieved from ERIC.

Gallop Student Poll (2017). *Engaged today – ready for tomorrow*. Retrieved from https://news.gallup.com/topic/gallup_student_poll.aspx

Gatbonton, E. (2008). Looking beyond teachers' classroom behavior: Novice and experienced ESL teachers' pedagogical knowledge. *Language Teaching Research, 12*(2), 161–182. doi:10.1177/1362168807086286

Greenleaf, C., & Valencia, S. (2017). Missing in action: Learning from texts in subject-

matter classrooms. In D.A. Applean & K.A. Hinchman (eds.), *Adolescent literacy: A handbook of practice-based research*. New York, NY: Guilford.

Head, C. N., Flores, M. M., & Shippen, M. E. (2018). Effects of direct instruction on reading comprehension for individuals with autism or developmental disabilities. *Education and Training in Autism and Developmental Disabilities*, *53*(2), 176–191. Retrieved from ERIC.

Kaymakamoglu, S. E. (2018). Teachers' beliefs, perceived practice and actual classroom practice in relation to traditional (teacher-centered) and constructivist (learner-centered) teaching. *Journal of Education and Learning*, *7*(1), 29-37. doi:10.5539/jel.v7n1p29

Kelly, A. M., Gningue, S. M., & Qian, G. (2015). First-year urban mathematics and science middle school teachers: Classroom challenges and reflective solutions. *Education and Urban Society*, *47*(2), 132-159. doi:10.1177/0013124513489147

Kiemer, K., Gröschner, A., Pehmer, A.-K., & Seidel, T. (2015). Effects of a classroom discourse intervention on teachers' practice and students' motivation to learn mathematics and science. *Learning and Instruction*, *35*, 94–103. doi:10.1016/j.learninstruc.2014.10.003

King, F. (2016). Teacher professional development to support teacher professional learning: Systemic factors from Irish case studies. *Teacher Development*, *20*(4), 574–594. doi:10.1080/13664530.2016.1161661.

Kolman, J. S. & Goodwin, A. L. (2017). Learner-centered mentoring: Building from

student teachers' individual needs and experiences as novice practitioners. *Teacher Education Quarterly*, *44*(3), 93–117. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=124101581&site=ehost-live&scope=site

Konold, T., Cornell, D., Jia, Y., & Malone, M. (2018). School climate, student engagement, and academic achievement: A latent variable, multilevel multi-informant examination. *AERA Open*, *4*(4). doi:10.1177%2F2332858418815661

Lattimer, H. (2015). Translating theory into practice: Making meaning of learner centered education frameworks for classroom-based practitioners. *International Journal of Educational Development*,*45*, 65-76. doi:10.1016/j.ijedudev.2015.09.012

Lee, Y. H., & Kim, K. J. (2018). Enhancement of student perceptions of learner-centeredness and community of inquiry in flipped classrooms. *BMC medical education*, *18*(1), 242. doi:10.1186/s12909-018-1347-3

Levitt, H. M., Bamberg, M., Frost, D. M., Creswell, J. W., Josselson, R., & Suarez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed methods research in psychology: The APA Publications and Communications Board task force report. *The American Psychologist*, (1), 26. doi:10.1037/amp0000151

Litman, C., & Greenleaf, C. (2018). Argumentation tasks in secondary English language arts, history, and science: Variations in instructional focus and inquiry space. *Reading Research Quarterly*, *53*(1), 107–126. doi:10.1002/rrq.187

Louden, J. T. (2018). Novice teachers' perspectives of learner-centered reading

Instruction (Order No. 10812403). Available from Dissertations & Theses @ Walden University. (2038477298). Retrieved from https://ezp.waldenulibrary.org/login?url=https://search-proquest-com.ezp.waldenulibrary.org/docview/2038477298?accountid=14872

Mahmood, N. & Iqbal, Z. (2018). Challenges faced by prospective teachers during teaching practice: Connecting theory to practice. *Bulletin of Education & Research*. 2018;40(2):113-136. https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=eue&AN=132437716&site=ehost-live&scope=site. Accessed April 6, 2019.

Merriam, S. B., & Tisdell, E. J. (2015). Qualitative research: A guide to design and implementation (4th ed.). San Francisco, CA: John Wiley & Sons.

Miles, R., & Knipe, S. (2018). "I sorta felt like I was out in the middle of the ocean": Novice teachers' transition to the classroom. *Australian Journal of Teacher Education*, *43*(6), 104–121. doi:10.14221/ajte.2018v43n6.7

Murthy, S., Iyer, S., & Warriem, J. (2015). ET4ET: A large-scale faculty professional development program on effective integration of educational technology. *Journal of Educational Technology & Society*, *18*(3), 16–28. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=eue&AN=109155618&site=eds-live&scope=site

Ndirangu, C. (2017). Teachers' attitude towards implementation of learner-centered methodology in science education in Kenya. *Educational Research and*

Reviews, *12*(20), 996–1007. doi:10.5897/err2017.3326

North Dakota Education Standards and Practices Board (2017). *Program approval standards*. Retrieved from https://www.nd.gov/espb/sites/www/files/documents/FINAL-INTASC-Standards-August-2017.pdf

Oliver, K. L., Oesterreich, H. A., Aranda, R., Archeleta, J., Blazer, C., de la Cruz, K., Robinson, R. (2015). "The sweetness of struggle": Innovation in physical education teacher education through student-centered inquiry as curriculum in a physical education methods course. *Physical Education & Sport Pedagogy*, *20*(1), 97–115. doi:10.1080/17408989.2013.803527

Onurkan Aliusta, G., & Özer, B. (2017). Student-centered learning (SCL): Roles changed? *Teachers and Teaching: Theory and Practice*, 23(4), 422-435. doi:10.1080/13540602.2016.1205014

Outlaw, B. A., Keene, K. A., & Downing, G. A. (2018). Students' experiences in an undergraduate mathematics class: Case studies from a learner-centered precalculus class. *Conference Papers -- Psychology of Mathematics & Education of North America*, 986–989. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=eue&AN=133248741&site=ehost-live&scope=site

Özdemir, S. M. (2019). Implementation of the lesson study as a tool to improve students' learning and professional development of teachers. *Participatory Educational Research*, *6*(1), 36–53. doi:10.17275/per.19.4.6.1

Palazón, J., & Giráldez, A. (2018). QR codes for instrumental performance in the music classroom. *International Journal of Music Education, 36*(3), 447–459. doi:10.1177/0255761418771992

Pedagogy. (2019). In *Oxford Online Dictionary*. Retrieved from https://en.oxforddictionaries.com/definition/pedagogy

Piaget, J. (1999). *Judgement and reasoning in the child*. doi:10.4324/9780203207260

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators.* Retrieved from https://learningpolicyinstitute.org/product/solving-teacher-shortage

Puzio, K., Newcomer, S. N., & Goff, P. (2015). Supporting literacy differentiation: The principal's role in a community of practice. *Literacy Research and Instruction, 54*(2), 135–162. doi:10.1080/19388071.2014.997944

Qureshi, S., Bradley, K., Vishnumolakala, V. R., Treagust, D., Southam, D., Mocerino, M., & Ojeil, J. O. S. E. P. H. (2016). Educational reforms and implementation of student-centered active learning in science at secondary and university levels in Qatar. *Science Education International*, 27(3), 437-456. Retrieved from ERIC.

Ravitch, S. M., & Carl, N. M. (2016). Qualitative research: Bridging the conceptual, *theoretical, and methodological*. Thousand Oaks, CA: Sage Publications.

Rodriguez, A. J. (n.d.). Managing institutional and sociocultural challenges through sociotransformative constructivism: A longitudinal case study of a high school science teacher. *Journal of Research in Science Teaching, 52*(4), 448–460. doi:10.1002/tea.21207

Rubin, H. J., & Rubin, I. S. (2012). Qualitative interviewing: The art of hearing data (3rd ed.). Thousand Oaks, CA: Sage Publications.

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Saye, J. W., Stoddard, J., Gerwin, D. M., Libresco, A. S., & Maddox, L. E. (2018). Authentic pedagogy: Examining intellectual challenge in social studies classrooms. *Journal of Curriculum Studies, 50*(6), 865–884. doi:10.1080/00220272.2018.1473496

Scarrow, R. (2017). Pedagogical methods used by probationary elementary *teachers* (Order No. 10255914). Available from Dissertations & Theses @ Walden University. (1864788094). Retrieved from ERIC.

Sendurur, E. (2018). The pedagogical beliefs and instructional design practices: Pre-service IT teachers' case. Eurasian Journal of Educational Research (EJER), (75), 59–78. doi:10.14689/ejer.2018.75.4

Sharick, S. L. (2016). Case study on how high school teachers incorporate technology in the classroom to meet 21st century student learning needs (Order No. 10169634). Available from Dissertations & Theses @ Walden University. (1847999462). Retrieved from ERIC.

Šimić Šašić, S., Šimunić, A., Ivković, A., and Ključe, A. (2018). The correlation of perceptions of professional roles and teacher beliefs with the quality of teacher interaction. *Journal of Research in Science, Mathematics and Technology*

Education, 1(2), 207–227. doi:10.31756/jrsmte.125

Smets, W. (2017). High quality differentiated instruction--A checklist for teacher professional development on handling differences in the general education classroom. *Universal Journal of Educational Research, 5*(11), 2074–2080. doi:10.13189/ujer.2017.051124

Somani, R., & Rizvi, M. (2018). Project based learning over traditional method of language teaching: A quasi experiment design in EFL classrooms. *Literacy Information and Computer Education Journal, 9*(2), 2895 – 2906. doi:10.20533/licej.2040.2589.2018.0381

Stockard, J., Wood, T. W., Coughlin, C., & Rasplica Khoury, C. (2018). The effectiveness of direct instruction curricula: A meta-analysis of a half century of research. *Review of Educational Research, 88*(4), 479–507. doi:10.3102/0034654317751919

Subban, P., & Round, P. (2015). Differentiated instruction at work. Reinforcing the art of classroom observation through the creation of a checklist for beginning and preservice teachers. *Australian Journal of Teacher Education, 40*(5). doi:10.14221/ajte.2015v40n5.7

Timor, T. (2015). Perception of discipline of novice teachers in light of student-centered approach and the teacher-centered approach. *The International Journal of* Pedagogy and Curriculum, 22(4), 35-50. doi:10.18848/2327-7963/cgp/v22i04/48887

U.S. Department of Education. (2018). *Definitions.* Retrieved from www.ed.gov/race-

top/district-competition/definitions

Vajravelu, K., & Muhs, T. (2016). Integration of digital technology and innovative strategies for learning and teaching large classes: A calculus case study. *International Journal of Research in Education and Science*, *2*(2), 379–395. doi:10.21890/ijres.67867

Valiandes, S., & Neophytou, L. (2018). Teachers' professional development for differentiated instruction in mixed-ability classrooms: Investigating the impact of a development program on teachers' professional learning and on students' achievement. *Teacher Development*, *22*(1), 123–138. doi:10.1080/13664530.2017.1338196

Van Straaten, D., Wilschut, A., & Oostdam, R. (2016). Making history relevant to students by connecting past, present and future: A framework for research. *Journal of Curriculum Studies*, *48*(4), 479–502. doi:10.1080/00220272.2015.1089938

Walden University. (2018). *Research Ethics & Compliance: Research Ethics Review Process.* Retrieved from https://academicguides.waldenu.edu/researchcenter/orec/application

Walker, T. D. (2015). Differentiating learner outcomes: A student- centered approach with value added benefits. *Journal of the World Universities Forum*, *8*(4), 9-18. doi:10.18848/1835-2030/cgp/v08i04/56874

Weimer, M. (2013). Learner-centered teaching: Five key changes to practice. San Franscisco, CA: Jossey Bass.

Whitener, J. (2016). Using the elements of cooperative learning in school band classes in the United States. *International Journal of Music Education*, *34*(2), 219–233. doi:10.1177/0255761414541865

Winarno, S., Muthu, K. S., & Ling, L. S. (2018). Direct problem-based learning (DPBL): A framework for integrating direct instruction and problem-based learning approach. *International Education Studies*, *11*(1), 119–126. doi:10.5539/ies.v11n1p119

Wong, S., & Luft, J. (2015). Secondary science teachers' beliefs and persistence: A longitudinal mixed-methods study. *Journal of Science Teacher Education*, *26*(7), 619–645. doi:10.1007/s10972-015-9441-4

Yin, R. K. (2017). *Case study research and applications: Design and methods*. Sage Publications.

Yin, R. K. (2016). *Qualitative research from start to finish*. Guilford Publications.

Yob, I. M. (2018). Conceptual framework for a curriculum in social change. *Journal of Social Change*, *10*(1), 71–80. doi:10.5590/JOSC.2018.10.1.06

Zhang, D. (2017). Effects of visual working memory training and direct instruction on geometry problem solving in students with geometry difficulties. *Learning Disabilities: A Contemporary Journal*, *15*(1), 117–138. Retrieved from https://ezp.waldenulibrary.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1141989&site=ehost-live&scope=site

Zimmerman, A. S. (2017). Knots in thinking and the problem of enactment: Exploring the classroom thinking of three novice teachers. *Mid-Western Educational*

Researcher, *29*(4). Retrieved from http://www.mwera.org

Appendix A: Research and Interview Questions

Table 2

Research Questions and Interview Questions Used for Data Collection

Research questions	Interview questions
RQ1. How are secondary educators using LCTS in their classrooms?	1. How do you define LCTS? 2. Describe pedagogical methods and instructional practices that support that definition. 3. Would you describe yourself as a student-centered or teacher-centered educator? Explain. 4. What experiences during your teacher education program helped to inform your definition of teacher-centered teaching? 5. What LCTS are you using in your classroom? a. Probe: provide an example of how you use a learner-centered teaching strategy in your instruction.
RQ2. What support do secondary teachers perceive to need to use LCTS in their classrooms?	1. How much exposure have you had to LCTS in your teacher preparation program or through professional development? 2. How prepared do you feel to apply LCTS in your instruction? 3. What obstacles have you encountered when applying LCTS? 4. What support do you feel you need in order to use LCTS?

Appendix B: Participant Recruitment Email

Dear (participant name),

As a current doctoral candidate at Walden University, I am conducting interviews as part of a research study to investigate how secondary educators are using LCTS in their instruction and what support they need to use such strategies. As a secondary educator, you are an ideal participant because you have first-hand information from your own perspective as a classroom teacher. The data collection method will be qualitative interviewing, so your role would be simply to give your perspective about LCTS in response to questions I ask in the interview. Any additional information you want to add will be welcomed!

The interview will take around 30 minutes, is very informal, and can take place in a location that is most convenient for you. I am simply trying to capture your thoughts and perspectives on LCTS and the support needed to use such strategies. Your responses to the questions will be kept confidential. Each interview will be assigned a number code to help ensure that personal identifiers are not revealed during the analysis and write up of findings.

There is no compensation for participating in this study. However, your participation will be a valuable addition to my research, and findings could lead to an increase in public understanding of LCTS in secondary education. If you are willing to participate, please contact me so we can set up a day and time that best suits both of our schedules.

If you have any questions, please do not hesitate to contact me at carmen.cain@waldenu.edu or 701-220-9513.

Kind regards,

Carmen Cain

Walden University Doctoral Candidate

Appendix C: Interview Protocol

1. How do you define LCTS?

2. Describe pedagogical methods and instructional practices that support that definition

3. Would you describe yourself as a student-centered or teacher-centered educator? Please explain.

4. What experiences during your teacher education program helped to inform your definition of teacher-centered teaching?

5. What LCTS are you using in your classroom?
    a. Probe: provide an example of how you use a learner-centered teaching strategy in your instruction.

6. How much exposure have you had to LCTS in your teacher preparation program or through professional development?

7. How prepared do you feel to apply LCTS in your instruction?

8. What obstacles have you encountered when applying LCTS?

9. What support do you feel you need in order to use LCTS?

Appendix D: Informed Consent

CONSENT FORM

You are invited to take part in a research study about how secondary educators are using LCTS in their instruction and what support they need to use such strategies. The researcher is inviting full-time educators at St. Mary's Central High School to be in the study. I obtained your name/contact info via the school administration. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Carmen Cain, who is a doctoral student at Walden University. You might already know the researcher as a former principal and current university professor, but this study is separate from those roles.

Background Information:
The purpose of this study is to investigate how secondary educators are using LCTS in their instruction and what support they need to use such strategies.

Procedures:
If you agree to be in this study, you will be asked to:

- Provide your experiences and perspectives in response to interview questions
- Provide additional insight you have that may not be asked in interview questions
- Participate in an interview that will take no longer than 30 minutes and will be conducted in a location of your choice within the community

Here are some sample questions:

- Describe pedagogical methods and instructional practices that support that definition
- Would you describe yourself as a student-centered or teacher-centered educator? Explain.
- What experiences during your teacher education program helped to inform your
- definition of teacher-centered teaching?
- What LCTS are you using in your classroom?

Voluntary Nature of the Study:
This study is voluntary. You are free to accept or turn down the invitation. No one at Light of Christ School, University of Mary, or Walden University will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, feelings of doubt, or nervousness. Being in this study would not pose risk to your safety or wellbeing.

This study will advance the practice of secondary educators using LCTS in their classrooms and what support they need to use these strategies. It is important for school

administrators to create professional development opportunities that support the use of LCTS. Students in a learner-centered environment experience higher academic achievement. By increasing academic achievement for all students, positive social change occurs.

Payment:

As a token of gratitude, a $10 Amazon gift card will be given to each participant in the study.

Privacy:
Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by locking all documents with interview answers, transcripts, codes, themes, and identifying information in a drawer at the researcher's office. Keys to this draw can only be accessed by the researcher. Electronic documents will be kept confidential by them being housed in password-protected programs. Data will be kept for a period of at least 5 years, as required by the university.

Limits to confidentiality include a duty to report. If the researcher feels that the participant shares a strategy that has been used and would be deemed abusive to the student, the researcher is obligated to report the abuse.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at carmen.cain@waldenu.edu or by phone at 701-220-9513. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is **IRB will enter approval number here** and it expires on **IRB will enter expiration date.**

Obtaining Your Consent

The researcher will give you a copy of this form to keep.

If you feel you understand the study well enough to make a decision about it, please indicate your consent by replying to this email with the words, "I consent."

Appendix E: Codes

Q1 codes:

Students:

- Ownership of their own learning
- Discover it themselves
- Tailored to the students
- Engaging with the material
- Kids are directly involved
- Designed around their active involvement
- Students as the driver
- Freedom
- Curiosity
- Active
- Students doing the most work
- Students take a major role in their learning
- Students take ownership of learning
- Students control where they're going
- Monitor their own progress
- Student is the focus
- Focus is on how individual learner learns best

Teachers:

- Tour guide
- Facilitator
- Guide
- Teacher is a resource
- The knowledge
- Teacher is facilitator

Q2 codes:

- Discussion
- Student-driven questions and ideas
- Choice
- Station activities
- Debates
- Mock trials
- PBL
- PBL
- Active instruction
- Flipped classrooms

- Collaboration
- Socratic seminar
- Students accomplish objectives in their own way
- Active learning
- Hands-on
- Discussion
- Demonstration
- Jigsaw
- Learning on their own (students)
- Implicit instruction with activities
- Projects
- PBL's
- Solutions to real-world problems
- PBL
- Choice of assessment
- Choice of assignment
- Role-playing
- Projects
- Online resources
- Find answers to own questions
- Instant feedback

Q3 codes:

- Strive to be more student-centered
- Student centered
- A lot is learner-centered but a lot is teacher centric
- Goal is to be more student-centered
- Progressing more and more towards student-centered
- I try to be student-centered but more teacher-centered
- Goal is to be more students centered; I'm still more teacher-centered
- Student-centered, for sure
- Student-centered
- A mix (both teacher and learner-centered)
- Started out as teacher-centered but working way toward more student centered

Q4 codes:

- Practicums
- Classroom management courses
- Practicum experiences
- Student teaching
- Practicum
- Learned knowledge but never saw it applied

- I don't know of any
- Student teaching
- Very little
- Nothing
- Practicums
- Methods classes
- Some from professors and some from peers
- Practicum
- I don't remember any

Q5 codes:

- Socratic method
- Harkness discussions
- Guided reading questions
- Mock trial
- Stations
- Choice of how assessments are graded
- Student choice activities
- Assignment choice
- Tiered or scaffolded assignments
- Explore purposeful examples
- Group assignments
- Labs
- Hands-on activities
- Jigsaw
- Stations
- Free voluntary reading
- Projects
- PBL's
- PBL's
- Solving authentic problems
- Inquiry-based projects
- Hands-on assessment
- Role-playing
- Videos
- Projects
- Create projects
- Use Khan Academy
- Find answer themselves

Q6 codes: (focus on PD)

- Training for AP courses

- NMSI training
- PBL
- NMSI training
- PD at school on PBL (redundant for two years)
- PD at school on PBL
- NMSI training
- PBL PD
- STEM Energy program
- NEED program (National Energy Education Development Project)
- PD on PBL (Cultivate 21)
- Tech cafes
- PBL (Cultivate 21)
- Master's degree program
- PBL PD
- Administrative help
- PBL (Cultivate 21)
- PBL

Q7 codes:

- More prepared than when I started teaching
- Pretty prepared – teacher prep, practicum, longterm subbing
- Intellectually prepared, not always resource-prepared
- On a scale of 1-10, right in the middle
- More prepared than when I got out of college
- I felt prepared coming out of student teaching but then it was a learning curve doing it on my own in my classroom
- More confident than in the past; sometimes go back to my old ways
- I feel very prepared
- Compared to my first year, I feel a lot better prepared
- I feel prepared
- Not overly prepared

Q8 codes:

- Trying to get kids motivated and not procrastinate on PBL – but I need to do a better job with due dates
- Let go of control (as teacher)
- Letting go of control
- Allowing students more responsibility
- Didn't like it – I liked lecturing and talking about my subject
- Time
- Budget constraints

- Student's lack of willingness – expect to be spoon-fed; expect direct instruction; learned helplessness
- Time – need to do a better job of prioritizing (planning)
- PD is about giving a broad strategy and have difficulty incorporating it into my subject area
- Change is hard for students when they're accustomed to more traditional teaching
- Budget, supplies
- Time, resources, energy (when prep hours are used for subbing)
- Time, energy, fear of failure
- Different way of teaching – students aren't used to it, are uncomfortable with it
- Be physically present to every student
- Pushback from the students
- Resources
- Need ideas
- Students are resistant -want to be "told"
- Uncomfortable with LCTS as a teacher

Q9 codes:

- PD, NMSI, FB groups have been very helpful because they're specific to my content area
- A coach – someone whois really well-practiced in employing these strategies
- PD specific to English (content area)
- Inclusion of technology
- Students taking ownership
- More time in schedule (block schedule)
- Time to build relationships with students (advisory period)
- Technology – have PD in effective use of technology
- PD on how to incorporate into everyday lessons into specific subject (content area)
- Not knowing about the opportunities like NMSI, STEM
- Budget
- Mentorship – getting ideas from another teacher in same subject area
- Time to find resources
- More information and training geared toward content
- To observe in my content area – see a class using these strategies in my content area
- Computers in my classroom
- PD that gives wide variety of strategies
- Ability to use space around the school (i.e. gym)
- Content specific PD
- Pre-made resources

Appendix F: Data Summary Tables

	IQ1. Teacher definition of LCTS					
	Student:				Teacher:	
Participant Identifier	Ownership	Focus on students	Active learning		resource	facilitator
N01	x					
N02		x				
N03	x		x			
N04						x
N05			x			
N06			x			x
N07	x					x
N08	x				x	x
N09	x					
N10		x				
N11		x				x
N12		x				
TOTAL	5 (42%)	5 (42%)	4 (33%)		1 (8%)	5 (42%)

	IQ2. Pedagogical methods that support definition					
Participant Identifier	Discussion	Student-generated questions	Student choice activity	Project based learning	Active learning (debates, mock trials, stations)	Online resources (flipped classrooms, jigsaw)
N01	x	x	x		x	
N02				x	x	
N03	x			x	x	x
N04			x			
N05	x				x	x
N06			x			
N07				x	x	
N08			x	x		
N09				x		x
N10	x					
N11		x				x
N12						x
TOTAL	4 (33%)	2 (17%)	4 (33%)	5 (42%)	5 (42%)	5 (42%)

	IQ3. Described self as teacher- or student-centered			
Participant Identifier	Teacher centered	Strive to be student centered	Student centered	Both teacher and learner centered
N01		X		
N02			X	
N03				X
N04		X		
N05		X		
N06		X		
N07		X		
N08			X	
N09			X	
N10				X
N11				X
N12		X		
TOTAL	0	6 (50%)	3 (25%)	3 (25%)

	IQ4. Teacher preparation that helped inform definition		
Participant Identifier	Practicum or student teaching	Teacher prep courses	Did not learn in teacher prep
N01	X		
N02		X	
N03	X		
N04		X	
N05			X
N06	X		
N07			X
N08			X
N09	X		
N10			X
N11	X		
N12			X
TOTAL	5 (42%)	2 (17%)	5 (42%)

	IQ5. LCTS used in the classroom										
Participant Identifier	Discussions	Mock trials	Stations	Student choice activities	Tiered or scaffolded assignments	Solve authentic problems	Collaboration	Labs	Jigsaw	Projects /PBL	Online resources
N01	x	x									
N02		x		x							
N03			x	x							
N04				x	x						
N05							x	x			x
N06	x		x	x					x		
N07						x				x	
N08						x				x	
N09				x							
N10	x					x	x				
N11						x				x	
N12											x
TOTAL	3 (25%)	2 (17%)	2 (17%)	5 (42%)	1 (8%)	4 (33%)	2 (17%)	1 (8%)	1 (8%)	3 (25%)	2 (17%)

	IQ6. LCTS exposure in teacher prep program and professional development						
	Professional Development					Teacher Preparation	
Participant Identifier	Content-specific training (NMSI; STEM; NEED; AP)	PBL	Advanced Degree	Admin help; tech café; previous PD (other)		Didn't recognize it or see it	Student teaching; practicum
N01	x	x				x	
N02	x	x					x
N03	x	x				x	
N04		x					x
N05	x	x				x	
N06		x					x
N07				x			x
N08		x	x			x	
N09		x					x
N10		x				x	
N11		x		x			X
N12		x				x	
TOTAL	4 (33%)	11 (92%)	1 (8%)	2 (17%)		6 (50%)	6 (50%)

	IQ7. Level of Preparation		
Participant Identifier	Not prepared	Somewhat Prepared	Prepared
N01		x	
N02		X	
N03		X	
N04		X	
N05			X
N06			X
N07		X	
N08			X
N09			X
N10			X
N11			X
N12	X		
TOTAL	1 (8%)	5 (42%)	6 (50%)

	IQ8. Obstacles to using LCTS in the classroom					
Participant Identifier	Letting go of control	Like teacher-centered instruction (comfort level)	Resources and time	Student resistance	Need subject-specific PD	Fear of failure
N01	x			x		
N02	x	x				
N03			x	x		
N04			x	x	x	
N05			x			
N06			x		x	
N07			x			x
N08				x		
N09				x		
N10					x	
N11			x	x	x	
N12		x			x	
TOTAL	2 (17%)	2 (17%)	6 (50%)	6 (50%)	5 (42%)	1 (8%)

	IQ9. Support Needed				
Participant Identifier	Content-specific PD	Technology	Student ownership	Observe/collaborate in my content area (coach/mentor)	Resources and time
N01	x				
N02	x	x	x	x	
N03		x			x
N04	x				
N05	x			x	x
N06	x				
N07	x			x	
N08	x	x			
N09					x
N10				x	x
N11	x				
N12					x
TOTAL	8 (67%)	3 (25%)	1 (8%)	4 (33%)	5 (42%)