

A CASE STUDY EXAMINING STUDENTS' EXPERIENCE IN STUDENT-CENTERED  
LEARNING PRACTICES IMPLEMENTED AT AN AIR FORCE TRAINING COURSE

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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## ABSTRACT

The purpose of this case study is to examine students' experience of student-centered learning practices implemented at an Air Force training course. At this stage in the research, student-centered learning is generally defined as a learning approach during which students generate learning opportunities and reconstruct knowledge dynamically in an open-ended learning environment (Lee & Hannafin, 2014). The theory guiding this study is constructivism based on Lev Vygotsky's learning theory which represents an epistemological perspective as to the nature and evolution of individual understanding where learners create their own learning. Student-centered learning environments are rooted in constructivist approaches (Creswell & Poth, 2018). This study is designed to answer a central question: How do students describe their experiences of using student-centered learning practices implemented at an Air Force training course? Using the prescribed data collection method, a sample will be derived from an Air Force training course in the Southeast regions of the United States using a convenience sampling size of 10-14 participants. Data collection is based on classroom observations, in-person interviews, and document analysis to identify common experiences amongst students who attend the training. The data analyzed is used to reflect a major theme that shapes the findings of this study regarding students' experience with student-centered learning practices implemented in an Air Force training course.

*Keywords:* 21<sup>st</sup> century skills, competencies, continuum of learning initiative, culture, student-centered learning, transition

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## **Dedication**

It is with love and gratitude that I dedicate this dissertation to my family, for all those who are still with me, and those who have already passed on into Glory. From their deepest sacrifices allowed me to accomplish this great achievement. Without them I could have not had the support and love needed to motivate and push me to continue in this journey.

From everyone to whom much as been given, much is required; and to whom they entrusted much, of him they will ask more (Luke 12:48, Amplified Bible Version). God gave me the gifts and the ability to do what He has called me to do.

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This dissertation was a labor of love from start to finish in which would not have been possible without the wisdom and strength of my Lord and Savior, Jesus Christ. It is through Him that I can do all things that He has called me to do and accomplish. Even through the difficulties faced in this process, Jesus strengthened and guiding me with His unfailing love. The two most important people in my life I would like to give recognition to Fermin, my best friend and partner in this life, and Alexander, my wonderful son. I would not be where I am today in this process if it was not for their love and support. I am grateful for their grace and patience they exemplified to me throughout this doctoral process. With tears in my eyes, this finished dissertation is dedicated to the most important people in my life, who stayed with me throughout the doctoral process and are standing beside me today. I look forward as I close this chapter in my life only for a new chapter in our lives to begin.

This would have not been possible without the guidance of Dr. Carol Gillespie and Dr. Justin Necessary. Dr. Gillespie showed me patience and grace to propel me forward even when I wanted to walk away. She encouraged me when those times of difficulty arose and assured me that I was on the right track even when I had approaching deadlines. I am very thankful for the time and effort that she dedicated to me throughout this doctoral process. Dr. Necessary helped make my research more effective by ensuring that it was aligned appropriately to the methodology used. The professors at Liberty University provided an excellent learning experience that allowed me to grow and learn from their knowledge during the doctoral process.

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accommodating and understanding during this process. Despite the growing restrictions of a pandemic and its impact on the learning environment, the professionals involved in my research study are individuals that I would like to honor for going above and beyond the call of duty.

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## **List of Abbreviations**

Centers for Disease Control and Prevention (CDC)

Coronavirus (COVID-19)

Department of Defense (DoD)

National Center for Education Statistics (NCES)

Student-Centered Learning (SCL)

United States Air Force (USAF)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

How military members are trained should highlight the skill sets needed for them to be successful and become lifelong learners during their military career and beyond. As society evolves into a more technological and digital environment, the ability to gain 21st-century skills becomes vital for military members and leadership to adapt to the rapid changes within their work center and on a global scale. As future global crises and demands arise, the Air Force and other branches of service must find new innovative ways to combat those challenges. This will require its members to utilize the training to extinguish the instability within a given crisis. With that in mind, the Armed Forces have initiated a new approach to how military technical training and professional development are administered and presented to all military members. The training environment has shifted to the student-centered paradigm where learners progress based on proficiency (Bell & Reigeluth, 2014). This study addresses the gap in research by examining the students' experience of student-centered learning practices implemented in an Air Force training course. Chapter One contains background information about the historical, social, and theoretical contexts of student-centered learning practices, situation to self, problem and purpose statements, the significance of the study, research questions, and definitions. This chapter concludes with a detailed summary of the content of all pertinent information relating to this study.

### **Background**

Research has set in motion changes to move the branches of service towards education and training tailored to meet the individual needs of its members no matter the location or the availability for them to learn (Roberson & Stafford, 2017). Prior to this shift, education and

training focused a sorting and standardizing paradigm based on the proficiency of those learners (Air Force Instructions, 2019). Evidence suggests that society demands a more flexible, adaptive skills and abilities essential in the 21st century workforce (Lee & Hannafin, 2016). In a constantly changing and increasingly globalized world, high quality education is pivotal in order to better prepare students to participate in today's dynamic societies (Hoidn, 2017) actively and successfully. These demands do not exempt the military as an organization which has spent many years educating and training its members through an industrialized approach. The industrialized approach of training and educating its members is no longer effective in equipping learners to gain the necessary skills and abilities needed in a changing society. By shifting to a more student-centered learning approach, the military can improve their efforts in educating and training members in an affective domain where the learner is the focus and has more control over the learning process. (Ausink et al., 2017). To have a better understanding of the problem identified in this research it is important to view it through the historical, social, and theoretical context.

## **Historical**

The military has educated and trained its members through an industrialized approach over the past 50 years, which has limited their abilities and capabilities to prepare its members for a more global and technological advanced society (Roberson, 2017). As society and global demands evolve and increase, the need to update the methods in which military members are educated and trained is warranted to create and sustain well trained members through an innovative approach. As education systems have reformed it has adopted new paradigms to be more effective and integrate advanced technology into its learning-environments, however the military lags in shifting to a more student focused, student-centered approach (Cockrell, 2019).



Because of the uniqueness of their missions and objectives, all branches of service have ingrained into its members to learn job specific skills with no benefit to cultivating the skill sets needed in the 21st century (Morgan-Owen, 2018). Individuals who enlist in the Air Force are more technically savvy than their predecessors. Therefore, this requires the Air Force as an organization to rethink the way training is delivered and presented to students. Within the new learning paradigm, students will relate to other learners and experts in a collaborative forum. This approach will enhance the organizations' ability to reach students in meaningful way and enrich their talents, skills, and knowledge which can be a challenging context for achieving desired learning outcomes (Roberson & Stafford, 2017). Prior to 2016, the initiative to implement student-centered learning practices within Air Force training and education settings was not a common practice (Roberson & Stafford, 2017). The implementation and type of student-centered learning practices are not outlined by a governing publication that guides how to utilize in the classrooms. The student-centered learning practices are chosen and implemented based on the instructor's preference, ability, and knowledge instead of the needs of the students within that learning environment (Keiler, 2018). For students to take on a more active role in the learning process student-centered learning practices implemented should reflect the learning needs, styles, and preferences of the students in that setting.

### **Theoretical**

Educational philosophy and learning theory underpin all educational practices because they provide the conceptual frameworks describing an individual's acquisition of knowledge, skills, and attitudes to achieve changes in behavior, performance, or potential (Mukhalalati & Taylor, 2019). Social constructivists and empirical research suggest student focused practices and cognitive activations are associated with the outcomes i.e. students conceptual understanding

and performance (Singhal, 2017). Social constructivism theory is an approach in which individuals actively construct or make sense of their knowledge through their learning experiences (Elliott et al., 2000). This is important to this research because knowledge is developed through social processing and interaction within a given environment. Student-centered learning practices are more commonly known as constructivist strategies, where students are active learners, and they gain critical thinking skills. The Air Force has relied heavily on the direct instruction approach to educate members of the Air Force in learning specific job tasks that are outlined by the career field education training plan. The direct instruction approach is a highly teacher-centered approach that includes methods of lecture, questioning, teaching, practice, and demonstrations. The direct instruction approach was developed by Siegfried Engelmann and Wesley C. Becker in the mid-1960s. This approach has built-in assumptions that educators believe are true to include all students can be taught, academic abilities can be improved, and lower performer or disadvantaged learners must be taught at a faster rate if they are expected to catch up. Teachers can be successful when they are provided adequate training and material and all instructions must be controlled to minimize the chance of students misinterpreting the information being taught and a maximum reinforcement for effect instructions (Fredrickson, 2018). The United States Air Force learning environment's vision is the individual Airman, and its focus is on the first principles of learning which guide the development of a model outlining how the Air Force will continue to provide world-class recruiting and continuum of learning in a resource constrained environment (Rice, 2013). Within this environment the guiding theories are based on adult adaptive learning theories. Students in diverse learning environment like the Air Force must be equipped to have a deeper learning experience to generate skills needed in complex environments (Cockrell, 2018). Technology has

advanced how the Air Force trains and operates which enables the learning content to be more operationally relevant, engaging, individually trained, and accessible (Rice, 2013). Researchers have demonstrated that deeper learning generates improved student learning and performance (Adams et al., 2019). Although there are many definitions, typically, the literature takes a constructivist view in describing student-centered learning through active learning, sense-making, and building on prior knowledge (Gilis et al., 2008). Crain (2015) adds to this with a broader humanist perspective theory emphasizing personal growth, consciousness raising, and empowerment to help people achieve their personal best. Constructivist theory is the best way to define learning, therefore, to promote student learning, it is necessary to create learning environments that directly expose the learner to the material being studied (Olusegun, 2015). Equipped with the knowledge on the best practices utilizing constructivism theory, the Air Force can recruit and retain individuals who can demonstrate potential critical thinking and problem-solving skills to successfully fight and win in contested environments (Davitch & Folker, 2017).

## **Social**

Student-centered learning practices have been around for well over 100 years (Kaput, 2018). Research has indicated the benefits and challenges when implementing student centered learning practices within a learning environment. Majority of the participating learning environments struggled to implement and practice anytime, anywhere learning (Kaput, 2018). Student-centered learning is an approach that aims to bring students to the forefront of the learning process. Students then can monitor and direct their learning, regulate behavior, persevere when faced with challenges, communicate, and collaborate with diverse peers, and solve complex problems (Heller & Wolfe, 2015). Within the military learning environment, members are forced to adapt to the ways of the military regarding standards and discipline, the

cultural identity of the United States Air Force (Thomas, n.d.). Many military members struggle to gain the skill sets needed to be proficient in their areas of expertise (Morgan-Owen, 2018). This deficiency can place strain on the career fields within the services causing direct impact on the growing needs of the military organization. However, the military has made great strides towards better preparing and training its members to operate in vast environments. Military members learn their job specific task through repetition and memorization without critical thinking or problem solving. This approach hinders their growth in skill because they are instructed to follow orders and stay within their lanes. This is the culture of the military in where it relies on its people to be effective and must be sustained (Cassem, 2018). The military relies on its people to accomplish the missions and objectives, providing the avenues of learning based on members learning styles and preferences can help members gain the skill sets needed to operate beyond their career in the military (Davis & Casey, 2019). Customized learning can improve education in the affective domain by making the learner the focus of the training and by giving the learner more control over the education process, the individual is more likely to reciprocate and internalize the values of the organization (Bernard et al., 2011).

### **Situation to Self**

My motivation for conducting this research study stems from both a professional and personal level. From a professional level, as a former military member and a training instructor I have experience and seen the struggles that students go through to adjust to the rigorous training program that they are not familiar with. Students are expected to be able to grasp a lot of information and apply that knowledge within a limited timeframe. Many students attending this course have communicated that learning in this type of environment can be difficult and is different than attending a college or university. It is my responsibility as an instructor to help

students identify the means at which they can learn the best by using student-centered learning practices in order for them to gain a basic foundation of knowledge and skills that can benefit them throughout their careers. Through the research, best practices can be identified and incorporated into the learning environment that benefits all types of learners.

From a more personal level, this research is important to me because it empowers me to control my own learning avenues which correlate to my learning preferences and styles. I learn best when I am physically active or learning through activities that involve participation. Completing most of my degrees through an online format has require me to be hands-on throughout the process to meet the requirements of assignments and graduate. Student-centered learning was the focus of my Master of Arts degree in Teacher Leader. As an instructor, I have developed, integrated, and utilized student-centered learning practices within my classrooms to help students find relevancy in the material being covered and link it to their performance in a simulator. As an instructor, I provide my students the opportunity to gain the skill sets they need to operate outside of their area of expertise to enhance their competencies in building 21st century skills required in a globally technological advanced society.

I am able to approach this study from an ontological view in which allows the students to describe their own experiences associated with the nature of reality. This research is grounded in constructivism interpretative framework and serves as a guide for training environments undergoing a shift in the focus of the learning environment (Creswell & Poth, 2018). Creswell & Poth (2018) describes philosophical assumptions in the analysis, allowing participants to have opportunities to share their real-life experiences by embracing the experiences throughout the process. Students can share their experiences and have a voice about the student-centered learning approaches implemented in the learning environment. According to Creswell & Poth

(2018), the paradigm of constructivism allows students the opportunity to seek understanding of their world while constructing the meaning of situations and opportunities for students to discuss with others. The axiological assumption, the role of values (Creswell & Poth, 2018) and students learning habits creates an atmosphere of creativity and camaraderie with the students. On many occasions, I observe in the training environment students prefer to use student-centered learning approaches instead of traditional methods of learning. This study is driven from the perception of the students instead of a personal perception regarding the student-centered learning approaches shaping instructions and content in the classroom environment. The epistemological assumption consists of subjective evidence from participants (Creswell & Poth, 2018). First-hand knowledge affects the outcome, so it is critical that my own assumptions and bias are eliminated while conducting this study. The paradigm to guide this study is constructivism, which views people create their own learning through experiences (Purwarno & Suhendi, 2017). Conducting this study within the natural setting of the participants and using open-ended questions allows me to focus on specific details (Creswell & Poth, 2018) of the participants experiences. Working closely with participants provides valuable opportunities to gather essential information regarding the extent of experiences and gaining a deeper understanding of the phenomenon.

### **Problem Statement**

The problem is student-centered learning practices implemented in an Air Force training course lack innovative approaches to make training relevant to students and keep pace with the changing technical requirements (Camacho et al., 2018). Air Force technical training only provides a foundation for an individual to gain the ability to work in the operational side of the military. The main core of this learning is to prepare members with the fundamental knowledge of the job-related tasks rather than actual hands-on experience they will need for their first duty

station. With this focus, Air Force leadership are aiming at a faster and more efficient way to train military members through relevant hands-on at their first duty station rather at a technical training environment (Haddix, 2020).

In this case study, I seek to examine students' experience regarding the student-centered learning practices implemented in the Air Force training course. Student-centered learning is an approach in which the learner chooses not only what they will study but how and why (Corley, n.d.). Student-centered practice seeks to deepen student learning and a commitment to eliminating the opportunity gap (Burns et al., 2014). Integrating student-centered learning practices into the training environment includes providing students the resources associated with applying that knowledge to real-world situations. The classroom is shaped on a collaborative learning environment where students are active and encouraged to find a direct connection between the instructional material and their own interests and real-world experiences (Richmond, 2014).

As students take responsibility for their own learning, they become explorers capable of leveraging their curiosity to solve real-world problems (ISTE, 2020). The Air Force needs a more deliberate approach to improve the critical thinking, problem solving, communication, and collaboration skill sets to enhance the decision-making process across the organization as a whole and better prepare its members to gain the operational insight needed to make those decisions affecting operations and missions (Roberson & Stafford, 2018). According to Chu, across the Air Force Career Fields over 20 percent of military members fail to graduate from technical training schools (2019). Student-centered learning within the training environment must be able to meet the specific needs of military members for them to gain the skills needed to link the material covered with real-world situations.

Without that reinforcement of real-world situations, students fall short of applying the knowledge and skills. As the Air Force moves forward, the force structure and, consequently, force-development programs must change to emphasize these requirements, which will include integrating high tech capabilities and skill sets to operate in a moderate advanced technological environment (Shaud & Lowther, 2011). It is paramount that the Air Force provides relevant training to its members so that they can efficiently and effectively perform their jobs with the skill sets needed in the 21st century.

### **Purpose Statement**

The purpose of this instrumental case study is to examine students' experiences of student-centered learning practices implemented in an Air Force training course. At this stage in the research, student-centered learning will be generally defined as a learning approach during which students generate learning opportunities and reconstruct knowledge dynamically in an open-ended learning environment (Lee & Hannafin, 2014). Through the constructivism approach, students can build on procedural and propositional knowledge that will guide them throughout their training and enhance the learning experience. The qualitative research theory guiding this study is constructivism based on Vygotsky's learning theory which represents an epistemological perspective as to the nature and evolution of individual understanding where learners create their own learning (Adom et al., 2016). Constructivism is an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner (Elliott et al., 2000). Student-centered learning is based on the theory of constructivism, which is formulated on the idea that learners must construct and reconstruct knowledge to learn effectively (Fesshaye & Tekle, 2017).

Constructivism theory was utilized to guide this study in understanding students'



experience of student-centered learning practices implemented in military training course. It highlighted the types of practices that are beneficial or challenging in developing the skill sets needed for those students to become life-long learners. In the student-centered learning environment, students are taking the information discussed is applying it to develop a deeper understanding of the material and gain valuable skill sets that will serve them throughout life (Student Centered World, 2020).

### **Significance of the Study**

The significance of the study is to address the gap in the literature by examining students' experience regarding the student-centered learning practices implemented in an Air Force training course. Research has highlighted that implementing student-centered learning practices in the learning environment can be a complex and often challenging in nature (Ellis et al., 2016). With the limited research-based information on military education and training practices, student-centered learning provides a tailored learning experience for military members to learn anytime and anywhere. This approach is known as the continuum of learning initiatives, which allows members to have access to learning environments that adapt to the individual and the rapidly changing world, based on sound theory enabled by technology (Bell & Reigeluth, 2014).

The student-centered learning educational approach has gained federal incentives to encourage innovation in the classroom and has sparked new research within the past decade (Kaput, 2018). The significant growth in the number of American schools experimenting and implementing student-centered learning practices is on upward trend. This active learning approach intends to move the learning environment towards educators providing feedback throughout learning process so that students are able to correct their learning behavior early on which can have a direct impact on their performances. The current health pandemic, COVID 19,

has called for a more deliberate approach to educating students across the nation and the world. Many schools have shifted to an online and distance learning outlet that incorporate student-centered learning practices. The current hiatus from the traditional classroom and the cancellation of standardized testing makes way for more project-based and student-centered learning assignments that have a higher educational value and engage students more (Wells, 2020).

### **Empirical**

Recent empirical studies on student-centered learning practices emphasized that utilization of student-centered learning practices enhances the students' overall learning experience (Bustillo et al., 2019). Student-centered learning practices are personalized hands-on and group learning experiences. This approach requires high expectations in teaching of 21<sup>st</sup> century skills that are performance-based assessments providing opportunities for learners to reflect on their practice and develop their craft (McKenna, 2014). Recent studies and survey have revealed that many students do not possess fundamental skills or cannot demonstrate their learning through a variety of methods that build real-world, 21<sup>st</sup> century skills (Kaput, 2018). The current pandemic has highlighted critical gaps in implementing relevant online learning that equips students with the necessary skills to be successful in schools across this nation. Many students will have adequate and highly enriched learning opportunities that will help build those skills sets needed while other students that lack the means and opportunities will fall further behind in developing those necessary skills (Mineo, 2020). This pandemic has not only affected our public education system but has altered every aspect of our lives requiring a new approach to how we do business. A 2019 research report stated that the education system has done little to address college graduates who lack 21<sup>st</sup> century skills and suggested that young adults needed to

learn how to learn to ensure that they can adapt to a fast-changing work world (Link, 2020). However, many learning environments are required to implement student-centered learning practices without considering the needs of the students, resources available, or the knowledge or skills to implement efficiently. Understanding critical attributes of implementing student centered learning practices in learning environments contributes to the need for students to strive for deeper knowledge, make complex decisions, and become independent.

### **Theoretical**

The theoretical framework for this study was based on Lev Vygotsky's learning theory, constructivism (Adam, 2017). Constructivism is about how students learn and how they construct understanding through their experiences and reflection. Creswell & Poth (2018) stated in social constructivism, individuals seek understanding of their world in which they live and work and develop a subjective meaning to their experiences (p.24). The Air Force acknowledges that technical interventions are valued, however, insufficient attention is directed toward developing the human cognitive skills required to perform effectively with advanced technology in a complex setting (Thomas et al., 2014). This perspective contributed to a deeper understanding of the students' experiences regarding the benefits, challenges, influences, and how they can overcome those challenges faced by the student-centered learning practices implemented in an Air Force training course. The results of this study could provide the Air Force with specific student-centered learning practices that are aligned with student preferences and styles rather than practices that are directed.

### **Practical**

By highlighting the experiences that students have with student-centered learning practices implemented in an Air Force training course, leadership can place more attention on the

qualities and skill sets needed for them to train members according to their specific learning styles and preferences. A recent study was conducted to address the growing concern of a student's inability to grasp critical decisions making skills transitioning from classroom lecture to simulator performance within the Air Force training course (Tobler, 2020). Students needed practical application tools to reinforce the material covered in the lecture to enhance their critical thinking and problem-solving skills in and outside the classroom learning environment. The overall outcome of this study was to address the continued increase of failure rates amongst the students in the Air Force training course and help students become more coherent in a career field vital to Air Force readiness (Tobler, 2020). From this study, a practical application tool was recommended based on the student-centered learning approach. Student-centered learning practices are at the core of creating a learning environment that transitions knowledge-based material to practical application (Kaput, 2018). This study can benefit stakeholders in all environments to include the training environment because Air Force training does not stop once students graduate from the training course.

### **Research Questions**

In this case study, a qualitative research method will be used, which is an inquiry process to understanding based on a distinct methodological approach that explores a social or human problem (Creswell & Poth, 2018, p. 326). The purpose of this case study is to gain a clearer understanding of the students' experiences of student-centered learning practices implemented in an Air Force training course. The following questions will be used:

***Central Question:*** How do students describe their experiences of using student-centered learning practices implemented at an Air Force training course? Students are now expected to have the skills and ability that enables them to problem solve and think critically. Student-centered

learning practices place the learning process in the hands of the student, where they are required to take on a more active role, therefore gaining the skills and abilities needed for the 21st century (Aliusta & Özer, 2016).

***Sub Question 1:*** What benefits do students experience when using student-centered learning practices implemented at an Air Force training course? When student-centered learning practices are used students become active members of that learning community in which that are learning skills-communication, collaboration, problem-solving, and critical thinking (Bower, 2017).

Armed with that knowledge, knowing the advantages of integrating student-centered learning practices in that environment allows students a clearer path towards gaining 21st-century skills.

***Sub Question 2:*** What challenges do students experience when using student-centered learning practices implemented at an Air Force training course? Research has shown that most students are not interested in learning through student-centered methods due to different factors, such as a sense of fear, lack of interest, and confidence (Kumar, 2016). Identifying these challenges can help improve the type of student-centered learning practices that are implemented in Air Force training courses based on the insight of the student population.

***Sub Question 3:*** How does students' experiences influence the use of student-centered learning practices implemented at an Air Force training course? From a constructivist epistemology perspective, students do not passively receive and process information, but they actively construct the knowledge and skills through the interaction in their environments (Lee & Hannafin, 2016). The classroom is a diverse learning environment where the student population is made up of different backgrounds, perspectives, nationalities, viewpoints, cultures, etc. The type of experience that students bring into that classroom can set the tone for the types of student-centered learning practices implemented in that environment.

**Sub Question 4:** What challenges do students have to overcome when using student-centered learning practices implemented at an Air Force training course? When students are given a choice on their learning, students engage deeper, richer learning occurs, display on-task behaviors, and the learning environment becomes more collaborative (Kaput, 2018). Students who are engaged in student-centered learning exhibit higher academic gains and are more responsible, independent, and disciplined.

### **Definitions**

1. *Constructivism:* A theory of knowledge (epistemology) that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. As a theory of learning, constructivism is relevant in this study as the researcher wished to establish how learners learn and teachers teach (Mogashoa, 2014).
2. *Epistemology:* The knowledge and knowing, through the subjective experiences of people (Creswell & Poth, 2018).
3. *Methodology:* Procedures that characterized as inductive, emerging, and shaped by the researcher's experience in collecting and analyzing the data (Creswell & Poth, 2018).

### **Summary**

The wealth of knowledge gained through research helps identify areas of deficiency and improve the overall experiences of military students in a training environment. This case study seeks to examine students' experience of student-centered learning practices implemented in an Air Force training course which lacks innovative approaches to make training relevant to students and keep pace with the changing technical requirements. With the limited research that has been conducted, student-centered learning practices in the training environment require a

deeper exploration to determine what types of student-centered learning practices are beneficial or challenging.

Within this chapter, we seek to capture how the training environment has evolved over time from a job-related skill to focusing on implementation of student-centered learning practices that emphasize 21st century skills. The social and theoretical aspects of this problem discussion relate to the importance of providing military students avenues of training and development that meet their specific needs. This chapter explains the methodology used in an instrumental case study to include the research design, procedures, participants, setting, collection and analysis of data, trustworthiness, and address ethical concerns.

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

The purpose of this instrumental case study is to examine students' experiences of student-centered learning practices implemented in an Air Force training course and the related literature regarding student-centered learning practices and the educational outlook of integrating those practices into a structured environment. This includes student-centered learning practices that align with the needs and learning preferences of the student population within that environment. This literature review examined previous research on student-centered learning practices, specific practices that are integrated, an evaluation on the benefits and challenges of those practices, and the viewpoints of teachers and students within a student-centered learning-focused environment. Student-centered learning practice has been a buzzword in the field of education for many years. By reviewing related literature, what has already been done and where the gaps exist in that literature are highlighted. Moreover, the structure of this chapter provides the theoretical framework and theorist underlining the study, the literature related to student-centered learning through focusing on the student-centered learning practices, innovative student-centered learning practices, benefits of student-centered learning practices, challenges of student-centered learning practices, influences of student-centered learning practices, and overcoming challenges of student-centered learning practices integrated into a learning environment. The chapter concludes with a general conclusion of how the literature provides the context for my research study.

### **Theoretical Framework**

The bases of the theoretical framework for this research study derives from Lev Vygotsky, constructivism (Hoidn, 2016) and Malcolm Knowles, adult learning theory (Knowles,



2010). These theories will aid in understanding how students construct their knowledge and how they find meaning in what they are learning through student-centered learning practices. Lev Vygotsky's constructivism view of learning considers the learner as an active agent in the process of knowledge acquisition and teachers cannot simply transmit knowledge to students, but students need to actively construct knowledge in their own minds, so they discover and transform information, check new information against old, and revise rules when they no longer apply (Bada, 2015). Through constructivism, students are able to develop a deeper understanding of the world around them because they are able to reflect on their own experiences and reconstruct their understanding. This is the backbone of constructivism learning theory because it allows learners to construct their knowledge through doing rather than being a passive learner that just takes in information. Malcolm Knowles's adult learning theory is a theory on how adults learn (Knowles, 1978). By including this theory in this study, it provides a wider spectrum of knowledge regarding how students learn best and the best means of meeting their needs. Adults need to know why they are learning and using effective practices involving them can help solve real life problems (Corley, 2011). Students become the owners of their learning when student-centered learning practices are integrated within the learning environment (Hannafin & Lee, 2016). The student-centered learning practices integrated into the classroom are based on the need of the educational setting to promote life-long learning, enhance 21st-century skills, and foster empowerment.

### **Lev Vygotsky's Constructivism Theory**

The main theoretical framework guiding this literature review is Lev Vygotsky's constructivism theory, one of the most influential philosophies in education in the twenty-first century (Krahenbuhl, 2016). Constructivism theories of learning underpin student-centered

learning approaches that emphasize student's responsibility and activity in the learning process (Harrison, Walsh, & Healy, 2011). Lev Vygotsky's work of introducing the social aspect of learning contributed to the movement of student-centered learning to the forefront of education. This theory places emphasis on the individual as the sole proprietor of their learning, where learning is constructed through experience. Vygotsky focused on the influence that culture and social norms help aid in the discovery of innovative approaches to learning. Constructivism refers to, how people acquire knowledge and learn (Olusegun, n.d.) suggesting that individuals construct knowledge and meaning from their experiences. Constructivism is best known as an educational philosophy rather than a learning method because even though it encourages students to take ownership of their learning, it does not provide specific ways of how that should be accomplished.

Since the 1980s, constructivism theory has been shown to increase creativity within the learning environment. Corley (2011) highlights how motivation and actual learning increases when students are part of their own learning process. Learning can be a complex process in which students are constantly changing their internal constructed understanding of the world around them. This requires students to stay engaged throughout the learning process through active participation to build on their prior knowledge of the material or topic (Unin & Bearing, 2016). In the learning process, students become aware of their learning styles to better equip them to construct their knowledge through experience (Essays, 2018). This theory emphasizes that learners are active and are confident based on their abilities which allow them to admit there is a gap in their knowledge or understanding but are willing to take a risk to learn something in a new way (Husain, 2018).

The constructivism view of learning considers the learner as an active agent in the process of knowledge acquisition and teachers cannot simply transmit knowledge to students, but students need to actively construct knowledge in their own minds, so they discover and transform information, check new information against old, and revise rules when they no longer apply (Bada, 2015). Through constructivism, students are able to develop a deeper understanding of the world around them because they are able to reflect on their own experiences and reconstruct their understanding. Student-centered learning environments are deliberately created in the manner to meet the unique needs of students by considering how each student learns and expresses their knowledge in a differentiated diverse setting. Student-centered learning practices place the learning process into the hands of individual students where they have a voice and can proactively engage in the material as an active agent. Using a variety of student-centered learning practices are ways to promote learning and encourage students to step outside of their comfort zones to gain the knowledge and skills needed. Students are able to make a connection between the material being covered through visual meaning in their minds rather than just facts on paper that they are required to only memorize. Student-centered learning environments are deliberately created in the manner to meet the unique needs of students by considering how each student learns and expresses their knowledge in a differentiated diverse setting. Student-centered learning practices place the learning process into the hands of individual students where they have a voice and can proactively engage in the material as an active agent. Using a variety of student-centered learning practices are ways to promote learning and encourage students to step outside of their comfort zones to gain the knowledge and skills needed. Students are able to make a connection between the material being covered through visual meaning in their minds rather than just facts on paper that they are required to only memorize.

Constructivism theory has deep roots in the history of the educational field with key elements contributed by Vygotsky's to include social learning, cognitive apprenticeship, the zone of proximal development, and mediated learning (Kay & Kibble, 2015). Social learning is derived from an individual's interaction and experiences to the environment into where engaged learning opportunities become a powerful foundation for students to build lifelong skills (Dean & Wright, 2016). Bruin (2019) emphasizes the importance of how cognitive apprenticeship plays a role in how people learn from peers through observation, imitation, and modeling. Vygotsky's zone of proximal development was important work because it identified how that an individual has stages of skill development to include the level at which they can accomplish themselves and the level they can accomplish with assistance for others (Krahenbulh, 2016). The mediated learning focus was on a student's learning experience that can be enhanced by the social interaction between the learner and the teacher in that environment (Presseisen & Kozulin, 1992). Mediation is the key proponent of Vygotsky's theory of constructivism by helping the student alter their environment in a way for them to interact with nature (Fadeev, 2019).

The intertwining of these elements are principles that are applied to the student-centered learning practices that are integrated into the learning environments. Constructivism theory promotes cognitive processes that lead to learning (Jenkins, 2016) and is used as the theoretical framework to examine students' experiences regarding the student-centered learning practices implemented. Students construct their own knowledge from their experiences and the constructivist approach allows students to be active participants in the learning process. Seeking to understand the array of student-centered learning practices incorporated into Air Force technical training courses can provide a strategic approach to adapting those practices into the full spectrum of the organization.

## **Malcolm Knowles Adult Learning Theory**

Popularized in the 1980s by Malcolm Knowles was the concept of andragogy, adult learning which is the art and science of helping adults learn (Corley, 2011). Adult learning theory aims to highlight how adults learn and identifies the learning styles and preferences that best suit each individual. The theory focused on how adults learn differently than children through a more self-directed, internal drive of motivation, relevancy, problem-centered, and student's cognitive readiness to learn. It was not until the mid-20<sup>th</sup> century that research and attention was given to adult learning methods dominated by behavioral and cognitive framing of learning (Merriam, 2017). Through this theory, Knowles sought to understand the uniqueness of the adult learner and identify the learning styles that best suit the adult learner. Playing a key role in shaping adult learning, Knowles discovered that adult learners would seek continuous learning opportunities that will expand their knowledge when faced with life changes challenging them to improve themselves (Ho et. al, 2020).

The wealth of knowledge and experiences that adult learner bring to the learning environment is an essential component of the learning process. This equips adult learners with a greater depth of understating needed in order to connect new content with prior knowledge and skills. Adult learners bring to the learning environment an accumulated life experiences, not empty vessels waiting on the teacher to impart knowledge but being able to connect the new material with what they already know. Socrates in ancient Greece argued that education was about drawing out what was already within the student (Chand, 2017).

The landscape of adult learning theory has changed since the first research in 1920, in where it is not merely just categorized solely as a cognitive process happening in the mind and a laundry list of adult learner characteristics but a conjunction to better understand cultural, social,

economic, and political forces that together shape and inform the learning environment (Merriam, 2004). Adult learning theory seeks to equip adults to become life-long learners, understand individuals learning preferences and styles, engage the individual in the learning process, and provide a variety of learning strategies that meets the specific needs of the learner. Essays (2018) stated that once students become aware of their own learning styles it can help match their learning to the type of learning strategies to create an interesting and motivated learning experience.

Corley (2011) identifies how the theory of adults learning can help teachers be more effective in practice and more responsive to the needs of their students. Andragogy learning theory focuses on providing students the why behind the reason for learning, giving student's variety of performance avenues of learning, and limited guidance and instructions to enable them to utilize 21<sup>st</sup> century skills. Learning is a continuous process throughout life and if learners are involved in that process, they become more receptive to learning new ideas, strategies, and techniques that will serve them well. Maclellan (2018) contributes to the discussion by arguing that development of higher-level cognitive competencies is developed through integrating motivational constructs to pedagogical practices through goals, interest, and attributions.

The military has an extremely robust educational system that blends training and education in an environment made up of a large component of adult learners (Pierson, 2017) where they are constantly trained to the highest levels of proficiency. These adult learners possess diverse experiences that create a unique learning requirement to further development their knowledge and skills. Adult learners demand precise, tailored learning that leverages their experiences and must be based on sound adult learning theory (AETC, 2013). Adult learners learn differently than younger learners, and it is important to properly set learning conditions in

order to motivate these adult learners (Pierson, 2017). Malcolm Knowles's adult learning theory is tailored to adult learning, where learners are motivated and self-directed. In this type of learning environment and instructions, it is important that goals and purposes, individuals' differences, and principles for adult learners are considered to ensure cognitive learning functions remain consistent across generations (AETC, 2013).

In the military training environment, the extensive amount of technical material that must be covered and the limited time available requires every moment to be maximized; therefore, learners must be motivated and fully understand the concepts to successfully apply within a structured framework (Karp, 2016). This approach involves the key principles of Malcolm Knowles's adult learning theory which include: a need to know, responsibility of one's own learning, role of experience as a resource, the readiness or applicability of the information, motivation for learning, and student-centered learning with real-life problems (Mitchell, 2005). Adult learning requires these elements to help students develop their understanding through self-directed initiatives supported by educational strategies that integrate student-centered learning practices. Knowledge on adult learning theories is important in integrating student-centered learning practices beneficial to the students in that environment. Embedded in constructivism and adult learning theory, this study seeks to have a sharper sense of the lived experiences and the essence of those experiences by adult learners attending an Air Force training course that is transitioning from teacher-centered to student-centered learning.

### **Related Literature**

The literature review is structured based on the theoretical framework that underpins this study and provides the reader with a foundation of student-centered learning practices. Harrison (2011) describes student-centered learning as an alternative to the traditional environment of

learning that places students at the center of all aspects of that environment. Students are active members of their learning environment and not passive vessels that knowledge is poured into (Greener, 2015). Student-centered learning practicality can increase a students' sense of belonging and fulfillment (Stewart, Gapp, & Houghton, 2019). This study addresses a gap in the literature related to student perspective on the types of student-centered learning practices that are integrated into learning environments. There is a great deal to learn from literature on students-centered learning practice and this study adds to that knowledge by addressing specifically the practices that are integrated into a military training course. The transition from teacher-centered to student-centered learning in the military is addressed and best practices for instructing adult learners in this type of learning environment are identified.

### **Student-Centered Learning Practices**

Kanga (2017) relays how education in the 21<sup>st</sup> century calls for more relevant approach to developing and creating active collaborative learning environments that foster student engagement and critical thinking skills. D'Souza (2018) enriching the learning experiences of all students requires student-centered learning practices to be implemented to gain the skill sets that are essential for future careers. Student-centered learning practices encompasses project-based learning, personalized learning, and social-emotional learning (Nair, 2015) which helps to develop learner autonomy and independence where students become responsible for their own learning (Lathika, 2016). Student-centered learning practices integrated into the classroom learning environment emphasizes on making the educational learning process more meaningful to students (Team XQ, 2020) in where they are the influencers of the content, activities, and pace of learning (Froyd & Simpson, 2018) within that environment.



Student-centered learning practices allow students to be entrusted with the learning process and become actively engaged in the educational environment (Samaranayake, 2020) to bring about a positive outcome in their academic performances (Husniyah et al., 2017). Students that are actively involved in the classroom through student-centered learning practices have a higher conceptual understanding (Trinidad, 2019) yielding higher learning gains compared to students in a classroom with only a traditional lecture approach (Chambers et al., 2017). Students develop cognitively when they are able to interact with adults and with their peers because learning can be seen as a social process. Student-centered learning focuses on the needs, abilities, the interests, and the learning preferences and styles of individual students. Student-centered learning can be adopted to being a framework (Coburn, 2020) that increases academic progress of all students and empowers them towards a higher-order of thinking that enables them to retain knowledge for a longer duration (Al-Hattami & Jaiswal, 2020). Student-centered learning practices enhance student's engagement and empowerment through autonomy, scaffolding, and authentic feedback (Wong, 2020) that encourages students to perform at a higher quality needed to transition throughout the learning process (Ebert-May et al., 2020). The role of education has shifted to a stronger focus on learning how to learn and less about transferring knowledge (Bayram-Jacobs & Hayirsever, 2016) to prepare students to tackle the complex challenges that must be navigated in real life (Education to Save the World, 2020).

The goal of learning is to be able to apply what you have learned in the classroom environment to real-life situations. Recalling that knowledge in a fast-paced society demands students to establish some form of relevancy to what they have learned to be able bring to their remembrance when it is warranted in the future. Research has shown that students possess various levels of skills and experiences, expect relevancy in what they are learning, and are

capable of becoming self-directed and self-regulated learners (Dubinsky et al., 2020). Students can find relevancy in their learning when they are afforded the learning experiences that meet their specific learning needs and preferences through student-centered learning practices. Relevant learning in a classroom where student-centered learning practices are integrated efficiently and effectively allow students to have a more active role (Boyaci et al., 2017) in the learning process because appealing methods and techniques are used to attract and maintain the attention of all students in that environment (Serban & Vescan, 2019).

Engagement and learning objectives enhance the overall outcome and performance of students in that setting (Tsay, 2018) and can be a platform where students build the skills that equip them for future opportunities (Dean & Wright, 2016). Learning practices integrated in the learning environment afford students opportunities to have a better understanding of themselves, their learning, and their motivation for learning (Fullana et al., 2014). Through active learning, students construct their own meaning and gain relevant skills necessary to navigate the social, emotional, and mental aspects of the learning environment (Asoodeh et al., 2012). Student-centered learning practices are integrated into cooperative learning environments that involve students collaborating to accomplish a shared vision or goal. Student-centered learning practices involves much more than students sitting in a group and answering preplanned questions (Jacobs & Renandya, 2019) but are allotted opportunities to gain skills and practice them within a real-life setting (, 2018) to improve on their skills and knowledge through means of collaboration, engagement, teamwork, and problem solving. The overall goal of student-centered learning approach and integrating them in the learning process is to move the student from student to learner in where they have a sense of independence that encourages self-efficiency.

The main objective of student-centered learning is to enhance the student's journey towards becoming lifelong learners (Sekulich, 2018) and prepare them for future roles through experiential and existential lifelong learning practices (Krueger, et al., 2017). Student-centered learning practices may be implemented across various educational environments and content areas while considering the specific needs and learning preferences of students are vital. Student-centered learning practices allow students to become more self-directed as they are involved through avenues of cooperative learning, discovering, peer scaffolding, and inquiry-based learning (Jamaludin et al., 2015).

The aim of student-centered learning practices is to develop student's autonomy approach to learning (Jacobs, 2016) by placing the learning process directly in the hands of the student (Marinko, 2016). Student-centered learning practices enable students the freedom to examine and analyze their learning environment to demonstrate and create their learning through chosen learning preferences (Leonard, 2018). This type of learning environment cultivates rich opportunities for students to pursue topics and projects based on their interests (Ellis et al., 2020).

### **Innovative SCL Practices**

Student-centered learning practices provide complimentary activities that enable individual students to address unique learning interests and needs by engaging through relevant problem context and availability of appropriate resources (Hannafin & Land, 2012). To ensure that our nations is advancing, creative and innovative learning designs and practices are warranted to elevate the learning and readiness of tomorrows leaders. Introduced in the early part of the 21<sup>st</sup> century was a term called STEM centering around science, technology, engineering,

and mathematics because these areas where the United States economy was growing the fastest (US Department of Education, 2020).

To remain competitive across the globe, this movement of STEM was integrated into the educational framework to prepare students to develop 21<sup>st</sup> century skills needed to be successful in the future workforce (Thomas, 2020). STEM gained momentum in the educational system in where it created critical thinkers, innovators, and increased science literacy. New technology made way for STEM to become a reality in the educational system. The innovative technology integrated included games and gamification, immersive learning environments, wearable technology-google glasses, virtual realities, and interactive displays-smart board, touch screen computers, smart tables to name a few. STEM movement progressed to STEAM adding the Arts in order to invoke student's creativity and enhance what has already been implemented. STEAM provides students opportunities to become well rounded analytically and creatively using both sides of their brains in the learning process. Students are able to engage with what is being discussed through developing cognitive skills, mindsets, and attitudes that will benefit them throughout the learning process (Falkenberg et. al, 2018).

The innovative approaches or practices that incorporate Arts include learning labs, capstones, visual aid projects, and learning centers (Liao, 2016). Through both the analytical and creative practices students will be given opportunities to take advantage of the technological and kinesthetic tactile approach to learning (Falkenberg et. Al, 2018). Innovation is necessary in the learning environment because it is used to improve on the practices implemented and evokes a sense of higher level of thinking for students to solve problems and think critically. Providing students avenues and multiple options to demonstrate their knowledge and skills will help them develop 21<sup>st</sup> century skills through innovative practices to better equip them with creativity,

problem-solving, collaborations, and confidence needed to face many challenges in a modern society that continues to evolve.

### **Benefits of SCL Practices**

The benefits of student-centered learning practices enhance the student's skills, promotes independent learning, flexibility in meeting the diverse needs of students (Oinam, 2017), and foster a well-balanced educational atmosphere (Concordia University, 2016). The primary objective of student-centered learning is to elevate learning and readiness for all students regardless of the physical makeup (Fredericks et al., 2018) so that they can be equipped to combat the growing economic inequalities that are prevalent in our society (Spangler, 2016). Research has reflected how student-centered learning practices provided insightful information on student learning adaptation, behavior, and trends to help transform and tailor learning environments based on the students in that environment (Ameliana, 2017).

Every student has the potential to learn and gain valuable tools and skills that will equip them to become lifelong learners. Every student is motivated and learns differently, which reflects in their abilities to apply the skills and knowledge through different avenues and opportunities where they can take responsibility and gain self-confidence and demonstrate higher learner fostered by student-centered learning approaches. Students learn better when their environment is conducive to their level of comfort and learning styles and preferences. Many students in the learning environment find themselves disengaged because they are not interested in what is being covered or it is not relevant to their learning needs. The educational environment must be innovative and working together to find relevant learning avenues for all student to stay engaged throughout the learning process. Student-centered learning environments require a change in the responsibilities and roles of students and teachers and the shift in the delivery

methods of instructional and learning strategies implemented in those settings. Active classrooms that integrate student-centered learning practices improve the performance of students (Barker et al., 2017) and enhances their understanding to maximize their learning opportunities (Hall & Miro, 2016).

Student-centered learning approaches implemented in the learning environment allows the classroom to become a community driven learning environment that provides the support for student empowerment, collaboration, independence, and techniques to include critical thinking and problem-solving skills. Research conducted in India highlighted the importance of focusing on quality, access, and relevance in education resulting in students gaining independent minds and the capacity to make decisions that directly impact their futures (Mallya & Pai, 2016). Implementing effective student-centered learning practices for diverse student population must be engaging, appealing, and relevant to influence all types of students across that learning institution (Levesque-Bristol et al., 2019). Every learner can benefit from effective instructions where multiple application opportunities are given in order for knowledge to be transferred (Jankowski, 2017) a critical step in the learning process.

Student-centered learning practices enhance a tailored learning process (Damsa & De Lange, 2019) contributing to an increase to students' participation level, confidence, and motivation in the learning environment (Bearing & Unin, 2017). Students perform better when they are required to have a higher cognitive ability (Colbert-Getz & Morton, 2016) to actively engage in the learning process that promote higher levels of thinking (Aidinopoulou & Sampson, 2017). A learner's motivation increases when they have a stake in their own learning process (Corley, 2011). Research conducted by Miulescu & Tripon (2016) has reflected that student-centered learning increases a student's self-determination and accountability towards their

development. A comprehensive analysis of student-centered learning was conducted in 2015 which found that it improves the relationship between the student and teacher, it bolstered academic achievement, and encouraged students to deeper understand the material covered (Bordei, 2016).

New strategies and techniques have emerged through the utilization of student-centered learning practices and have enhanced many different learning environments across the field of education (Schreurs et al., 2014). These new strategies have made way for the curriculum to be more thematic and instrumental to the academic progression of students. Encouraging educators to change the instructional practices have the potential to transform the trajectory of the learning environment for many years to come. New solutions are on the horizon for advancing student-centered learning practices through sparking new ideas, partnerships, and collaborations with entities beyond the educational field. Through these entities students are presented with opportunities for deeper learning that will build their content knowledge and skills through authentic real-world settings and collaboration with peers, educators, and mentors (Darling-Hammond et.al, 2019). The Director of Corporate Engagement at the National Academy Foundation (2020) mentioned in a speaking engagement that businesses can benefit from having a vested interest in the schools within their communities because once these students have graduated, they have a pool of highly qualified individuals they can hire. These businesses have the resources and capability to partner with schools to help with creating learning experiences that are more relevant than in previous years. This partnership can help develop active learning environments (Mehring, 2016) that fosters student-centered learning to supports today's learner needs (Nair, 2019) and help narrow the academic gap that exists in our education system (Emaliana, 2017). As student-centered learning practices become more common in the learning

environment, opportunities are afforded to use a greater range of flexibility with increased interactivity. These practices encourage learners to apply different strategies that are suitable for each learning style and preference which in return learners become self-directed and self-sufficient.

Research has confirmed evidence that student-centered learning practices integrated into the learning environment improves learning and knowledge retention through active participation (Shaaban, 2018) of students who are motivated and inspired to take ownership of their own learning (Kehrwald & Plush, 2019). With a greater emphasizes on student-centered learning practices, higher rating of retention of students' knowledge and skills have increased (Muianga, 2019) shifting and transforming the learning environment that demands educators to have more training and expertise to move the educational environment into the future (Arnett et al., 2020). Student-centered learning practices integrated into the learning environment prepares students for distractors beyond the classroom learning environment (Bogler, 2018).

Student-centered learning practices enable students to have more control over their education and become equipped with the skills and knowledge needed to handle any situation they may face beyond the learning environment (Serin, 2018). Students' development of skills and knowledge can be accomplished through aligning student-centered learning practices with student's needs, abilities, learning styles, and interests (Larasati, 2018) that will nurture a higher-level of learning, awakening the dormant potential within each student (Klomsri & Tedre, 2018). Fostering this type of environment requires educators to encourage independent learning, involves students in the problem solving and critical thinking process, and enhances student's interaction with their peers to create opportunities for students to develop and cultivate relevant skills in the 21st century (Yumus, 2018). Technology allows educators to create student-centered



learning environments through availed essential tools needed to integrate into the classroom by focusing on the skill sets needed for the students beyond the classroom learning environment. With new technology advances being discovered and coming online, the educational field must embrace new ways of teaching and learning that meets the higher thinking capability of all students (Coleman & Money, 2020) otherwise become irrelevant and left behind.

### **Challenges of SCL Practices**

Student-centered learning practices have transformed the learning environment to a more student-centered than a teacher-centered approach. Reformers have argued that organizing the learning environment around various educational practices (Clapp et al., 2017) may bring more risks (Anderson et al., 2018) and may not be as straightforward as many stakeholders and policy makers have led them on to be (Bovill et al., 2015). Student-centered learning practices are poorly defined in policy which can potentially jeopardizes their implementation (Klemencic, 2017) and further opportunities for developing effective guidelines (Karimbux et al., 2017). In this environment, students are an active participant that engage the material through an intellectual capacity. However, student-centered learning practices integrated into the classroom are time-consuming and require additional resources that may be limited to the learning environment. Many limitations must be identified and addressed in order to provide the type of learning environment needed for all students to gain the necessary skills needed to equip for the 21st century. Studies have shown that oriented concepts of student-centered learning practices may not be the problem when adopting them into the learning environments.

The challenging part for educators and students is how the practices can be integrated to minimize the negative effect if they are not implemented efficiently and effectively (Altena, 2017). The challenging aspect of integrating student-centered learning practices into the

classroom requires systemic attention (Hartikainen et al., 2019) to determine whether the student-centered learning practices are integrated appropriately in regard to the quality and efficiency of these practices (Llic et al., 2016). Moving the environment to a more student-centered focus initially comes with resistance (Corley, 2011) and requires new goals, incentives, and support that will prepare students to contribute to the age of innovation (Ark, 2018). Using innovative strategies to enable learners to acquire the knowledge and skills needed to cope with a changing society will better equipped them for their future roles (Nzabalirwa et al., 2019).

Lund et al. (2015) mentioned one of the many issues of student-centered learning practices integrated hinges on the teacher's belief of incorporating student-centered learning ideology is beneficial however the reality is that they come up short due to the inability to integrate appropriate practices because they lack the knowledge and skills needed to accomplish it successfully. The reality is that teachers interfere with the process of integrating these practices by acting as a guide instead of a facilitator. Many teachers are not trained in student-centered learning approaches much less how to integrate them into the classroom therefore can lead to confusion and unstructured classroom interactions. Dudley et al. (2015) mentioned that student-centered learning actions and interactions should be contextually relevant and aligned with the learning aims of the student-centered approach.

Training of teachers is crucial because many teachers have a limited understanding of student-centered learning, and it is currently causing challenges with regards to the practices that need to be integrated into their classrooms (Plessis, 2020). These challenges range from managing the learners activities for all of the students even when they are at different stages of the learning process, ensuring that all students receive the vital facts during the instruction delivery even when instructions are not given to all students at once, ensuring the classroom is

not disorganized and hectic because of the interaction amongst all the students, and finally being able to include all students because sometimes some students like to work alone and group work can be a challenge. Teachers are required to adopt new approaches and strategies that are more creative and practical (Danko & Duarte, 2019) and must ensure that the available resources are adequate. The challenging part of integrating student-centered learning practices within the classroom requires more preparation and time on behalf of the teachers who are already tasked beyond their capacity (Esdal, 2017). The teacher's view of student-centered learning approaches is more than a little daunting for several reasons. How do they hand over the reins of the educational decisions to students and transition to a facilitator where the students are given opportunities to be innovative, creative, and exploratory in their learning environment (Joyce, 2015)? Helping students in the student-centered learning environment requires teachers to utilize many different tools for measuring students' progress throughout the learning process; however, many teachers lag behind in the current strategies because they prefer the conventional methods that help students pass high stakes testing only (Poudel et al., 2015). A teacher's challenge in this type of environment is their own preconceived ideas that the students do not know anything about the subject (C4E, 2018). These preconceptions often limit the employment of active learning in their own classrooms which diminishes the student's willingness to participate and become active agents in the learning process (Cunningham, 2018).

Students, as active participants or agents, bring their own set of challenges that include their abilities to learn on their own without direct instructions, time management, and persistency even when they feel the material is too difficult to understand and learn (American Research Institute, 2018). Students in the learning environment are sometimes challenged with shifting their own mindset about learning because they are more concerned about their examination

scores than they are with gaining a higher level of thinking and having a deeper understanding the material covered (Armbruster et al., 2019). In this type of environment, students are challenged with decisions on how they will learn, what they will learn, and how they will demonstrate that learning, which can cause anxiety and be overwhelming for many students. Emerging evidence has suggested that active learning or student-centered learning may cause anxiety in students depending on how the practices are implemented within the classroom learning environment (Brownell et al., 2018). Students who experience anxiety in the student-centered learning environment are challenged with many obstacles that their peers or teachers may not understand or know how to handle in this environment without disrupting the learning process for other students.

Many students in the student-centered learning environment resist the idea that they become their own instructor to acquire knowledge and implement the appropriate skills needed to self-direct their own educational pathway. Studies have shown that much of the academic success is influenced by a positive and interactive learning environment (Jamaludin et al. 2015) and lead to improved student learning (Froyd & Simpson, n.d). Many challenges that students face when using student-centered learning practices are experienced outside of the classroom (Akçayır & Akçayır, 2018). These challenges often yield a negative impact on the student's achievement, attitudes, and the activities that are assigned to them (Hew & Lo, 2017).

A growing concern in many learning environments that integrate student-centered learning practices is that students may not have enough time to achieve mastery of the content due to the self-directed and self-pace structure of the curriculum (Tan, 2016). To address the educational needs of the students, effective avenues of learning based on the needs and learning preferences of the students are incorporated to ensure that all students receive equal access to

education (Yao et al., 2018). Over the past decades, research revealed that teacher and student roles are still teacher- centered (Aliusta et al. 2016) which draws attention to the need for alternative training modes to change this belief and adopt student-centered roles.

Another challenge that the learning environment and educators must be able to adapt to is the economy itself. As we have seen over the years, the economy has been the driving force behind many policy changes and restrictions. When the federal government cuts spending to programs this affects the income that states receive in regard to educational programs. When that budget is cut, the reduction and retention of highly qualified teachers and poorly educated school bodies are the result. This in return affects the amount of effort and resources allocated to those schools in regard to the student-centered learning practices implemented and maintained.

The greatest challenges of transitioning the learning environment from teacher-centered to student-centered learning are that educators, stakeholders, and policy makers need to understand that there must be a paradigm change in all aspects of the educational environment and not just changing one or two things to suffice the growing curiosity or hyped trend in the educational field (Asian & Reigeluth, 2015). Many of the educational policies established are geared towards the industrialized model of the educational system that has been in place for many years. The paradigm change calls for explicit transparency and innovation compared to roundabout solutions that are good enough (Esdal, 2017) which are challenging within themselves. Redesigning learning to a more student-centered learning approach changes the core elements of that learning environment, requiring a deep shift of mindsets at all levels in the education system that includes policy makers, stakeholders, communities, educators, parents, and students to make way for new innovative and incorporate variety of learning avenues for students to gain 21<sup>st</sup> century skills.

## **Influences of SCL Practices**

A prerequisite for national and global development is the quality of education (Oinam, 2017) that students are afforded. Pedagogical reform is part of a comprehensive approach across many different learning environments to enhance the learning experiences and outcomes of all students (Tan, 2016). Student-centered learning has the potential to optimize learning and have positive impacts on higher college acceptance, increase in state and federal assessments, student engagement and a decrease in the number of dropouts or referrals (Glowa & Goodell, 2016). Student-centered learning practices are ways to empower, increase collaboration, motivation, and performance through a constructive manner that allows students to dictate the direction they acquire knowledge and skills (Richmond, 2016). Embracing student-centered learning practices enhances the student's ability to absorb the knowledge and maintain engagement throughout the learning process (Albort-Morant & Leal-Rodriguez, 2016) to increase their proficiency of analyzing and interpreting content through different perspectives (Grant, 2018).

Student-centered learning practices are contradicting the traditional teacher-centered approach that has dominated our educational environments for centuries. According to a recent study, the best learning approach would be a mixed method (Bidabadi et al. 2016) where a combination of approaches will be utilized to consistently increase the interactive within the learning environment (Collins & Meguid, 2017). Student-centered learning approaches are great incentives for the learning environment because they reflect the reality of the students regardless of how the material is taught (Hong, 2011). Student-centered learning practices allow students to have a deeper understanding of the material through an active participation and self-regulation that influencing future learning by building on earlier knowledge (Baeten et al., 2016).

Student-centered learning supports various learning styles and preferences that encourage an active learning environment (Estes & Zibers, 2020) that encompasses the processes and strategies to integrate collaborative problems solving and learning skills (Hakkinen et al., 2016) needed for students to be prepared for the 21<sup>st</sup> century. Knowing student's learning styles and preferences is essential for creating a student-centered learning environment (Bruce & Chilemba, 2017) that encouraging students to be an active participate in the creation of their learning experiences (Gover et al., 2019). To help students develop into active participates of the learning process, student-centered learning practices implemented should reflect students preferred learning styles and preferred means of demonstrating that knowledge and skills in that learning environment (Korte et al., 2015).

Current trends and technological advances have highlighted the need for learning environments to shift to a more student-centered approach to equip students and society in the 21<sup>st</sup> century. With the current pandemic, shifting the learning environment from in person to online has amplified our weaknesses in preparing students for 21<sup>st</sup> century learning and the need to incorporate a systemic approach (Dhawan, 2020) that incorporates student-centered learning practices seamlessly. Change in education can often be a painful and frustrating process. Studies indicate that change brings about resistance and personal growth that may not contribute to a smooth and effective transition. Improving the quality of education continues to be a neglected priority which has a direct impact on the implementation of sound approaches that can become problematic for certain learning environments (Schweisfurth, 2015). Many learning environments are unable to adapt to expectations that student-centered learning approaches place on students, teachers, and the culture in which they foster in that setting (Martell, 1974). Although their specific impact has not been accurately measured, it is recognized that pedagogy

and curriculum, what is taught, how it is taught, and how students learn all have an important influence on student achievement and engagement (Suda, 2006). Even though student-centered learning practices can be designed to meet the needs of the students (Masek et al., 2020), academic achievement can be difficult to attain (Linnenbrink-Garcia & Wormington, 2017) without considering other valuable factors.

Other student-centered learning practice factors that must be considered and have a direct influence on the outcomes of students and teachers in that environment lie in the simple definition of student-centered learning practice. A lack of alignment between how student-centered learning practices are implemented, the maturity of the students, class size, cultural diversity, and prior learning experiences can influence the adaptations of innovative ways in building 21st-century skills. In the student-centered learning environment, students provide the influence regarding content, activities, materials, and pace of learning (Collins & O'Brien, 2003). Student-centered learning pledges to provide students a way of engagement and motivation needed to deepen their interactions with peers and the academic content through a positive manner paving the way for long-life learning. Having a deeper understanding of student-centered learning practices will allow for an easier transition from teacher-centered to student-centered (Sabah et al., 2018).

Student's perception on learning influences their overall outlook towards learning and their motivation that will play a key role in the student-centered learning practices implemented. Student's attitude towards student-centered learning practices and the workload in those environments (Ellis & Rayens, 2018) presents unique affects to the behaviors and academic motivation of the students (Cheng & Ding, 2020). Since student-centered learning practices promotes students to take responsibility of their learning, students may have a negative response



to the practices if the appropriate guidance is not provided to facilitate direction in the learning process (Borrego et al., 2020). Many factors influence the variety and/or quantity of student-centered learning practices that incorporated into the learning environment. Many teachers find it difficult to relinquish control and responsibility to their students therefore impacting the type of environment that is cultivated in that setting (Boyle et al. 2018) and whether or not student-centered learning practices are considered. Teacher's choices and novelty of student-centered learning practices are two central tenets that condition the overall outcome (Calderon et al., 2019) of stimulating students' engagement, academic achievement, and motivation (Lazar & Peyrefitte, 2017).

Research has shown that student-centered learning does promote active learning and increases retention; however, there is still a reluctant mindset amongst teachers (Borrego et al., 2018) to utilize student-centered learning approaches within their classrooms. Teacher reluctance to implement student-centered learning is influenced by their own willingness to adopt to active learning strategies and change their own preconceived ideas about how students learn (Callaghan et al., 2018). Teachers are hesitated to implement student-centered learning practices because they are afraid that students will have a negative attitude towards that approach in the learning environment (Brigati, 2018). The type of student-centered learning practices implemented or not implemented can be influenced by the student's attitudes towards those practices needed to be equally helpful in a diverse learning environment (Cirks et al., 2018).

### **Overcome Challenges of SCL Practices**

The ultimate reward of student-centered learning is learner self-determination and independence. This approach highlights what learners can do rather than what they know providing a roadmap in the direction of where educators want their students to end up and work

towards student's destinations. Providing a learning atmosphere that focuses on student engagement and affords students activities that enhance their learning experiences results in stronger relationships amongst members in that environment (Doyle, 2011). The common practice to overcome the challenges that many learning environments face in integrating student-centered learning methods is to create a culture that embraces new and innovative approaches to learning. Successful implementation of student-centered learning practices recommends teachers become the facilitators of learning, merely guiding students on their journey towards knowledge (Benlahcene et al., 2020) providing feedback and guidance at certain intervals or stages throughout the learning process.

A revamp of the curriculum and a restructuring of the learning environment (Baker & Yengo-Khan, 2017) should provide an innovative avenue to facilitate the student-centered learning culture needed to optimize students' cognitive abilities and skills (Caverzagie et al., 2017). Overcoming challenges that teachers and students face in integrating student-centered learning practices into the classroom learning environment will come about through direct support given by all faculty members in that given environment (Kober, 2015). Committing to improving the practices within the learning environment starts with faculty who are willing to support that change and see it through to fruition. Student-centered learning environments need a variety of support that provides teachers with professional development and classroom management techniques to ensure that all students are academically progressing throughout the learning process. There is a need for a deeper integration of student-centered learning practices that supports the whole child concept, strengthens students' developmental aspects, and aids in addressing any cognitive disadvantages (Barron et al., 2019) that students may encounter.

Integrating student-centered learning practices does not come without challenges that encompass a range of social, economic, cultural, and political agendas (Black, 2017) that must be addressed in order to create the learning environment that allows learning to become part of who the students are (Kumar, 2016). There is a diverse student population in which students bring a diverse understanding and perspective to the learning process. This requires a shift in the learning environment to be integrated with learning activities (Kumar, 2016) that keep students' interest, bolsters their confidence, and meets their specific learning needs. Overcoming the stigma that every student is given access to an equal education regardless of the resources and tools they have available to them (Noguera, 2020) is a major barrier that educators must overcome. Student-centered learning practices require resources and tools that are necessary to ensure that all students have a positive learning experience that moves them from memorization to practical application. By examining the educational landscape and the mindsets that have been established and cultivated within the learning environment, equality barriers can be overcome by the attitudes and perspectives that are the driving forces behind stigmas that dilute the educational system reforms.

Despite all the advantages and disadvantages of student-centered learning practices integrated into the learning environment, overcoming can be the most difficult aspect of the process. One of the single collective challenges to overcome is providing opportunities for every student to have the experience of creating, exploring, and achieving despite the level of disadvantage they find themselves up against (Smith, 2007). Integrating relevant and student-centered learning approaches that match the students' learning style and preferences can improve student's engagement and achievement through a systemic concept that includes all students. Educators must be able to find the relevant resources available to integrate effectively and

efficiently into the learning environment to have a positive impact on the learning process for all students (Black, 2017) and the ability to maintain and sustain those practices. The Department of Education and Skills highlights how giving every student the chance to be the best they can is the fulfillment of excellence (2004). Students that are provided opportunities to make sense of their experiences can find relevancy and meaning in the learning process (Manninen, 2016) to aid them in constructing their self-image, self-reflection, and adapt to various learning strategies (Lebowitz et al., 2019) enhancing their achievement, motivation, and 21<sup>st</sup> century skills (Estapa & Tank, 2017).

Constraints can play a major role in how effectively and efficiently student-centered learning practices are implemented within a learning environment. Institutional constraints to include insufficient resources and classroom- allotted time has a direct impact on the types and quantity of student-centered learning practices integrated into the classroom (Du & Sabah, 2018). Many learning environments are bombarded by state and federal mandates that are promising outstanding results but lack proper guidance and structure to implement the appropriate resources to receive the results they are expecting (Casey et al., 2017). Cultivating an impactful learning environment for all students requires a deeper consideration of the types of constraints and limitations (Goldman, 2017) that have a direct and indirect effect on the quality of learning taken place.

Integrating student-centered learning practices into the learning environment must be a mindset (Buettner, et al., 2015) that everyone acknowledges and commits to seeing it to fruition. As mentioned by Hendericks & Wangerin, integrating student-centered learning practices can be overwhelming and many barriers are present to include loss of control, change in roles or identity, and fear of failing are all general concerns when change is imminent (2017). The best

practice for overcoming these concerns is to address the problem, change how we think about student-centered learning practices and their integration into the learning environment (Ngo & Trinidad, 2019), and create a learning experience that is memorable for all students (Moges, 2019). The adoption of student-centered learning practices is to produce learners that develop knowledge and skills that reflect a global economic mindset (Kassem, 2018) that hinges on individuals being able to collaborate, think critically, problem-solve, and be innovative (Wasilko, 2020).

Due to the recent COVID-19 world pandemic, the landscape of teaching and learning has shifted and transitioned the learning environment from a face-to-face format to an online learning approach. This has occurred in a short timeframe and has been a challenge that many schools across the nation and world have had to overcome (BCampus, 2020). These technological and non-technological barriers have the potential to hinder the academic progression and performance of students (Loebick & Rivera, 2017), requiring all educators to combine a more individualized and technological supported options to ensure that students stay engaged (McCombs, 2020). Many decades have been spent with the growing trends of utilizing online and blended learning out of interest rather than out of necessity. However, COVID-19 has brought the need to the forefront of educators and stakeholders mind to ensure that student-centered learning is a priority. Ensuring that teachers use available technology and practices provides a personalized learning experience for all students.

Research studies have indicated that the lack of technological access to resources may have a significant effect on the integration of those resources and tools (Francom, 2016); therefore, awareness of these effects requires that educators address and hurdle the challenges (Partanen, 2020) that limit opportunities for students to gain valuable skills and knowledge.

Policy makers, stakeholders, school administrators, and educators have done their best to ensure that there was a seamless transition to remote learning during school closures; however, this transition did not come without many challenges and resistance. Even though ten months of battling the threats of school closures and the widening of the achievement gap, an urgent intervention to provide all students with resources is needed to circumvent further negative impacts on all students during this vulnerable time in history (Dorn et al., 2020). To overcome this impact, the educational system must be able to think creatively on finding free learning resources that students can take advantage of, possibly expanding the school summer programs where community businesses partner with school districts, and other youth programs and academic activities that reenforce the skills needed to be successful online or in a classroom environment.

Educators need the resources and the knowledge to integrate student-centered learning practices in a virtual online instructions and engagement effectively for students to learn in this new learning environment. Overcoming the lack of training and support for parents during this time should be reexamined and parents or guardians need to be trained in creating and sustaining a learning environment at home that is conducive to the needs of each student. Educators or teachers who have only taught in traditional classrooms may have a difficult time using technology in the new landscape of teaching and learning. Integrating student-centered learning practices in a virtual learning environment requires knowledge of the learning management systems that are available to educators and administrators. To provide all students with a relevant and positive learning environment, educators and teachers must be able increase their confidence in their skills and abilities to adopt and integrate student-centered learning practices in a new platform of learning and teaching in the educational environment (Jordan et al., 2018). The best

practice for overcoming integrating student-centered learning practices into any learning environment is to tailor those instructions and activities based on your students' learning styles/preferences, needs, and interests.

As educators and students navigate through various remote learning environments, finding innovative and creative strategies for implementing student-centered learning approaches will require a fundamental transformation of thinking about how students learn, and which methods are more relevant and effective in reaching the intended outcome. COVID-19 highlighted the need for major shifts in the learning environment to include providing a quality education to all students; however, it has confronted educators with many challenges that needed to be addressed for transformation to occur in the educational environment. A continuous reflection on the academic practices integrated into any type of learning environment can ensure best learning outcomes are possible for all students with an emphasis on social interaction and community cohort (Gillet-Swan, 2017), aiding many students to overcome anxiety and close the academic achievement gap across our education system. Transitioning to uncharted waters during a pandemic from traditional brick-and-mortar school attendance to emergency remote learning platforms was not easy. Circumstances required educators change their approaches and methods of teaching to ensure all students across the nation received relevant learning experience despite a global pandemic that threaten to close all essential and non-essential businesses to prevent the spread of a contagious virus. The current circumstances that our nation and the world is facing require a shift in how students are educated and how we address the challenges and barriers that have perplexed our education systems for decades.

## **Summary**

In conclusion, student-centered learning practices are a fundamental aspect of a collaborative and cooperative learning environment. This practice enhances the learning experiences for all students, regardless of their learning styles, preference, or disadvantages that may hinder their abilities. Student-centered learning approaches prepare students for many different distractions that they may encounter as an adult. By affording students the opportunity to gain understanding of their learning styles and preferences can equip them with the ability to handle any distractions they may encounter beyond the classroom setting. Creating an atmosphere and culture that fosters student-centered learning practices can set the tone and determine the overall outcome of student performance and skills transferability. It is essential for students to become self-directed learners that will serve them well outside the learning environment. The educational system must transform to meet the specific learning needs of tomorrow's youth. If students learn by doing, rather than being taught, then they must be afforded engaging learning experience that help them tap into the 21st-century skills of problem-solving, critical thinking, and collaboration to serve them beyond the educational classroom.

Current studies have indicated that student-centered learning practices integrated into the learning environment enhance the learning process of the students in that setting. Ample time and resources have been put into place to fix many learning environments across the nation with emphasis on education reform that will help balance a broken system. Designing a system that can equally equip students with the skills to be successful while simultaneously meeting their unique needs requires in-depth research that considers all aspects of the learning environment to include the manner and types of practices and approaches that are integrated into that environment.



The theoretical frameworks guiding this study is Lev Vygotsky, constructivism and Malcolm Knowles, adult learning theory. These theories aid in understanding how students construct knowledge and find meaning in learning through student-centered learning practices. By examining the specific details of student's experiences in an Air Force training course provides valuable information on the student-centered learning practices that are beneficial to students in this environment. An examination of student-centered learning practices serves as a foundation to understand students experiences therefore supporting this research on the outcomes of integrating student-centered learning practices in Air Force training courses. The related literature emphasizes examining the student-centered learning practices to understand the unique experiences that students have in this learning environment. Due to the gap in the literature this study warrants examining those experiences to have a broader understanding of the student-centered learning practices that are beneficial in this type of learning environment. Understanding those experiences can add to the current literature from a different perspective that has not already been examined.

There is a large body of theoretical research dedicated to student-centered learning, however, the overall concept of student-centered learning lacks one centralized definition that everyone can agree upon (Kaput, 2018). The need to shift from teacher-centered to student-centered is essential to provide a personalized learning experience where students' unique needs, interests, and aspirations, and designed with their ideas and voices at the table (Kaput, 2018). This research study contributes to the previously conducted research and literature review on student-centered learning practices integrated into learning environments to highlight the specific student-centered learning practices that conducive to the needs and styles of the students in that learning environment. The problem of lacking innovative approaches that make training relevant

and keep pace with changing technical requirements should cause Air Force to consider various ways of students retaining and demonstrating knowledge and skills. This instrumental case study will offer valuable information to help Air Force training environments have a clearer understanding of approaches or practices that are best suited for the type of students and material being covered from the perspective of the student. As new technology arises and society evolves, it becomes more important to examine the skill and knowledge students will need to operate successfully in the future workforce.

## **CHAPTER THREE: METHODS**

### **Overview**

The purpose of this instrumental case study was to examine the students' experiences of student-centered learning practices implemented in an Air Force training course. By examining the overall experiences of students, specific student-centered learning practices were identified that enhanced the learning process in a military organization. The goal of this research was to address the student-centered learning practices implemented in an Air Force training course. The structure of this chapter provided a summary of the research design, the research questions, a description of the setting, the selection of participants, research approval procedures, researcher's role, data collection and analysis, trustworthiness to include dependability and credibility. The conclusion of this chapter discussed the ethical considerations for this study.

### **Design**

This research study used an instrumental case study research method to depict the learning experiences of students attending an administrative operations training course at a military training campus in the United States. This qualitative method was selected to encapsulate the experience of a phenomenon through the perspective of the participants in their

natural setting (Teherani et al., 2015). This research study was an inquiry that examines a real-life, contemporary bounded system over time, through a detailed, in-depth data collection involving multiple sources of information (Creswell & Poth, 2018). Considering the other types of qualitative research, a bounded case study was the best approach because it allows data to be collected within the real-life context of those being observed. The goal of this research was to gain a better understanding of a situation or event, rather than seeking to describe a situation, establishing relationships between variables, and attempting to explain that relationship between the variables, which is the goal of a quantitative research method (Creswell & Poth, 2019). A bounded case study is an in-depth exploration of an event, activity, process, or individual based on extensive data collection (Creswell & Poth, 2018). To address the bounded system in this research, time, place, and physical boundaries were considered. In a military training setting, certain rules and procedures are meant to be adhered to, therefore requiring consideration of a bounded system. The research study design allowed an in-depth inquiry to a problem and aided in narrowing down the investigation into a researchable topic. To understand a specific issue or problem the instrumental case study approach was selected.

The instrumental case study used a case to gain a broader appreciation of an issue or phenomenon to develop a theory (Yazan, 2015). This research study used an instrumental method to allow for the exploration of a phenomenon by examining the setting to answer the posed questions. Stake (1995) described the use of an instrumental case study as having a research question, a puzzlement, a need for general understanding, and feel that we may get insight into the questions by studying a particular case (p. 3). The rationale for this research design and method was chosen because of the flexibility it provides in capturing the complexity of the phenomenon.

## **Research Questions**

The research questions for this study were created to examine students' experiences with student-centered learning practices implemented in an Air Force training course. These research questions were an outline to guide the researcher in examining the phenomenon for this research study (Yin, 2018). Having a better understanding of the specific students' experiences could improve the practices and the availability to share with other stakeholders.

**Central Question:** How do students describe their experiences of using student-centered learning practices implemented at an Air Force training course?

**Sub Question 1:** What experience do students have using the student-centered learning practices implemented at an Air Force training course?

**Sub Question 2:** What challenges do students' experience when using student-centered learning practices implemented at an Air Force training course?

**Sub Question 3:** How does students' experiences influence the use of student-centered learning practices implemented at an Air Force training course?

**Sub Question 4:** What challenges do students have to overcome when using student-centered learning practices implemented at an Air Force training course?

## **Setting**

The setting for this research study was a military training course located in Southern Mississippi. Due to privacy concerns, the course was referenced as Administrative Operations. This course graduates approximately 415 students annually. The Administrative Operations Course follows a chain of command three-tiered level structure. The first level consists of flight chief and senior administrators who oversee and implement the desired objectives of the training command. The second level is the instructor supervisor who manage all the instructors within

this course. The third level is the instructor staff who administer, teach, and supervise the students in the classroom. The course consists of only four weeks of training and then the students are awarded their certificate of completion (Department of the Air Force, 2018).

The selected setting for this research study was the initial skills training because this organization depends on the unchanging trade skills that have served it well for the last 60 years. With the growing need for change in our society to be more global-minded, the course format has shifted from teacher-center to student-centered. The shift was needed to meet the specific needs of the individuals who are enlisting and becoming part of this great organization (Benard et al., 2011). This was a new initiative to determine the degree of benefits and impact that student-centered learning practices have on the students in a military initial skills course. The Air Force embraced a continuous educational model which integrated continuous professional education concepts to persistently develop professional Airmen that engaged them throughout their careers (Think Tank, 2014).

### **Participants**

The purposeful sampling was utilized for this research study because it was widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Duan et al., 2016). Purposeful sampling involved identifying and selecting individuals or groups of individuals that were especially knowledgeable about or experienced with a phenomenon of interest (Creswell & Plano Clark, 2011). When selecting samples, it was important to note the availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner (Bernard, 2002; Spradley, 1979). The sample pool utilized for this research was a purposeful

pool and the sample size selected is 12 students. A purposeful pool provided many respondents, eventually from different backgrounds, available on the short term (Leiner, 2016).

The sample size chosen for this study was carefully chosen not to be too small or big to ensure it did not compromise the outcome of the findings. Too small a sample may have prevented the findings from being extrapolated, whereas too large a sample may amplify the detection of differences, emphasizing statistical differences that are not clinically relevant (Altman, 1991). The type of sample for this research study was purposive sampling because of the target number of those participating in the study.

The participants for this research study were current students in the initials skills training and were selected based on availability, class size, and those who would provide the best feedback on the given topic. The participants were the target of observations, provided feedback through survey, and interviewed to provide a glimpse of the student's experiences with the student-centered learning practices implemented. The course demographic breakdown of those volunteering to serve in the Air Force represents 51% females and 49% males (Military Demographics, 2020). The age of the participants ranges from 18-36 years of age. The bounded case study research focused on different students at different intervals of training to better understand the impact that student-centered learning practices had on these students the closer they were to graduating. Training was a key function for each branch of service within the Department of Defense, therefore military students are trained in order to reach the specific measurable levels of performance in the specific tasks (JCS, 2014).

### **Procedures**

In this research study, securing approval from Liberty University Institutional Review Board (See Appendix A) was the starting point before data collection could begin. One of the

most important steps in conducting research involving human subjects, military students, was written approval through the appropriate military channels. This was required to outline the responsibilities and authorities regarding the research. The DoD had restrictive requirements to be considered when conducting research studies involving human subjects. There must be a written agreement defining the responsibilities and authorities of both Liberty University and DoD in complying with the terms of each institution's Federal assurance and policies (Kendall, 2011). The DoD Component will approve the terms of the agreement in writing prior to the DoD institution engagement in the research involving the human subjects. Before any data collection begins, the approval from the U.S. Air Force Institutional Board Review was obtained followed by approval from the site where the study was conducted (see Appendices A and B). And then documentation submitted to Liberty University IRB. Once approval was received then recruiting participants through a mass briefing for all the current students in the course explaining the purpose of the research study. The students who agreed to participate in the research study received a recruitment letter (see Appendix C) and signed a consent form that needed to be completed prior to the start of the research study (See Appendix D). Adhering to strict privacy and confidentiality protocol when collecting data to protect the participants' identity and safeguard national security information will be a top priority. This study required a pilot study; therefore, I conducted the pilot study by choosing four individuals to share similar criteria to those participating in the larger study to gain valuable experience in my interviewing protocols and identify flaws in my interview design before I proceeded in my larger study. The data collection for this study consisted of survey, interviews, and observations.

Data collection began after I selected participants and all consent forms were signed and returned. I then started collecting data through survey, main instrument for collecting data in

survey research (Lavrakas, 2008). Survey was through Survey Monkey and participants were given a pin number to access that survey. The second source of collecting data was interviews, ability to record the participant's responses to questions (Seidman, 2019). Interviews were conducted in person, recorded, and transcribed. If COVID restrictions were in place then the interviews would be conducted via Microsoft Teams, recorded, and transcribed. The third data collection source was observations, gathering data by watching the behaviors, events, or noting physical characteristics in their natural setting (U.S. Department of Health and Human Services, 2021). Observations will be conducted in person if COVID restrictions did not apply if they did then would be conducted through Zoom due to the current pandemic restrictions outlined by the Centers for Disease Control and Prevention (CDC) and Department of Defense (DoD.)

### **The Researcher's Role**

The motivation for this research study developed from a personal experience attending and teaching the Administrative Operations Training Course. The students who are graduating from this course were expected to be innovative, forward, and critical thinkers, adaptable, and able to solve problems to meet the critical objectives of the Armed Forces. Many of the students attending this course come from different backgrounds and different parts of the world but must be able to work together to accomplish the missions. My decisions to focus on how student-centered learning practices influence these student's performance were a result of a course rewrite and survey received from prior students graduating from the course. I taught at the U. S. Air Force technical training site for 5 years and had seen students excel in the course and relocate to their new assignments transitioning successfully. Most of the students in the course I interacted with them daily, either in the classroom or the lab.



My role at the Administrative Operations Course is an academic instructor; however, my role to the participants was an observer of the course. To eliminate any bias or any assumptions, my class did not participate in the research study. The participants in the study were attending the course however, I was not their primary instructor. The research study was conducted under a qualitative research method that included class survey, interviews, and observations with the participants. As the researcher for this study, I conducted all the surveys, interviews, and observations with the students. The students were administered online survey to be completed in the computer lab of the course.

### **Data Collection**

To better understand the influence that student-centered learning practices had on student performance, I collected data through open-ended survey, interviews, and observations to capture the quality evidence needed to translate data analysis into convincing and credible answers to the posed questions (Muhammad & Kabir, 2016). According to Baxter & Jack, a case study as a methodology explores and critiques a phenomenon in context (i.e. bound) using multiple data sources and collection methods (2008).

### **Survey**

The first data collection strategy utilized in this research study was a survey. Survey was another method for collecting data from a sample of participants through their responses to given questions (Ponto, 2015). After identifying and acquiring the designated participants, the 21st Century Inventory survey through Survey Monkey was scheduled and administered to the participants in the computer lab requiring students to complete. This survey took the participants 20 to 30 minutes to complete on the computer, with password protection access to the researcher only to the results of the data. The results of this data were used to answer the following

questions: What are the overall experiences of students who are in a student-centered learning environment? How does providing different avenues of learning through SCL practices, ensure students have a learning experience that meets their needs and learning preferences?

## **Interviews**

For the research study, the data collection strategy was utilizing interviews. Interviews were an invaluable method for exploring the construction and negotiation of meanings in a natural setting (Cohen et al, 2007). It enabled the participants to speak in their own words and express their thoughts and feelings about the questions being asked. The qualitative research interviews were further described as attempt to understand the world from the subject's point of view to unfold the meaning of their experience; to uncover their lived world (Brickmann & Kvale, 2015, p. 3).

There are 10-14 students selected to participate in the interview portion of this study. A recording device was used while conducting the interviews face-to-face with the participants and then transcribed for the data analysis after the completion of all data collection. An unstructured design format was used to conduct an open-ending questions interview with each participant. This interviewing type was in an open situation which aid in greater flexibility and freedom offered to both sides (i.e. interviewers and interviewees), in terms of planning, implementing, and organizing the interview content and questions (Gubrium & Holstein, 2002, p. 35). The interviews allowed for focus to be on the research study questions to determine to what extent the use of SCL practices in the Administrative Operations Course improved the quality of student performance. The interview questions were deliberately asked in a certain order to address the overall problem that students face in the classroom when student-centered learning practices are implemented.

## Standardized Open-Ended Interview Questions

1. Please introduce yourself to me, as if we just met one another.
2. What do you consider your strongest/weakness skills?
3. How do you prefer to learn? Provide an example of how it benefits you in the learning process.
4. What do you think is significant about student-centered learning practices in an environment like this one?
5. What are your strengths and weaknesses to learning in this type of environment that has not already been written down?
6. How would you describe your academic performance as it relates to your learning preference?
7. What are your thoughts on student-centered learning practices implemented in this course and are they beneficial in meeting the needs and developing the skill sets needed to perform successfully?
8. Tell me about the struggles you have experienced, since graduating high school/college/etc. in gaining the critical thinking, problem-solving, collaboration, and communication skills needed in our evolving society?
9. Reflecting on how well you have been able to gain the skill sets needed, what advice would you provide to younger participants who may not have the experience you have in gaining those skills?
10. The next question is unique in that it will invite you to look ahead. How will you build upon the skills learned and practiced ensuring that future training and education leads to personal achievement?

11. We have covered a lot of ground in our conversation, and I appreciate the time you have given to this. One final question.... what else do you think would be important for me to know about your experiences of student-centered learning practices?

Questions one through five provided knowledge-based answers that help build rapport with the participants. Brinkmann and Kvale (2015) stated, “The researcher questions are usually formulated in a theoretical language, whereas the interview questions should be expressed in the everyday language of the interviewees” (p. 158). This approach allows the participant to be at ease with the researcher before answering in a more in-depth manner.

Sternberg, Professor at Yale University stated, “Styles of thinking and learning are as important as intellectual ability and ignoring students’ thinking styles puts teaching and learning in jeopardy (1990). Participant’s awareness of their own learning styles can help them understand their own weaknesses and strengths in the learning process. That awareness can help create an interesting and motivating learning experience and increase performance achievement (Essays, 2018). Questions six and seven have been designed to connect student’s academic performance to the student-centered learning practices implemented.

Questions eight and nine invite the participants to reflect on his or her learning styles as compared to those of the instructor or classmates. It was important to know not only how students learn, but also how teachers learn: how they learn influences how they teach (Arker et al., 2010). Probing about the learning styles of their classmates and instructors can help get the participant to talk about their personal opinions, feelings, and insights which can promote critical thinking.

Question 10 required a higher degree of vulnerability from the participant. Peters et al (2008) noted that participants who tell their story as part of qualitative research may have a sense of

being valued and may be inclined to share their experiences to gain a sense of purpose and contribution through increased awareness of their experience. Participants were vulnerable but sharing their experiences can have a positive result.

Question 11 was the final interview question which serves as the closing question (Patton, 2015), allowing the participants the opportunity to include more information on what has been covered. The closing question provided valuable data otherwise may not have been gathered throughout the interview. This question allowed the participant to share their own experience and insight into the phenomenon being studied. I piloted the interview questions by asking four participants to be interviewed. These individuals were chosen to share similar criteria to those participants I interviewed in my larger study. This allowed me to gain valuable experience in my interviewing protocols and identify flaws in my interview design before I proceeded in my larger study. (Van Teijlingen & Hundley, 2002).

## **Observations**

Observation was one of the key tools for collecting data in qualitative research because it was the act of noting a phenomenon in the field setting through the five senses of the observer, often with note-taking instruments and recording it for scientific purposes (Angrosino, 2007). A participant-observer allowed the observer to capture the contexts between the interaction of the participants and their setting which otherwise may not be captured with interviews only (Appendix A). The observations were scheduled on a biweekly basis with the participants in the designated classroom. Detailed reflective field notes were taken during each observation. Field notes served as a record of activities observed and informal discussion of the field of study (Deggs & Hernandez, 2018). As a participant-observer, using descriptive and reflective field notes served as additional resource to provide evidence gave meaning to understand the

phenomenon being studied. I used an observation protocol worksheet (see Appendix E), outlining the activities observed on the participants in the classroom. As the researcher and observer, I sought to capture the student-centered learning practices that were implemented in the course and how the students incorporated those into their learning process. Collecting valuable insight into how students learned and how their learning environment added to that experience. By observing participants in their natural setting, the researcher gathered firsthand account of their student's experiences, behavior, and reactions, to the student-centered learning practices implemented in that setting (Rosenhan, 1973). This data was used to highlight the challenges students experience and how they can overcome those challenges.

### **Data Analysis**

Data analysis in qualitative research consisted of preparing and organizing data for analysis; then reduced the data into themes through the process of coding and condensing the codes; and finally representing the data in figures, tables, or a discussion (Creswell & Poth, 2018). Yin (2018) states that researchers can start data analysis by searching for promising patterns, insights, and concepts to define their priorities for what to analyze and why (p.164).

From a constructivist paradigm in which reality is subjective and context-specific, and multiple truths were constructed by and between people (Bergman et al., 2012), I employed constructivist thematic analysis, to examine student-centered learning practices and student experiences. An analytic induction, a research method used to collect data, to develop analysis, and to organize the presentation of research findings, was used for data collection in this study. The first stage of data analysis involved combing through all the data collected from survey, interviews, and observations. The data from survey, interviews, and observations was evaluated and triangulated using regression analysis. I manually went through the data and transcribed it to

ensure that the information was an adequately representation of the data collected. Yin (2018) stated it is essential to use tools and guidance to help you code and categorize large amounts of data to serve as a reliable tool in completing data analysis (p. 166).

Once data was collected, I transcribed it using an inductive coding approach called axial coding to examine the patterns or themes that emerged. Inductive strategies yielded appreciable benefits and the procedures assigned various kinds of codes to the data, with each code representing a concept or abstraction of potential interest (Yin, 2018). Coding was the process of inductively locating linkages between data, which occurred in myriad ways such as behaviors, events, activities, strategies, states, meanings, participation, relationships, conditions, consequences, and settings, to name a few (Allen, 2017). The goal was to use the inductive strategy to identify the best student-centered learning practices that can build student performances. The data was analyzed by the Qualitative Data Analysis Software MAXQDA to draw conclusions about the respective object of research (MAXQDA, 2020). The MAXQDA software ensured that data was coded with different colors or symbols for ease of data retrieval. Codes were assigned to further segments throughout the data that were used to identify patterns and themes (MAXQDA, 2020).

The third stage of the data analysis involved sharing the conclusions by bringing its results and findings to closure (Yin, 2018). By using computer-based software, MAXQDA, which stores all data that was collected and analyzed, I was able to extract the data from one centralized location. The report was structured in accordance with how the data collected answered the research questions of the study.

## **Trustworthiness**

Demonstration of the trustworthiness of data collection was one aspect that supported a researcher's ultimate argument concerning the trustworthiness of a study (Rourke & Anderson, 2004). Researchers placed a lot of thought into how they will collect the most appropriate data for analysis. The trustworthiness or truth value of qualitative research and transparency of the conduct of the study was crucial to the usefulness and integrity of the findings (Cope, 2014). As a researcher in this study, I applied trustworthiness in all aspects of data collection and adequately represent the results uncovered within this study. In this study, multiple sources of data and methods were used to improve the methodology through triangulation. Triangulation of data ensured a higher quality of research and reduce measurement errors. Trustworthiness was about establishing and addressing four things which include credibility, dependability, transferability, and confirmability.

### **Credibility**

Credibility referred to the extent to which a research account was believable and appropriate, with reference to the level of agreement between participants and the researcher (Lincoln & Guba, 1985). The method to achieve this aspect of trustworthiness, prolonged engagement, referred to spending extended time with respondents in their native culture and the everyday world in order to gain a better understanding of behavior, values, and social relationships in a social context (Given, 2008). This method allowed the researcher to receive more in-depth information about the participants and how they responded in their natural settings. Without credibility, the study may have been viewed as being invalid. As a researcher, focusing on the quality of the data collected rather than the quantity to gauge the accuracy was the best depiction of credibility applied to a research study.



## **Dependability and Confirmability**

Addressing the issue of reliability, dependability and confirmability was similar in dealing with the consistency of details and the setting of a study. To address dependability in a study, the process within that study should be reported in detail, therefore enabling future researchers to repeat the process (Shenton, 2003). To address the confirmability in a study, the main concern was with establishing that data and interpretations of the findings were not figments of the inquirer's imagination, but clearly derived from the data (Korstjens & Moser, 2018). As a researcher, I applied dependability through documenting all the details to ensure that the findings were consistent and could be repeated if needed. For this research, applying confirmability involved presenting the findings in accordance with the participants and less from my own bias views. The method to increase the trustworthiness - audit trail - refers to transparently transcribing the research steps taken at the beginning and throughout the study to develop and report the findings.

## **Transferability**

Transferability was the degree at which the results of a study could be transferred to other context or settings with other respondents (Korstjens & Moser, 2018). Providing background data that established the context of the study and a detailed description of the phenomenon ensured that a comparison could be made. As a researcher, generalizing the steps and findings of the research ensured that transferability could be used in any context or setting. The method to increase the trustworthiness, thick description, referred to describing not just the behavior and experiences, but their context as well so that it became meaningful to an outsider (Lincoln & Guba, 1985).

## **Ethical Considerations**

In every study, the author was required to report any ethical concerns that may arise during the study. Conducting a research study involving human subjects must be given adequate consideration to protecting the life, health, dignity, integrity, rights, privacy, and confidentiality of their personal information (World Medical Association, 2013). To protect the personal information of the subjects participating in the study, password protected procedures on all electronic data storage and data collecting devices will be adhered to ensure the highest degree of confidentiality is met. The data collected was not shared with anyone else and used for the purpose in which it was intended. All data including survey, interviews and responses, and observation notes, and any other associated data will be maintained, stored, and secured in a home safe for up to 3 years. After this time frame, the data will be shredded. Due to affiliations of the participants and the setting of this research study, abiding by all written consent of the organization and institution was vital to protecting the identity of those participating in the study and the setting of the organization as a private entity. Creswell & Poth (2018) states ethical considerations were more than simply seeking and obtaining the permission of IRB, but it means that researchers consider and address all anticipated and emergent ethical issues throughout the study. Other ethical considerations included being sensitive to the population that participants in the study, respecting the selected site of the research study and minimize disruptions, avoiding plagiarism, and complete proof of compliance with ethical issues and lack of conflict of interest (Creswell & Poth, 2018).

## **Summary**

The intent of this study was to highlight the experiences that students had with student-centered learning practices implemented in an Air Force Technical Training Course. Student-

centered learning practices have often been criticized for lack of compelling evidence on its effectiveness on student performance (Hannafin, Hill, Land, & Lee, 2014). Student-centered learning practices implemented in a structured environment allowed learners to take control of their learning experience and encouraged them to make important choices about what and how they would learn (Doyle, 2008). The goal of this study was to determine if there is a correlation between student-centered learning practices and the academic performance of students. The information gathered through this study could determine if students in a military-technical training course could benefit from student-centered learning practices used in order to gain skills needed in a changing, global-minded society.

## CHAPTER FOUR: FINDINGS

### Overview

The purpose of this case study was to examine students' experience of student-centered learning practices implemented at an Air Force training course. This chapter discusses the description of the research participants and summary of the research results, to include the themes that were discovered based on the data analyzed from student survey, individual student interviews, and classroom observations. A total of four themes emerged, which are presented to help relay the information that addresses the central research question and the sub questions. This chapter closes with a brief summary of the information presented in this chapter.

### Participants

The 12 research participants who agreed to take part in this instrumental case study (see Table 1) were all Air Force members that consisted of seven male and five female students who, from the time of their consent to participate, were given a pseudonym (Rogers, 2006) selected from a list of individual names that were not related to their identities. Each participant participated in a student survey, individual interviews, and classroom observations. These pseudonyms allow the research participants to remain anonymous in their answers to the survey and interview questions.

Table 1

#### *Participant Demographics*

<b>Pseudonym</b>	<b>Gender</b>	<b>Age</b>	<b>Education Level</b>
Alex	Male	18	High School Diploma
Ashton	Male	19	High School Diploma
Caleb	Male	18	High School Diploma

George	Male	34	Bachelors
Jon	Male	29	Masters
Julie	Female	22	Associates
Michael	Male	47	Bachelors
Renea	Female	21	Associates
Riley	Male	18	High School Diploma
Sally	Female	23	Associates
Trisha	Female	30	Bachelors
Victoria	Female	24	Associates

## Alex

Alex is a Reservist in the Air Force Reserve with less than three months serving. This is his first military course outside of Basic Military Training. He also is a recent graduate from a private Christian High School where he received high school diploma in May 2021. Pertinent information Alex provides was that he was homeschooled from kindergarten through middle school. In Alex's interview he expressed that during his time being homeschooled he was able to use different means of learning compared to when he started his high school years at a private Christian school. At the Christian school, Alex was expected to learn the way their curriculum and activities were setup which he was not used too, and he struggled the first two years before his parents hired a tutor to help him throughout the rest of the time in that school. Alex expanded on his experience because he felt that not all learning environments understand the needs of each individual student but only care about the percentage of students who graduate from that school that makes them look better in the community. Upon analyzing the transcript, my subjective opinion was Alex is someone who is eager to learn but with the learning environments that he

has been exposed too limited his ability to express what he has learned therefore stifling his voice in the learning process.

### **Ashton**

Ashton is an active-duty Air Force member that has been serving less than four months and this is his first military training course outside of Basic military training. Ashton graduated high school receiving diploma May 2020. Ashton took a year off to figure out what he wanted to do with his life. Ashton then decided to enlist in the Air Force instead of going to college. Ashton expressed that he learns best through technology rather than listening to a lecture that has no benefit to him when it comes to the learning process. Ashton also expressed in his interview that for him to stay engaged and focused on the content he must see immediate gratification and feedback for him to continue to remain present in the learning process. Upon analyzing the transcript, my subjective opinion was Ashton favors student-centered learning practices but only those that provide instant feedback rather than waste time on the practices that require him to put more energy and thought it to that may not give him the immediate rush he is looking for.

### **Caleb**

Caleb is an active-duty Air Force member who has been serving less than three months. This is his first military training course outside of Basic Military Training. He is a recent high school graduate. The day after he graduated from high school, he enlisted in the Air Force. Caleb expressed in his interview that the last year and a half he was enrolled in a virtual academy at school because of the COVID-19 pandemic. Caleb expounded on the fact that he enjoyed virtual learning since he learns best with technology. He also expressed how his grades improved because he was able to utilize technology to complete required homework and classwork and express the knowledge he has gained through the use of student-centered learning. One particular

thing that stood out during his interview was that he stated, “prior to online learning, he never thought about using student-centered learning practices because the focus of learning was to do well on the common core standardized testing otherwise, he would not be able to graduate without passing that test”. Upon analyzing the transcript, my subjective opinion was Caleb is the norm for students graduating from high school in today’s society. The focus has been on common core standardized testing and less on the needs and interests of the student. Caleb makes up a high percentage of students who if given the chance would choose a different learning path that is best for them instead of what they are told or expected to do or learn

### **George**

George is an active-duty Air Force member that has been serving for 14 years and has attended 18 other military training courses throughout his career. George expressed that out of all the military training courses he has attended this course is the first that has focused on student-centered learning compared to lecture-based curriculum. George’s experience with student-centered learning is limited both in the military training he has received and in the civilian education arena where he has completed a Bachelor of Arts in Communications. In his interview, he expounded on “how knowledge is gained through sufficient amount of time dedicated to studying that content in a particular subject rather than an immediate reciprocity from student centered-learning practices an individual gravitates toward.” Upon analyzing the transcript, my subjective opinion was that George was unaware of student-centered learning practice and the benefits they bring to the learning process because of his lack of experience and implementation within his own educational journey.

## **Jon**

Jon is an active-duty Air Force member that has been serving for eight years. Jon has attended seven military training courses. Jon recently cross-trained into this career field from Security Forces career field. Jon expressed that many of the training courses he has attended have been lectured and performance-based driven. These courses were set up to provide the general knowledge about the given tasks, a demonstration was provided, and then following the student practice the tasks and then be evaluated on the progress of that tasks. Jon has equated that structure as student-centered practices because it allows an individual to see a task in many different forms so they can learn it. Jon also expounded on his own personal educational journey and student-centered learning practices that he has used with completing a Master of Arts in Business Administration. Upon analyzing the transcript, my subjective opinion was Jon is neutral about the change in how the Air Force trains and equips its military members in educational and training environments. He expressed that there is not much different between what the Air Force has always done compared to the new initiatives they are working to implement regarding student-centered learning practices.

## **Julie**

Julie is a Reservist in the Air Force Reserves that has been serving for three years and attended five military training courses. She also has completed an Associates of Arts in General Education emphasizing on Elementary Education. Julie expressed in her interview when she is not working in the reserves she is working part-time at a local elementary as a paraprofessional assisting teachers implementing student-centered learning practices into their curriculum and daily activities. Julie expounded on all the student-centered learning practices that have been helpful in her own educational journey and those practices that have helped her students in the



classroom. Julie expressed how students who are exposed to different avenues of learning could find new sense of meaning and interest that otherwise would have never been discovered if they continue down the path of one size fits all mentality. Upon analyzing the transcript, my subjective opinion was Julie understands the importance of student-centered learning practices and the benefits they are in meeting the needs of the student, since she is an educator. By using student-centered learning practices, she is able to meet the needs of all students within a given classroom by tailoring that learning experience to each individual student without excluding those who may need additional assistance.

### **Michael**

Michael is a Guardsman in the Air National Guard that has been serving for 18 years and has attended over 25 military training courses throughout his career. Michael expressed in his interview that he does not understand the point of changing how things have always been done in the military to accommodate the needs or wants of a newer generation coming into the Air Force. Michael expressed that all the time he has been in the military there have been many changes in how training has taken place, but those changes all have been trending and eventually leadership reverted back to the basic foundation of following orders and do what your told. Michael expounded on his own experiences with student-centered learning practices, which has limited him in being able to apply those practices to his career progression and completing of a Bachelor of Science in Emergency Management. Upon analyzing the transcript, my subjective opinion was due to the limited exposure of student-centered learning practices throughout his career and life, Michael has not been able to put those practices into action in his own life therefore he does not believe they are beneficial in an environment such as the military where you are told what to do, how to do it, and why you are doing it. No questions asked.

## **Renea**

Renea is a Reservist in the Air Force Reserves that has been serving for two years and has attended four military training courses. Renea expressed in her interview that she has utilized student-centered learning practices throughout her career and educational journey completing an Associates of Arts in Liberal Arts. Renea expounded on the importance of the student-centered learning practices were for her to utilize throughout her educational journey. As she stated in her interview, “utilizing student-centered learning practices allowed her to move beyond a passive recipient of information to an active change agent in the learning process”. Upon analyzing the transcript, my subjective opinion was Renea relies on student-centered learning practices to help her learn the content and material she needs in any course or class she takes because it helps her retain the knowledge through an active means of applying it to situations that she may encounter.

## **Riley**

Riley is a Guardsman in the Air National Guard and has been serving for less than three months. Riley recently graduated from High School, receiving his diploma in May 2021. Riley expressed in his interview that he has benefitted from student-centered learning practices. Riley expanded on how when he was in the ninth grade, he struggled with many of the subjects and his grades reflected that struggle. It was then when his primary teacher took a leave of absence, and a substitute came in to teach them. As stated by Riley, “this teacher had a way of bring the material alive through different means that sparked his interest”. Riley further explained how the substitute teacher gave him different ways of seeing the material so that he could retain what he was learning, which now he knows was student-centered learning. From that day forward, Riley has used the concepts and techniques that he learned from the substitute teacher to implement in his own learning process even in the current course. Upon analyzing the transcript, my subjective

opinion was Riley was open to change the way he learned to get a different result. Riley struggled but he was motivated to find something that could help him to be successful and find something that was relevant in a continuing changing learning environment.

### **Sally**

Sally is an active-duty Air Force member that has been serving four years and has attended three other military training courses within those four years. Sally expressed that she has utilized student-centered learning practices in previous courses and classes she has taken to complete her Associates of Science in Behavioral Science-Psychology. She also explained how she has always gravitated towards hands on through note taking and drawing pictures for her to remember key concepts of the content and material she was studying. In her interview, she expounded on “how multiple means of learning gives individuals tools they can use to be successful both in a personal and professional manner”. Upon analyzing the transcript, my subjective opinion was that Sally highly favors student-centered learning because it allowed her room enough to fail but provided room for her to learn from her mistakes, which can be vital in developing critical thinking skills needed for military members in stressful situations.

### **Trisha**

Trisha is an active-duty Air Force member that has been serving for eight years and recently cross-trained from the medical career field into this current career field. Trisha has attended seven other military training courses including this one. Trisha also has recently completed her Bachelor of Sciences in Health Services. In the interview with Trisha, she expressed that many of the classes she took while enrolled in the bachelor’s program required her to evaluate the way she studied because how she used to study was not beneficial to her at this point in her educational journey. She explored different ways of learning which led to her

interest in student-centered learning practices being used. Even though Trisha is very new to the student-centered learning practices she has found that tapping into what best fits her ability to learn has been the key to her gaining valuable knowledge she has needed to complete not only a civilian education but able to apply it to courses she has and will take through the Air Force. Upon analyzing the transcript, my subjective opinion was Trisha considers student-centered learning practices a vital part of the learning process and she continues to be an advocate for them in the learning environment because from firsthand experience she has seen a difference in how they can benefit an individual's ability to retain knowledge.

### **Victoria**

Victoria is a Guardsman in the Air National Guard and has been serving for four years. Victoria recently cross-trained into this career field from Security Force career field. Victoria has attended four military training courses. Victoria has an Associates of Science in Criminal Justice. Victoria expressed in her interview "she does not have an opinion on student-centered learning practices because she does not really engage with the content or material in these courses because she has learned to play the game and just get by with a passing score". Victoria expanded on her statement by saying "she was not going to put more effort into something that she was never going to use in her career". Upon analyzing the transcript, my subjective opinion was Victoria was not motivated to further her understanding about student-centered learning practices much less implement them into her own personal learning process. Victoria was aware of what student-centered learning practices are and their benefits, she was just not that interested in putting effort into applying them in her career or her personal life.

## Results

The purpose of this qualitative instrumental case study was to examine students' experiences of student-centered learning practices implemented in an Air Force training course. Purposeful sampling was used to provide rich data from the students' perspective of the student-centered learning practices that were implemented in an Air Force training course. After analysis of the data from three data collection methods: survey, interviews, and classroom observations, four themes emerged to answer the five research questions. The analysis process for this study consisted of organizing the data, completing a thorough read through of transcript and transcription of transcript, coding and organizing themes in MAXQDA, represented data, and formed an interpretation of the findings (Creswell and Poth, 2018). Table 2 displays the alignment of the research questions to the survey questions, interviews questions, and classroom observation.

Table 2

Alignment of Research Questions to Survey and Interview Questions, Classroom Observations

<b>Research Question</b>	<b>Survey Questions</b>	<b>Interview Questions</b>	<b>Classroom Observation</b>
How does students describe experiences of using student-centered learning practices implemented at an Air Force training course?	1-4,5,6,	1-3, 11	All
What benefits do students experience when using student-centered	5, 6,7,8	4-7, 10	All

learning practices implemented at an Air Force training course?			
What challenges do students experience when using student-centered learning practices implemented at an Air Force training course?	9,11,13	4, 5, 8	All
How does students' experience influence the use of student-centered learning practices implemented at an Air Force training course?	5, 10, 12	9, 10, 11	All
What challenges do students have to overcome when using student-centered learning practices implemented at an Air Force training course?	14, 15	6, 8, 11	All

### Theme Development

There were a total of 12 research participants from the Administrative Operations training course that participated in the data collection for this research study. The data collection began with each participant completing a paper copy survey (unforeseen circumstances with technological difficulty, as online survey would not load for students to accomplish). The

researcher provided a copy of the survey to each participant in the designated computer room for them to complete and return it to the researcher so an interview could be scheduled. Each survey that was returned to the researcher was placed in an envelope and each participant was provided a choice of day and time slots to complete an interview. The researcher annotated the day and time for each participant and provided a reminder for them so they would keep the scheduled interview. Each interview consisted of 11 open-ended interview questions in an effort to gain knowledge about the participant's knowledge and thoughts regarding student-centered learning practices. Each interview lasted approximately 30 minutes each, with the shortest being 19 minutes and the longest taking 33 minutes. The interviews took place in a designated classroom, were recorded, and later transcribed verbatim using Microsoft Word.

Once all interviews were completed, the researcher conducted the classroom observation. The classroom observation was scheduled and approved by the instructor supervisor of the course for an in-person observation since most of the COVID restrictions were rescinded for the organization. The instructor and participants were informed of the day and time at which the researcher would be observing their classroom in person. The classroom observation began as scheduled with the researcher observing the participants in their natural learning environment engaged in student-centered learning activities for the particular objective being covered at the time of the observation. Throughout the observation, general notes of the participant's interaction with others were annotated as well as the participant's body language, voice, tone, facial expressions, and general mannerisms that each displayed. Each participant was required to work together in groups to complete a prescribed activity that required them to engage in student-centered learning practices. They were instructed to use the visual learning style which consisted of each group drawing pictures that represented the information and then presenting as a group to

the entire class what they had gleaned from the paragraphs in the study guide. This activity was an effort to encourage collaboration, communication, problem solving and critical thinking skills.

Once the data collection process was complete, data analysis could then begin by a thorough read-through of the interview transcripts and completing the coding process through MAXQDA annotating key phrases, words, and noteworthy quotes. Along with each participant's survey responses and classroom observation, general notes were analyzed to identify codes, phrases, key words, and quotes. All codes, keywords, phrases, and noteworthy quotes from all data collection methods were analyzed to identify patterns and themes which were then placed into categories relative to the research questions. Recurring words and phrases were assigned codes that represented similarities which then were assigned to categories to yield the emerging themes.

The following four themes were identified: Visual Learners Only, Affixed Student-Centered Learning Practices, Association by Approximation, Expectations versus Reality. Table 3 provides a detailed list of the codes that helped identify the four themes. Table 4 provides narrative data aligned with those four themes.

Table 3

*Codes Leading to Themes*

<b>Codes</b>	<b>Themes</b>
Capture information faster, material comes alive, emotional simulation, using visual aids to grasp information, draw symbols and pictures, flashcards, displays, interactive games help me understand the material and how it fits	Visual Learners Only



<p>together, remember what I do rather than what I hear, learn from seeing, mind mapping, look at information differently, see how things work, organize my thoughts through pictures or symbols, visualization.</p>	
<p>Use visual learning materials to complete tasks, practice scenarios, courses have incorporated hands on practice in the objectives, educational concepts integrated into the course, practices tailored to the content, practices fluctuate depending on the objective, not based on student needs but content, practices hit the intended target, all objectives have some form of SCL practice used.</p>	<p>Affixed SCL Practices</p>
<p>Teach peers content they are unfamiliar with, little or no clarification when confused, misinterpretation of material, difficulty finding relevancy in material and struggle on examinations, pretending to know the information to satisfy instructors guidance, associate material to something understandable even if it was not accurate, know the book answer not how it is interpreted.</p>	<p>Association by Approximation</p>

<p>Limited problem solving and critical thinking used in SCL practices, mandatory checklists are required no need to think about what to do, follow pre-determined steps for every situation, disconnection between what students need to know and what they actual do, SCL not relevant to what actually happens on the job.</p>	<p>Expectations vs Reality</p>
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### **Theme One: Visual Learners Only.**

Out of all the themes, all the participants expressed a similar thought on the type of learning style that underpinned the SCL practices implemented in this course. Incorporating SCL practices into any content and classroom environment requires a certain amount of planning, implementation, and assessment to ensure that there is benefit to that environment and it is conducive to the types of learners that make up that environment. Examining this course, the SCL practices implemented are all based on the visual learner so that all the activities require participants to learn visually through creating posters or visual presentations to present to their peers about what they gathered from the paragraphs in their study guides. Jon shared, “The SCL practices are strategically implemented in this course to keep students engaged because they appeal to those students who learn best through visualization.” As mentioned by Ashton in his interview, “Visual learning helps improve my learning tremendously by keeping me engaged and focused on the content”. The material covered in this course is used to equip individuals with the basic foundation needed for them to operate successfully in their respected job position as an Air Force member. Most of the training that occurs in the training environment is centered around an

easy venue to present information while simultaneously using the limited resources available. As Trisha mentioned, “SLC practices used in this course are geared towards visual learners because they are easy to implement even with a limited number of resources available”.

### **Theme Two: Affixed SCL Practices.**

All the participants expounded on the use of SCL practices in this course to be either beneficial, to heavily used, or not beneficial or relevant to them in this career field. Even though many of the participants identified as being a certain type of learner, the overarching conclusion from this research was that the SCL practices were not based on the needs or preferences of the participants but on the content within the objective being covered. Julie shared, “She believes the SCL practices implemented in this course are tailored to the content and the complexity of the material and based on the level of knowledge of the students attending this course”. Another participant named Sally mentioned in her interview, “That the SCL practices implemented in this course may not be what a student’s learning preferences is, but they best fit the material being covered”. The SCL practices are affixed in the course according to the content being taught and students have no room to think outside of the box or have enough opportunity to demonstrate what they have learned or express their previous knowledge of the content in the best way that is relevant to them. SCL practices are meant to move the student from a passive learner to an active change agent in the learning process. However, for those participants who do not identify as individuals that favor a certain learning preference that is based on the content of the course, will struggle to move past the passive learning role into an active change agent in the learning process. Alex shared in his interview, “If given more opportunity to express my knowledge and what I have learned my own way instead of how the instructor wanted the class to complete SCL

activities I would have not struggled to grasp the basic knowledge needed to be successful in every block of instructions of this course”.

### **Theme Three: Association by Approximation.**

Throughout the interview process and classroom observation, participants verbally expressed their thoughts regarding how they would learn the information by associating that information with something that was relevant to them as an individual. Participants were expected to use SCL practices to teach their peers information found in the material that they had never seen before much less understand. Victoria shared, “When SCL practices are implemented in class it is sometimes difficult to understand the material when my peer tries to explain something that have no experience with.” A students’ interpretation or association of the material was what would be communicated or presented to the class, whether it was accurate, or way of center was irrelevant. However, associating material to something relevant to the individual would not be beneficial when taking an examination, where students are expected to know the book answer not how they interpreted the information. In Caleb’s interview he stated, “Associating material to something that interest me does help me retain the information longer however I still struggle to recall general facts about the objective on the examination because it required me to know the information verbatim not how I interpreted it.” While observing Alex during the classroom observation, valuable insight was provided on how the association by approximation could cause an individual to associate the information to something relevant but still not learn the main points of an objective. It was during this observation, the researcher noticed that Alex associated information about the objective to his own experience however provided incorrect details about the topic when presenting the information to his peers. Causing his peers to ask clarifying questions and doubt his confidence about the information he was

providing during the presentation. Considering how easy it is to misunderstand someone else's interpretation of the material as facts, George mentioned in his interview, "People understands at the level of their experience and if their experiences are limited, they may have a difficult time elaborating on topics they are not knowledgeable about.' Therefore, association by approximation may become more of a hindrance rather than a benefit for students utilizing SCL practices in the learning environment.

#### **Theme Four: Expectations vs Reality.**

While noting that there are certain skills and a set of abilities that all individuals need to be successful in the information age, there is an underlining misconception on what should be implemented so that it enables individuals to develop those skills. To identify whether or not some learning environments or training environments provide avenues for individuals to develop those skills becomes the center point for discussion. Most of the SCL practices in this course were implemented to address the lack of 21st century skills to include collaboration, communication, problem-solving, and critical thinking skills that have been missing from previous training courses. Michael mentioned in his interview; "All the courses he has attended in his career were not about meeting the needs of each individual student so they could develop certain skills. These courses were about accumulating the hours and the training to be qualified for a position or an assignment". Another participant named Renea shared, "Military training courses are usually structured so that there are a certain number of retention or washout rates for each career field to ensure a steady number of qualified individuals graduate from the courses and move on to the operational side which is based on the number of hours and training they received not on the skills they may have acquired." Considering this data, using SCL practices in courses help to incorporate 21<sup>st</sup> century skills that are needed for individuals in a modern society.

In this course particularly, limited SCL practices minimize which skills are required for students to develop and use throughout the course. Most of the skills highlighted in the SCL practices include the collaboration, communication, and creativity to a certain extent but exclude problem-solving and critical thinking in the SCL practices which are major skills needed in a global society. Students in the course are taught that checklist are mandatory and will guide them to what they must accomplish for a certain situation or circumstances. So, students don't need to critically think about anything, or problem solve their way out of a situation because there are checklists available to them. Students need to follow the predetermined steps needed to accomplish the required checklist, alleviating mistakes that might occur in a given situation due to human factors. The skills of problem-solving and critical thinking are already built into the checklist so that students don't need to think about things but just do what they are required to do according to the checklist or procedures. In the course, there are disconnections between what students need to learn versus what they actual have to accomplish. As mentioned by Riley in his interview; "I feel there is a disconnect between what instructors expect me to know compared to what the instructors want me to do". From a bigger picture perspective, SCL practices help students develop the 21st century skills that are needed in a changing society but in this course, students are expected to develop the skills but not use them when they are needed the most. The course has the skills incorporated into the curriculum through SCL practices but when it comes down to the actual job or performance, students do not use these skills of problem-solving or critically thinking because they have mandatory checklist they rely on. As Julie shared in her interview; "If learning environments truly want to prepare individuals for the future, they should use relevant techniques and SCL practices that help develop the appropriate skills sets and abilities that individuals need not just implement them to satisfy organizational standards".

Table 4

*Theme Chart with Narrative Data*

Themes	Quotes
Visual Learners Only	<p>“The SCL practices are strategically implemented in this course to keep students engaged because they appeal to those students who learn best through visualization.”</p> <p>“Visual learning helps improve my learning tremendously by keeping me engaged and focused on the content.”</p> <p>“SLC practices used in this course are geared towards visual learners because they are easy to implement even with a limited number of resources available.”</p>
Affixed SCL Practices	<p>“She believes the SCL practices implemented in this course are tailored to the content and the complexity of the material and based on the level of knowledge of the students attending this course.”</p> <p>“That the SCL practices implemented in this course may not be what a student’s learning preferences is, but they best fit the material being covered”.</p> <p>“If given more opportunity to express my knowledge and what I have learned my own way instead of how the instructor wanted the class to complete SCL activities I would have not struggled to grasp the basic knowledge needed to be successful in every block of instructions of this course”.</p>
Association by Approximation	<p>“When SCL practices are implemented in class it is sometimes difficult to understand the material when my peer tries to explain something that have no experience with.”</p> <p>“Associating material to something that interest me does help me retain the information longer however I still struggle to recall general facts about the objective on the examination because it required me to know the information verbatim not how I interpreted it.”</p> <p>“People understands at the level of their experience and if their experiences are limited, they may have a difficult time elaborating on topics they are not knowledgeable about.”</p>
Expectations verses Reality	<p>“All the courses he has attended in his career were not about meeting the needs of each indivial student so they could develop certain skills. These courses were about accumulating the hours and the training to be qualified for a position or an assignment”.</p> <p>“Military training courses are usually structured so that there are a certain number of retention or washout rates for each career field to ensure a steady number of qualified individuals graduate from the courses and move on to the operational side which is based on the number of hours and training they received not on the skills they may have acquired.”</p> <p>“I feel there is a disconnect between what instructors expect me to know compared to what the instructors want me to do”.</p> <p>“If learning environments truly want to prepare individuals for the future, they should use relevant techniques and SCL practices that help develop the appropriate skills sets and abilities that individuals need not just implement them to satisfy organizational standards”.</p>

## **Research Question Response**

The purpose of this study was to examine students' experience of student-centered learning practices implemented at an Air Force training course. This study was designed to answer a central question and four research sub questions. The survey, interviews, and class observation analysis attempted to answer these five research questions. See Figure 1 for Theme alignment with Research Questions. The following research questions helped guide the study.

### **Central Question**

The central question that guided this research study was: How do students describe their experiences of using student-centered learning practices implemented at an Air Force training course? Participants recounted their experiences with student-centered learning practices and have described them as being either beneficial or restricted, inadequate, and preferential. The interviews and classroom observation provided an opportunity to analyze the employment and interaction between participants and student-centered learning practices. Julie shared in her interview, "Student-centered learning practices have been helpful and beneficial for me in this course because they have exposed me to different avenues to learn and help me make sense of information that otherwise I would not be able to comprehend or grasp". Student-centered learning practices reinforce the information being covered to demonstrate many different ways for students to grasp the information and not just a one size fits all method. Other participants described their experiences differently to include Alex who shared, "Student-centered learning practices are spread out throughout the course at different times within an objective. However, I feel I am a little restricted on how I demonstrate my knowledge because of the student-centered learning practices that are already affixed to the content". Another participant named Victoria expressed, "My experience in this course has not prepared me with the skills I need in my career.



Spending a significant amount of time and energy on inadequate student-centered learning does not guarantee I have gained knowledge or skills”. Student-centered learning implementation does not always equate to individuals retaining information and learning. Finding innovative strategies and solutions for students to commit information to long-term memory involves more than just providing excessive student-centered learning practices that are preferential. George mentioned in his interview, “The implementation of student-centered learning practices in this course are preferential to students who enjoy drawing pictures and participating in meaningless activities that add no value to their performance”. The end goal of student-centered learning is to permit all students the opportunity to become independent and lifelong learners. Providing all students, the rite of passage in the learning process can equip them with the knowledge and skills they need for future endeavors. Through the theme of visual learners only, participants concluded the need for a restructuring of student-centered learning practices to allow for more flexibility in how they would demonstrate their knowledge in using student-centered learning practices that are closely aligned with their individual learning preferences.

### **Sub-Question One**

The first sub-question for this research study was: What experience do students have using the student-centered learning practices implemented at an Air Force training course? Participants responded to the interview question to share their experiences using the prescribed student-centered learning practices implemented in this training course. The participants provided insight throughout the interview process that conveyed a complete portrait of their experiences using the student-centered learning practices. Several of the participants expressed how using student-centered learning was completely unfamiliar and foreign to how they usually learn. Trisha shared, “I found using student-centered learning practices difficult to apply in a

course where all the information was new”. Michael stated in his interview, “My experience in using student-centered learning practices was distracting. I was not able to focus on my own key concepts like I usually do therefore my academic performance suffered”. Ashton a younger military member mentioned, “Using student-centered learning practices were easy to navigate which assisted me in doing better than I thought I would do”. Depending on their experience, every student had a different perspective on using student-centered learning practices in the learning environment. The younger generation had more experience in adapting to a student-centered learning environment compared to the older generation who have just been exposed to this new way of learning. The theme of affixed student-centered learning practices to content revealed that whether students experience a positive or negative outcome in using student-centered learning practices, the overreaching consensus was a need to re-evaluate the utilization of affixed student-centered learning practices in this course.

### **Sub-Question Two**

The second sub-question for this research study was: What challenges do students’ experience when using student-centered learning practices implemented at an Air Force training course? Individuals indicated that there were challenges they had encountered with using student-centered learning practices regarding the benefits towards their academic performance and building skill sets needed beyond the classroom environment. Sally shared, “Student-centered learning practices implemented in this course have taken up a substantial amount of time in the classroom with minimum return on investment”. A lot of time is invested in incorporating and implementing student-centered learning practices but with little results showing a considerable increase to the 21st century skills that are at the center of these practices. Michael explains, “Trying to keep up with the latest fads can cause individuals to become

distracted and they lose the opportunity to master the fundamentals taught in this course”. The overall purpose of this course was to provide individuals the basic foundation of this career field and as they learn and get experiences, they are able to build on that foundation they received by attending this course. The theme of affixed student-centered learning practices and expectation verses reality provided participants the inclination that an assessment of student-centered learning practices implemented in the course needed to be conducted to determine if they are beneficial in helping students gain valuable skills that could be used outside the training environment.

### **Sub-Question Three**

The third sub-question for this research study was: How does students’ experiences influence the use of student-centered learning practices implemented at an Air Force training course? The theme of association by approximation provided participants with insight on how the external and internal influences of individuals have on the student-centered learning practices implemented. Several participants felt they were forced to use student-centered learning practices just to satisfy the desires of the instructor, less about the knowledge and skills they were able to acquire as a result of using the student-centered learning practices. Renea shared, “I struggled translating information from written form to visual presentation because I lacked the knowledge about the topic, therefore I resorted to associating the information with something relevant I could comprehend”. Participants also expressed that they felt their own experiences with student-centered learning practices limited their abilities to articulate their knowledge therefore influencing the quality of work they performed. Caleb felt his own insecurities prohibited him in blossoming through the use of student-centered learning practices because the barriers he experienced hindered his cognitive ability to associate the information with his own experiences.

Jon expressed in his interview by sharing, “Keeping students engaged through relevancy can lessen disciplinary and behavioral issues that arise when students are not motivated or interested in the topic being discussed”. These issues have a direct impact on the overall experience in the classroom environment. When students are motivated and interested, they find relevancy and are able to connect the information through association rather than becoming disconnected all together. From this perspective, participants revealed the importance of closely monitoring and assessing the internal and external influences that could have an impact on the effectiveness of student-centered learning practices.

#### **Sub-Question Four**

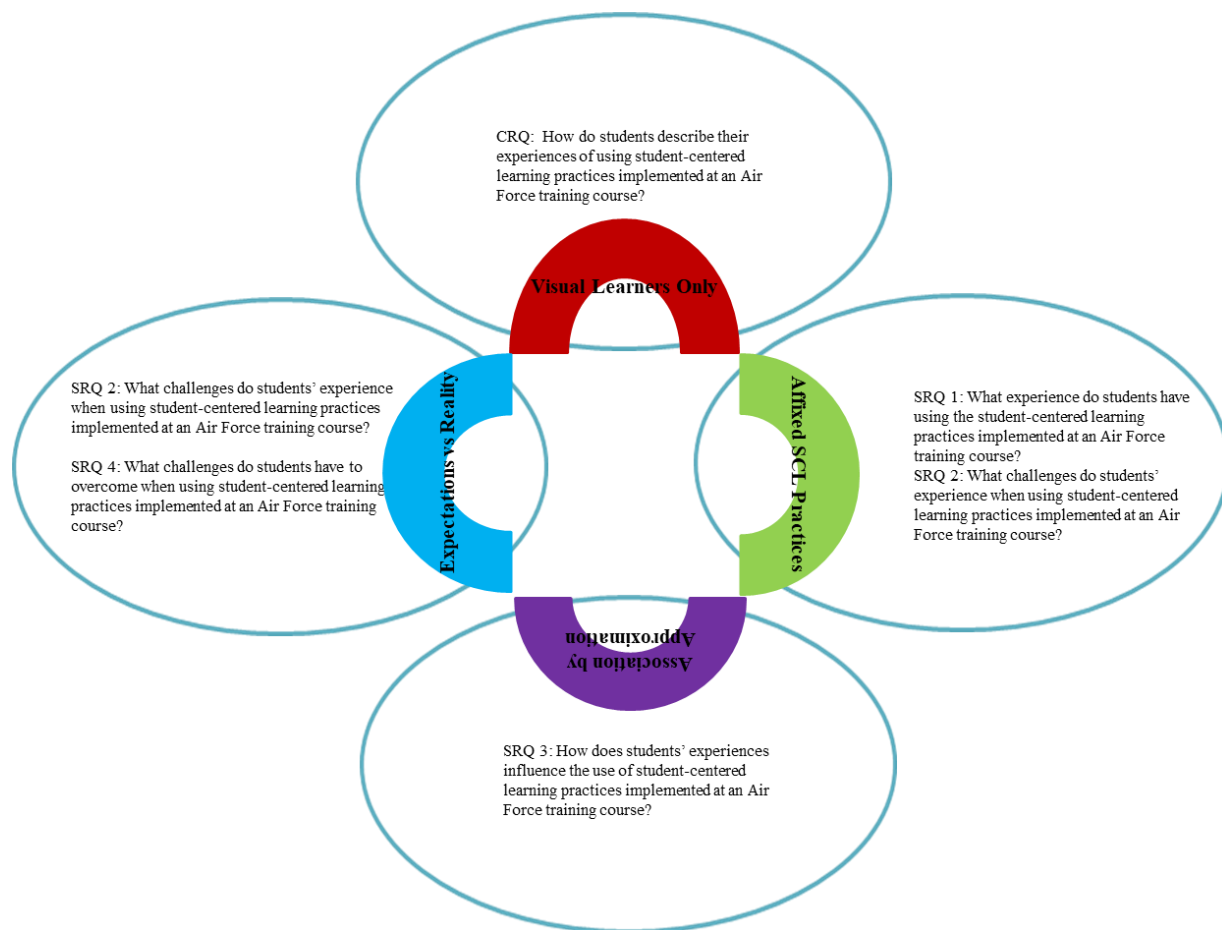
The fourth sub-question for this research study was: What challenges do students have to overcome when using student-centered learning practices implemented at an Air Force training course? The theme of expectations verses reality highlighted major gaps in this course regarding what was expected to what was reality. This presented some challenges that students had to overcome when using student-centered learning practices. Participants expressed how there were inconsistencies in what was implemented compared to what they were actually required to complete. Riley shared, “The student-centered learning practices we used in the classroom included collaboration, communication, problem-solving, and critically thinking, however when it came to the performance of this course, I was instructed to use a checklist instead of trying to think my way out of a situation”. This became a challenge for many of the participants because they had learned to accomplish tasks in one matter only to be instructed to accomplish them in a different method. The student-centered learning practices did not align with the skill sets needed for the students to perform satisfactorily. As George mentioned, “Being transparent in the requirements that students need to successfully graduate this course removes unnecessary stress

that otherwise causes students to doubt their abilities and weakness their confidence”.

Participants provided suggestions to streamline the existing student-centered learning practices to better encompass the desired skills that are needed for them to be successful in this course from start to finish. By discussing the challenges that the participants encountered with the student-centered learning practice implemented, provided the course with valuable insight into what was working and what needed to be revamped.

Figure 1

*Theme Alignment with Research Questions*



## **Summary**

Chapter Four provided an in-depth analysis of the participants responses to examining students' experience of student-centered learning practices implemented at an Air Force training course. Participants participated and responded to a survey, one-on-one interviews, and classroom observation. An overview of the development of themes and a description of those themes are present with a detailed narrative response from each participant representing their individual experiences with student-centered learning practices were embedded in each theme. The four major themes that derived from the data analysis were: (a) visual learners only, (b) affixed SCL practices, (c) association by approximation, and (d) expectations verses reality. This chapter concludes with responses to the central research question and the sub-questions.

## **CHAPTER FIVE: CONCLUSION**

### **Overview**

The purpose of this instrumental case study was to examine students' experience of student-centered learning practices implemented in an Air Force training course. Data collections consisted of a survey, one-on-one interviews, and classroom observation. This chapter consist of five subsections to include: (a) an interpretation of findings, (b) implications for policy and practice, (c) theoretical and empirical implications, (d) limitations and delimitations, and (e) recommendations for future research.

### **Discussion**

The purpose of this instrumental case study was to examine students' experiences of student-centered learning practices implemented in an Air Force training course. This research study was conducted to address the gap in literature regarding student-centered learning practices integrated into structured learning environments that previously did not consider the utilization of such practices relevant in a highly trained and sufficient organization. The results of this research study expounded on previous research discussed in Chapter Two regarding student-centered learning practices, specific practices that are integrated, an evaluation on the benefits and challenges of those practices, and the viewpoints of teachers and students within a student-centered learning-focused environment. This section below focuses on the interpretation of findings, implications for policy and practice, theoretical and empirical implications, limitations and delimitations, and recommendations for future research.

### **Interpretation of Findings**

This research study's theoretical framework was centered on Lev Vygotsky's theory of constructivism (Hoidn, 2016) and Malcolm Knowles, adult learning theory (Knowles, 2010).

Vygotsky's theory of constructivism emphasized the importance of learners being at the center of the learning process where they are active and confident in their abilities through constructing their own knowledge rather than passively taking in information (Serin, 2018). This approach is essential in the student-centered learning environment because it requires students to be active learners, taking on new roles in discovering and transforming complex information into something that is relevant to make it their own. Students are able to construct their knowledge by having an active role in the learning process to determine how they will learn and how they will demonstrate or express that knowledge through constructivist strategies also known as student-centered learning practices. Knowles' adult learning theory emphasized how adult learners are self-directed and are expected to take responsibility of their learning process (Knowles, 2018). This approach is vital in the student-centered learning environment because it places responsibility of learning in the students' hands, encouraging them to become independent so they can take ownership of their education. Adult learners bring a different set of understanding and skills to the learning environment, such as life and job experiences, so the one-size-fits-all approach does not work (Fitzgerald, et.al, 2018), therefore requiring learning environments to incorporate student-centered learning practices to challenge adult learners in the learning process.

As outlined in the literature review, these theories align with this study by supporting the basic foundation that students are able to construct new meaning when given relevant avenues to learn through student-centered learning practices. These theories provide valuable insight on how students learn and helped to reveal essential information that could be used to make better informed decision on the design, development, and delivery of learning. The findings of this study suggested that even though the participants were given different avenues to learn and



express their knowledge and skills, the results missed the intended outcome that would ensure students gained and utilized the expected skills needed through the use of student-centered learning practices. These findings extended previous research by identifying that student-centered learning practices implemented in a structured learning environment are not intransigent but rather evolving, requiring refinement or amended as research continues. The more results that this organization sees in implementing student-centered learning practices with the training environment, the assurance of new and innovative methods and practices will be developed and used that will benefit the organization as a whole. This study does not diverge from previous research outlined in the literature review but further discusses each in detail that helped to identify four main themes that contribute to the field of study. These themes help to uncover the inadequacy of student-centered learning practices as they relate to meeting the intended target outcome and the development of 21st century skills. By focusing on the students' perspective of student-centered learning practice implemented, critical information provides the field of study valuable data on which specific student-centered learning practices affording students the best course of action in developing the skills needed in a changing, global society.

This research study also provided empirical evidence by revealing that many students do not possess fundamental skills or know how to demonstrate those skills through a variety of methods using student-centered learning practices (Kaput, 2018). Pulling from the data collected from the survey, interviews, and classroom observation, the present study examined students experiences with student-centered learning practices implemented in the training course from the perspective of the student. Research on student-centered learning practices in the training course were limited due the new requirements integrated into the curriculum. Previous research on student-centered learning practice implemented in a training course focused on the teacher's

perspective and the specific practices that were easier to implement due to the time constraints and available resources. Therefore, this study extends on the research and adds insight to student-centered learning practices that are implemented at an Air Force training course. Previous research studies identified significance in using student-centered learning practices (Benlahcene et al, 2020) in the learning environment that included an increased development of 21st century skills, effectively involvement of students in the learning process, and students' academic performance enhanced. Based on my findings, I discovered a few other significant outcomes not previously identified in student-centered learning practices implemented, which emerged into four major themes.

### ***Summary of Thematic Findings***

**Theme 1: Visual Learner Only.** The theme visual learner only was identified as a driving force behind the student-centered learning practices implemented in this training course. This theme aligns with the research conducted by Leonard (2018), student-centered learning practices enable students the freedom to examine and analyze their learning environment to demonstrate and create their learning through chosen learning preferences. This theme focused on the student-centered learning practices geared towards visual learners because they were easier to implement with the number of resources the course had available. Data analysis showed that the participants who preferred the visual learner style thrived in this environment, while other participants who preferred a different learning style struggled to grasp basic facts taught in the course. During the interviews and class observation, participants described their experiences with using student centered learning practices as being restricted, inadequate, and preferential.

**Theme 2: Affixed SCL Practices.** With connection to previous literature, student-centered learning practices integrated into the classroom learning environment emphasizes on

making the educational learning process more meaningful to students (Team XQ, 2020) in where they are the influencers of the content, activities, and pace of learning (Froyd & Simpson, 2018) within that environment. This theme focused on the student-centered learning practices implemented based on the content rather than on the learning preferences of the participants. The participants discussed in their interviews the importance of having a personal connection to the content in order to find relevancy and learn the basic fundamentals outline in this training course. Most of the participants discussed how they came to expect which student-centered learning practice would be implemented according to the content which limited their ability to express their knowledge, impacting the skills needed for the intended outcome.

**Theme 3: Association by Approximation.** The theme of association by approximation aligns with prior research by Jamaludin et al (2015) concerning how students in the student-centered learning environment resist the idea that they become their own instructor to acquire knowledge and implement the appropriate skills needed to self-direct their own educational pathway. This theme focused on the practice of learning the material through associating the content with something relevant the participant could relate to. Most of the student-centered learning practices required the participants to teach their peers the content by explaining it how they interpreted it. Without prior knowledge of the content being taught, the participants would do their best to teach their peers according to their own experiences or interpretations. Based on the participants responses and feedback, this practice caused more confusion and misunderstanding of the content rather than providing a positive avenue for the participants to follow throughout the course. As a result, many participants struggled to recall basic facts about the material covered on the written examinations and during performance evaluations. Data analysis revealed that participants were hesitated to participate in student-centered learning

practices because there was no clear guidance provided by the instructor to clear up any confusion or misunderstanding that occurred.

**Theme 4: Expectations verses Reality.** The theme of expectations versus reality emerged from the interviews. This theme aligned with previous research (Kassem, 2018 & Wasilko, 2020) regarding adaptation of student-centered learning practices that produce learners who develop knowledge and skills reflected in a global economic mindset, where they are able to collaborate, communicate, think critically, problem-solve, and be innovative. Participants discussed their experiences in the course regarding what they were expected to accomplish to what they actually did accomplish. Several participants discussed the inconsistencies and the non-transparency of what they were told at the beginning of the course to what they actual did by the end of the course. As a result, many participants suggested an assessment be conducted of both the student-centered learning practices implemented and the intended 21st century skill to determine if they were aligned correctly. Data analysis revealed that participants experienced an elevation in stress because of the inconsistency of what the student-centered learning practices were meant to teach them or what skill they were expected to gain but did not use in terms of performance evaluations.

### **Implications for Policy and Practice**

The military is an extremely robust educational system that blends training and education in an environment made up of a large component of adult learners (Pierson, 2017) where they are constantly trained to the highest levels of proficiency. Skills to include critical thinking, problem-solving, communication, and collaboration are not only vital skills needed in the military environment but in life generally (Dudhade, 2021). In order to address the problem of this study which was student-centered learning practices implemented lack innovative

approaches to make training relevant and keep pace with the changing technical requirements (Camacho et al., 2018), training environments should reevaluate the policies and practices implemented to better align with operational requirements and innovative approaches that incorporate practices based on today's learners' attributes.

### ***Implications for Policy***

The overall findings of this study provide various stakeholders including policy makers, institutional leadership, and military training instructors' vital information in determining what skill sets are needed for military members to gain while attending training courses and what skills they need to carry with them throughout their careers. Policy makers may use the results of this study to create policies that are standardized across the board for all education and training environments that implement relevant student-centered learning practices that are based on operational requirements. Having a standardized policy established ensures that all training environments are following the same blueprint that ensures transparent skills are being developed in every educational environment. The results of this study can aid institutional leadership with adequate picture of the skills needed therefore they can design and implements curriculum that integrates relevant information that helps students gain knowledge and skills. Finally, this study can assist instructors in facilitating learning in the classroom that is based off the attributes of the students to better provide them with a relevant training experience that incorporates 21st century skills. Also, can help instructors create student-centered learning activities that are relevant to students and aligned with operational requirements.

### ***Implications for Practice***

Participants noted that while student-centered learning was beneficial in interpreting complex content, the skills at using or understanding student-centered learning practices were

not a prerequisite for the participants in attending this course. Adding the use of student-centered learning practices in the reporting instructions for participants would provide future attendees the expected requirements needed for them to be successful and prepared for this training course. Participants felt that they did not have adequate practice through student-centered learning because the skills that the participants were intended to gain through these practices were not what they accomplished through performance. The findings of this study demonstrated that practical application tools are recommended based on the student-centered learning approach, in where student-centered learning practices are at the core of learning environments to transfer knowledge-based material to practical application (Kaput, 2018). By creating a transparent learning environment that communicates what is required and what is allowed will establish a culture that transcend any deficiency in equipping military members with the skills and knowledge needed in a robust and resilient environment.

Implementing student-centered learning practices does not magically happen in a learning environment it requires engagement from all stakeholders to become partners in the process to ensure student outcomes are impactful and more equitable. As stakeholder become more involved and supportive in the learning process, students are provided multiple avenues of learning and opportunities to stay engaged in the educational experience in innovative and meaningful ways.

### **Theoretical and Empirical Implications**

The purpose of this section was to address the theoretical, empirical, and practical implications based upon students' experiences with student-centered learning practices implemented at an Air Force training course. The findings for this study were consistent with previous research and extended the literature by including a demographic group not previously

examined. This instrumental case study produced findings that warranted recommendations for various stakeholders, such as policy makers, institutional leaders, and military training instructors.

### ***Theoretical***

The constructivism theory and adult learning theory theorizes that learners learn actively and construct new knowledge based on their prior knowledge (Dewey, 1916; Piaget, 1973; Vygotsky, 1978; Bruner, 1996). The theoretical implications of this research study perceived that students' experiences are paramount in understanding which student-centered learning practices are instrumental in developing the 21st century skills. Students with more experience using student-centered learning practices were able to apply these strategies to the learning process compared to other students who struggled to find relevancy in these practices as they related to the content. The findings of this study demonstrated how student-centered learning practices utilized Vygotsky's theory of constructivism and Knowles' adult learning theory through the interaction students had with applying these practices, as well as with their peers. In this learning environment, students were required to pull from their own experiences and knowledge to participant in student-centered learning practices intended to equip them with the necessary tools needed to graduate. These practices were meant to hold students responsible in the learning process by helping them understand the material and provide a deeper insight through collaboration as they interacted with the content and their peers. The findings modeled previous literature highlighting the importance of utilizing student-centered learning practices and the benefits that result in allowing students the opportunity to construct knowledge in real-life context. The findings enhance the research on student-centered learning practices by viewing these practices from a student's perspective and experiences because it provided valuable insight

to what practices were prevalent to learners and their success instead of what was easier to implement. Based on the literature review and the findings of this research study, it is recommended that institutional leadership and military training instructors conduct a needs assessment on the student-centered learning practice implemented in military training courses to determine whether these practices are best for these types of learning environments and if not, modification to these practices are warranted to ensure there is a clearer alignment between the students' learning preferences and the operational needs of the organization. In addition, to conducting a needs assessment on the student-centered learning practices, institutional leadership and military training instructors need to be well versed in student-centered learning practices to better equip the learning environment with relevant practices and strategies.

### ***Empirical***

The empirical implications are students felt that the student-centered learning practices implemented limited their abilities to construct their knowledge and their abilities to develop 21st century skills. Participants were instructed to use student-centered learning practices that were preferential towards one type of learner and based only on the content not on the learning needs of the students. The realities of the 21st century emphasize the need for learners to grasp skill sets they need for the future through learning environments that facilitate the type of learning that aligns with students' attributes. Understanding critical attributes of implementing student-centered learning practices in the learning environment contributes to the needs of the students for them to strive for a deeper understanding of knowledge, enable them to make complex decisions, and become independent. Not only does student-centered learning focus on the needs, abilities, interests, and learning styles of the student but also has many implications on the design of curriculum, course content, and interactivity of the course (Coalition of Essential



Schools, 2020). The findings of this study enhanced the literature by examining how participants view the use of student-centered learning practices in the light of their own experiences to better understand the gap that existed between the utilization of student-centered learning practices and the 21st century skills developed. Participants provided their view of their experiences and challenges regarding student-centered learning and how they reacted to those practices within the learning environment. These findings focused on the student-centered learning practices implemented from the perspective of the student which highlighted their inadequacy in aiding these students to develop skills needed beyond the training environment.

### **Limitations and Delimitations**

For this instrumental case study, there were limitations and delimitations within this research study. The limitations are potential weaknesses of the study that cannot be controlled while the delimitations are purposeful decisions the researcher makes to limit or define the boundaries of the study. By exposing the possible uncertainties of this study, readers can decide easily if the findings are supporting weak or definitive conclusions or if further research studies are needed (Fountouki & Theofanidis, 2018).

#### ***Limitations***

The limitations of this study included the participants' experiences with student-centered learning practices and the COVID-19 pandemic. Although most of the participants expressed knowledge of student-centered learning practices and had utilized them previously, this study limited the in-depth knowledge obtained to student-centered learning practices most beneficial to acquire 21st century skills. The second limitation was the COVID-19 pandemic. This study was limited by the amount of face-to-face interaction the researcher had with the participants and the

amount of time allotted to conduct the research due to the COVID-imposed restrictions of the research site.

### ***Delimitations***

The delimitations of this study consisted of the boundaries that were set in identifying the potential participants. There were 12 Air Force members over the age of 18 that were currently in the training course selected for this study. These participants were the ideal candidates for this study because there was limited data on student-centered learning practices implemented in military training courses, therefore, to have a clearer assessment of the benefits for implementing these practices required a deeper insight to how students perceive these practices. The goal was to improve what student-centered learning practices were implemented using the findings of this study to ensure that 21st century skills were the focus for implementing these practices in a structured learning environment.

### **Recommendations for Future Research**

A number of recommendations for student-centered learning practices have been highlighted throughout this study. Based off the literature, the findings, limitations, and delimitations a clear approach in equipping students with the knowledge they need to apply student-centered learning practices into their learning process is not only necessary but critical in the development of 21st century skills. Most of the research on student-centered learning practices has been conducted in the civilian education sector and is now diffusing into other educational environments such as the military.

The first recommendation for future research requests more research in the military training environment to have a better assessment of whether or not its student-centered learning provides students avenues to gain skills of problem-solving, critical thinking, collaboration, and

communication essential in the military environment. Another recommendation for future research is in the area of the skill sets that will be needed beyond the 21st century. Technology continues to advance in our society and more research on best practices and innovative methods are needed to keep up with those changes. Future research of student-centered learning practices guided by technology is the way of the future. The third recommendation for future research is finding out what students take with them in terms of the knowledge and skills after they graduate from military training courses and how that changes the way they actually think.

### **Conclusion**

The purpose of this instrumental case study was to examine students' experiences of student-centered learning practices implemented in an Air Force training course. The findings indicated that student-centered learning practices implemented in a training course were restricted, inadequate, and preferential in ensuring students gain 21st century skills needed to operate successfully outside of the training environment. Students were required to gain these skills; however, the practices implemented limited their abilities to apply and incorporate into their own learning process. This meant that students spent much time engaged in these practices, but rarely used them to develop the skill sets intertwined within the student-centered learning practices.

This chapter summarized the findings and the interpretation of all research questions, which leads to implications for future research on military learning environments and the relevant skills needed for military members to take with them as they transition from training environment to operational readiness. While this study may have not identified the exact practices that are relevant in developing 21st century skills, it determined that the current

student-centered learning practices implemented were ineffective in providing students with a relevant learning experience.

In light of these findings, it would be useful to consider them when analyzing, designing, developing, implementing, and evaluating training curriculum and courses to capture the essential skills and knowledge based on learners' attributes and operational requirements. By improving the learning experiences of students when they gain valuable skills, the military as a whole will equip its members to be more effective in their daily responsibilities and in their decision-making process. As our society continues to become more technologically advanced, it will become more urgent for the work force to be well- equipped in new skill sets and competencies that will address future needs and its demands. The findings of this study are already mirrored in other educational environments to address the needs of a changing society and to better provide the right avenues of learning for students to gain knowledge and skills that will be beneficial to them in the future. This study shows the lack of provision for these needed skills and knowledge in the military learning environment. As learning environments shift to a more student-centered approach, incorporating practical application will help reinforce desired outcomes.

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## **APPENDIX A**

28 June 2020

Mindy Fisher  


Dear Mindy Fisher:

After careful review of your research proposal entitled A Case study examining students' experiences in student-centered learning practices implemented at an Air Force training course, we have decided to grant you permission conduct your study at Administrative Operations School at Keesler, Mississippi.

The requested data **WILL BE STRIPPED** of all identifying information before it is provided to the researcher.

Sincerely,





## APPENDIX B

### PARTICIPANT SURVEY WORKSHEET

This survey is an opportunity for you to evaluate your training. The information you provide will be given to the researcher and will be used to improve classroom performance. Your cooperation is appreciated, and your comments are welcomed.

### STUDENT SATISFACTION SURVEY

Please circle the number from the evaluation options that is closest to your personal experience. If you do not have any experience of the topic, please circle 0. Evaluation scale: 1 = I do not agree 2 = I slightly agree 3 = I generally agree 4 = I completely agree 0 = No experience of the topic

#### A. EDUCATIONAL GUIDANCE/STUDENT COUNSELLING

1. I have the opportunity to get guidance for my learning difficulties. 1 2 3 4
2. I get sufficient information about matters related to my studies. 1 2 3 4
3. I am able to utilize my learning styles to enhance the learning process. 1 2 3 4

#### B. STUDYING ARRANGEMENTS

- 1 There are enough necessary tools and equipment for studies. 1 2 3 4
- 2 The institution's tools and equipment work properly. 1 2 3 4
- 3 Teaching aids are available as planned. 1 2 3 4
- 4 I can get help in the use of equipment when I need it. 1 2 3 4
- 5 I am satisfied with my opportunities to use IT (e-mail and software). 1 2 3 4
- 6 The institution's computers and network function well. 1 2 3 4
- 7 I receive help in problems related to the information systems. 1 2 3 4
- 8 Classroom arrangements are well organized. 1 2 3 4 0

#### C. STUDYING (Organization)

- 1 I have achieved the objectives that I set for my learning. 1 2 3 4
- 2 Teaching groups are small enough for my learning. 1 2 3 4
- 3 Various teaching methods have been used (pair work, groupwork). 1 2 3 4
- 4 I have received sufficient feedback on my studies. 1 2 3 4
- 5 I have the opportunity to give teachers feedback on courses. 1 2 3 4
- 6 My capability to work in a diverse working environment has been improved. 1 2 3 4
- 7 The institution provides participate to use 21st century skills to interact with others. 1 2 3 4

## APPENDIX C

Dear Student,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to examine students' experiences using student-centered learning practices implemented in an Air Force training course. I will seek to answer this question by diving into the benefits, challenges, and how students' experiences influence the student-centered learning practices used and implemented in the training course. I am writing to invite participants to join my study.

Participants must be 18 years of age and older and must be a current military student attending this training course. Participants if willing, will be asked to complete a questionnaire, a recorded interview, and be observed in their natural classroom setting. It should take approximately 60 minutes to complete the procedures listed. Names and other identifying information will be requested as part of this study, but the information will remain confidential.

To participate, please click <https://www.surveymonkey.com/r/NXKGZHV> and complete the provided questionnaire. If the link is inaccessible, please complete the attached questionnaire and return it by handing it to me at the time of the interview and be placed in an envelope. Interviews will be scheduled and conducted after I have received a signed consent form and will be based on the academic day availability.

A consent document is attached to this letter. The consent document contains additional information about my research. If you choose to participate, you will need to sign the consent document and return it to me in person or via email before an interview will be scheduled.

Sincerely,

Mindy Fisher  
Doctoral Candidate  
Liberty University

[mfishers@liberty.edu](mailto:mfishers@liberty.edu)  
[Redacted]

## APPENDIX D

### Consent

**Title of the Project:** A case study examining students' experience in student-centered learning practices implemented at an Air Force training course.

**Principal Investigator:** Mindy Fisher, Liberty University Online Doctoral Candidate, School of Education

#### Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be 18 years of age or older and enrolled in the Air Force Training Course and have not graduated within 2 years of this research study. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

#### What is the study about and why is it being done?

The purpose of the study is to examine students' experience regarding the student-centered learning practices implemented at an Air Force training course. This study seeks to identify specific student-centered learning practices that are beneficial to students in this type of learning environment.

#### What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Questionnaire: Participants will be asked to complete a 10-15 minute online/paper copy questionnaire.
2. Interview: Will be scheduled to complete a 30-to-45-minute interview that will be audio recorded, either in person or through Microsoft Teams depending on COVID restrictions.
3. Observation: Will be observed in the natural setting of the participants for 10-15 minutes using either in person observations or Zoom depending on COVID restrictions.

#### How could you or others benefit from this study?

Participants should not expect to receive a direct benefit by participating in this study. However, by engaging in a discussion about student-centered learning practices via an interview, participants may be able to recognize relevant student-centered learning practices in the course that they can relate to immediately.

Benefits to society may include an increase to public knowledge on student-centered learning practices that are relevant and beneficial to students in this type of learning environment. This study may provide insight to what type of training that needs to be given to staff and instructors to be equipped for all types of learners.

#### What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

#### **How will personal information be protected?**

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. Data collected from you may be shared for use in future research studies or with other researchers. If data collected from you is shared, any information that could identify you, if applicable, will be removed before the data is shared.

- Participant responses will be kept confidential through the use of pseudonyms/codes. Interviews will be conducted in a location where others will not easily overhear the conversation.
- Data will be stored on a locked cabinet and may be used in future presentations. After three years, all electronic records will be deleted.
- Interviews and observations will be recorded and transcribed. Recordings will be stored on a password locked computer or in a locked cabinet for three years and then erased. Only the researcher will have access to these recordings.

#### **How will you be compensated for being part of the study?**

Participants will not be compensated for participating in this study.

#### **Is study participation voluntary?**

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

#### **What should you do if you decide to withdraw from the study?**

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

#### **Whom do you contact if you have questions or concerns about the study?**

The researcher conducting this study is Mindy Fisher. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [REDACTED], [REDACTED]. You may also contact the researcher's faculty sponsor, Dr. Carol Gillespie, at [REDACTED].

#### **Whom do you contact if you have questions about your rights as a research participant?**

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

*Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations.*

*The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.*

<b>Your Consent</b>
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By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

*I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.*

☐ The researcher has my permission to audio-record/video-record me as part of my participation in this study.

\_\_\_\_\_  
Printed Subject Name

\_\_\_\_\_  
Signature & Date

## APPENDIX E

### SCL-PRACTICES SCHEDULED OBSERVATION PRE-OBSERVATION FORM

(To be completed by the researcher and provided to evaluation before the scheduled classroom observation/site visit).

**Evaluator**

\_\_\_\_\_

**Position**

\_\_\_\_\_

**School/Site**

\_\_\_\_\_

**Observation Date**

\_\_\_\_\_

**Observation time/period**

\_\_\_\_\_

**Content**

\_\_\_\_\_

**Number of students**

\_\_\_\_\_

**Description of activity to be observed:**

\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Special/unique situations or other information of which observer should be aware:**

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\_\_\_\_\_

**Request during observation:**

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