

A CASE STUDY EXPLORING THE ROLE OF FACULTY IN PROVIDING ACADEMIC  
SUPPORT TO FIRST- AND SECOND-YEAR MEDICAL STUDENTS

by

Deborah Fawn West

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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APPROVED BY:

Mark Alan Lamport, Ph.D., Committee Chair

Alan Wimberley, Ed.D., Committee Member

James F. Wolfe, Ph.D., Committee Member

## ABSTRACT

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. Academic support is defined as instructional methods or educational services provided to students in an effort to help them meet learning standards. The theory guiding this study is andragogy, developed by Malcolm Knowles (1913- 1997), as faculty's beliefs about the needs of adult learners may affect how they provide academic support to students demonstrating poor academic performance. One central question and three sub-questions guided this study. The central research question for this study is: How do faculty provide academic support to first- and second-year medical students? Participants included six faculty and six students from the research site who met selection criteria. The researcher explored the phenomenon of interest using individual interviews, a group interview, and observations. Data analysis included reading and memoing, detailed descriptions, emergent coding, classification and development of themes, interpretation, naturalistic generalizations, representation of data, and member checking. An analysis of the data revealed three themes: responsibility, willingness, and effectiveness. The major finding of this study was that the academic support provided by faculty to first- and second-year medical students was extremely complex. A multitude of factors influenced the provision and access to academic support, some which were previously found by research and others not. Further research is recommended on the academic supports provided in medical education to aid policymakers, administrators and faculty in designing effective academic support initiatives.

*Keywords:* academic support, andragogy, and medical education

## **Dedication**

This dissertation is first and foremost dedicated to my wonderful husband, who without his support, this would not have been possible. Upon undertaking this endeavor, I did not dream how challenging this would be. Through all of this I could not have asked for a more supportive and understanding partner. You have exemplified the words of T.S. Eliot when he said, “To do the useful thing, to say the courageous thing, to contemplate the beautiful thing: that is enough for one man’s life.” You are a blessing to me.

This dissertation is also dedicated to my loving parents, who instilled in me the importance of education and the power it has on shaping one’s life. Both were dedicated educators, loving parents, and most importantly, good people. Dad, I wish you were here to see me complete this degree, but I know you were with me throughout this process.

I also dedicate this paper to all those students courageous enough to pursue a medical degree. The challenges you face in this pursuit, just so that you can aid people in their most critical time of need, is an inspiration. I hope that this paper in some way makes your journey through medical school a little easier.

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### **List of Abbreviations**

Commission on Osteopathic College Accreditation (COCA)

Comprehensive Osteopathic Medical Licensing Exam (COMLEX-USA)

Comprehensive Osteopathic Medical Self-Assessment Examination (COMSAE)

Doctor of Medicine (M.D.)

Doctor of Osteopathic Medicine (D.O.)

Educational Orientation Questionnaire (EOQ)

Family Educational Rights and Privacy Act (FERPA)

Grade Point Average (GPA)

Health Insurance Portability and Accountability Act (HIPPA)

Institutional Review Board (IRB)

Liaison Committee on Medical Education (LCME)

Medical College Admissions Test (MCAT)

National Board of Medical Examiners (NBME)

National Board of Osteopathic Medical Examiners (NBOME)

Osteopathic Manipulative Treatment (OMT)

Patient Centered Medicine (PCM)

Under Represented in Medicine (URiM)

United States Medical Licensing Exam (USMLE)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students. This research seeks to gain an in-depth understanding of how and why faculty and students experienced the phenomenon. Chapter One establishes a foundation for the problem and introduces the study. The chapter begins by providing the reader with the social, historical, and theoretical context for the study. A section about the situation to self provides the reader with the motivation for conducting the study and philosophical assumptions. The problem and purpose statement are delineated, along with an outline of the empirical, theoretical, and practical significance of the study. The chapter concludes with the proposed research questions and definitions of terms pertinent to the study.

### **Background**

Medical education faces the same challenges as other educational programs, in that they face educating students of vast abilities. Medical students are historically high achievers in educational settings prior to medical school, as shown by a demonstration of academic aptitude upon admission (West & Sadoski, 2011). Further, they are generally more talented and highly motivated than other students (Stegers-Jager, 2012), as well as more highly engaged (Salmela-Aro & Kunttu, 2010). Still many experience unforeseen challenges.

### **Social Context**

Difficulty in the medical education program is evidenced partially by the medical school

attrition rate. While low compared to other higher educational programs (Maher et al., 2013) studies show that attrition rates range from 5.7% (Maher et al., 2013) to 26% (Kruzicevic et al., 2012). Difficulty to pass summative medical performance exams also proves the difficulty that some students face. Data provided by the National Board of Medical Examiners (NBME) showed that 6% of students seeking a Doctor of Medicine degree (M. D.), who took the Step 1 United States Medical Licensing Exam (USMLE), did not pass in 2017 (United States Medical Licensing Examination, 2019). A similar pass rate exists for students seeking a Doctor of Osteopathic Medicine degree (D.O.) who took the Level 1 Comprehensive Osteopathic Medical Licensing Exam (COMLEX), with 9% failing in 2017 (National Board of Osteopathic Medical Examiners, 2017). Although these numbers appear low, they are significant since medical students take these exams after completing a minimum of two years of the curriculum and failure to pass results in dismissal from the program. Studies examining the reasons for attrition and failure found student pre-admission factors and demographics (Al Alwan, Al Kushi, Tamim, Magzoub, & Elzubeir, 2012; Dixon 2012; Poole, Shulruf, Rudland, & Wilkinson, 2012) and mental, personal, and social issues (Kruzicevic et al., 2012; Maher et al., 2013) as contributing factors.

Also identified as one of the contributing factors is academic difficulty (Maher et al., 2013; Yates, 2012). Several personal and institutional factors contribute to academic difficulty and rarely include aptitude (West & Sadoski, 2011). Workload (Saipanish, 2003), time management (Hashim, Hameed, Ayyub, Ai, & Raza, 2014), difficulty retaining course content (Khan, et al., 2016), exam frequency (Khan et al, 2016), mastering content (Vitaliano, Russo, Carr, & Heerwagen, 1984), and long hours of study (Vitaliano et al, 1984) are some of the reasons students struggle. O'Reilly, McNeill, Mavor, and Anderson (2014) found that academic

stressors make a unique contribution to medical students' levels of depressive symptoms that extend beyond the contribution made by personal stressors alone. Other research examining stress among medical students found that academic factors were a greater source of stress than all other factors (Supe, 1998).

Besides the importance of providing academic support as a normal component of the educational program, it is "critically important to assist [medical] students in determining the source of their academic difficulties and provide them with resources to aid them in achieving success" (Paul, Hinman, Dottl, & Passon, 2009, p. 255). Academic support services within medical schools is a requirement by both United States accrediting bodies for medical education (Commission on Osteopathic College Accreditation [COCA], 2017; Liaison Committee on Medical Education [LCME], 2018). As such, the assumption is that academic support services are prevalent in medical schools. This assumption has supporting research. In a survey of 55 U.S. and Canadian medical schools, 93% of the schools reported providing academic support to first- and second-year students, 82% to third year students, and 79% to fourth year students (Saks & Karl, 2004). Those academic supports included content review sessions, individual faculty/student tutoring, preparation programs for the United States Medical Licensure Examination, and services for students with learning disabilities. Other studies found comparable results. Paul et al. (2009) found that 26 of 33 U.S medical schools surveyed provided in-house support services categorized as services for disabilities, mental health, time management, tutoring/mentoring, testing, skill development/assessment and materials, with the other seven schools referring students to outside resources. Shields (1994), found that most of the 83 U.S. medical school participants in their study offered academic support in the form of study skills, individual and small group tutoring by faculty or students, and counseling. More



studies reported a prevalence of academic support services in the form of peer tutoring (Moore-West, Hennessy, Meilman, & O'Donnell, 1990) and tutoring for students with learning disabilities (Faigel, 1998). Remediation, typically after the failure of an assessment, was also a common strategy employed by medical schools. Traditionally, these programs followed a three-step process of identification, remediation, and re-testing (Patel, Tarrant, Bonas, & Shaw, 2015). Although literature exists on various remediation programs, there was no research that explored the ways in which the daily academic support practices of faculty may affect medical students' success or failure in the curriculum, regardless of other factors.

### **Historical Context**

Although studies attribute poor performance and attrition to a multitude of issues associated with the student, they may instead “be symptomatic of preventable malfunctioning in medical education” (O'Neill, Wallstedt, Eika, & Hartvigsen, 2011, p. 441). Students experiencing academic difficulty often go unnoticed and continue through the curriculum with little guidance or feedback (Cleland, Arnold, & Chesser, 2005; Denison, Currie, Laing, & Heys, 2006). Medical education faculty's lack of formal education in the field of teaching (Gibson & Campbell, 2000), clinical and research commitments (Krajewski et al., 2008) and growing numbers of students (Cleland, Knight, Rees, Tracey, & Bond, 2008) have contributed to this problem. “Additionally, the mentality that medical education should be a rigorous and stressful endeavor has blinded some educators to the plight of medical education” (Slavin, 2016, p. 2195). Although the provision of academic support services is a requirement of medical schools, research showed that the design is to help students pass a failed assessment instead of addressing the underlying content issues (Patel, Tarrant, Bonas, & Shaw, 2015). These many factors have contributed to the development of an educational program that has inadvertently neglected to

consider that medical students have the same learning and support needs as other learners.

### **Theoretical Context**

The theoretical framework for this study is andragogy, a theory of adult education developed by Malcolm Knowles (1968). *The Modern Practice of Adult Education: Andragogy versus Pedagogy* by Knowles (1970) defined andragogy as “the art and science of helping adults learn” and presented it as a contrast to pedagogy, “the art and science of helping children learn” (p. 43). By 1980, Knowles had changed his position, changing the subtitle to *From Pedagogy to Andragogy*, to show a continuum of learning assumptions that apply to a variety of situations, regardless of the learner’s age. Originally made up of four assumptions, andragogy now includes six andragogical assumptions: the learner’s need to know, self-concept of the learner, prior experiences of the learner, readiness to learn, orientation to learning, and motivation to learn (Knowles, Holton, & Swanson, 2015). Referred to as a transactional model, andragogy applies to all types of adult learning experiences due to its focus on the characteristics of learning transaction (Brookfield, 1986). Furthermore, the six assumptions are flexible in application, altered either in whole or in part based on the learning situation (Knowles, 1979). “What this means in practice is that we educators now have the responsibility to check out which assumptions are realistic in a given situation” (Knowles, 1990, p. 64).

As he recognized that to be fully useful to adult educators a learning theory must be applicable to a theory of teaching, Knowles outlined a model of teaching that follows andragogic tenants (Knowles et al., 2015). Described as a process model for learning, andragogy includes eight elements for the educator to consider when helping learners acquire information and skills, as opposed to the content model used in pedagogy that is more concerned with transmitting knowledge and skills. These elements include: (a) preparing the learner, (b) establishing a

climate conducive to learning, (c) creating a mechanism for mutual planning, (d) diagnosing the needs for learning, (e) formulating program objectives that will satisfy these needs, (f) designing a pattern of learning experiences, (g) conducting these learning experiences with suitable techniques and materials, and (h) evaluating the learning outcomes and re-diagnosing learning needs (Knowles, Holton, & Swanson, 2005).

Naturally, research incorporating the theory of andragogy has focused on the role of the student in the learning environment or how students learn in certain learning environments, including students in healthcare education (Jons-Cox, 2014; Misch, 2002). The researcher found limited research on the perceptions of adult educators about adult learners (Day, Lovato, Tull, & Ross-Gordon, 2011). In addition to exploring the role that faculty play in providing academic support to first- and second-year medical students, this study is also concerned with how medical educators' beliefs of adult learners may influence these roles. Research suggested that there is a direct relationship between teaching conceptions, teaching practice, and student learning (Devlin, 2006). This study does not propose to study educators' theories of teaching but looked to explore educators' theories of adult learning, which may help explain how and why medical schools supply or fail to supply academic supports.

### **Situation to Self**

“Behind all research stands the biography of the gendered researcher, who speaks from a particular class, racial, cultural and ethnic community perspective” (Denzin & Lincoln, 2000, p. 21). As such, a brief biography of the researcher will give the reader a brief glimpse of the perspective of the researcher. I have 22 years of experience in education, serving 15 years in the public-school systems of West Virginia and Virginia as both a school counselor and school

principal, and the last seven years as an administrator at a private medical school in Virginia.

My educational experience includes a bachelor's degree in education, a master's degree in school counseling, and non-degree licensure program that resulted in an endorsement in administration and supervision through the Virginia Department of Education. I currently serve as the vice provost of a department designed to improve the educational experiences of medical students at an osteopathic medical school in Virginia. This includes ensuring quality faculty development on teaching and learning and individualized academic support for students. Regardless of the position in which I have served over the last 22 years, I have dedicated my career to improving the overall educational environment.

Having founded a department dedicated to helping medical students be academically successful, I am passionate about providing students with the proper academic supports that would best enable them to overcome their academic challenges. I believe that it is important for all educational institutions to offer a variety of quality academic supports to students. However, I recognize that it may be difficult for faculty to supply the level and types of academic supports that students may require due to a lack of formal qualification in education (Huwendiek et al., 2010) and formal training in teaching (Gibson & Campbell, 2000; Misch, 2002; Steinert, 2010). Moreover, faculty's andragogic beliefs and beliefs on academic performance may influence the way in which they deliver academic support. Therefore, through this study, I hope to provide insight into the academic support provided to first- and second-year medical students by medical education faculty and help institutions of medical education design and maintain high quality, effective, academic support initiatives. Although I currently work for a medical school in Virginia, I have chosen a different medical school for the site of this study. I have no relationship with the research site or participants.

A constructivist paradigm guided this study. Developed by Jean Piaget (1896- 1980) and Lev Vygotsky (1896- 1934), constructivism holds that individuals actively construct their own understanding of the world through experience and reflection (Vygotsky, 1978). Although Denzin and Lincoln (2005) pointed out that with qualitative research there is no limit to a specific theory or paradigm, they advocated a constructivist paradigm. In discussing the ontological and epistemological aspects of constructivism, Denzin and Lincoln (2005) stated, “the constructivist paradigm assumes a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent cocreate [*sic*] understandings), and a naturalistic (in the natural world) set of methodological procedures” (p. 24).

Through a constructivist paradigm, my ontological assumption is that phenomena is experienced through multiple realities. As I am interested in exploring the academic support provided by faculty to medical students, it was important to gain the perspectives of multiple faculty and students since using one groups’ perspective could not fully describe the phenomenon. Thus, in considering the phenomenon of interest for this study, my ontological assumption directed me to conduct a qualitative study (Creswell, 2013). Further, the choice of a case study approach was proper due to its reliance on investigating a contemporary phenomenon through multiple sources of evidence that results in an in-depth description of the case (Creswell, 2013). These multiple realities will provide insight to educators, especially medical educators, charged with instructing students experiencing difficulty, as well as to inform administrators and policymakers on the needs of students and faculty as they experience the curriculum.

Qualitative research is “interested in understanding the meaning people have constructed” (Merriam, 1998, p. 6). As such, my epistemological assumption, framed in constructivism, is that the knower and the respondent co-create understandings (Cheu-Jey, 2012). To understand

the phenomenon of interest of this study, subjective evidence was acquired from the individuals who experienced it. This required that I spend time at the research site to gain firsthand information and become familiar with the context in which the participants experienced the phenomenon (Creswell, 2013). Guba and Lincoln (as cited in Creswell, 2013) described this process as minimizing the objective separateness between the researcher and the participants. As I have not experienced the phenomenon as a faculty member or a medical student, it was important that I listen to the individual experiences of the participants and immerse myself in them so that I could better understand the phenomenon.

The axiological assumption of qualitative research is that the researcher makes their values known in a study (Creswell, 2013). Because the researcher is the primary instrument in a qualitative study, each part of the study is value laden. Moreover, as there are multiple perceptions of reality, the researcher “brings a construction of reality to the research situation, which interacts with other people’s constructions or interpretations of the phenomenon being studied” (Merriam, 1998, p. 22). Therefore, it was important that I clearly identified my values and biases in Chapter Three of this study. Additionally, as the qualitative researcher becomes immersed in the phenomenon of interest (Powdermaker, as cited in Firestone, 1987), it was important that I actively identified my biases throughout each phase of the research to ensure the validity and reliability of the study.

The definition of rhetoric is as the art of speaking or writing effectively (Merriam-Webster, n.d.). My rhetorical assumption for this study aligns with the overall purpose of case study research, which is to get an in-depth understanding of a real-world case (Yin, 2016). Therefore, I used rich, thick descriptions throughout this study to give the reader enough detail to understand the phenomenon and to show the validity of the data analysis.

### **Problem Statement**

Research on medical school attrition has found that academic difficulty is one factor that contributes to students delaying or dropping out of medical school (Maher et al., 2013; Yates, 2012). Further, O'Reilly et al. (2014) found that academic stressors make a unique contribution to medical students' levels of depressive symptoms that extend beyond the contribution made by personal stressors alone. Multiple studies exist that investigate specific academic support programs and their effect on medical students' academic performance (Anyaehe et al., 2014) and one study explored the role of the teacher in remediating at-risk medical students in an end of semester formal remediation program (Winston, Van Der Vleuten, & Scherpbier, 2014). The problem is that, research has neglected to explore the ways in which medical education faculty provide daily academic support and how these practices may affect medical students' success or failure in the curriculum, regardless of other factors. This study looked to add to the field of knowledge on academic support for medical students by identifying how faculty describe their roles in providing academic support to first- and second-year medical students.

### **Purpose Statement**

The purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. Academic support is "instructional methods or educational services provided to students in an effort to help them meet learning standards" (The Glossary of Education Reform, 2013). The theory guiding this study was andragogy, developed by Knowles (1968), as faculty's beliefs about how adults learn may affect how they give provide academic support to students.

## **Significance of the Study**

Merriam (1998) suggested that information obtained from case study research can directly influence policy, procedures, and future research. Yin (2016) added that case study research could shed light on theoretical concepts or principles through analytic generalization. The findings of this case study have empirical, theoretical, and practical significance that may potentially apply to a variety of cases that extend beyond the original case.

### **Empirical Significance**

The findings of this study have empirical significance for researchers and medical education faculty, administrators, and students. Although there have been multiple studies conducted on medical school attrition (Kruzicevic et al., 2012; Maher et al., 2013; O'Neill et al., 2011; Yates, 2012), predictive factors of academic performance (Al Alwen et al., 2012; Dixon, 2012; Poole et al., 2012), at-risk students (Maher et al., 2014), and specific remediation programs (Anyaehe et al., 2014), the role of medical education faculty in providing academic support to first- and second-year students is not fully understood. Therefore, the results from this study will supply empirical data about the academic support experiences of faculty and students. It is hoped that this research will lay the groundwork for more research on the role of medical faculty in providing academic support services that will extend to other medical or healthcare professions educational institutions. In addition, this research may prompt further research that extends to the role of clinical faculty during medical students' third- or fourth-year of education. Further, this research may encourage the growth of empirical data on academic factors that affect medical students' success in the academic program, shifting the focus away from the current attempt to assign students with the sole responsibility.



### **Theoretical Significance**

The findings of this study have theoretical significance for researchers, adult education faculty, administrators, and students. The theoretical framework for this study is andragogy (Knowles, 1968), a theory of adult education. Research using andragogy has focused on the role of the student or how students learn in certain learning environments, including students in healthcare education (Jons-Cox, 2014; Misch, 2002). There is limited research about the beliefs of adult educators about adult learners (Day et al., 2011). Further, there is limited research that explored the relationship between faculty's beliefs about adult learners and teaching practices (Scherling, 2013). In addition, no research has examined the role of the educator in providing academic support through the lens of andragogy. The theoretical significance of this study lies in its contribution to andragogy and how it helps explain the why and how of the provision of academic support (Mansour, 2008). This study may prompt researchers to focus their efforts more on adult educators' beliefs about adult learners and how those beliefs impact academic support practices. For adult education faculty and administrators, this study may encourage consideration of andragogic theory when designing educational programs and encourage an increase in the scholarship of teaching and learning theories. For students, it is hoped that through an increased consideration of andragogic theory, faculty and staff will tailor educational practices to better to meet the needs of adult learners, increasing their success in the educational program.

### **Practical Significance**

The findings of this study have practical significance for faculty, administrators, policyholders, and students. The study may give faculty and administrators important insight into faculty knowledge, willingness, ability, and practices on providing academic support to

students (Oleson & Hora, 2014). Further, the study may give insight into the expectations and needs of students in regard to academic support services provided by faculty. For administrators, the results may help guide the establishment of academic support expectations for faculty to ensure continuity in services across courses and faculty members. Study findings may also help administrators develop faculty development initiatives that will aid faculty in understanding and establishing active monitoring of students' academic progress. Significance may also be found for policymakers who may use the findings to guide accreditation standards specific to the expectations of institutions in providing academic support to students. Finally, the practical significance for students will be in the use of the findings of this study by medical education administrators, policymakers, and faculty to improve the academic support services provided to students. The hope is that an increased understanding of academic support services will improve the educational initiatives to support students, resulting in improved educational outcomes for students (Maher, 2013; O'Neill et al., 2011).

### **Research Questions**

One central research question and three sub-questions guided this case study.

#### **Central Research Question**

How do faculty provide academic support to first- and second-year medical students?

Research on academic support services within medical schools has found offerings of a wide range of services, including services for students with disabilities, mental health counseling, time management, tutoring, mentoring, test taking, skill development/assessment and materials, study skills, content review sessions, and preparation programs for national board exams (Faigel, 1998; Moore-West et al., 1990; Paul et al., 2009; Saks & Karl, 2004). However,

the research is unclear about the role, if any, that medical education faculty play in providing these forms of academic support. Thus, the focus of this study is discovering how faculty provide academic support to first- and second-year medical students.

### **Research Sub-question One**

How do faculty assumptions about adult learners influence the academic support provided to students?

In addition to exploring the role that medical education faculty play in providing academic support to students, this study is also concerned with how medical educators' assumptions about adult learners may influence these roles. There is limited research about the perceptions of adult educators regarding adult learners (Day et al., 2011; Scherling, 2013). Further, as many medical education faculty lack formal education in the field of teaching (Gibson & Campbell, 2000), their assumptions about adult learners may be erroneous and may negatively affect the way in which they support medical students.

### **Research Sub-question Two**

How do faculty perceptions of academic performance influence the provision of academic support?

How faculty perceive academic performance may influence the way they provide academic to students. Since research has found the failure of medical schools to identify students experiencing poor academic performance until it is often too late (Cleland et al., 2005; Denison et al., 2006), and the failure of medical students to seek assistance (Winston, Van Der Vleuten, & Scherpbier, 2010), perceptions of academic performance may directly influence how far students proceed in a course or in the medical school program before academic support is provided.

### **Research Sub-question Three**

What are the perceptions regarding faculty's ability to provide academic support?

Research has found that medical education faculty lack formal qualifications in the field of education (Huwendiek et al., 2010) and formal training in teaching (Gibson & Campbell, 2000; Misch, 2002; Steinert, 2010). As a result, faculty may not develop the knowledge and skills needed to promote conceptual change in their students (Bulik & Frye, 2002). In addition, research has indicated that medical students are hesitant to seek support for issues affecting their academic performance or personal well-being, citing fear of negative academic and career repercussions, lack of time to seek treatment, denial of illness, stigma associated with mental health issues and use of mental health services, and fear of unwanted intervention as reasons for not reporting or not seeking treatment (Puthran, Zhang, Tam, & Ho, 2016). Thus, in understanding the role that medical education faculty play in providing academic support to first- and second-year medical students, it is also important to understand how students and faculty themselves perceive faculty's ability to provide said academic supports.

### **Definitions**

1. *Academic support* - Instructional methods or educational services provided to students in an effort to help them meet learning standards (The Glossary of Education Reform, 2013).
2. *Andragogy* – The art and science of helping adults learn (Knowles, 1970).
3. *Medical education* – Course of study directed toward imparting to persons seeking to become physicians the knowledge and skills required for the prevention and treatment of disease (Turner, Scarborough, & Gregg, 2014).

4. *Educational remediation* - The act of providing a remedy to a problem or a process to correct an academic fault or deficiency (Maize et al., 2010).

### **Summary**

The purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students. This chapter outlines the foundational components of the study and binds them together through the paradigm and literature. The chapter begins with a discussion of the problem and a statement of purpose. The ontological, epistemological, and axiological assumptions were based on a constructivist paradigm, which holds that phenomena is experienced through multiple realities, which includes the reality of the researcher as a human instrument of the study. The historical, social, and theoretical contexts are rooted in literature, supporting the need for this research. Further, the empirical, theoretical, and practical significance of the study is discussed and supported by literature, showing the significance of the study. The chapter concludes with a discussion of the research questions and important definitions of the study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students. This research looks to gain an in-depth understanding of how and why faculty and students experienced the phenomenon. This chapter gives a context for the research through a discussion of the existing literature. It is through this discussion that the rationale for the research is revealed. Chapter Two includes a literature review of the theoretical framework and research related to the research topic of interest of this study. Chapter Two concludes with a summary of the chapter.

### **Theoretical Framework**

Eisner (1993) asserted:

Theory attempts to satisfy the human need for scientific rationality by providing explanations that will meet that need. The adequacy of such explanations is tested not only by their appeal, their cogency, and their aesthetic quality, but by the extent to which they can be used to help us anticipate, if not control, the future. (p. vii)

As the purpose of qualitative research is to explain phenomenon, it is imperative that qualitative research be guided by a theoretical framework that will serve as “the structure, the scaffolding, the frame of [the] study” (Merriam, 1998, p. 45). It is through this theoretical lens that the significance of this study will reveal itself.

### **Andragogy**

Andragogy, a theory of learning, is the theoretical framework that informs this study. In exploring the origins of the term and concept of andragogy, Knowles et al. (2015) cited

European sources in Germany, Switzerland, Yugoslavia, Hungary, and the Netherlands as having used the term to describe adult learning since 1833. Knowles et al. (2015) also reported that Dusan Savicevic, a Yugoslavian adult educator, first introduced the concept and label of andragogy in the United States in 1967. However, Brookfield (1984) contended that Martha Anderson and Eduard Lindeman, first introduced andragogy as a theory of adult education in the United States in 1927. Moreover, as early as 1925, Lindeman (as cited in Brookfield, 1984) had formed a conceptualization of adult education that he described as:

A co-operative venture in non-authoritarian, informal learning the chief purpose of which is to discover the meaning of experience; a quest of the mind which digs down to the roots of the preconceptions which formulate our conduct; a technique of learning for adults which makes education coterminous with life, and hence elevates living to the level of an experiment. (p. 187)

Lindeman proposed that adult education be built around the students' needs and interests and outlined many key assumptions about adult learners that are the basis of adult learning theory (Knowles et al., 2015). Specifically, Lindeman (1926) held that adults are motivated to learn as they experience needs and interests that learning will satisfy, adults' orientation to learning is life centered, experience is the richest resource for adults' learning, adults have a deep need to be self-directing, and individual differences among people increase with age. However, further development was necessary before andragogy would become a theory of adult learning.

*The Modern Practice of Adult Education: Andragogy versus Pedagogy* by Malcom Knowles (1970) defined andragogy as “the art and science of helping adults learn” (p. 43) and presented it as a contrast to pedagogy, “the art and science of helping children learn” (p. 43). By 1980, Knowles had changed his position, changing the subtitle to *From Pedagogy to Andragogy*,

to show a continuum of learning assumptions that apply to a variety of situations, regardless of the learner's age. Originally made up of four assumptions, andragogy now includes six andragogical assumptions: the learner's need to know, self-concept of the learner, prior experiences of the learner, readiness to learn, orientation to learning, and motivation to learn (Knowles et al., 2015). Referred to as a transactional model, andragogy applies to all types of adult learning experiences due to its focus on the characteristics of learning transaction (Brookfield, 1986). Furthermore, the six assumptions are flexible in application and changeable based on the learning situation, either in whole or in part (Knowles, 1979). "What this means in practice is that we educators now have the responsibility to check out which assumptions are realistic in a given situation" (Knowles, 1990, p. 64).

As he recognized that to be fully useful to adult educators a learning theory must be applicable to a theory of teaching, Knowles outlined a model of teaching that follows andragogic tenants (Knowles et al., 2015). Described as a process model for learning, andragogy includes eight elements for the educator to consider when helping learners get information and skills, as opposed to the content model used in pedagogy that centered on transmitting knowledge and skills. These elements include: (a) preparing the learner, (b) establishing a climate conducive to learning, (c) creating a mechanism for mutual planning, (d) diagnosing the needs for learning, (e) formulating program objectives that will satisfy these needs, (f) designing a pattern of learning experiences, (g) conducting these learning experiences with suitable techniques and materials, and (h) evaluating the learning outcomes and re-diagnosing learning needs (Knowles et al., 2005).



### **Adult Educators' Assumptions About Adult Learners**

In addition to exploring the role that medical education faculty play in providing academic support to first- and second-year medical students, this study also looks at how medical educators' assumptions about adult learners may influence these roles. This study does not propose to study educators' theories of teaching but looked to explore educators' theories of adult learning, which may help explain how and why academic supports are or are not provided. Knowles et al. (2015) asserted that an educator's theory of teaching is presumed to be influenced by their theory of learning and research. Other researchers suggest that there is a direct relationship between teaching conceptions, teaching practice, and student learning (Devlin, 2006). Unfortunately, "teacher's actions, especially at the college level, are determined more by the predilections, personalities, and perceptions of the teacher than the needs of the students" (Cross & Gardner, 2005, p. 10). As "there seems to exist in adult education a fear of unmasking the value choices underlying adult educational practice, as if once identified they might prove embarrassing to this 'service oriented' profession" (Monette, 1979, p. 87), exploring medical educators' assumptions about adult learners is critical to the academic support of students.

Naturally, research incorporating the theory of andragogy has focused on the role of the student in the learning environment or how students learn in certain learning environments, including students in healthcare education (Jons-Cox, 2014; Misch, 2002). However, only two studies, both of which were outside of the realm of medical education, explored the beliefs of adult educators regarding adult learners and how those perceptions influenced teaching practices (Day et al., 2011; Scherling, 2013). Both studies showed that adult educators were knowledgeable of the needs of adult learners although most of them had no formal education in teaching adult learners. In addition, Scherling (2013) found that these adult educators instead,

drew on past experiences and relationships with mentors in formulating beliefs about adult learners. Finally, the participants in the study by Day et al. (2011) reported that they adapted their teaching in response to their perceived needs of adult learners. Although limited, these studies gave a unique perspective of andragogy not otherwise explored. However, they also showed a need to explore the assumptions of faculty in other higher education settings and about other educational practices such as the provision of academic support.

The theoretical framework has helped inform the key concepts that influence the phenomenon of interest for this study. As such, andragogy has played a significant role in narrowing the focus of the literature review and assuring that the collection and analysis of data occurs through a specific framework. The theoretical significance of this study lies in its contribution to andragogy and how it may help explain the why and how of the provision of academic support (Mansour, 2008).

### **Related Literature**

Examining existing literature on the phenomenon of interest of a research topic allowed the researcher to gain an understanding of the knowledge already discovered and that which has not. Hancock and Algozzine (2011) supported that a review of the related literature enabled the researcher to show the conceptual framework for the study, establish research questions, and identify the strengths and limitations of existing studies. Through a review of the related literature on medical education, the researcher has elucidated the concepts believed to be of importance when exploring the phenomenon of interest of this study and the interrelationships between them.

## **Medical Education**

Turner, Scarborough, and Gregg (2014) defined medical education as a “course of study directed toward imparting to persons seeking to become physicians the knowledge and skills required for the prevention and treatment of disease” (Medical Education section, para. 1).

Students graduating from a program of medical education in the United States earn a Doctor of Medicine (M.D.) or Doctor of Osteopathic Medicine (D.O.) degree, typically over the course of four academic years. MDs are allopathic physicians and DOs osteopathic physicians. While both are fully licensed physicians who practice in specialty areas and prescribe medication, their training differs slightly, and each has a different philosophy of patient care (The Trustees of Indiana University, 2017). According to Wu and Siu (2015):

DOs pride themselves on their emphasis on preventive medicine, a patient-centered, holistic approach to care, and patient empowerment to strive toward the body’s natural, optimal state of structure/function, and self-healing and health. They also utilize diagnosis of and manual manipulation of the neuromusculoskeletal system and stress its interconnectedness with every other organ system in the body. (p. 3)

In contrast, allopathic medicine is a more traditional approach to medicine that focuses on the diagnosis and treatment of human diseases. While osteopathic and allopathic medical education students learn overlapping subjects and concepts, osteopathic students receive special training in the musculoskeletal system known as Osteopathic Manipulative Treatment (OMT) and other techniques that align with the philosophy of osteopathic medicine (Prep, 2012). This results in an “additional 200 – 300 hours of osteopathic-specific instruction that osteopathic medical students receive in conjunction with coursework equivalent to that of their allopathic counterparts” (Wu & Siu, 2015). At the time of this study, there were 35 colleges of osteopathic

medicine in the United States, offering instruction at 55 locations in 32 states (American Association of Colleges of Osteopathic Medicine, 2019) and 152 allopathic medical schools in the United States (Association of American Medical Colleges, 2019).

Abraham Flexner (1910), the father of modern medical education, created the current model of medical school. Consisting of four years, referred to as the two by two model, medical students learn basic science in a classroom and laboratory setting for the first two years [preclinical years], followed by two years of experiencing applied clinical science in the clinical setting [clinical years] (Cooke, Irby, Sullivan, & Ludmerer, 2006). Within this framework exists a variety of curricular approaches among medical schools across the nation, especially during the first two years. “Medical school curricula reflect how schools conceptualize the relationship between basic and clinical sciences, with courses and learning experiences meant to advance students through the clinical reasoning process from novice to expert” (Hecker & Violato, 2009, p. 420). Curricular models in the United States and Canada have five major categories (Hecker & Violato, 2008; Papa & Harasym, 1999). These include the apprenticeship model, the discipline-based model, the organ system-based model, the problem-based learning model, and the clinical presentation-based model. Regardless of the differences in curriculum, the first two years of medical education are typically centered on the biomedical sciences as they apply to the human organ systems and/or the medical disciplines. Students must develop problem-solving, clinical reasoning, interprofessional, and ethical decision-making skills while also learning how to conduct a physical and differential diagnosis (COCA, 2017; LCME 2018). Students pursuing a D.O. degree must learn osteopathic principles and practices. The last two years of the curriculum consists of clinical rotations where students learn in hospitals, clinics, or private practices. It is during the clinical years that students must apply the knowledge gained

during the preclinical years to various discipline specific rotations. Although medical education has changed over the years due to advances in technology and medical knowledge (Qiao et al, 2014), the four-year model still is the most common approach to medical education.

**Competitive nature of medical school admission.** Admission to medical school is one of the most competitive in higher education (Edwards, Friedman, & Pearce, 2013). One reason for such a highly competitive process is the number of highly qualified applicants seeking a limited number of seats annually (Gilliand et al., 2012). Applicants to osteopathic medical schools in 2018 numbered 20,981 and each applicant submitted an average of 8.7 individual school applications for only 7,467 seats (American Association of Colleges of Osteopathic Medicine, 2018b). Although a much larger number of students applied to allopathic medical schools in 2018, the ratio of applicants to matriculants is similar, with 52,777 individuals submitting an average of 16 applications for 21,622 seats (Association of American Medical Colleges, 2018a).

The rigorous nature of medical education and life as a physician is also a cause for such a highly competitive admission process. In an attempt to assure that students are successful in the medical education curriculum, medical schools have designed selection processes “to identify individuals with the cognitive ability (or potential) to tackle the intellectual rigours [*sic*] of the course and non-cognitive traits (or potential) to negotiate the ethical, inter-relational, and motivational challenges of a medical degree” (Edwards et al., 2013, p. 173). The admission process of medical schools typically consists of a two or three-stage process consisting of applications, interviews, and committee discussion (Monroe, Quinn, Samuelson, Dunleavy, & Dowd, 2013). Numerous forms of data are necessary and considered in the admission process. Earlier academic achievement and results from an aptitude test make up part of the information

considered in the application process (Monroe et al., 2013). Schools consider letters of recommendation, personal statements, and applicant interviews as well as community service, leadership experience, prior medical exposure, and other criteria related to the school's mission (Monroe et al., 2013). Many medical schools examine this data holistically, although its rating may be as more or less important at various stages of the admissions process.

MCAT scores and undergraduate GPA are the most important data for selecting those applicants to interview or submit a secondary application (Monroe et al, 2013). As this data is easy to find by researchers, it is useful in showing the competitive admissions environment. In 2017, the MCAT summed score ranged from 472 to 528 and centered at 500 (Association of American Medical Colleges, 2017). Matriculants to allopathic medical schools in 2017 averaged a summed MCAT score of 510.4 (Association of American Medical Colleges, 2018b), while matriculants to osteopathic medical schools in 2017 averaged a summed MCAT score of 503.05 (American Association of Colleges of Osteopathic Medicine, 2018a). The same matriculants to allopathic programs had an incoming science GPA of 3.64 and a cumulative GPA of 3.71 (Association of American Medical Colleges, 2018b). The entering class of 2017 to osteopathic programs had an incoming science GPA of 3.49 and a cumulative GPA of 3.56 (American Association of Colleges of Osteopathic Medicine, 2018a).

**Medical education faculty teaching qualifications and expectations.** Guidelines on the qualifications and expectations of medical education faculty are outlined by the LCME (2018) and COCA (2017). Both required faculty to be qualified to deliver the curriculum, meet other institutional needs, and fulfill the mission of the college. The accrediting bodies designated the determination of these qualifications to each individual institution as outlined by faculty appointment, promotion, and tenure policies. COCA (2017) standards for osteopathic medical

schools provided a little more detail regarding the qualifications for faculty department chairs or their equivalent, specifying that they have proven experience in teaching and academic leadership in a medical education setting, with some clinical discipline chairs being required to have a D.O. who is AOA board-certified or ABMS board-certified in a specific specialty. Beyond this, there was little guidance for medical schools as to exactly what knowledge, skills, and experience result in the qualifications needed to fulfill these duties.

Although it is generally agreed that medical schools have three missions: research, clinical care, and education; medical education stands as the essential mission of the school (Nora, 2010). However, the majority of medical faculty begin teaching with little to no formal training in teaching (Gibson & Campbell, 2000; Misch, 2002; Steinert, 2010). An international survey found that medical educators come from a range of educational backgrounds, with the majority (68%) from medicine; 20% from a basic science field, psychology, or other health profession; and only 12% from education (Huwendiek et al., 2010). Moreover, few had formal qualifications in education, with 16% earning a master's degree and 7% earning a doctorate degree in education. Instead, the majority of medical faculty develop teaching skills from firsthand experiences as learners (McLeod et al, 2009), trial by error experiences (Irby, 1994), or through ad hoc faculty development or training programs (Masunaga & Hitchcock, 2011; Srinivasan et al., 2011). Bulik and Frye (2002) contended that these approaches tend to oversimplify the educational process and center on practical, basic teaching skills. As a result, faculty may not develop the knowledge and skills needed to promote conceptual change in their students (Bulik & Frye, 2002).

The competing demands of the other two components of the medical school mission often interfere with faculty's teaching duties (Simpson et al, 2001). A review of medical

educator job descriptions counted 237 different duties in 17 categories for non-physician medical educators (Riesenberg, Little, & Wright, 2009). “Increasing pressures for clinical productivity and heightened competitiveness for research funding have forced faculty to reduce their teaching efforts. Many talented faculty no longer contribute to the teaching and educational mission of their medical schools” (Rider, Cooke, & Lowenstein, 2002, p. 455). In fact, researchers have showed a decrease in education work engagement when faculty also have tasks in research and clinical care (Van den Berg, Bakker, & Ten Cate, 2013).

### **Challenges of Medical Education**

Research showed that the medical school experience, especially the preclinical years, proved challenging for students. Higher academic load (Adams, 2004; Saipanish, 2003), exam frequency (Khan, et al., 2016), and long hours of study (Compton, Carrera, & Frank, 2008; Vitaliano et al., 1984) are some of the challenges associated with the medical school curriculum. The belief that “medicine is a demanding profession and, therefore, medical school should also be extremely rigorous and demanding” (Slavin, 2016, p. 2195) has contributed to a continuation of educational beliefs and practices that value increasing amounts of pressure, time, and demands. While most medical students are historically high achievers in educational settings prior to medical school (McManus et al, 2013; Yates, 2012), the structure and curriculum of medical school can pose difficulties that these students have never experienced in their academic careers (West & Sadoski 2011). Moreover, while all medical students must meet ambitious standards to gain acceptance, not all students arrive with the same learning and coping skill set (Paul et al., 2009). In fact, many students enter medical school continuing to study as they did as undergraduates, unaware of the rigor and challenges of the program (Haught & Walls, 2004; Mattick, Dennis, & Bligh, 2004). This may be in part to being able to complete prior educational



experiences without the need to develop these skills and/or the failure of prior educational processes to adequately prepare even the most accomplished students to develop “the high level of study, testing, and stress management skill sets necessary in medical school” (Paul et al., 2009, p. 258). As a result, many students are ill equipped to effectively overcome these challenges and master the curriculum without the aid of added academic support.

Studies indicated that 10 – 15% of medical students have difficulty progressing through the curriculum (Yates, 2011) although; the exact number is not known due to the under identification and underreporting of students experiencing difficulty (Cleland et al., 2008; Dudek, Marks, & Regehr, 2005; Evans, Alstead, & Brown, 2010; McGraw & Verma, 2001). Research indicated that students who experience difficulty within the first two years of medical school are likely to experience difficulty in the later years of medical school (Winston et al., 2014; Yates, 2011). This difficulty is evidenced by the attrition rate of medical schools (Fortin, Kealey, Slade, & Hanson, 2016; Hojat, Gonnella, Erdmann, & Veloski, 1996; O’Neill et al., 2011; Yates, 2011). While low compared to other higher educational programs (Maher et al., 2013) studies showed that attrition rates ranged from 5.7% (Maher et al., 2013) to 26% (Kruzicevic et al., 2012).

Difficulty to pass summative medical performance exams also shows the difficulty that some students face. Data provided by the National Board of Medical Examiners (NBME) showed that 6% of students seeking a Doctor of Medicine degree (M.D.), who took the USMLE Step 1 exam, failed to pass the exam in 2017 (United States Medical Licensing Examination, 2019). A similar pass rate exists for students seeking a Doctor of Osteopathic Medicine degree (D.O.), who took the COMLEX-USA Level 1 exam, with 9% not passing the exam in 2017 (National Board of Osteopathic Medical Examiners, 2017). Although these numbers appear low,

they are significant since administration of these exams to medical students are after completing a minimum of two years of the curriculum and failure to pass results in dismissal from the program.

On a larger scale, evidence of the difficulties inherent in medical education is demonstrated by higher than normal rates of depression, anxiety, and suicidal ideation among medical students as compared to their same age cohort in the general population. O'Reilly et al. (2014) found that academic stressors make a unique contribution to medical students' levels of depressive symptoms that extend beyond the contribution made by personal stressors alone. Supe (1998) examined stress among medical students and found that the perception of academic factors were a greater source of stress than all other factors. Moreover, this is compounded once a student experiences academic failure. The "emotional and psychological consequences of failure become additional issues to deal with, [*sic*] and make focusing on learning content even more difficult" (Devoe et al., 2007, p. 37).

The consequences of academic difficulty in the curriculum or of failure to graduate from medical school can be long lasting and detrimental to not only the student, but to the educational institution, society, and the medical profession (Maher et al., 2013; Yates, 2012). For the student, delay or failure to graduate may result in long-term financial hardships, lack of transferable formal qualifications, and negative personal and social well-being (O'Neill et al., 2011). As one might imagine, significant academic delay or failure to graduate can result in low morale, poor self-esteem, shame, and stigma that can have lasting impacts (Maher et al, 2013; Yates, 2012). Also clear is the financial burden of failure. According to a 2018 survey (AACOM, 2018c), 84% of medical school graduates had educational debt with a median of \$254,953. Should students need more time to complete the program, they are likely to add to

their educational debt. High debt also has an emotional and academic impact on students, with researchers finding a correlation between high debt and callousness (Rohlfing, Navarro, Maniya, Hughes, & Rogalsky, 2014), stress (Rohlfing et al, 2014), suicidal thoughts (Dyrbye et al, 2011), failing medical licensing exams (Andriole & Jeffe, 2010), and leaving or being dismissed from medical school (Andriole & Jeffe, 2010). Moreover, failure to graduate leaves the student without a degree but still responsible for the large debts incurred (Maize et al., 2010).

Less clear is the impact of delay or failure of a student to graduate medical school on the educational institution, society, and the healthcare system. The financial burden of a medical education is not just to the student. Substantial funding for many students' medical education comes from financial aid and scholarships, placing the burden of a medical education on society as well as the student (Yates, 2012). Furthermore, after spending considerable financial resources, failure of a medical student to graduate also leaves society without much needed physicians. This is critically important considering the projected U.S. physician shortage is between 7,300 and 43,100 primary care and 33,500 and 61,800 non-primary care physicians by 2030 (IHS Markit, 2017). There are financial repercussions for the educational institution as well. Supporting students who are experiencing difficulty requires substantial time, effort, and resources (Durning et al., 2011; Yates, 2012). Further, as students complete medical school as a cohort, attrition leaves a seat unfilled, depriving the institution of tuition for an already limited number of seats. In addition, "a high attrition rate can affect the academic reputation of a medical school and staff morale and may have financial consequences with subsequent impact on research and teaching" (Maher et al., 2013).

A student who struggles academically throughout medical school also has an impact on the healthcare system, even when the student successfully graduates. Research showed that there

is a correlation between U. S. physicians who have been involved in disciplinary proceedings and poor grades in the first two years of medical school (Papadakis et al. 2004, 2005; Teherani, Hodgson, Banach, & Papadakis, 2005). These studies also found a relationship between later disciplinary action and unprofessional behavior in medical school in the form of poor reliability, irresponsibility, diminished capacity for self-improvement, and poor imitative, and lack of motivation (Papadakis et al. 2004, 2005; Teherani et al, 2005), all of which are behaviors that may be associated with academic performance. Besides the clear risk to patients, continuous issues with unprofessionalism and competence pose a challenge for employers who must balance the needs of the underperforming physician with the needs of the healthcare system, needing substantial time and effort to remediate deficits (Roberts, Pugliano, Langenau, & Boulet, 2012). “In addition to suboptimal patient care, strugglers can disrupt the health care system in other ways, including ordering unnecessary tests and obtaining inappropriate consultations or treatments” (Durning et al., 2011, p. 488).

### **Academic Support**

The definition of academic support is “instructional methods or educational services provided to students in an effort to help them meet learning standards” (The Glossary of Education Reform, 2013). Accreditation standards by both United States accrediting bodies for medical education require that medical schools supply academic support services (COCA, 2017; LCME, 2018). Allopathic medical schools must provide “effective academic support and career advising to all medical students to assist them in achieving their career goals and the school’s medical education program objectives” (LCME, 2018, p. 18). Besides specifying the inclusion of academic and career advising and the access to personal counseling and health services, no

further guidance is provided. Likewise, osteopathic medical schools must “provide the human and physical resources required to support and promote health and wellness in order to meet and advance the physical, emotional, mental, career, academic and professional needs of its students” (COCA, 2017, p. 18). These resources include services related to academic counseling, career counseling, debt management counseling, mental health and physical health services, and health insurance. Although more services are specified, the guidelines for osteopathic medical schools do not relate the purpose of such services to the educational achievement of students.

Existing research on academic support in medical education has found that academic support initiatives vary widely among medical schools. This may be in part due to the lack of the accrediting bodies for medical education to provide detailed guidance on the academic support services that medical schools must provide (COCA, 2017; LCME, 2018). Two studies (Paul et al., 2009; Saks & Karl, 2004), show the most recent snapshot of the prevalence, implementation, and types of academic support in medical schools. Both studies show that although services were provided to students during all four years of their education, the offering of a majority of support services were during the first two years. Participants reported providing academic support in the form of content review sessions, individual faculty/student tutoring, preparation programs for the United States Medical Licensure Examination, services for students with learning disabilities, mental health counseling, time management, testing, skill development/assessment, and supplying materials. Students in the first two years of medical school primarily sought out assistance with test taking, test anxiety, and organization of information, which closely aligned to the perceptions of service providers as to the needs of those students and differed in focus from the services provided to third and fourth year students. Designated in-house personnel, holding terminal degrees in fields other than education, provided

most academic support services. Moreover, Paul et al. (2009) reported that less than one fourth of the providers in the study had training in adult learning principles.

Although these studies show the most current information on the prevalence, implementation, and types of academic support services provided by medical schools, a gap in the literature on academic support still exists. While these studies supplied information on the provision of academic support services by designated personnel or departments, there is still a gap in the literature pertaining to the role that faculty play in providing academic support services. Further, as some of the designated participants had a degree in an education related field and training in adult learning principles, the findings may not be reflective of those who do not, especially those who are not designated specifically as academic support personnel. Therefore, there is still a need to further examine how faculty's beliefs about the needs of adult learners and their understanding of poor academic performance influences the academic support provided to students.

**Prediction and prevention of failure.** The ability to predict which students will experience academic difficulty and provide academic support is of critical importance since there is so much at stake for the student, medical school, and society (O'Neill, Morcke, & Eika, 2016). Although the prediction and prevention of failure as an academic support strategy has a long history in medical education, it has proven to be imperfect (Devoe et al., 2007). Multiple studies have tried to predict and explain how well students will do in the medical school curriculum. Nighute and Sadawarte (2014) studied the relationship between personality traits and academic achievement. Sleep disorders (Abdulghani et al., 2012), aerobic fitness (Boland et al., 2016), social management of emotional intelligence (Chew, Zain, & Hassan, 2015), diet (Arasegowda, Rani, Mukherjee, & Nusrath, 2016), and social media (Alahmar, 2016) are only some of the

factors that have been examined in an attempt to predict and explain students' academic performance in medical school. Although the predictive value of many factors have been explored, most of the literature is devoted to the examination of four factors: socio-demographic characteristics, pre-admission academic record, post-admission academic record, and mental health.

***Socio-demographic factors.*** Research has tried to identify student socio-demographic factors associated with academic success in medical school. A literature review of 48 studies that explored the factors associated with dropping out of medical school, found that 28 of the studies examined socio-demographic variables (O'Neill et al., 2011). A similar study found that of the 36 studies examined, 17 included the impact of socio-demographic variables on medical student drop out (Maher et al., 2013). Researchers have examined the effect of age and gender (Fortin et al., 2016), marital status (Roudbari, Ahmadi, Roubari, & Sedghi, 2014), race (Stratton & Elam, 2014), ethnicity (Iputo & Kwizera, 2005), social class (Arulampalam, Naylor, & Smith, 2007), and parent's education (Kruzicevic et al., 2012). Although some of the studies found significant effects between socio-demographic factors and dropping out of medical school, when examined holistically, socio-demographic variables had little to no influence on dropout.

Studies indicate that discrimination exists for underrepresented minorities in medicine (Davis & Allison, 2013; Odom, Roberts, Johnson, & Cooper, 2007) and for females (Fnais et al., 2014), hence a need to explore the impact of socio-demographic variables on the academic performance of medical students. Such studies assure that specific educational programs are not placing any sub-group at a disadvantage due to stated or hidden curricular practices. However, it is not relevant to study these factors in relation to which students have the capability of succeeding in medical school, especially when they meet the admission criteria of the school.

Any research that implies that socio-demographic variables contribute to the success or failure of a student in the medical education curriculum has a duty to explore the underlying cause of that association, which none of the studies discussed in this paper attempt to do. Therefore, existing research of such findings has failed to explain the true cause of academic difficulty among said students or to explain the role that curricular factors, such as academic support services, have in the findings.

*Pre-admission academic record.* The predictive value of pre-admission academic record data has received significant attention in medical education research. Studies have explored the predictive value of MCAT and undergraduate GPA on various measures of medical school performance. Researchers have found that both independently predict USMLE Step 1 scores but were limited in predicting performance in the clinical curriculum (Burns & Garrett, 2015). However, the combination of MCAT and GPA were stronger predictors of USMLE Step 1 scores than when each were considered alone (Siu & Reiter, 2009). MCAT scores have also been a moderate predictor of medical school basic science and clinical science GPA, as well as USMLE Step 2 scores (Callahan, Hojat, Veloski, Erdmann, & Gonnella, 2010). Moreover, researchers have found that MCAT was predictive of USMLE Step 3 scores, which are taken after graduation from medical school (Callahan et al., 2010; Donnon, Paolucci, & Violato, 2007).

MCAT and GPA were also statistically significant predictors of performance on COMLEX-USA Level 1 and Level 2-CE scores (Dixon, 2012) but had little association with clinical performance on COMLEX-USA Level 2-PE (Roberts et al., 2012). Furthermore, MCAT and undergraduate GPA had a weak relationship with COMLEX-USA Level 3 performance (Baker et al., 2015). Researchers have also examined the predictive value of undergraduate GPA and MCAT on delayed graduation, withdrawal, and dismissal from medical school, as well as



whether students will experience academic difficulty with inconclusive results (Andriole & Jeffe, 2010; Dunleavy, Kroopnick, Dowd, Searcy, & Zhao, 2013; O'Neill et al., 2011; Yates, 2012).

While multiple studies have found pre-admission academic factors alone as statistically predictive of performance on national board exams, Sesate, Milem, McIntosh, and Bryan (2015) found that medical school curricular factors have a moderating effect on the relationship. A study of the predictive value of various admissions measures on medical school GPA found that the measures had limited predictive value on how well students will perform in their studies and varied between schools, showing that differences in curriculum and educational experience may moderate the relationship (Edwards et al., 2013). Kim and Kee (2012) discovered that even though medical students believed exceptionally talented in science and mathematics prior to entering medical school outperformed their peers in total GPA, the difference between the groups declined significantly over the four years of the program and the majority of exceptionally talented students fell in the average GPA range. Further, there was no significant difference in GPA during the clinical years of the program, nor was there a significant difference in scores on the national licensing test (Kim & Kee, 2012).

These studies show the difficulty in using admission factors alone to predict success in medical school as they neglect to consider the factors associated with medical school that may have a more direct influence on a students' success. Since medical school admissions criteria is typically rigorous, a correlation between student academic factors prior to medical school and poor academic performance in medical school is indicative of a lack of academic support or other curricular measures that would enable an otherwise high achieving students to be successful (Winston et al., 2010). While these studies show the impact of the medical school curriculum on student performance, it is still unclear as to which curricular factors have an

impact and how.

***Post-admission academic record.*** Post-admission academic record has also been used as a predictive tool in the academic success of medical students. Since post-admission academic factors take place after a student has matriculated into medical school, they cannot be used in predicting academic success from the outset of the program; however, researchers have used them to predict dropout and success on pre-licensure exams. Hojat et al. (1996) found that failure of at least one basic science course and low year one GPA during medical school was associated with a greater chance of dropping out. A strong association existed between dropout and a decelerated curriculum status and repetition of exams or academic years (Maher et al., 2013). Beyond statistical analysis, medical students who have prematurely left the program also reported that low academic achievement in medical school was the most common reason for dropping out (Han, Chung, Oh, Chay, & Woo, 2012). Achievement in basic science courses (Burns & Garrett, 2015) and first and second year GPA (Zhang, Rauchwarger, Toth, & O'Connell, 2004) were found to have a significant relationship with USMLE Step 1 performance.

***Mental health factors.*** In recent years, increased attention has been paid to medical students' mental well-being and the impact it may have on their medical education. The universal prevalence of depression among medical students was between 27% (Rotenstein et al., 2016) and 28% (Puthran et al, 2016). A high prevalence of anxiety (Abdel Wahed & Hassan, 2016; Hope & Henderson, 2014; Venrooij, Barnhoorn, Gitay, & Noorden, 2015) and suicidal ideation (Osama et al., 2014; Sobowale, Zhou, Fan, & Liu, 2014; Tan et al., 2015) were also found among medical students globally. Several studies have shown that these rates are higher than those of their same age peers in the general population (Dyrbye et al., 2014; Rotenstein et

al., 2016) and among non-medical students (Bacchi & Licinio, 2015; Puthran et al., 2016).

Moreover, research showed medical students reporting mental health problems neglected to seek help (Puthran et al., 2016; Rotenstein et al., 2016).

Research on medical students' mental health tempted researchers to explore the causal relationship between pre-existing mental health and academic difficulty. In two studies, Yates and James (2006, 2007) found that medical students who struggled academically were more likely to have had an episode of active mental distress than non-strugglers. Although the authors could not determine a causal relationship between the mental distress and the academic struggle, they implied that pre-admission mental distress may contribute to academic struggles. Thus, showing a causal relationship between pre-admission mental health and academic difficulty, leaving other factors specific to the academic program unexamined.

Other studies have concluded that while students' mental health may have an impact on their academic performance, the rigors of medical education may be the primary contributor to the abnormally high levels of anxiety, depression, and suicidal ideation experienced among students (Tempski et al., 2012). O'Reilly et al. (2014) found that academic stressors made a unique contribution to medical students' levels of depressive symptoms that extended beyond the contribution made by personal stressors alone. Other research examining stress among medical students found that academic factors were a greater source of stress than all other factors (Supe, 1998). Schwenk, Davis, Wimsatt (2010) found that up to 80% of medical students with moderate to severe depression had no earlier history of a diagnosed or treatment prior to medical school. Medical students have reported feelings of personal inadequacy because of the learning environment, which further compounded by an atmosphere that discourages discussion of such thoughts (Benbassat, 2013). Liu, Carrese, Colbert-Getz, Geller, & Shochet (2014) found that

feelings of personal inadequacy among medical students may originate as doubt about capability to become a physician and about medicine as a career choice. The study also found that students perceived doubt as starting other types of distress related to academic performance, lifestyle, and mental and physical health.

Although research on the mental health of medical students spans eight decades (Slavin, 2016), little action has occurred to aggressively address the high prevalence of depression, anxiety, and suicidal ideation. This may be because much of the existing research recommends the addition or expansion of academic support initiatives aimed at helping students cope with medical school instead of addressing the institutional characteristics that are at the heart of the problem.

**Educational remediation.** Educational remediation is “the act of providing a remedy to a problem or a process to correct an academic fault or deficiency” (Maize et al., 2010, p. 1). It is estimated that between 7% and 28% of medical trainees will need remediation for one or more knowledge or skill deficits (Paul et al., 2009; Reamy & Harman, 2006). Steinert (2013) argued that early identification and support of students experiencing academic difficulty is critical to the development and education of future healthcare professionals. Evans, Alstead, and Brown (2010) agreed, stating that “early identification and early support, before the trainee or student runs into major difficulties, should be regarded as the gold standard for educational supervision” (p. 231).

Much of the literature on academic support in the medical education setting consists of the review of programs that have focused on educational remediation that followed a three-step process of identification, remediation, and re-testing designed to help students pass a failed assessment, standard, or course by teaching test taking skills and advancing content knowledge

instead of addressing the underlying issues (Cleland et al., 2013; Patel et al., 2015). This strategy is often referred to as examination coaching (Hays, 2012) due to its focus on passing a previously failed examination and lack of a true educational intervention (Royal, Kernick, & Gilliland, 2014) or theoretical foundation (Cleland et al., 2013). Regardless, remediation and re-assessment are essential roles in medical education, and commonly used to guide academic improvement (Hays, 2012) due to its ease of implementation, reliance on self-study, and ability to be implemented in a relatively short period (Royal et al., 2014).

Narrowly focused, abbreviated restudy and retesting remediation efforts often result in short-term academic success and superficial learning (Cleland et al., 2013; Hauer, Teherani, Irby, Kerr, & O'Sullivan, 2008; Pell, Fuller, Homer, & Roberts, 2012). One such remediation program even reported a decline in future student performance after passing the exam targeted by the remediation (Pell et al., 2012). The design of such remediation interventions and the resulting short-term success may be due, in part, to medical educators being challenged to identify underperforming learners and specific learning deficiencies, create and implement effective remediation plans, and conduct unbiased assessments of learners' progress (Williams, Roberts, Schwind, & Dunnington, 2009). While this is a challenge for even the most experienced faculty, it is common for inexperienced faculty or student tutors to be assigned to remediation duties even when there is no evidence of improved academic outcomes (Devoe et al., 2007; Stegers-Jager, Cohen-Schotanus, & Themmen, 2013). Moreover, considerable time often elapses before remediation takes place (Cleland et al., 2013), leaving students to fend for themselves, unable to fill in knowledge deficits on their own. Even with implementation of such remediation programs, this strategy is often reliant on the student to correct deficits the second

time around and does not provide students with assistance to correct strategic learning skills (Sinclair & Cleland, 2007).

Successful passage of an exam at the end of the period of remediation using the restudy and retesting method showed students' proficiency in the remediated content (Hays, 2012). However, many times, the exam(s) the student originally failed, which prompted the remediation, is the same exam administered at the end of remediation (Royal et al., 2014). Student recall from the first administration, resulting from studying only the topics presented on the earlier exam or simply researching correct answers during the restudy component of the remediation, may dramatically improve the odds of demonstrating competency on the second administration of the exam (Royal et al., 2014). In addition, remediation typically takes place after completion of all other curricular components, such as during the summer or at the end of a semester, allowing students to remediate with few distractions from other curricular requirements or assessments and in a setting that usually involves additional support and smaller groups of students (Pell et al., 2012). Further, remediation efforts "are likely to be tailored to improve performance to the required competency to pass" (Pell et al., 2012, p. 149). Thus, research has found that students who performed poorly on the first administration of the assessment appear to have no difficulty meeting the required passing standard on the second administration of the assessment and allowed to advance academically when they have not actually mastered the material (Cleland et al., 2010).

Remediation efforts that focused beyond the scope of a one-time assessment, that were individualized, included personal support, and used multiple modalities experienced more success. This is largely because academic difficulty is diverse in nature and is often rooted in factors that are not academic in nature (Kalet & Chou, 2014). Moreover, studies have found that

there is a connection between the first recognized deficit and multiple, larger deficits (Dupras, Edson, Halvorsen, Hopkins, & McDonald, 2012). Although it seems implausible that students accepted into medical school would need learning support, one third of medical students need help with study skills (Olmesdahl, 1999). Shain (1995) contended that medical students experiencing academic difficulty have the intelligence for academic success but are lacking skills to effectively manage their time or material, showing that remediation efforts need to go beyond a singular focus. Other researchers agreed that academic difficulty is multi-faceted with interconnected aspects, suggesting that academic support initiatives be proactive and comprehensive (Guerrasio, Garrity, & Aagaard, 2014; Olmesdahl, 1999; Paul et al., 2009). Hauer et al. (2009) outlined four core components of a powerful remediation program: (a) initial assessment (or screening) using multiple assessment tools to identify deficiencies; (b) diagnosis of problems and development of an individualized learning plan; (c) provision of instruction that includes deliberate practice, feedback, and reflection; and (d) reassessment and certification of competence.

In response to such diversity and complexity, some medical schools have developed academic support teams made up of experts from multiple professions to oversee remediation efforts (Guerrasio et al., 2014; Kalet & Chou, 2014). However, many schools rely on individual faculty without specific expertise (Bierer, Dannefer, & Tetzlaff, 2015). Although organizing and integrating substantial amounts of information were the primary reasons that medical students sought academic assistance, few schools were equipped to deal with these issues, citing the need for more resources, staffing, and scheduled time in the curriculum to address learning issues (Paul et al., 2009).

The process of remediation is also challenged before it has a chance to be implemented. Although many faculty members are fully invested in helping students succeed, many feel that it is not their responsibility to remediate students at the graduate or professional level of education and place sole responsibility for academic success on the student (Maize et al., 2010). Studies also reported the reluctance of faculty to fail students who are experiencing difficulty (Dudek et al., 2005). Therefore, many students do not receive academic support services in the form of remediation or otherwise because they have not been properly identified. Faculty have cited their unwillingness to record poor evaluations or report underperforming students as the primary reason for this failure and acknowledge this unwillingness as a problem (Dudek et al., 2005). There are many reasons that faculty are unwilling to properly document or report underperforming students. One common barrier to failing a student lies in the documentation of deficits, with faculty reporting the effort to document deficits and lack of knowledge about what to document as common hindrances (Cleland et al., 2008; Dudek et al., 2005; Evans et al., 2010). Anticipation of grade appeals and lack of remediation options are also reasons that faculty are hesitant to fail students (Dudek et al., 2005). Biases in evaluations, timing of evaluations, relationships with learners, differing expectations among faculty, and student aggressiveness in fighting for good grades are added reasons that faculty neglect to record failing grades (Albanese, 1999; Gray, 1996). Institutions of medical education are also to blame for the underreporting of struggling learners. Policies, procedures, committee responses, appeals processes, and fear of legal action are added barriers to identifying, remediating, and dismissing underperforming students, even when faculty do record and report (Guerrasio et al, 2014).

The research on remediation programs for underperforming medical students is of mediocre quality or lacks usefulness. The majority of studies are limited in generalizability due



to the lack of detail reported, lack of clearly defined methods and outcomes, focus on the remediation of narrow skill sets, and focus on the remedial efforts of one program at one school at one point in time (Cleland, et al., 2013; Stegers-Jager et al., 2013). Such research has also found a failure to discuss the theoretical foundations of remediation programs (Cleland, et al., 2013) or to address standardized methods that can guide the development of best practices (Bierer et al., 2015; Guerrasio et al., 2014; Hauer, et al., 2009). Moreover, many studies evaluating remedial efforts do not include long-term data on the success or failure of those students who took part in the intervention (Hauer et al., 2008, 2009). These deficiencies have left a gap in the literature regarding exactly what works in supporting underperforming students, and more importantly, why it works (Cleland, et al., 2013), leaving researchers to advocate for further research into best practices for the remediation of at-risk medical students (Paul et al., 2009; Saxena, O'Sullivan, Teherani, Irby, & Hauer, 2009).

**Support seeking behaviors of students.** Despite training to serve in a profession that depends on and promotes the help seeking behaviors of patients, medical students tend to neglect to seek support for issues affecting their academic performance or personal well-being (Steinert, 2013). Studies concerned with the mental health of medical students revealed that mental health issues, particularly depression, are often under-reported and under-treated by students (Puthran et al., 2016). These same studies reported that medical students cite fear of negative academic and career repercussions, lack of time to seek treatment, denial of illness, stigma associated with mental health issues and use of mental health services, and fear of unwanted intervention as reasons for not reporting or not seeking treatment. In addition, medical students reported poor knowledge about available support services (Chew-Graham, Rogers, & Yassin, 2003).

Similar findings have been reported on the help seeking behaviors of medical students in regard to academic support. Yates (2012) attributed this, in part, to high academic achievement in educational settings prior to medical school, which have resulted in medical students setting up elevated expectations for themselves regarding their future abilities. Thus, many medical students have difficulty accepting their academic struggles and hesitate to seek or accept help (Sinclair & Cleland, 2007), often attempting to solve their academic difficulties on their own (Han et al., 2012). Educational and psychological research has also discovered that the lowest performing students' ability to seek academic support may exceed their abilities due to an inherent lack of insight into their incompetence and poor coping abilities (Cleland et al., 2005; Devoe et al., 2007; Winston et al., 2010). Todres, Tsimtsiou, Sidhu, Stephenson, & Jones (2012), found a marked difference between the academic performance awareness between high and low achieving students, indicating that low achievers were less actively engaged with their own learning and often do not reflect on their performance or acknowledge that their approach to learning may be problematic until forced to do so. However, when provided with structured, guided, and purposeful reflection opportunities, low achieving students found critical reflection to be a supportive and enlightening process.

### **Summary**

Medical education is a high stake, rigorous, and academically challenging endeavor that tens of thousands of students undertake on an annual basis. Studies examining the reasons for medical education attrition and failure of students to pass summative performance exams have found a multitude of contributing factors, one of which is academic difficulty. Several personal and institutional factors contribute to academic difficulty and rarely include aptitude. Workload,

time management, difficulty remembering course content and exam frequency, and mastering content and long hours of study are some of the reasons for academic difficulty. Although accrediting bodies for medical education required schools to provide support services for students, many students experiencing academic difficulty often go unnoticed and continue through the curriculum with little guidance or feedback. Medical education faculty's lack of formal education in the field of teaching, clinical and research commitments, and growing numbers of students have contributed to this problem. Yet, most of the research on academic performance in medical education neglects to explore the ways in which the day-to-day educational practices of faculty may impact students' success or failure in the curriculum, regardless of other factors. In addition to exploring the role that medical education faculty play in providing academic support, this study was also concerned with how medical educators' beliefs of adult learners may influence these roles. Research suggests that there is a direct relationship between teaching conceptions, teaching practice, and student learning. However, there is limited research on the beliefs of adult educators about adult learners. This study tried to address a gap in the theoretical and related literature by exploring what role faculty play in providing academic support to first- and second-year medical students as viewed through an andragogic lens.

## **CHAPTER THREE: METHODS**

### **Overview**

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students. This research seeks to gain an in-depth understanding of how and why the faculty and students experience the phenomenon. This chapter discusses the methodology of the study and begins with a description of the research. The research questions are stated and specific information about the research site and participants is outlined. Also included in this chapter is a description of the role of the researcher and procedures for the study, which includes data collection and analysis procedures. The chapter concludes with a discussion of the considerations of trustworthiness and ethics as they apply to this study.

### **Design**

This study used a qualitative research design. Qualitative research is an appropriate choice when a phenomenon needs exploration and understanding in a complex, detailed manner (Creswell, 2013) and in this case, the phenomenon is the role faculty play in providing academic support to first- and second-year medical students. Further, qualitative research is useful when quantitative research methods and statistical analysis may not capture the complexity of the problem (Creswell, 2013). Merriam (1998) reported the key philosophical assumption of qualitative research is the view that reality is a construct of interactions between individuals and their social worlds. The complexity of the phenomenon of interest in this study, due to the multiple experiences of faculty and students, and the need to understand these experiences holistically, lends itself to a qualitative research design.

Thomas (2011) defined case studies as “analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more method” (p. 511). Yin (2016) asserted that case study research is an empirical investigation of a contemporary phenomenon in its natural context using a variety of sources of evidence. Although this study explored the experiences of faculty and students, the actual case is the collective experiences of these participants, which resulted in an analysis of the phenomenon of academic support provided to by faculty. As such, the research design of choice is a single, instrumental, descriptive case study design. One rationale for selecting a single case is when the case represents common conditions of an everyday situation that might provide insight about “the social processes related to some theoretical interest” (Yin, 2016, p. 52). The phenomenon of interest for this study stood for the daily actions and interactions of faculty and students in a medical education setting where, some students experience academic difficulty as they attempt to meet academic performance standards and faculty decide at what level they choose to provide academic support. Moreover, beyond gaining better understanding about the role faculty play in providing academic support to students, the case also yielded information on specific faculty beliefs of adult learning theory and the provision of academic support. Thus, the researcher selected an instrumental design. Finally, the selection of a descriptive design was proper as this study tried to present a thorough description of the phenomenon (Hancock & Algozzine, 2011).

### **Research Questions**

The research questions that guided this study included one central research question and three sub-questions as follows. Each of these questions are grounded in the theoretical and empirical literature reviewed.

**Central Research Question**

How do faculty provide academic support to first- and second-year medical students?

**Research Sub-question One**

How do faculty assumptions about adult learners influence the academic support provided to students?

**Research Sub-question Two**

How do faculty perceptions of academic performance influence the provision of academic support?

**Research Sub-question Three**

What are the perceptions regarding faculty's ability to provide academic support?

**Setting**

Research for this study was conducted at an osteopathic medical college in the United States. The medical college was one of 17 colleges and schools of a faith-based university located in a small urban area with a metropolitan population of less than 100,000. The medical college was set apart from the university campus and included of a four-story building of more than 140,000 square-feet. The building included a 12,000 square-foot Center for Standardized Patients and Simulation, 5,300 square-foot anatomy lab, two 5,000 square-foot osteopathic manipulative medicine labs, 7,500 square-foot medical library, and an 8,500 square-foot Center for Research. At the time of the study, the college employed 52 faculty and 56 staff, and educated a student body of 618.

The executive and senior leadership of the university served as leadership for all colleges and schools of the university, including the medical college. Executive leadership included the

university president, provost, and vice presidents of all operating departments. However, the medical college employed its own academic leadership, as did the other colleges and schools of the university. The academic leadership of the medical college was headed by a dean, who served as the chief academic officer of the college. The college employed a senior associate dean of academic affairs, who oversaw the first- and second-year pre-clinical academic program; senior associate dean of clinical affairs, who oversaw the third- and fourth-year clinical academic program; and senior associate dean of operations and external affairs, who oversaw the departments of admissions, student services, accreditation, and administration. Academic leadership also included chairs of each biomedical and clinical discipline, assistant deans, and department directors, who all reported to the appropriate senior associate dean.

Students at the college completed four years of medical education training, graduating with Doctor of Osteopathic Medicine degree. Years one and two were the pre-clinical years and occurred predominately on campus. Attendance of lectures in core subjects was not mandatory; however, attendance was requested for guest lecturers and was required for other activities such as standardized patient encounters. The college described the pre-clinical curriculum as a blended, spiral curriculum that consisted of classroom presentations and application exercises, laboratory sessions, small group and team-based learning activities, near-peer instruction, the use of standardized patients and patient simulators, clinical experiences and guided and self-directed independent study. The pre-clinical curriculum consisted of three longitudinal strands of learning that ran throughout the first two years of the curriculum: osteopathic manipulative treatment, patient-centered medicine, and biomedical basis of health, disease, and intervention. Years three and four occurred predominately in the clinical setting and consisted of a variety of required and elective clinical rotations. Rotations were at one of the college's core clinical sites

and followed a college directed curriculum that included patient care, as well as didactics, independent learning assignments, interactive computer case-based learning, and simulation scenarios.

The primary rationale for the choice of the research site was that it stood for a common case of the phenomenon of interest (Yin, 2016). An initial analysis of the site through its website indicated that the site used a curricular framework similar to other medical schools. Further, the site did not show any specialized academic support programs that would make it unique. Thus, the site was a good representation of the phenomenon of interest for this study in an everyday situation (Yin, 2016). The secondary rationale for the choice was due to the site's proximity, which increased the amount of time the researcher was able to spend at the site and allowed for face-to-face interviews with participants and direct observation of the phenomenon.

### **Participants**

Non-probability sampling techniques were the method of choice to select the study participants. Daniel (2012) asserted that non-probability sampling "is a sampling procedure that does not give some elements in the population a chance to be in the sample" (Introduction section, para. 1) and differs between probability sampling "that gives every element in the target population a known and nonzero probability of being selected" (Introduction section, para. 1). In considering which form of sampling to use, Daniel (2012) suggested that the researcher consider the objectives of the study, nature of the population, availability of resources, and research design.

Chosen for its ability to give an elaborate understanding of the phenomenon of interest (Creswell, 2013), qualitative research methods such as case studies lend themselves to non-



probability sampling (Daniel, 2012). As the objective of this study was to explore what occurred within a specific element of the population, non-probability sampling is the most appropriate sampling method (Daniel, 2012; Merriam, 1998). The nature of the population of interest also lent itself to non-probability sampling. Since this study included an extremely small, homogeneous population based on the variable of interest, non-probability sampling was the chosen (Daniel, 2012). Daniel (2012) also recommended that the researcher consider the availability of resources when selecting a sampling method. Of relevance is the availability of time the researcher had to dedicate to this research. Time limitation for the study included the researcher's need to complete a degree program. The amount of time the researcher had for this research is further complicated by the fact that she was employed in a full-time job that required a significant amount of time both during and outside of normal work hours, which limited the amount of time she had to spend on this study. Thus, it was more favorable to choose a sampling design that consumed less resources (Daniel, 2012).

To effectively explore the phenomenon of the study, non-probability purposive sampling was the proper choice. Purposive sampling is a type of non-probability sampling that focuses on characteristics of the population of interest. This type of sampling was the most proper for this study as the individuals selected could “purposefully inform an understanding of the research problem and central phenomenon in the study” (Creswell, 2013, p. 156). Maximum variation sampling was the purposive sampling strategy selected for this study, as it would have allowed for the choice of faculty participants that differed on the criteria and increased the exploration of different perspectives (Creswell, 2013). However, as the study required the selection of six faculty participants, and only six faculty members volunteered to participate, maximum variation sampling was not used.

Multiple opinions exist about the number of participants needed for a qualitative case study. Ritchie, Lewis, and Elam (as cited in Mason, 2010) contended that a sample size under 50 is enough for qualitative research. Green and Thorogood (as cited in Mason, 2010) recommend a sample size of 20 or less, while Alder and Alder (1994) suggested a sample between 12 and 60. Guest, Bunce, and Johnson (2006) concluded that for studies with a highly homogeneous population that “a sample of six interviews may [be] sufficient to enable development of meaningful themes and useful interpretations” (p.78). However, more important than sample size was the concept of saturation in qualitative research. Glaser and Strauss (1967) defined saturation as the point at which “no additional data are being found whereby the sociologist can develop the properties of the category” (p. 61). Moreover, Brannen (2012) stated when using a case study design, “cases are selected for the purposes of interview but also, most importantly, for the purposes of comparison in the analysis” (p. 16). For these reasons, the sample included six faculty and six students, for a total sample size of 12.

One criterion was established for faculty participation in the study. Faculty must have been teaching a minimum of 10 hours in the first- and/or second-year of the medical education curriculum at the research site at the time of the study. As qualitative research studies a phenomenon in its natural context (Hancock & Algozzine, 2011) and this study centered on the real world experiences of faculty and students in the academic support process, it was essential that faculty be actively involved in educating students at the time of the study. This allowed data collection as the phenomenon of interest unfolded and allowed for direct observation of the phenomenon, which served as a source of data triangulation. Moreover, needing a minimum of 10 teaching hours ensured that faculty participants were engaged enough in the curriculum to provide academic support.

After receiving permission from the college, the researcher received a list of faculty who met the selection criteria from the Office of Academic Affairs. The sampling frame included those faculty who met the participation criteria and included 40 of the 52-faculty employed at the institution. An initial recruitment email went to those faculty included in the sampling frame. The email included a brief demographic screening survey that collected information about gender, age, race, degree, years of teaching experience, years of teaching experience in a medical school setting, years of teaching experience at the research site, and number of teaching hours in the first- and/or second-year curriculum at the time of the study. Maximum variation sampling was to be used to select participants from the respondents who completed and returned the demographic screening survey. However, as the study needed six faculty participants, and only six faculty members completed and returned the demographic screening survey, maximum variation sampling was not necessary. The six faculty members who completed and returned the survey received an invitation to participate in the study. Each of the six agreed to participate. Participation was voluntary, and the researcher protected the identification of participants by assigning faculty a pseudonym.

Faculty participants included five males and one female. Three of the males self-identified as White, one as Asian, and one as two or more races, while the female self-identified as Black. The age of the male participants ranged from 43 to 65, with a mean age of 53.2. The age of the female participant was 46. The mean age of the faculty participants was 52. Five of the male faculty participants earned a Ph.D. and one earned a M.D. degree. The female participant earned a M.D., MPH, and Postgraduate Diploma in Education (PGDipEd) degree. Years of teaching experience of the male faculty participants ranged from three to 40 years, with a mean experience of 20 years. Years of teaching experience in the medical school setting of the

male faculty participants ranged from two to 40 years, with a mean experience of 14.2 years. Years of teaching experience at the site of the study for male faculty participants ranged from five months to four years, with 2.1 years as the mean. Years of teaching experience of the female faculty participant was 10 years, with seven years of teaching experience in the medical school setting, and three years of teaching experience at the site of the study. The mean number of years of overall teaching experience for all faculty participants was 18.3, with a mean of 13 years of teaching experience in the medical school setting and a mean of 2.4 years of teaching experience at the study site. The number of teaching hours for all participants in the first-year curriculum at the time of the study ranged from 14 to 70 hours, with a mean of 35.5 teaching hours. The number of teaching hours for all participants in the second-year curriculum at the time of the study ranged from six to 30 hours, with a mean of 15.8 teaching hours. Finally, the total number of teaching hours for all participants in the first- and second-year curriculum at the time of the study ranged from 20 to 100 hours, with a mean of 51.3 teaching hours. Table 3.1 displays faculty participant demographic data.

Table 1. *Demographics of the Faculty Participants*

Participant	Gender	Age	Race	Degree	Years teaching experience			Teaching hrs
					Total	Medical	Site	
Chinara	Female	46	Black	MD, MPH, PGDEpid	10	7	3	100
Jing	Male	50	Asian	Ph.D.	15	4	4	50
Keith	Male	65	White	Ph.D.	29	22	1.5	44
Randy	Male	61	White	Ph.D.	40	40	3	30
Robert	Male	47	Two or more races	Ph.D.	13	2	2	20
Tristan	Male	43	White	M.D.	3	3	.41	64

One criterion was established for student participation. Student participants must have been enrolled in the first or second year medical education curriculum at the research site at the time of the study. As qualitative research studies a phenomenon in its natural context (Hancock & Algozzine, 2011) and this study was concerned with the real world experiences of faculty and students in the academic support process, it was essential that students be actively involved in the medical education curriculum at the time of the study. This allowed data to be collected as the phenomenon of interest unfolded and allowed for direct observation of the phenomenon, which served as a source of data triangulation.

After receiving permission from the college, students who met the selection criteria were identified by the Office of Medical Education. The sampling frame included 165 first-year students and 162 second-year students for a total of 327 students. The Office of Medical Education contacted students included in the sampling frame with an invitation to participate in the study, telling them participation was voluntary. Six students, three from the first-year class and three from the second-year class, replied to the first recruitment email, expressing their interest to participate in the study. The researcher selected all six to participate in the study. To protect the identification of the student participants, each received a pseudonym.

Participants enrolled as first- year medical students included one male and two females. The male and female first year participants self-identified as White. The researcher intended to collect the GPA of the participants but as the school did not calculate GPA, this data was not available. In lieu of GPA data, I asked participants to report the number of courses they had failed. The male participant had not failed any courses but both female first-year participants reported failing two courses each. Finally, one first-year participant had the classification of being in good academic standing and two were classified as being on academic probation.

Participants enrolled as second-year medical students included one male and two females. The male participant self-identified as Hispanic, while one female participant self-identified as Black and one as Indian. The male participant had failed a total of three courses, two courses in the first-year and one course in the second-year. One female participant had failed two courses, both in the first-year, while the other female participant had not failed any courses. Finally, the second-year male participant had the classification as being on academic probation, while both female participants classified as being in good academic standing. Table 3.2 displays student participant demographic data.

Table 2. *Demographics of the Student Participants*

Participant	Gender	Age	Race	Year enrollment	Courses failed	Academic status
Caitlin	Female	25	White	1	2	Probation
Molly	Female	23	White	1	2	Probation
David	Male	24	White	1	0	Good
Luis	Male	32	Hispanic	2	3	Probation
Diane	Female	28	Black	2	2	Good
Pooja	Female	24	Indian	2	0	Good

### Procedures

Prior to selecting participants or collecting data, the researcher received permission from the Dean of the medical college to conduct the study. After receiving permission, the Institutional Review Board (IRB) of Liberty University granted permission for the study. See Appendix A for IRB approval. IRB approval through Liberty University sufficed as IRB approval for the research site. After receiving IRB and institution approval, a list of faculty who met the selection criteria was collected from the Office for Academic Affairs. An initial

recruitment email (see Appendix B) was sent to those faculty included in the sampling frame, informing them about the study and inviting them to complete a brief demographic screening survey (see Appendix C) that collected information about gender, age, race, degree, years of teaching experience, years of teaching experience in a medical school setting, years of teaching experience at the research site, and number of teaching hours in the first and/or second year curriculum at the time of the study. The email to faculty included the informed consent form (see Appendix D) and the researcher's contact information. Maximum variation sampling was to be used to select participants from the respondents who completed and returned the demographic screening survey. However, as the study needed the selection of six faculty participants, and only six faculty participants completed and returned the demographic screening survey. Therefore, the researcher did not use maximum variation sampling. An email (see Appendix E) went out to the six faculty members who completed and returned the survey, inviting them to participate in the study. The email instructed those interested in participating to read the consent form and email the researcher their interest in participating. All six of the faculty members emailed their intent to participate in the study. At the initial meeting with each participant, the researcher explained the informed consent form, answered any remaining questions, and obtained signatures of consent on the forms.

After receiving IRB and institution approval, students who meet the selection criteria received an email (see Appendix F) from the Office of Medical Education, informing them about the study and inviting them to participate in the study. The email to students included the informed consent form (see Appendix G) and researcher's contact information. The email instructed those interested in participating to read the consent form and email the researcher with their interest in participating. Six students emailed their intent to participate in the study. At the

first meeting with the participants, the researcher explained the informed consent form, answered any remaining questions, and obtained signatures of consent on the forms.

The data collection process occurred in three phases. First, the researcher conducted individual interviews with faculty participants. Second, the group interview with student participants occurred. Third, observation of academic support activities occurred. The researcher audio-taped individual interviews and group interviews with field notes recorded on the interview protocol. The researcher took field notes for observations that occurred. Transcription of the audio-recordings occurred by a transcriptionist.

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

For this instrumental case study, the researcher is the primary instrument in collecting and analyzing data (Merriam, 1998). According to Guba and Lincoln (1981), the human instrument differs from other forms of instrumentation in that the human researcher has the ability to respond to and adapt to circumstances and can utilize their sensitivity to “emphasize, describe, judge, compare, portray, evoke images, and create for the reader... the sense of having been there” (p. 149). As the purpose of case study research is to understand complex social phenomena, it was important that the primary instrument be the researcher because of the need to support a holistic, real-world perspective that other instruments are incapable of (Yin, 2016).

Having served in multiple roles and in multiple educational settings during my 22 years in education, I have seen the academic struggles of many students. While serving as a school counselor I created and implemented a daily remediation and enrichment block where academically at-risk students received added support in reading and/or mathematics and served as the Child Study and Section 504 Committee Chairperson, the committees of which were



designed to support students suspected of having a disability that limited their ability to be academically successful. Upon becoming the school principal of a school that was inconsistently meeting state performance standards, I dedicated my efforts to improving the educational environment for students, faculty, and staff. This included, among other things, the development of an after-school tutoring program, implementing school-wide initiatives such as Response to Intervention, and working to ensure the alignment of instructional and curricular initiatives. The school's dedication to the improvement of the educational program resulted in a 2011 Board of Education Competence to Excellence Award for meeting all state and federal benchmarks for at least two consecutive years. Finally, in my current position as an administrator at an osteopathic medical college, I have continued to dedicate myself to improving the learning environment with multiple initiatives culminating in the creation of a new department for the medical college dedicated to student, faculty, and institutional academic success. This new department has filled a gap in the provision of academic support based on helping medical students synthesize and organize material, as well as proactively identifying and working with students through a structured, systematic method. Many students who would have continued to struggle throughout the program as it previously existed, have proven their capability when supported proactively and with the proper academic supports.

Through these experiences, I recognize the many barriers to a quality instructional environment and am a witness to what students can do given the proper academic support. Due to my current position in medical education, I chose a site where I had no association or authority over the academic program, faculty, or students. I also recognize my biases on this topic and have bracketed my personal and professional experiences.

## **Data Collection**

The type of data collected, and the techniques used in the collection of said data for qualitative research is guided by “the researcher’s theoretical orientation, by the problem and purpose of the study, and by the sample selected” (Merriam, 1998, p. 70). To address the fundamental research question, the researcher collected three types of data. First, individual interviews with faculty participants were conducted. Second, a group interview with student participants was conducted. Third, academic support activities were observed.

### **Interviews**

Yin (2016) contended that the interview is one of the most important sources of case study data. The researcher conducted one-on-one interviews with each faculty participant to capture each interviewee’s own sense of reality in regard to the academic support provided to students. A case study protocol strengthened the reliability of the interview process and improved the quality of data obtained from the research interviews (Yin, 2016). The protocol included directions about the data collection questions. The questions included a series of semi-structured, open-ended questions designed to ensure that the line of inquiry of individual participants was consistent with the inquiry of the case (Yin, 2016). The researcher audio-recorded the interviews and took field notes on the interview protocol to serve as a backup in case there was a malfunction of the audio recordings. A transcriptionist transcribed the audio-recordings of the interviews were transcribed by a transcriptionist.

The semi-structured interview questions included:

1. Please tell me about yourself, including your educational and professional background.
2. Please describe the academic support you have provided to students.

3. How do you determine which method of academic support you will provide?
4. How would you describe the medical school experience for students, specifically the first two years?
5. What do you perceive are some of the challenges of medical school?
6. How would you describe poor academic performance?
7. Why do you believe that some students are successful academically and others are not?
8. What needs do medical school students have as adult learners?
9. What are your expectations of medical students as adult learners in the academic support process?
10. How do your assumptions about adult learners influence the academic support you provide to students?
11. How would you describe your ability to assist students demonstrating poor academic performance?
12. What factors influence your ability to provide academic support?
13. How would you describe students' willingness to participate in academic support?
14. Describe what you think an ideal academic support meeting with a student would be like?
15. What recommendations would you make to students demonstrating poor academic performance?
16. What else that you think would be important for me to know about the academic support provided to students?

Question one was designed as an icebreaker that established a level of comfort and open the lines of communication with the participant. Only one icebreaker question was posed to participants as Creswell (2013) cautioned against the use of too many icebreakers or emotional thoughts that detour the interview away from the topic of interest. The design of the question was also to discover how the participants identify themselves in relation to the other participants (Patton, 2015).

The significance of questions two and three, as rooted in literature, contended that academic support initiatives are largely reactive, occurring in response to a significant academic issue (West & Sadoski, 2011). Understanding the academic support provided to students gives valuable information regarding when and how faculty supplied support and the role that faculty played in providing those supports.

The design of questions four, five, six, and seven were to obtain information about how faculty perceived the experience of medical school. The literature suggested a mentality among medical education professionals that valued a demanding and rigorous curriculum to prepare students for the demands of the profession (Slavin, 2016). Moreover, research has documented the challenges of the medical school experience, especially during the preclinical years (Compton et al., 2008; Khan, et al., 2016; Saipanish, 2003; Vitaliano et al., 1984). Further, research has documented the inability of some students to successfully complete medical school (Kruzicevic et al., 2012; Maher et al., 2013; National Board of Osteopathic Medical Examiners, 2017; United States Medical Licensing Examination, 2019). Understanding how faculty perceive the medical school experience and the degree to which they understand the challenges of medical school may supply insight into the provision of academic support.

Questions eight, nine, and 10 supplied data about the beliefs of faculty on adult learners and how those beliefs may influence their expectations of students in the academic support process and the provision of academic support. Knowles et al. (2015) contended that an educator's theory of teaching is presumed to be influenced by their theory of learning and research. More research has suggested that there is a direct relationship between teaching conceptions, teaching practice, and student learning (Devlin, 2006). Thus, these questions explored faculty's theories of adult learning, which may help explain how and why academic supports were or were not provided.

The rationale for questions 11 and 12 is the lack of formal education in teaching by most medical education faculty (Gibson & Campbell, 2000; Huwendiek et al., 2010; Misch, 2002; Steinert, 2010) and the competing demands of other commitments that may interfere with faculty teaching duties (Cleland et al., 2008; Krajewski et al., 2008; Rider et al., 2002; Riesenberget al, 2009). These questions asked for faculty's perceptions regarding their ability to assist students demonstrating poor academic performance and provided insight into why they have or have not chosen to provide academic support.

Question 13 asked the faculty about their participation in academic support. Since research has suggested that the provision of or participation in academic support is often neglected by faculty and students (Cleland et al., 2005; Denison et al., 2006) it was important to ask for participants' perspectives regarding willingness to participate. Information about faculty and students' willingness to participate may provide information regarding how useful faculty feel the academic support provided to students has been or uncover reasons that faculty may hesitate to seek support.

Question 14 asked participants to describe an ideal academic support situation with a student. Merriam (1998) listed the ideal position question as one of four major categories of recommended question types for their ability to elicit both factual information and participant's opinions. This question allowed participants to reflect on both the positive and negative experiences they have had in academic support meetings with students and allowed them the opportunity to make indirect suggestions about the current situation.

Question 15 puts the participant in the role of expert on poor academic performance. Patton (2015) classified this type of question as an opinion question. Faculty responses to this question revealed their desires and expectations that may not have been expressed in response to previous interview questions.

Question 16 was the final question asked of faculty participants. Patton (2015) recommended that qualitative interviews end by allowing the interviewees the final say. The design of this question was for this purpose but was also designed to allow faculty to add any information that may not have been revealed by previous questions.

Yin (2016) cautioned "interviewees' responses are subject to the common problems of bias, poor recall, and poor or inaccurate articulation" (p. 113). As such, two other forms of data will be collected to satisfy data triangulation.

### **Group Interview**

The researcher also collected evidence using a student group interview. As the inter-relational dynamics of the student participants was not of relevance to understanding the role that faculty play in providing academic support, a group interview format was the method of choice instead of a focus group format (Parker & Tritter, 2006). The group interview with students allowed the researcher to investigate the topic by questioning, mirroring the individual interview

format used with faculty participants. The group interview format also allowed the exploration of each individual participant's perception of the phenomenon, while also garnering the collective memory of the group since cohorts of medical students share many experiences. Herein lies the primary rationale for choosing to use the group interview format for students and not for faculty participants. Although faculty have many shared experiences, they only share the academic support they provide with the student, and not other faculty members. Thus, individual interviews were more proper for exploring the phenomenon with faculty. Further, the group interview had the ability to produce a large amount of data on a topic in a short amount of time, which was beneficial in trying to collect data from students due to their hectic schedule.

Students who meet the selection criteria received invitations to participate in a group interview to obtain student views about the academic assistance provided by faculty. Merton, Fiske, and Kendall (as cited in Yin, 2016) contended that group interviews are proper when a researcher wants to understand an interviewee's perception and own sense of meaning. The use of a group interview was appropriate for this study since students' perceptions of the academic support provided to them could help corroborate the other evidence collected through interviews and observations. The questions included a series of semi-structured, open-ended questions designed to ensure that the line of inquiry of individual participants is consistent with the inquiry of the case (Yin, 2016). Participation in the group interview was voluntary and the selection of the location of the group interview ensured confidentiality of participants and was conducted at a time convenient for participants. The researcher audio-recorded interviews and also took field notes on the interview protocol to serve as a backup in case there was a malfunction of the audio recordings. A transcriptionist transcribed the audio-recordings of the interviews.

The semi-structured group interview questions included:

1. Please introduce yourself to the group as if you have never met anyone here.
2. Please describe the academic support you have received as a medical student.
3. How would you describe the medical school experience for students, specifically the first two years?
4. What do you perceive are some of the challenges of medical school?
5. How would you describe poor academic performance?
6. Why do you believe some students are successful academically and others are not?
7. How would you describe faculty's ability to assist students demonstrating poor academic performance?
8. What factors influence students' willingness to seek academic assistance?
9. How would you describe faculty's willingness to provide academic support?
10. Suppose I am one of your peers and I am struggling in a class. What should I do?
11. Describe what you think an ideal academic support meeting with a faculty member would be like?
12. What recommendations would you make to faculty in providing academic support?
13. What else that you think would be important for me to know about the academic support provided by faculty?

Question one was designed as an icebreaker that allowed members of the group to get to know one another. Only one icebreaker question was posed to the group as Creswell (2013) cautioned against the use of too many icebreakers or emotional thoughts that detour the interview away from the topic of interest. The question was also designed to discover how the participants identified themselves in relation to the other participants (Patton, 2015).



Question two, is rooted in literature that contended that academic support initiatives are largely reactive, occurring in response to a significant academic issue (West & Sadoski, 2011). Understanding the academic support provided to students provides valuable information regarding when and how supports were provided and the role that faculty play in providing those supports.

Questions three, four, five, and six obtained information about how students perceived the experience of medical school. Research has documented the challenges of the medical school experience, especially during the preclinical years (Compton et al., 2008; Khan, et al., 2016; Saipanish, 2003; Vitaliano et al., 1984). Further, research has documented the inability of some students to successfully complete medical school (Kruzicevic et al., 2012; Maher et al., 2013; National Board of Osteopathic Medical Examiners, 2017; United States Medical Licensing Examination, 2019). Understanding how students perceived the medical school experience and defined poor academic performance provided insight into why students may or may not seek of academic support.

The rationale for question seven was based on the lack of formal education in teaching by most medical education faculty (Gibson & Campbell, 2000; Huwendiek et al., 2010; Misch, 2002; Steinert, 2010). Question seven asked for students' perceptions about faculty's ability to assist students demonstrating poor academic performance and provided insight into why faculty have or have not chosen to provide academic support. In addition, student perceptions about faculty's ability may also explain the rationale behind how faculty have chosen to provide academic support. Further, this question yielded information about how beneficial students believe the academic support they have received has been.

Since research suggested that the provision of or participation in academic support is often neglected by faculty and students (Cleland et al., 2005; Denison, Currie, Laing, & Heys, 2006) it is important to solicit participants' perspectives regarding willingness to participate. Thus, questions eight and nine asked for information pertaining to faculty and students' willingness to participate and provided information regarding how useful students feel the academic support by faculty has been or uncover reasons that students' may hesitate to seek support.

Question 10 presented a hypothetical situation that needed students to speculate about what someone who is demonstrating poor academic performance might do. Merriam (1998) suggested that hypothetical questions give valuable insight since responses usually describe the participants' actual experience. Not only did this question provide knowledge about the actions of the participants, but it also provided information about the supports that students do or do not deem valuable.

Question 11 asked participants to describe an ideal academic support situation with a faculty member. Merriam (1998) listed the ideal position question as one of four major categories of recommended question types for their ability to elicit both factual information and participant's opinions. This question allowed participants to reflect on both the positive and negative experiences they have had in academic support meetings with faculty and allowed them the opportunity to make indirect suggestions about the current situation.

Question 12 puts the participant in the role of expert on academic support. Patton (2015) classified this type of questions as an opinion question. Students' responses to this question revealed their desires and expectations that may not have been expressed in response to earlier interview questions.

Question 13 is the final question asked of group interview participants. Patton (2015) recommended that qualitative interviews end by allowing the interviewees the final say. The design of this question was for this purpose but was also designed to allow students to add any information that may not have been revealed by previous questions.

### **Observation**

As case study research is an exploration of a phenomenon in the natural setting, the final source of data collection was in the form of observation (Yin, 2016). The researcher conducted observations of academic support activities. Observations of the academic support activities allowed for the collection of data that did not rely on participant perceptions or recollections of events (Hancock & Algozzine, 2011). The observations served to triangulate the data collected through the interviews and group interview (Merriam, 1998). Observation of each faculty participant occurred at least once, with additional observations done as needed as the research progressed and with the occurrence of data saturation (Merriam, 1998). Observations of student participants was more difficult, as many of the students did not take part in any academic support activities during the time of the study. However, observation occurred of two of the student participants during one academic support activity. The researcher assumed the role of observer as participant to allow for observation and interaction that is close “enough with members to establish an insider’s identity without participating in those activities constituting the core of group membership” (Adler & Adler, 1994, p. 380). The researcher took field notes during the observation of academic support activities.

## **Data Analysis**

According to Hancock and Algozzine (2011), “Case study research involves ongoing examination and interpretation of the data in order to reach tentative conclusions and to refine the research questions” (p. 62). This study used a holistic design when analyzing data. A holistic approach was most appropriate for this study since the study is attempting to understand the global nature of the phenomenon (Yin, 2016). The data analysis procedures used for this study followed the steps as outlined by Creswell (2013), with each outlined below.

### **Organizing the Data**

The organization of the collected data was the first step in the analysis process. The data in its original form consisted of mp3 audio files and handwritten field notes. As part of the data management process, Creswell (2013) recommended converting files to appropriate text units. Thus, the mp3 files were sent to TranscriptionPuppy, an online transcription service, for conversion from spoken word to written word in a Microsoft Word document. The researcher also typed handwritten field notes into Microsoft Word documents. The researcher’s personal computer held the stored data. Agar (as cited in Creswell, 2013) held that once organized, the analysis process continued by becoming familiar with the database by reading thorough the data in whole, multiple times. This first exploration of the data included the addition of short memos, in the form of comment tracking in the Microsoft Word document, as thoughts occurred (Creswell, 2013). The researcher read the transcriptions a total of four times.

### **Coding and Themes**

After reading and memoing, a list of tentative codes were developed. Creswell (2013) referred to coding as the “heart of qualitative data analysis” (p. 184). Coding is the process of grouping the text into categories prevalent across all forms of the research data (Merriam, 1998).

Once coding began, the researcher created a table to help in organizing the codes. Code names were assigned based on the wording that best represented the data (Creswell, 2013). Initially, a total of 42 codes developed. Further analysis, by continuing to read the data, resulted in the refinement of the data into general themes, which “are broad units of information that consist of several codes aggregated to form a common idea” (Creswell, 2013, p. 186). The final analysis resulted in three themes: (a) responsibility; (b) willingness; and (c) effectiveness.

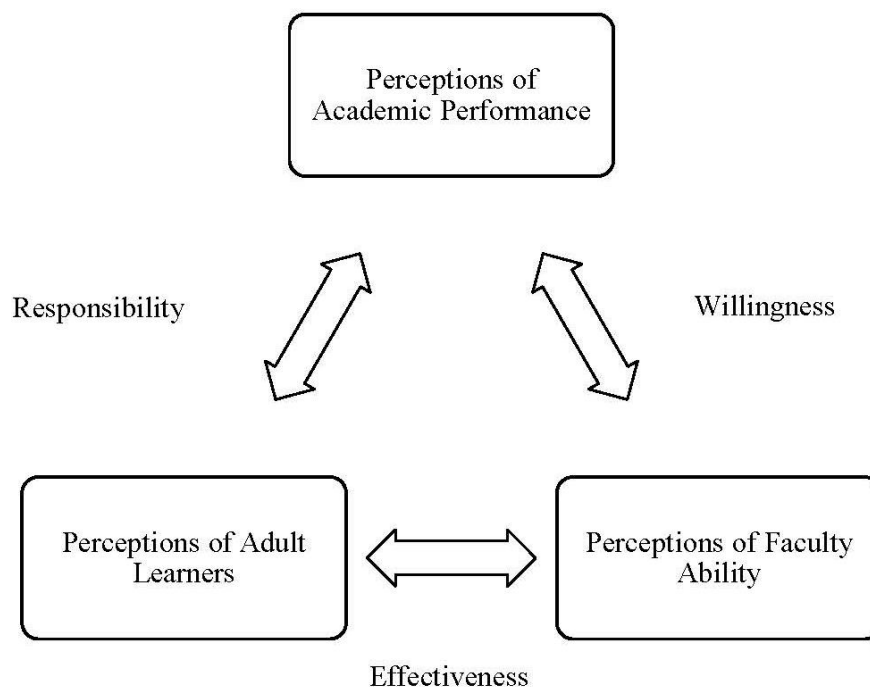
### **Interpreting the Data**

The next step in the data analysis process was interpreting the data. While data interpretation occurred while coding and classifying the data, it continued to be refined. Merriam (1998) described this process as theorizing. Lecompte, Preissle, and Tesch (as cited in Merriam, 1998) defined theorizing as “the cognitive process of discovering or manipulating abstract categories and the relationships among those categories” (p. 188). Patton (2015) described this process as moving back and forth between the phenomenon, data, and interpretations. Interpretation of the data largely consisted of an examination of the themes within context of andragogy, the theoretical framework of this study.

### **Representing the Data**

Finally, the data analysis process concluded with a representation of the data (Creswell, 2013). Merriam (1998) suggested that a visual representation of the data helps the researcher and the reader visualize how the themes work together to explain the phenomenon. A network has been chosen as the visual representation of the data for this study (see Figure 1). Networks allow the reader to focus on multiple factors at a time. “In qualitative studies, networks are commonly used to show frameworks, models, or theories that indicate findings about the phenomenon under study” (Verdinelli & Scagnoli, 2013, p. 12). The network used represents the

relationship that exists among the three themes and the perceptions of participants regarding academic performance, faculty ability, and adult learners and the relationships among them (see Figure 1). At this point in data analysis process, the themes were shared with the participants to solicit their opinions of the findings. The participants agreed with the study findings and made no suggestions or corrections.



*Figure 1.* The provision of academic support by medical education faculty

### **Trustworthiness**

Establishing validity and reliability in an ethical manner is a concern of all researchers (Merriam, 1998). Trustworthiness is a term that is commonly used about the validity and reliability of qualitative research (Lincoln & Guba, 1985). Although both quantitative and qualitative research concerns itself with scientific rigor, understanding is the primary rationale of

qualitative research (Merriam, 1998). Sandelowski (1993) described trustworthiness in qualitative research as “a matter of persuasion whereby the scientist is viewed as having made those practices visible and, therefore, auditable” (p. 2). In other words, trustworthiness is determined solely by the reader (Rolfe, 2006). As such, this study addressed trustworthiness in terms of credibility, dependability, confirmability, and transferability as outlined by Lincoln and Guba (1985).

### **Credibility**

Eisner (as cited in Creswell, 2013) stated that researchers “seek a confluence of evidence that breeds credibility that allows us to feel confident about our observations, interpretations and conclusions” (p. 246). To show credibility, data triangulation (Creswell, 2013; Yin, 2016) and member checking (Creswell, 2013) was used. Data triangulation was performed by collecting and analyzing data from multiple sources to measure the phenomenon. In regard to member checking, participants were invited to review the themes derived from a preliminary analysis of the data. Participants were asked to review these themes for accuracy, to identify missing information, and to share their opinions of the analysis. Feedback from participants showed that the themes were accurate and none of the participants suggested the addition of information or changes to the themes.

### **Dependability and Confirmability**

Dependability and confirmability are methods to show the reliability of qualitative research (Creswell, 2013). This study used several methods to establish dependability and confirmability. First, a case study protocol was established that clearly documented the procedures of the study (Yin, 2016). The study protocol followed the format outlined by Yin (2016) and included an overview of the case study, data collection procedures, data collection

questions, and guidelines for the case study report. Second, conversion of the collected data into proper text units was completed and organized for ease of location. Third, through the study protocol, database, and proper citation of findings, the study kept a chain of evidence that allows the reader to determine the reliability of the study (Yin, 2016). Finally, the study included a full clarification of researcher bias, which informs the reader of any biases that may have affected the study (Creswell, 2013; Merriam, 1998).

### **Transferability**

In addition to the strategies used to show dependability and confirmability, the researcher proved transferability by using rich, thick descriptions (Creswell, 2013). Stake (as cited in Creswell, 2013) contended “a description is rich if it provides abundant, interconnected details” (p. 252). Detailed descriptions were used throughout the study to describe participants, the study site, and themes.

### **Ethical Considerations**

To maintain the highest ethical standards, the identification of several issues deserved ethical consideration. One overarching ethical consideration was the need to monitor my biases during all phases of the study. This included assuring that I avoided siding with student participants due to my history of helping students overcome challenges (Creswell, 2013). Other ethical considerations were of equal importance. These included assuring IRB approvals, gaining permission from the site to collect data, getting informed consent from participants, and representing the study honestly. Informing participants of and supporting confidentiality was a critical aspect of informed consent, as is the importance of honoring the right of participants to withdraw their participation at any time throughout the study. Confidentiality was maintained



through the assignment of pseudonyms for all participants. In addition, the researcher secured hard copies of data in a locked file cabinet and electronic copies were password protected on the researcher's personal computer, both forms only accessible by the researcher. Finally, to assure credibility and support honesty with participants, member checking (Creswell, 2013) was included as a component of the data analysis process.

### **Summary**

The purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students. The researcher received permission to conduct the study at the research site along with IRB approval. Participants included faculty and students from an osteopathic medical college in the United States. Faculty and students who met the selection criteria received an invitation to participate in the study. The researcher conducted individual interviews with faculty participants, while interviewing students occurred in a group interview format. Finally, observations of students and faculty during academic support activities completed the data collection process. A holistic analysis of the data ensued. Data analysis included reading and memoing, detailed descriptions, emergent coding, classification and development of themes, interpretation, naturalistic generalizations, representation of data, and member checking. Credibility, dependability, confirmability, and transferability methods were useful to ensure trustworthiness of the study. Trustworthiness of the study was also established through the consideration of ethical issues.

## **CHAPTER FOUR: FINDINGS**

### **Overview**

Chapter Four presents the findings of the data analysis of the interviews, the focus group interview, and observations in relation to the research questions. The chapter begins with a description of the research site and each of the research participants. The results of the study are reported next, which includes a description of theme development and responses to research questions. The chapter concludes with a summary of the chapter. The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. One central research question and three sub-questions guided the analysis of data:

Central Research Question: How do faculty provide academic support to first- and second-year medical students?

Research Sub-question One: How do faculty assumptions about adult learners influence the academic support provided to students?

Research Sub-question Two: How do faculty perceptions of academic performance influence the provision of academic support?

Research Sub-question Three: What are the perceptions regarding faculty's ability to provide academic support?

### **Participants**

Participants for this study were from an osteopathic medical college in the United States. To effectively explore the phenomenon of the study, the researcher used non-probability purposive sampling. Maximum variation sampling was the purposive sampling strategy selected

for this study, as it would have allowed the researcher to select participants that differed on the criteria and increased the exploration of different perspectives (Creswell, 2013). However, as the study needed the selection of six faculty participants, and only six faculty members volunteered to participate, maximum variation sampling was not employed. The sample includes six faculty members and six students, for a total sample size of 12.

### **Faculty Participants**

Selection of faculty participants included the criteria that they must be teaching a minimum of 10 hours in the first- and/or second-year of the medical education curriculum at the research site at the time of the study. The collection of demographic data and background information from faculty participants occurred from responses to a brief demographic screening survey and the first protocol question, "Please tell me about yourself, including your educational and professional background." Faculty participants included five males and one female. Table 1 displays faculty participant demographic data.

**Jing.** Jing was a 50-year-old Asian male who was teaching microbiology in the first- and second-year curriculum at the research site at the time of the interview. Jing attended medical college in China and received a Bachelor of Medicine degree. After working in an infectious disease hospital in China, Jing received a Master of Medicine degree. Jing served as a physician for four years at an infectious diseases' hospital. Following this, Jing moved to the United States and received a Ph.D. in Biological Sciences. Jing's Ph.D. led to a position at a Bible college where he taught undergraduate science and mathematics for 11 ½ years to pre-med and pre-nursing students. After hearing of the opening of a new Christian osteopathic medical school, Jing applied and was accepted to teach microbiology. The university hired him prior to the matriculation of the first class and; therefore, he was part of the inaugural faculty. At the

time of the study, Jing was teaching 40 hours in the first-year medical education curriculum, 10 hours in the second-year medical education curriculum, and conducting research. Finally, at the time of the study, Jing had four years of teaching experience in a medical education program, and fifteen years of total teaching experience.

**Chinara.** Of Nigerian descent, Chinara was a 46-year-old Black female at the time of the study. Chinara earned her medical degree and completed her internship in Nigeria. After working for several years as a general practice physician, she completed her residency training in pediatrics in Gambia, where she also conducted pediatric clinical research. A year and a half later, Chinara moved to the United States where she earned a master's degree in public health and worked for a relief agency supplying oversight of programs implemented in developing countries. Soon thereafter, she completed another residency in pediatrics, which allowed her to practice medicine in the United States. Chinara then went into private practice as a pediatrician and served as a clinical preceptor for another osteopathic medical school. Upon hearing of the establishment of a new osteopathic medical school by a Christian university, Chinara applied and became part of the faculty. Chinara has 10 years of teaching experience. Seven of those years were in medical education with three at the research site. At the time of the study, Chinara taught in the patient centered medicine course, introduction to medical instruments, and endocrinology course in the first-year curriculum, for a total of 70 teaching hours. Also, at the time of the study, Chinara taught pediatrics across the curriculum in the second-year course for a total of 30 teaching hours.

**Keith.** Keith was a 65-year-old white male serving as a faculty member at the research site at the time of the study. Keith earned a Bachelor of Science in Animal Physiology, a Master of Science in Pharmaceutical Sciences, and a Ph.D. in pharmacology. He served as a

postdoctoral fellow in the pharmacology department of a school of medicine for three years. For the next 20 years, Keith served as a faculty member for an osteopathic medical college teaching pharmacology. From there, Keith served for three years in an academic administrative position at a school of pharmacy, where he also taught full-time. Keith left this position for the opportunity to help establish a new school of pharmacy where he served as the interim chair for the Pharmaceutical and Biomedical Sciences Department. After serving there for four years, Keith accepted a position as a faculty member at the research site where he teaches pharmacology and conducts research. In total, Keith has 29 years of teaching experience, 22 of which were in medical education and one and a half at the research site. Keith reported teaching 32 hours in the first-year curriculum and 12 hours in the second-year curriculum at the time of the interview.

**Randy.** Randy was a 61-year-old white male with 40 years of teaching experience at the time of the study. Prior to his current position, Randy attended seminary and served seven years as a therapist for patients with alcohol and drug abuse issues, as well as psychiatric patients. He later earned a Ph.D. in biomedical sciences. He served as a NIH research fellow in the department of physiology and biophysics at the graduate school level for 24 years, where he conducted research and taught in the nursing program. Within a few months of the matriculation of the first class of students at the research site, Randy applied and joined the faculty. He has the classification as an inaugural faculty member. Randy reported 40 years of teaching experience, all of which were in a medical education setting. He had been teaching in the osteopathic medical curriculum of the research site for three years at the time of the study. He taught primarily in the gastrointestinal, renal, urinary, and endocrinology course for a total of 25 hours

in the first-year curriculum and in the gastroenterology, endocrinology, and urology course for a total of 5 hours in the second-year curriculum. He was also active in gastrointestinal research.

**Robert.** Robert was a 47-year-old male, who identified himself as two or more races. Robert was a pre-med major in college and earned a bachelor's degree in chemistry. After not receiving acceptance to medical school, Robert served as a substitute teacher. He then entered graduate school with the intent of getting into medical school. While working on his graduate degree, Robert served for five years as a science teacher at a private high school. He graduated with a Master of Science degree in natural sciences but still did not get into medical school. Robert then pursued a doctorate degree with the goal of teaching at the college level and earned a Ph.D. in biochemistry. Upon completing his Ph.D., Robert taught at the college level for one year and then served four years as a post-doctoral fellow in research at a university. Prior to his current position at the research site, Robert served for five years as a faculty member at a university teaching multiple science courses. At the time of the study, Robert had 13 years of teaching experience and had been teaching for two years of those years at the research site. Robert taught biochemistry and physiology with 14 hours in the first year medical school curriculum and 6 years in the second year medical school curriculum.

**Tristan.** Tristan was a white male, aged 43, at the time of the study. Tristan earned a Bachelor of Individualized Studies in biology, chemistry, and exercise science. He went on to earn an M.D. and completed a family medicine residency. Tristan practiced family medicine and obstetrics for over ten years. He then served at a major medical and research practice teaching emergency medicine, family medicine, and obstetrics and precepting third year medical students in the family medicine clerkship. Tristan had been working at the research site for five months at the time of the interview, in addition to serving as a family medicine physician. Tristan served

20% of his time, one day a week, on-campus teaching first- and second-year medical students in the Patient-centered Medicine course. The remaining 80% of his time is in the clinic precepting third- and fourth-year medical students from the research site. Tristan also served as the medical director for a local hospice and has continued to serve the hospice throughout his career. Tristan reported three years of teaching experience at the time of the study, all of which were in the medical education setting. In addition, he reported a total of 32 teaching hours in both the first- and second-year curriculum.

### **Student Participants**

Student participants were selected based on the criteria that they must be enrolled in the first- or second-year medical education curriculum at the research site at the time of the study. Six students, three from the first-year class and three from the second-year class, took part in the study. The demographic data and background information of student participants was collected from responses to the first protocol question, “Please introduce yourself to the group as if you have never met anyone here.” Participants enrolled as first-year medical students included one male and two females. Participants enrolled as second-year medical students included one male and two females. Table 2 shows the student participant demographic data.

**Caitlin.** Caitlin was a 25-year old, White, first-year medical student at the research site at the time of the study. Prior to entering medical school, Caitlin received a Bachelor of Science in biology with a double minor in music and non-profit studies. Following completion of her undergraduate degree, Caitlin completed a one-year graduate certificate pre-medical program and was accepted into medical school at the research site. Caitlin stated that she had always wanted to become a doctor since she was a little girl. Caitlin had failed two courses in her first-year of medical school and was on academic probation.

**Molly.** Molly was a White, 23-year old first-year medical student at the research site. She earned a Bachelor of Science in biology with a minor in psychology before matriculating into medical school. Molly had failed two courses in her first-year of medical school and was on academic probation. Molly relayed that she had grown up around the medical profession, with her father being a physician and her two older sisters attending osteopathic medical schools. As such, she stated that she had always been interested in being a physician.

**David.** David was 24-year old, White, first-year medical student. David received a Bachelor of Science in biology. David had failed two lab practical exams during his first-year of medical school but no courses and was in good academic standing. When David was younger, he wanted to be an engineer and then an orthodontist. Upon shadowing his father, who worked at a patient surgery center, and seeing different physicians doing a variety of surgeries, David decided that he wanted to become a physician.

**Luis.** Luis was a 32-year-old, Hispanic, second-year medical student. He received a Bachelor of Science in health sciences and spent 13 years in the military prior to entering medical school. He was married with four children. He stated that he started his military career as a regular enlisted man but transitioned to serving as medic, after which he decided to enter medical school. Luis had failed three courses during medical school, two in the first-year and one in the second-year. Due to these failures, David had to appear before the Student Progress Committee and was placed on academic probation, which he was still on at the time of the study.

**Diane.** Diane was a 28-year-old, Black, second-year medical student at the research site at the time of the study. She received a Bachelor of Science in pre-medicine and a Master of Science in cellular and molecular biology. Diane reported that her desire to become a physician started when her little brother received a diagnosis of type 1 diabetes, and saw first-hand how



professional and caring the physicians were. Also, because of her brother's diagnosis, her parents, both physicians, changed their career focus to pediatric endocrinology. Her parents' dedication and care for their patients and the families further solidified Diane's desire to become a physician. Due to failing two courses during her first-year, the Student Progress Committee required Diane to repeat her second-year of medical school. However, at the time of the study she was in good academic standing.

**Pooja.** Pooja was a second-year medical student of Indian race, aged 24 years. Pooja received a Bachelor of Science in health systems management prior to entering medical school. Pooja took two years off after receiving her undergraduate degree and worked at a hospital and outpatient center doing non-clinical work. During this time, she also decided to take the MCAT exam to see how she would score. She relayed that she had always wanted to be a physician but was not sure if she could do it, hence a two-year gap between her undergraduate degree and entering medical school. Pooja had failed several exams while in medical school but had not failed any courses. Pooja was in good academic standing.

## **Results**

This data collected during this study provided a wealth of information pertaining to the academic support provided by faculty to first- and second-year medical students. The results of this study are organized thematically and according to research questions, which includes a discussion of how the themes were developed. Through an analysis of the data collected from the interviews and observations conducted during the study, three themes emerged during this process: responsibility, willingness, and effectiveness.

## Theme Development

The development of themes resulted from repetitive examination and interpretation of the collected data (Hancock & Algozzine, 2011). Initial exploration of the data included reading the data in whole, multiple times (Creswell, 2013) and adding memos throughout as thoughts occurred (Creswell, 2013). After reading and memoing, a list of 42 tentative codes were developed by grouping the text into categories that were prevalent across all forms of the research data (Merriam, 1998). The refining of the codes developed into three general themes (Creswell, 2013). The individual and focus group interviews and the observations supported the themes that emerged. Participant review of the themes aided in developing a complete analysis of the role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. Three themes emerged during this process: responsibility, willingness, and effectiveness.

Table 3. *Themes and Associated Codes*

Theme	Codes
Responsibility	Challenges Commitment Competency Effort Passion Strategies Time
Willingness	Accommodating Acknowledgement Availability Determination Disbelief Expectations Inaction Hard work Hesitation Inexperience Initiation

	Language
	Neglect
	Personality
	Pride
	Self-reliance
	Setting
	Time
	Timing
	Type
	Variety
Effectiveness	Awareness
	Certainty
	Consistency
	Deliberate
	Design
	Execution
	Limited
	Monitoring
	Notification
	Relevance
	Systematic
	Uncertainty
	Value
	Variance

**Theme one: Responsibility.** Responsibility in the academic support process emerged from the data as a theme of this research study. A sense of responsibility in the academic support process was clear among both faculty and students. Among faculty participants, responsibility to ensure that students gained the knowledge and skills needed to successfully complete medical school and become competent physicians, emerged. Among student participants, the theme of responsibility emerged largely from their commitment to becoming a physician and overcoming the many challenges of medical school.

**Responsibility of faculty.** Throughout the data emerged a sense of responsibility among faculty participants to ensure that students gained the knowledge and skills required to successfully complete medical school and become competent physicians. Keith described that

his responsibility in this regard began during the student applicant interview phase, prior to student's acceptance into medical school. In discussing why some students are academically successful in medical school and others are not, Keith shared:

That's why when I interview students, I asked them, "How do you study?" Those students who say, "I study to get the background and then I get into a study group so I can discuss the information, share ideas, and then explain things to each other, and teach each other," I think the students that are able to do that, not isolate themselves too much, are more successful. I don't know for sure, but I would hope so. Then they get a better perspective of medicine. As long as I think that students can share with each other based on their backgrounds, not only academic backgrounds, but experience as well, what they've done, mission trips that they've been on, whether they've been orientation adviser, whether they've even been a recent hall adviser in the past, what they've done in their volunteer work, then I maybe some those students get a better bigger picture and are the successful ones.

Jing also suggested this sense of responsibility among faculty. In discussing the challenges of medical school, he spoke of the challenge of the curriculum and the need for students to have a strong biological background upon matriculating. He stated, "Whenever I interview students or I have lunch with them, I find if you did not have biochemistry, physiology, or introductory biology, I worry. Take it before you come here. Your life will be a lot easier here."

Faculty responsibility in supporting students academically continued once students successfully matriculated into the program. Chinara discussed how she assumed responsibility for her advisees' academic success immediately upon their arrival. She shared:

I provide directions for them usually when they start off. I mentor each one of them one on one and I try to get a sense where they're coming from, where are their areas of challenge. I give them just general guidance on how to approach this new terrain, many of them, I tell them up front, this is going to be the hardest they have ever studied in their life and then just be available to them to let them know this can be challenging and there is support.

Faculty responsibility for student's academic success after matriculation continued in other ways. In discussing what constitutes poor academic performance among students, Randy indicated that student's success in the curriculum was based partially on his performance as an instructor. He stated, "First off, if I do a lousy job and that would make poor academic performance. You have to have content delivered in an interpretable way, especially in an environment where you're forced to consume like this crazy rate." Although limited in detail, this statement provided a glimpse of the weight of the responsibility faculty bear. When examined within the context of the data collected for this study, it became apparent that delivering content in an interpretable way was one of the primary ways faculty provided academic support. This responsibility was seen by faculty as a way to ensure students' academic success and future as a physician, delineating a much more comprehensive level of responsibility assumed by faculty participants than Randy's statement indicated on first glance. A much more detailed description of the time and effort involved in effectively delivering academic content helped to better frame Randy's statement. Keith shared:

What I consider academic support is helping the students understand the basic concepts and foundation for pharmacology. If they don't then it's gonna be more difficult for them to do problem solving and solving cases for the patients in the future. The first year, I've

only been here about a year and half, the first year, I provided not only the PowerPoints but provided handouts that they can pick up also from the canvas system. Students like that. I haven't done that this year, so I really want to get to a point where I can get that material for each and every lecture that I do rather than try to sporadically. So, I'm teaching some topics that I haven't taught in the past, so I don't have some of that handout type of material ready. The handouts are kind of like book chapters but in bullet points, outline form, and the material is pulled from various sources. Sometimes, one book doesn't cover everything that I would like to see, so I'll pick and choose from different textbook sources, as well as from primary literature, to give students the most, as well as close as possible to the latest information. The other thing that I do to help them academically is for every class we are supposed to have the learning objectives or learning outcomes and on our PowerPoint slides we link the slide back to the learning outcome. So, the students looks at a slide, 'Oh this material is linked to this learning outcome'. I will also, if I have the time, provide study guide questions for the students and also link each slide back to the study guide questions. Questions that I hope they're using when they get together with small groups and they are discussing the information and sharing ideas and teaching each other. I don't know whether they are doing it or not, but I'm hoping that they use the study questions to ask each other questions, to also be able to sit down, read the question and go through their mind, the answer. That should give them a good idea of what they should know, what I feel that they should know.

Tristan, in speaking about the volume of information medical students are exposed to, supplied insight into the responsibility he felt to not only deliver academic content, but to help

students in filtering through the volume of academic content for application in clinical practice.

He stated:

Yeah, so I think more than ever, because the volume of medical literature continues to grow exponentially, nobody can know it all. It's just an impossibility. They really have to understand concepts a whole lot better than facts. As medical school educators, we need to help them understand these are facts that they do need to know. "All right, if someone shows up to in cardiac arrest, you need to know the facts of current ACLS to do resuscitation." Like, you don't get to look that up in the book. You need to know. But, if you need to know the current recommendations for pap smear screening and you know, if you forgot, you can look that up easily. So how do you evaluate a source? What's a trusted source? Like how do you make judgement based on that? How do you take in the process, guidelines for a person who has four different chronic medical conditions and may have conflicting guidelines? How do you teach your decision making with students so that they can understand that well?

Most other forms of academic support provided by faculty participants emerged from the need to ensure that students were able to understand academic content. This included pre- and post-exam reviews, use of post-exam data, and one-on-one meetings with students. However, it is from this primary responsibility that a deeper level of responsibility emerged.

Faculty participants recognized that even though their primary responsibility was to effectively deliver academic content, their responsibilities extended beyond this. Jing spoke to this stating:

As professors, we always like to endorse students making progress. The struggling students pass. That is our goal. But unfortunately in the long run, we try to tell those

students who do not belong here to drop out as early as possible because that's good for them. But it is just so difficult to come to that point, to realize that I don't belong here. I think if you fail two courses in a row or two courses in the first year, you should consider that because the chance is that you are in danger of repeating. In the second year, if you fail more courses you will not do well on boards, and that is the worst. You know you pass everything and you graduate and you cannot find a residency program. It is not just passing the boards, passing only gets you along, but you need a higher score. Right now, the residential programs are getting competitive and even though you pass everything you still cannot get into residential programs. Thinking of those students myself just puts me on my knees and I pray because there are but so many things beyond what we can do.

Randy also spoke about this responsibility. It emerged when I asked Randy, "In thinking about the different academic support activities that there are, what recommendations would you make to those students who are demonstrating poor academic performance?" Randy replied, "They should go be a PA." PA in this context refers to a physician's assistant. Upon asking Randy to explain this advice, he stated:

Because I think that there is a more ethical responsibility that goes beyond pushing them through when they shouldn't be here and they're going to be a lousy doctor. If it was up to me, I would like to feel that every student that we put out that I would be happy to see my kids and my spouse, if she was still alive, to go see those individuals as physicians. If not, I think I'm being really hypocritical and unethical and not a very moral human being. It's beyond just the individual. I mean these people are going to do some serious damage. Just because they make it through the two people that are interviewing them and get accepted, I don't think that should guarantee them that they become a doctor.



These examples helped outline the extension of responsibility assumed by faculty that began with faculty assuming responsibility to effectively deliver academic content. Not only did faculty participants recognize that their responsibility in ensuring the academic success of students began long before students matriculated, they also recognized that their responsibility continued long after students graduated. The primary job responsibilities they assumed had much larger implications than they appeared on face value. Thus, faculty's assumption of responsibility for the safe and effective practice of those physicians who were once under their instruction, served as a driving force for faculty and helped shape many of the academic supports provided by faculty.

***Responsibility of students.*** Randy's description of why some students are successful in medical school and others are not, outlined the need to explore the theme of responsibility in the academic process, in relation to students, from several distinct aspects. He stated:

Yeah. I think in addition to some of the things that I already mentioned, I think people just lose interest. They think it was something that it's just not, and initially they're enamored with the idea of being a physician and being called doctor, and all that sort of stuff. But somehow, they don't realize that they're gonna spend their day working with sick, crabby people all day long. I think as a physician or a scientist or whatever, you have to have this constant burning desire to learn and some people think that they're gonna go and get the degree and pass the test and whatever, and that's kind of it. It has to be something intrinsic in you, I think. To say, "I really want to learn this, it's fun for me to learn," and I think that's not everybody. Not everybody really wants to continue to learn at a high level, and I think their motivation just withers away because they see that it's not the environment that they want to be in. They're not comfortable in that

environment. I see that a lot, well not a lot, but you know, a lot as far as people who would end up leaving and stuff. Otherwise, it becomes a pretty bad job they have. If you're not in it for the right reasons it becomes a pretty darn lousy job.

Upon reflecting on this sentiment, it became clear that the origin of this theme among student participants had its roots in their initial thoughts about becoming a physician. For some of the student participants, the dream of becoming a physician first began in childhood. This was true for Caitlin who stated, "I've always wanted to become a doctor ever since I was a little girl and it has always been a dream and here I am." Molly relayed that she too always knew she wanted to be a physician, stating, "My dad was a doctor and my two older sisters went to DO school, so it's just been something that I've always been interested in and couldn't see myself doing anything else." Diane shared a similar story, relaying that she knew she wanted to be a physician when she was seven. The care her younger brother received from physicians after he was diagnosed with type one diabetes mellitus inspired her. She added, "It also helped that my mom and dad changed their whole career focus to do pediatric endocrinology, and I was able to see how much they care about their patients and the families." For others, the journey to medical school began much later. David showed interest in several different career choices when he was younger but decided to pursue a career in medicine after he shadowed his father, who worked at a patient surgery center. He stated, "So, I went there, and I saw 20 different types of doctors doing surgeries, which was awesome, and I said, 'This is for me'"! Pooja's path to medicine did not begin at an early age. While she had thoughts about becoming a doctor, she shared doubts about her ability to do it. After majoring in health systems management and taking two years off, she decided to take the MCAT to "see what happens." After doing well on the exam she decided to pursue acceptance into medical school. Among all the student participants, Luis

discovered his passion for medicine the latest, not discovering his passion for medicine until spending 13 years in the military as a medic. However, as Randy stated, once students matriculated into medical school there “has to be something intrinsic” that goes beyond those initial dreams that continues to push students toward a career in medicine. Thus, following matriculation, the theme of responsibility in the academic process among medical students developed beyond first dreams. Data collected revealed a multitude of challenges that students encountered as first- and second-year medical students. Faculty participants spoke of many of these challenges. Tristan spoke about the challenges of medical school as a former medical student and as a faculty member of a medical school:

Eighty percent of my class failed the first Anatomy test, 50% failed the first genetics test, and it wasn't because these are not smart colleagues now, it's because they were used to an undergraduate experience where they could flip through a book the night before, look over some sites and take the test. And the volume of material, and to some degree the depth and the variation, was such that the learning strategy wasn't effective for medical school. And so there are some people I think who have been gifted students, they're kind of professional students, no matter how crummy of a presentation they get they could organize it and make it work, but now so much is coming at them that they really do need to become systematic about it. The other thing is they're competing good, so you know, there's this guy, “I should've studied but there's this group that I have signed up for, and you know, I've always been taught don't be a quitter so I need to follow through with the group for at least a semester, so I won't quit.” So, they aren't studying enough. And then they try to make up for it by staying up crazy late to study and now he didn't get enough

sleep, so now his performance is not what it should be. So, trying to balance competing good, I think is a problem.

Jing described the challenges of the first two years of medical school in much the same way and was very aware of the stress the students were under due to the volume of information they must learn. He shared, "Some students can manage it well, but some students better than others. But there are some students that are always bordering failure and they live on constant stress like that." Keith not only discussed the challenges associated with the amount of material the students have to learn but the challenge of integrating the material, stating:

They have to be able to see how the anatomy, the biochemistry, the physiology and the pharmacology all fit together with the different diseases conditions. And trying to get them to think outside of the box at times so that they can better solve the patient case.

Chinara, who was a practicing physician, shared similar beliefs about the challenges of medical school. She stated:

If you have never really been subjected to anything that is rigorous, critical thinking, some just pure straight up memorization, in the heat of it, you just have to know it, so you just need to know it and have a system to know it.

Robert's comments on the challenges of medical school for first- and second-year medical students were in agreement with the opinions of the other faculty participants. He responded that the challenges are:

Pretty overwhelming, right? I mean, I don't think this is unique here. You can read studies, papers about how the volume, the pace are just unlike anything they've ever had even in the master's degree program. And, unsettling, which is good in some ways, because there's a lot of uncertainty in medicine. Obviously, patients don't come in and

say, "Here are my symptoms and I'm giving you five choices, what do I have?" There will be sometimes when the doctors will really be scratching their heads saying, "I don't know." But it's also unsettling because they struggle to re-learn how to learn the best way for them. I think it takes a long time for them to figure that out and, I think too quickly it's discounted from faculty standpoints, so, I think unsettling, yeah, overwhelming, scary.

Student participants also discussed the challenges of medical school. Several students described challenges associated with balancing the amount of material to be learned in medical school with their personal life and well-being. Luis described that his primary challenge was getting back into an academic mindset after spending so many years in the military. He also added his personal challenge in figuring out how "to juggle family life, still be a dad, then at the same time be a medical student and not take away from my kids." Caitlin described challenges associated with balance as well, stating:

I think balance is the hardest thing. Finding time for yourself and scheduling time for just mentally healthy things because it's so easy to get consumed with this setting. You never feel like you've done enough. You never feel like you learned it all or that you're fully prepared for anything. So, I feel like I'm just balancing things, scheduling just life things as well as school things and just, you know, learning where to draw the line with studying and not push yourself beyond that point where you just figure out and learn anymore that day. I have a hard time doing that. Where it's 10 o'clock, 11 o'clock at night when you know you can keep going and you push yourself beyond the point that's reasonable. Yeah, you have expectations of yourself and just not setting those ridiculously high that you just constantly live in disappointment of yourself because that's something I have struggled with this year. It's just, you always feel like you're just

subpar, you know, according to your own standards. It's also really sad but it's just, you have expectations of yourself and you're disappointed when you don't meet those. So just being realistic with yourself, I think, is one of the hard parts about coming to medical school.

David also cited the pace of the curriculum and the amount of the material to be learned as challenges, even wishing that medical school was “stretched into five years.” He shared, “You never get to a test and say, ‘I really, really did this well.’ You get to a test and say, ‘I wish I could have got to that thing one more time.’” Several student participants discussed living away from home as a challenge. Pooja shared, “So, me being away from my parents, being away from my friends, that was hard but once you get your friends here then you adjust and it’s okay.” Diane was also affected by the challenge of relocating to an unknown environment. She cited the challenges that simple things, like adapting to a new climate, had on her. She also cited the challenges of being completely on her own for the first time, sharing, “Being on your own-own completely away, there's no family near you, I can't just like drive to them quickly, you know? That's hard.” Molly discussed challenges related to moving away from home but also cited challenges associated with learning how to study effectively in medical school. She stated, “I almost wish that there was like a study boot camp during orientation week or something, because it's taken me a very long time to find my footing because I thought I knew how to study and I don't.” When asked how they would describe the medical school experience for students, the following conversation occurred among the student participants.

David said, “Stressful.”

Caitlin said, “You have to really want this because otherwise, no sane person would do this to themselves. We were talking about this yesterday.”

Pooja replied:

Yes, we were. No sane person would be this sadistic to themselves. It's just, you have to really, really want this. I'm with both of them honestly though like, when I look back on I want to be a doctor, then I want to be a teacher, then I want to be a pharmacist, so I was like all over the place, lawyer everything, but I do love it. I love what we're studying. We've grown a lot, like looking at Pooja first semester or first year is completely different in terms of growth and maturity and ability to handle your emotions better. First semester I was crying all the time and I'm not a crier ever so, it was weird but yes, I feel like you grow a lot in the med school experience. I didn't know that came with it. I heard from my friends you have to really love it to do it and I think that's valid, that is so valid. If you don't like it you cannot do it. If you don't like what you're learning, if you aren't okay with studying all the time, then you really can't do it. But it is fun. We do have fun. It's not like our lives suck. We have fun at class, we joke around all the time, right? Diane and I joke around all the time. It's fun, so yeah it's rough and this semester has probably been the worst so far in terms of no time but I don't know what else I'd be doing.

Caitlin said:

I have to say that, yeah, you definitely have to be a fighter. I have experienced that first hand. You have to fight for everything and things just don't come easily and I have just come to terms that everything is a fight for me, I feel like.

Diane said, "Yeah, it's hard and I feel like I'm barely above water sometimes but I want to do this, so I do it."

When viewed together, descriptions of the inherent challenges of medical school by faculty and student participants exemplified the sense of responsibility students have in such an arduous process. These discussions were not only significant to understanding student participants' personal stories but were also significant because they showed a commitment to a rigorous and challenging career path. Yet, student participants chose to enter medical school and persisted in working to overcome these challenges, proving a personal sense of responsibility in the academic process to be academically successful and become a practicing physician.

**Theme two: Willingness.** Willingness was one of the themes that emerged during the study of the provision of academic support to first- and second-year medical students by medical education faculty. At times, the data seemed to show that neither the students nor faculty were willing participants in the academic support process. However, further analysis revealed that the concept of willingness in the academic support process was not as straightforward as it originally appeared. The study revealed that willingness in the academic support process was complicated by several factors that at times, gave the appearance that neither faculty nor students were willing participants in the process. Outside of these factors, and sometimes despite them, it became evident that both faculty and student participants were willing participants in the academic support process.

Upon first exploration, the data collected showed opposing views of faculty's willingness to provide academic support. However, deeper examination revealed that there was a willingness, often a deep willingness, among faculty to provide academic support. Throughout the study, faculty participants showed their willingness to support students academically. This was evidenced by the many different academic support activities provided by faculty outlined in full detail in response to the main research question. Certain language used by faculty



participants throughout the study was also indicative of a willingness to provide academic support. For example, during the interviews, as faculty spoke about the recommendations they would make to students who were having academic difficulty, many used language that was beseeching in nature, silently petitioning students to use the support they provided. A statement by Chinara embodied the sentiments expressed by other faculty participants:

Reach out for help. Don't keep trying the same method when you've been trying for the past three weeks, if it didn't work, it's not going to work. So, if you're already encountering difficulty in the first days, and you thought that your strategies were fine and then put to the test, and failed you, then it's time to take a hard look and say, "What am I doing?" and reach out for help. Reach out to your peers, if you know somebody who's getting it right, let them be a buddy. There's nothing to be ashamed about. You get it right and then it makes the friendship even stronger. Reach out to your professors. We're here and we want to help you. I can show you some things, I'm not going to belittle you. It took me many years to get to that point, so reach out. Don't hesitate, don't wait and keep trying the same experiment every day and night to make it work.

Besides silently imploring students to use academic support, words such as please, hope, and want were frequently used by faculty when discussing the recommendation they would make to students who were experiencing academic difficulty to seek out faculty support. Beyond this, student participants agreed that some faculty were indeed willing to provide academic support. Caitlin stated:

I've seen from experience that when I've struggled and reached out to a professor, specifically in the anatomy lab when I was struggling with some practical stuff, when I reached out to certain professors for anatomy they were willing to find time for me. They

blocked off time and I came in with my question and said, “Hey, I'm having a hard time with this stuff. Can you help me through the neck and things like that?” They were willing. I was met with just willingness and they were more than happy to meet with me. I never felt like an inconvenience or anything in their schedule because I know it's hard for them to juggle everything they have going on but I have seen that professors have been willing to make time for me when I seek them out. So, I had to definitely be proactive, which kind of goes back to the other question like them reaching out versus me reaching out, but I've seen that when I reach out, that they're more than willing to make that time happen.

Molly added:

I think when asked, any faculty member is willing to find time to help you. Like even in PCM, I really struggled with the fundoscopic eye exam. Well my PCM leader used to be an optometrist before becoming a doctor so he stayed late with me one night, or not one night but like after PCM ended at 5:00. He stayed for like an extra hour to teach me like, “Okay, you don't need it to be dilated, I can show you. This is how...”, you know, the tricks of the trade kind of thing. There's also been a handful of professors who have offered to set aside time like [Randy] did during GI I believe. Yeah, like where he came in to the lecture hall, but it was kind of like, “You can stay or you can leave, I don't care. I'm going to talk about the most frequently asked questions that I've been asked via email.” And then he just kind of would go over it, so like overtime on lecture to kind of do a little tutoring.

Luis agreed and shared examples of faculty scheduling Saturday review sessions for students. Although he noted that some sessions were more helpful than others, he acknowledged the willingness of faculty to come in on their day off to support students.

While student participants shared examples of faculty's willingness to provide academic support, they also expressed a lack of willingness among faculty. When asked, "How would you describe faculty's willingness to provide academic assistance?" the following exchange occurred.

Pooja said, "I feel like it's, I want to be nice, I want to say it nicely."

David said, "I think its lacking."

Pooja said, "It is lacking. It depends on the person. I think there are one or two that I can think of, maybe three on the fence."

David said:

I'll say it. I feel like for academic support, it's lacking. In terms of personal support, you get a little bit from people as you pass by them, but I don't feel there's ever somebody who's come over to me and been like, "Hey how are you doing?" Like sat down and talked with me. The teachers, when you pass in the hallway and they say, "Hey how's it going?" That's all you get. That can be improved.

Diane said:

True. They could tell it on our faces that the exam did not go well. I had just taken the test and I was like, I just want to jump off something. And they're like, you don't look good and I was like, thank you but that was it.

Student participants also largely agreed that neither their academic advisor, nor the course director contacted them with an offer of academic support if they were failing a course

(discussed in detail during the reporting of theme three). While these examples may have indicted a lack of willingness of some faculty to provide academic support, they also highlighted a lack of awareness by some faculty of the various opportunities presented to them to provide meaningful academic support. Regardless, students believed faculty's lack of action was a lack of willingness in the academic support process.

In terms of students' willingness to participate in academic support, the majority of faculty participants believed that students were willing to participate in academic support. Jing shared an opinion that was shared by other faculty participants, "I think they are very willing. Medical students are mature. They know how much they are losing when they fail a course." Moreover, evidence throughout the study confirmed that students voluntarily participated in a variety of academic support activities from one-on-one tutoring sessions to post-exam reviews held for all students, which showed a willingness among students to participate. However, in examining the data, it became clear that the concept of student willingness in the academic support process was extremely complicated. A wealth of evidence suggested that students often hesitated or fully neglected to use the academic support provided by faculty, which upon first glance indicated a lack of willingness among students to participate in academic support. Based on the number of students who sought out his academic support, Keith's belief was that the majority of students were not very willing to participate in academic support. He stated:

For the periods of time that I'm actively teaching, it's surprising, and a little bit disappointing that they don't reach out more than they do. But I would say, in a week, maybe four people contact me. I think they are always hesitant to seek out academic support. I guess that maybe they feel that it's a weakness or they think they can get

through it on their own sometimes. I think it seems like a lot of students are hesitant to seek academic support.

Just as with faculty willingness in the academic support process, data on student willingness was contradictory.

To better understand faculty and student willingness in the academic support process, both were asked to describe the factors that influenced their own willingness to participate in academic support, as well as the factors that influenced the other party's willingness. In response, the following exchange among student participants occurred:

Pooja said:

Med students are not good at asking for help at all. I never thought I was like that because I don't see myself as a traditional medical student or science student because of my background but it was hard after that first test when I failed it. I was like, how come I am not doing anything about it? I waited for someone else to. I don't know if it's an ego thing or I don't know what it is but a lot of us are just not able to. We don't know where to go.

David said, "You cling to things you're used to."

Pooja said:

Yeah. You cling to things you're used to. You have this feeling that, oh my God everybody else is doing well, so like you are doing something wrong. A lot of people just put up the front that they are doing okay. So, when I was failing that class I was like, I'm failing, but for me I thought the way to pass the next test was like figure it out on my own. But that's not the way. I needed that talk.

Caitlin said, "I just think it's, we're med students, we are Type As."

Pooja said, "We're so Type As sometimes. Even if you don't think it, you are."

Caitlin said:

I feel like maybe if some students have exhausted resources that they felt like they had: they had already gone to friends, they had already gone to books and things and they just couldn't find answers or they just felt even more lost. I feel like maybe that would be a driving factor for them to finally seek help. If they feel like they've exhausted other resources or if they feel just so desperate and they get to that point. You have to have a certain level of humility to just be willing to say, "Hey, I'm struggling, and I'll get this but I need help." You just have to be real with yourself too. I think coming to medical school, a lot of people have been very successful in the past and just have kind of, not in a bad way, got puffed up like, "Okay, I can handle this. I'm good. There's nothing I can't do." But then you have to have that humility and say, "I'm willing to seek help if I need it," and you have to come to that point, I think, just within yourself, before you can go to the professor. That might impact those reasons for seeking out help versus not.

Diane said:

I'm usually super chill but once it comes to this, I'm like, no. Like Caitlin was saying, I was like I am that person, I will study until four in the morning and that's my role. But I think it is just our personality. We have to do it ourselves and we're not used to that cause we're not dumb, we're smart, we all did well in college and stuff, so we're not used to like, "Whoa, were not doing good."

Pooja said:

It's very humbling though. That is something that a lot of us learn during the process.

We mature a lot during the years. That struggle was very humbling for me where I was

like, God got you here, but you can mess up. Things can go away, and it was like getting pulled away from me, becoming a doctor and this blessing that I think I have, so it made me want it more after.

Many of the faculty participants cited similar factors that influenced students' willingness to participate in academic support. Robert asserted:

Yeah, I think that they're slow to reach out. Often with personal issues, students think they should be able to handle it. "I'm a medical student, I should be able to do this." Or they're confused by it, right, because for a long time they've been at the top of the academic success chart and now they find themselves in the middle or below. And so I think that a lot of them are optimistic, "I can fix it" or "Let me try this" or "I just have to try a bit harder, sleep less." So, they try that instead of reaching out or, "Hey, I'm going to class and I see the people. So and so is laughing or everyone is just having such a good time with their group of friends and I'm sitting here and I'm feeling dejected and I'm the only one. What's wrong with me?" You know I reach out and tell them, "Okay look, you're not alone." You know, obviously we can't discuss grades and names, but I show them that they're not alone, there are other people in the same boat as you. So, I think they're reluctant or they're slow, or it's a pride thing. I think that students are willing, I mean they want to right? They're invested heavily, they're spending a lot of money, tuition wise, and fees, and living expenses to do this.

Chinara shared similar opinions regarding these factors. She stated:

Some of them have never failed before because they've always been high achievers coming to medical school and so they are embarrassed and they feel like, "Oh, I wish we didn't have to have this meeting." I say to them, "Hey, this is a learning opportunity, you

can either hide and never achieve your dream or come and we'll figure it out. If you see it that way, then it's a learning opportunity and you'll never be in this situation again."

We have those who are willing to talk to me, they're willing to come back and say, "Hey, I tried this, this worked, but I still find myself struggling. Do you have any other strategies?" So, those are the ones that are really good ones. You have those other ones that you'll reach out to but who aren't willing to come. I remember this student that said, "I would never come and talk to you about my problem because it's just not culturally appropriate. I'm a guy, I'm an adult, I'm expected to deal with it, so thank you for reaching out to me but I figured it out." So, that's another extreme, so I had to respect that, and I said to him, "I can't say that I completely understand your culture, but I'm not gonna bash your culture, but if you ever need help, I'm here. But I also advise you, you might not want to get help from me, because it's not culturally appropriate to you, but there are other people could be a great resource to you, a great help. By the way, when you get out in the real world you will not worry too much about whether it is culturally appropriate." So, I painted a picture of the two extremes of my experience here, but most students are kind of in the middle.

Several factors influenced students' willingness to participate in academic support that upon first glance gave the appearance of an unwillingness to participate. When faced with poor academic performance, one obstacle to students participating in academic support was disbelief, which was compounded by a sense of pride and the belief that they were the only student experiencing difficulty. Students also cited a belief that self-reliance, hard work, and determination were all that was needed to make academic improvements, which hindered their ability to recognize that they may need assistance. Further, students' willingness to participate in



academic support was often mitigated by the belief that someone would reach out to them to offer support. However, as suggested by Chinara, a student's culture or other such factors may impede offers of support. In addition, student participants cited that they were unsure of who to reach out to for academic support. Many of these factors appeared to be rooted in medical students' inexperience in dealing with academic difficulty. Used to being academically successful through their own hard work and determination, students often did not have the knowledge or skills to overcome academic difficulty, or at the very least, struggled to put the skills and resources in place to overcome the academic difficulty.

Student willingness to participate in academic support also seemed to be influenced by the type, setting, and timing of academic supported needed, as well as by the individual providing the support. For example, several of the faculty participants mentioned an influx of questions via email prior to an exam. Jing shared, "The one thing I noticed is that I see more questions by email immediately after a lecture and a lot more right before a test." This suggested that students may be more willing to seek out academic support as exams approached, which prompted some degree of immediacy among students that was not present prior to the exam as the course unfolded. Moreover, as students chose the use of email to access academic support, it appeared that they may be more willing to participate utilizing a more impersonal, convenient, and need focused form of academic support. Student willingness to participate in academic support also seemed to vary depending on the type and setting of academic support provided. In discussing her willingness to participate in academic support, Molly stated, "Sometimes in lecture, it gets to be a little intimidating to like ask about something you don't even know, like you don't know what you don't know kind of thing." Molly also indicated that it was easier to ask for help in settings where smaller groups of students were present. A comment made by

Tristan, when he was discussing the willingness of students to participate in academic support, alluded to this as well. He stated, “Even asking for a help in a course signifies that everyone else seems to get it but you didn't get it so you're not the sharpest knife in the drawer.” He went on to add that students in his Patient Centered Medicine group appeared willing to ask questions and seek him out if they needed academic support. Although this course will be explained more during the response to the main research question, the relevance of Tristan’s statement in this context lies in the fact that this group consists of a small group of students and one faculty member that remains consistent throughout the students’ first two years of medical education and that the course is focused on application of knowledge to the clinical setting. The type and setting of academic support may have an influence on students’ willingness to participate in academic support.

Willingness of students to participate in academic support may depend on the individual providing the support. Luis was one of the student participants that alluded to this being a factor. During the discussion about student willingness, Luis shared that one factor that has influenced his decision to participate in academic support was the instructor’s demeanor. He stated:

I mean there's a few instructors that I wouldn't go ask them for help just because I, personality wise, I wouldn't get along with them, like, we just clash. The way that they talk or address people, I just wouldn't. I would rather go Google it, go look in a book, call somebody else, you know, before I would go. So, I think it's just the instructor’s personality, which there's very few of them I think, but they are here, the ones that, you know, that I wouldn't feel comfortable going up and saying, “Hey, I need help with this. I don’t understand this.” Yeah there's a couple of them.

While Luis' sentiment may be partially based on a determination to solve the academic difficulty on his own, his response also showed that students' willingness to seek academic support may depend on the personality of the individual providing the support. When sharing his recommendations for students who are having academic difficulty, Tristan acknowledged that faculty personality may hinder student's willingness to seek academic support. He stated:

There's some people that we click with and other people that we don't click with. So, if there's a different colleague that, you know, maybe that isn't the faculty for that class, but that there's someone else who helps teach you and you kind of click with them, go talk with them.

Although Pooja did not cite personality as a factor, she did say that it was important to feel like the faculty member was genuinely concerned. She shared feeling a lack of personal connection to her advisor when her advisor contacted her via email instead of in-person in response to learning of her poor grade in a course. She shared, "I kind of felt like it was just an email. It wasn't very personal for me, so I didn't feel like opening up to her about it." Thus, because Pooja did not feel a genuine interest from her advisor, she chose not to use her for academic support, even though the faculty member offered to support her. In contrast, Pooja shared a positive academic support experience that highlighted the importance of the personality and behavior of the faculty member who offered and provided the academic support. She stated:

First year, first semester, we're in this really hard course. For me that was literally like one of the worse times I feel like so far in my academic career. I failed the first test, I failed the second test, I messed up my practical, and there were just a lot of things going on in the outside world that I felt like was really taking toll on me. So, I came to a point where I was like, I might not make it. So, I was in a very doubtful phase and we had that

one exam left and so in that one exam I had to do really well to pass the class and a professor reached out to me and told me, “Hey, I just wanted to see what was going on. You've done okay so far, what happened?” And so I told him. I literally just met with him for like a 30-minute period and it completely changed the way I thought about how I was going to do and I ended up doing really well on that last test and passing the class. And for me, that's been the lowest point and the hardest class and then I feel like from there I've just grown. So I credit that, a lot of that to Robert because he motivated me, he knew exactly what to say and yeah, I was hearing it from my parents and my friends but I think I needed someone that was a professor and that was like, well respected and someone that kind of basically how Caitlin was saying, who looked out for me that wasn't my family or someone that it was expected from.

Diane shared a similar positive academic support experience, stating:

In PCM, I have a professor she is amazing, she's the boss. I want to be like her one day. She inspires me. I feel comfortable talking to her about things and so in that aspect, like personally, I get that support from her but not necessarily just academic. I do remember when I did come back, and she saw that I had to repeat she was like, “Oh my goodness, what was going on?” We kind of talked and I really appreciated that because when I did come back for the second year to repeat, I noticed that certain professors kind of treated me a different way. That was kind of discouraging. But she never did, she treated me the same. She was always kind and we're still like really cool and I really appreciate that because it was really hard.

In sharing their experiences, neither Diane nor Pooja cited the difference made to their academics by learning specific knowledge or skills. Instead, they cited the way they were treated

by the faculty member, which is a key factor in students' willingness to participate in academic support.

Faculty and student willingness to participate in academic support also seemed influenced by time. Faculty's limited time due to commitments to more work-related duties, such as research and clinical practice, was a factor that influenced faculty's willingness to provide academic support. As a faculty member who was only on campus one day a week, due to his contractual agreement with the institution, Tristan identified his limited time on campus as a challenge to providing academic support to first- and second-year medical students. In discussing his availability to meet with students via office hours and an open-door policy, he was acutely aware that his limited time on campus posed a challenge, stating:

So, we have open office hours, and you know, beyond just open office hours, I think most all the faculty have a relatively open-door policy. That's trickier for me because I'm actually only physically here about one day a week on average.

Keith also found time as a factor that influenced his ability to provide academic support, stating:

Time is always the commodity that we don't have, the resource that we don't have much of. We could save time, if they could come in as a group or meet in a conference room, like some of the faculty members have done and go over concepts with a group of students.

Although time had a limited effect on Robert's academic support efforts, he acknowledged time as a constraint for other faculty, citing the number of lectures and time spent conducting research as constraints.

The students understood this reality, as they were very aware of the position that many faculty members were in with balancing teaching responsibilities with other career responsibilities. In discussing the added responsibility assigned to course directors in providing academic support, Diane shared her opinion regarding their ability to fulfill these responsibilities due to time constraints, stating:

We're in the second year so a lot of course directors, they're actually like practicing physicians, so yeah, they're doctors, they're seeing patients. Like our course director right now, he's delivering babies right now like, he's not going to talk to you right now, he doesn't have time. I totally understand that.

Other student participants shared such sentiments, showing the juxtaposition that faculty member's faced between supporting students and fulfilling their other professional responsibilities.

Faculty's limited time to provide academic support was also a factor in student's willingness to participate in academic support. Caitlin stated:

Yeah it's really hard to find that outside time with professors too even if you do want to be proactive and meet with them if you're struggling. A lot of them say like, "Call me, email me" and everything but when you're in class 8 to 5 and you have late lab days you are like, "When am I going to meet with the professors? I can't." And so, that also kind of restricts being able to get help one on one with the professor even if you do reach out, I think. Email helps but just having that one on one in person is very valuable too.

As such, conflicting availability may have had a negative influence on student's willingness to participate in academic support. However, even when faculty and student schedules coincided, there was an indication that student willingness to participate in academic

support may have been influenced just by being aware of faculty's limited availability. In discussing faculty's willingness to provide academic support, Pooja acknowledged that time was an obstacle to faculty providing academic support; however, she went a step further in describing the impact that this knowledge may have on students' decision whether to seek support. She stated:

They want to help but it's the time. They want to be there. There's a professor that gave us his Skype ID, so it's like they want to help, and they want to be there for us but they're limited too. We do understand. I think that's also where the hesitation is for us to reach to them too.

While time impacted faculty's willingness to provide academic support, the realization of the faculty's limited time may have caused students' hesitancy to dominate faculty's time through academic support activities; thus, also serving as a contributing factor in students' willingness to participate in academic support. Further, Robert supported the idea that faculty's availability might have influenced students' willingness to participate in academic support; however, he also found time, in general, as a factor, stating:

Sometimes it's a time thing. "I was going to come but, I was behind, so I felt it was more important to study instead of trying to meet her or set an appointment." Some of it ends up being, "Oh, you didn't have an appointment, so I couldn't come cause of different schedules or because you were meeting with other students." To be fair too, I imagine they don't think they have time to get help just because of the pace of the material. So, I think that they are willing and open to it, I think some of it is a time thing. Like, even with study groups, they say, "Oh, I don't want to go to a study group because I don't feel ready and I don't want to waste their time." So, we talk to them and say, "When are you

ever going to feel ready to go to your study group? When will you feel ready for the exam? We can give you two extra weeks to study...” and they finish the sentence for me, “And I still wouldn’t feel ready.” You know, I mean the positive thing is that they want to prepare, and they don’t want to waste time.

Again, conflicting availability between students and faculty may have played a role in the provision of academic support; however, as showed by Robert, other factors related to time may have also contributed. Simply finding time to participate in academic support activities may have been a challenge for students due to the rigor and pace of medical school and may have contributed to their willingness to participate in academic support. Also, students’ perceptions of the level of knowledge acquired through self-study that is needed prior to accessing academic support may be a factor in their willingness.

Finally, the data suggested that there was a reciprocal relationship between student willingness to participate in academic support and faculty willingness to provide academic support. Willingness to start the academic support process was one part of this reciprocal relationship. In sharing the factors that influenced his ability to provide academic support, one factor cited by Keith was “the motivation of the students, themselves, to set up appointments, and come in and talk with me, which is beyond my control. I’m hoping that they would take initiative, their own initiative to do that.” Interestingly, although faculty cited multiple reasons that students may not seek out or participate in academic support, there was still an expectation that students should start the process. At times during the study, as faculty participants spoke of their willingness to offer academic support, they made the offer by the suggestion that it was available if students sought it out. Thus, student willingness to start the academic support process appeared to have a direct influence on faculty willingness to provide academic support.



Faculty willingness to start academic support also appeared to have a direct influence on students' willingness to participate in academic support. Robert shared:

We started this initiative where we provided some voluntary seminars on academic success for students. We've had a number of follow-up surveys after that. Two of the questions we asked were, "Did you meet with somebody to discuss academic help?" and "Do you think it would have been helpful to meet with somebody to discuss academic success?" We knew who was going to answer because the survey was not anonymous and so we knew who we had met with. So, they would answer yes or no but even the students who answered no, I didn't meet with anybody, and no, I do not think it would have been helpful to meet somebody to discuss academic success, even if they answered no to that, they almost 100% answered yes to the follow up question, "Would you have been willing to meet with somebody if approached and asked to discuss your academic success?" So, that's kind of an interesting.

Even though the survey referenced by Robert suggested that students often placed sole responsibility for receiving academic support on the person offering the support, student participants' acknowledged that they must be willing to seek out academic support. Luis spoke about this, stating:

I mean, like I said before it's there. It is here. It's not hidden. It's not a secret. If you don't seek it, you won't get it. If you're failing and you don't seek help, you're not going to get it. Who's going to come and hold your hands and say, "Come on, let's go, read it."? We have to be able to work on our own and operate on our own because when working in the hospital, a doctor doesn't run the show in the hospital. He's got a team. It's a team game. It's a team sport, you know. The doctor doesn't check the patient and

he doesn't take their vitals. He doesn't put them on a scale, doesn't take their temperature, and doesn't measure their height; you know. There's a team approach. You have to be able to ask somebody for help and say, "Hey, can you move this patient to room seven." It's a coordinated effort with the team to make medicine happen and if you can't work in a team, if you can't ask for help when you need it then you're going to kill somebody.

However, while student participants acknowledged that they should willingly seek out academic support, they also shared that they may be more willing to participate in academic support if it was initiated by someone else. Molly wished that the college would establish an automated email system that would contact students who were having academic difficulty, not only to open the lines of communication but to ensure that students were contacted because despite advisors being made aware of an advisee who was struggling, "I've always had to be the one to reach out. Maybe if there was some kind of point where it like was a bit more insistent, I would have reached out earlier or received some help earlier." Pooja also said this stating, "I think because we are Type A and they know many of us are Type A, hopefully they can compromise their Type A a little and reach out to us." Although Luis believed that students must be willing to start academic support, he also shared Molly's opinion that there may be times when a student needs encouragement to participate in academic support. He stated:

So, I think that there should be a point where somebody reaches out whether it's an advisor or a physician, you know, a dean of one of the departments to sit you down and counsel you and say, "Hey, you are on the verge of failing this course," because I don't know how it was for you guys but I talked to a lot of people and they'll say, "Oh, they'll never kick you out of med school for failing. They'll never kick you out." So, not that I was like, "Oh, they'll never kick me out of med school" but after I failed the first course I

was like, “You’re right, you know, I don’t think they’ll kick me out.” But sitting you down and giving you the tough love and saying, “Hey, you have failed two tests this block. You have one test left. You have to get this grade on it. What's going on? Why are you not doing well?” I think that would be a better approach than just kind of leaving it up to the advisor to decide because I know that there are some advisors that will go talk to their people and are like, “Hey you failed the test? What’s up? What’s going on?” and there's others that you never hear from them about a test. You know, I just recently failed a test and he’s like, “Hey, how’s it going?” “Doing good, doing all right.” So, I think there needs to be a point where you get snapped back to reality.

This data showed that faculty willingness to start the provision of academic support was a major factor in student’s willingness to participate in academic support.

Willingness of students to acknowledge their academic difficulties and be open to suggestions to improve was another part of this reciprocal relationship. Chinara cited the influence of this form of student willingness in the academic support process as a factor in her willingness to provide academic support. In describing factors that influenced her ability and willingness, Chinara stated:

I think the biggest thing is if the student is willing to look at what the issues are and if they're willing to make a change. The ones that I have that make it a challenge are the ones that blame everybody else, except themselves. They don't take responsibility, they don't have much insight into what the problem is and this really is difficult. Sometimes it's nearly impossible to offer any meaningful help to that person 'cause then I'm gonna have to go deal with the professor, deal with the teaching assistants, and the other people in the section, the anatomy section. There's no way to deal with whoever else taught you

anatomy before you came to medical school. I think that is the challenge when we find somebody who's really unwilling to take responsibility. A student has to be willing to look, take a hard look, an honest look. Sometimes it is a hard pill to swallow but swallow it anyway and move on from there. Things are lot easier when you have somebody who's taking the trip with you and I can come along as a guide. I say don't take a trip if you're not willing to do the trip and carry on. I can only guide you so far, I can't go take the board exams for you, I can't see your patients for you.

Robert alluded to this as well when describing what he believed an ideal academic support meeting would look like. He shared:

Yeah, probably some tears would be helpful but students are reluctant to cry even though they feel like it but it's a façade, right, "I feel like crying, everyone else has it together." I think an idea would be, let's talk about what you're doing. Really, really give me some insight into what you're doing. Why do you think it's not working and what we can do to come up with a plan to either come up with a new study method or to tweak what you're doing and make it more efficient?

Although Robert did not address how this affected his willingness or ability to provide academic support, he made it clear that student's willingness in the academic support process shaped the academic support he provided. Consequently, the willingness and ability of faculty to provide academic support in many ways hinged on students' willingness to acknowledge their academic difficulties and be open to suggestions to improve.

In summary, a wealth of evidence existed that suggested that both faculty and students were willing participants in the academic support process. Faculty were willing to offer a range of academic support activities and tried to be available to students when needed. Students were

also willing to participate in a variety of academic support activities. However, although willing, student and faculty willingness to participate in academic support was influenced by a variety of factors. Moreover, the researcher discovered a reciprocal relationship between student and faculty willingness in the academic support process.

**Theme three: Effectiveness.** From the interviews with faculty participants emerged a depiction of a systematic and deliberate institutional academic support process. Throughout the study, faculty participants cited several key academic support initiatives that served as foundational components of this process. These included a co-curricular program, the monitoring of student academic progress by advisors and course directors, and post-exam review sessions. However, the data collected suggested that faculty and student participants often regarded the value of these initiatives as academic supports differently. Moreover, these initiatives often struggled to meet their original intention, resulting in less than effective outcomes as academic supports and missed opportunities to support students.

*The co-curricular program.* One initiative, described as part of a systematic and deliberate institutional academic support process, was the co-curricular program designed to facilitate the personal and professional identity of students based on biblical principles and values. As part of this program, first-year students were assigned to small groups of eight to 10 students led by one or two faculty members. The co-curricular part of the program spanned the first two years of medical school and consisted of eight group meetings each academic year, four meetings per semester, each focused on a pre-designed topic constructed to aid students in examining their worldview in light of biblical principles and values. Groups also had the requirement to participate in community service projects. The faculty leader(s) of each group also automatically became the faculty academic advisor for each student in the group. Once

assigned to a faculty member, students remained in that faculty member's group through the first two years and stayed an advisee of that faculty member through their four years of medical school.

Several of the faculty participants cited the value of the co-curricular program as an academic support for students. Keith stated:

I feel that the program is extremely valuable as academic support. Besides being a means of introducing concerns and issues to the students that they really should be thinking about, such as their worldview, their goals, their professional interactions with other health care providers, patients and patient families, etc., it also is a means by which we can be notified of students who may be struggling in a course. This gives the advisors/mentors of each group an opportunity to reach out to the struggling student to inquire as to whether they need help with the material or whether there may be an issue outside of academics, such as health or relationship issues, that may be causing them to struggle, if the student wishes to share this information. Thus, from my viewpoint the program provides an implicit, or hidden, curriculum as well as an explicit extra-curriculum.

Jing, Chinara, and Keith also cited the value of the program as an academic support, citing the value of the group discussions on life topics, the opportunity to discuss academic matters in the group setting, and the monitoring of course grades by advisors. However, one faculty participant, Robert, did not share the opinion of the others. In describing the value of the program as an academic support, Robert shared:

As far as serving as an avenue for academic advising, the group setting is pretty inadequate. Obviously, no specific grades or needs of students can be divulged or

discussed in the monthly group meeting. Some students do open up and say that they are struggling, which leads to encouragement and, maybe, a follow-up conversation. In the group session; however, there isn't the personal interaction and intentional intervention that needs to take place when someone is really needing learning help. Plus, there is not consistent learning intervention taking place in the group meeting time, since it is designed more for dealing with topics related to professional development like conflict resolution, dealing with stress, self-care, stewardship of resources and materials, etc. It is also possible that students don't open up and no discussion about academic struggles occurs.

As shared, upon discussing the co-curricular program, faculty participants typically spoke of two distinct components of the program: the co-curricular group meetings and the individual academic advising in response to course grades. To make it easier for the reader, these two components have separate sub-headings and will be discussed separately.

While most faculty participants agreed on the value of the co-curricular component of the program, student participants did not fully share faculty's opinion regarding the value of this program as an academic support. In fact, none of the student participants initially cited this program as an academic support. It was not until the researcher mentioned to the students that faculty participants had cited the program as an academic support that the students considered it as such. In response, the following conversation about the program ensued during the student group interview.

Caitlin said:

I feel like sometimes we get so caught up in having those deep conversations that we've missed bonding as a group and so I feel like maybe a few people share their thoughts and

everybody else stays quiet. So, I feel like sometimes things may intimidate certain people. Even though I love the discussions and I love the topics, I think some people may not feel as comfortable sharing how they're feeling in a small group, I don't know. I feel like maybe that's held us back a little bit.

Pooja said:

And I'm just going to piggy back off of Caitlin, I feel like it's a good idea, I don't think it's necessarily executed as well as they want it to, but I think it's also just because we are a new school. I don't think it is where I formed my strong friendships with those people individually, it's been outside of that. So, for me, there's been other classes like our PCM class where I found kind of like my group feeling, that feeling a family, that feeling of I can say whatever I want, right? It's not even the fault of whoever's leading our group. I think it's like you're forced to be friends for some reason and I feel like maybe that's why many of us don't like doing it, I guess. And the other thing is just the topics. I don't think they're the best topics. I think it's very like high school-y or elementary school-y. Like, oh we're going to talk about this today and like you can't talk about this in 20 minutes. I think that's just kind of where I'm at but I do think it's a good idea and I do think it's necessary. It's just the execution.

Caitlin said:

Just to get back on that, I feel like a lot of our topics are really important and really valuable. I feel like a lot could be added to that in relation to our academic success in particular and maybe we could even bring in like, oh what's working for you. I know that gets a little tedious because what works for some doesn't work for everybody, but I feel like maybe if we had more conversations geared towards what are we struggling with and



I think that if we all got on that same page maybe every meeting and it's like, okay, where are we struggling and how can we build each other up? I think that would maybe make people open to even sharing those deeper conversations if we had more academic conversations too in the midst of the worldview conversations.

Pooja said:

And I feel like also for us, our leader, she was receptive though to our concerns. So she told us she's like, "Alright, guys 75% of our meeting today we'll talk about what we are supposed to according to whatever is on the schedule and the last 15% we'll talk about things you guys just want to talk about." So, a lot of us were like, "How does residency work?" "When do we study for boards?" "How do we dress up for interviews?" It's been really helpful, and we really appreciate that she was able to do that for us.

David said:

All right, so I agree with what both of you said, my group leader is really good. She organizes it and makes sure that everyone has enough time to speak but I feel like three things could be improved. Like you were saying, Pooja. About the topics, I agree that the topics could be a lot more about medicine and I feel like they're kind of sometimes wishy-washy. I don't know how to explain it better than that. And it could be more focused on say, abortion, or say on palliative care. But, I'm a procrastinator by nature and it's really bad because I end up stressing about things because say like I have 20 hours of lecture, I'll push it off until Wednesday and then I freak out that I only have 30 hours of time and 20 hours of lecture to do plus I want to review the slides and whatever. So, I only work under stress I guess but I kind of just never really paid attention to how stressed I live my life and then we had a group session on stress and handling stress,

meditation, or whatever and stuff like that. Not so much the techniques that we were taught but just realizing how much I was focused on how much school I have to do and how much studying I have to do, that kind of took away my focus on the studying that I was doing. I addressed this last course because of that session and my stress levels was way down from what they normally are and it's like, I don't stress about how much lecture capture I need to get done or how much studying I need to be doing or stuff like that. I just live my life, do what I can, and I just totally changed my perspective in med school. I also feel like the groups are too big, like you were saying, Caitlin. The friendships that I formed are also not from the group. I wouldn't even say the PCM group. The friendships I form are really like, smaller groups, like four people, like my lab group and the people I worked with during OMM. So, the real people that you really form a connection with are when you can each speak and when you have group of 8 people, you can't really speak in an hour and a half. So, I feel like the time also is too short, it should be like 2 hours and it's on a Friday, so it could be longer. But that's my cynicism.

Pooja said:

So basically, I'm still going to stick to like, the idea is good, so I think that the idea of it like it's supposed to be for that purpose. However, for me, it's more of just like, oh my God, this is going to be a waste of an hour I could be studying. Like, that's kind of where I'm at right now. For that, I think it is more so as the semester things have been so intense but yeah, I don't find it really that much of benefit going to the group meetings.

Diane said:

Yeah, it also depends on who you have. I used to be at leadership and students would tell me that some group leaders were very hostile to different people groups and that was not a good space. Yes, so there's that aspect. So, I think they have gotten better. I've seen great improvement and that's great, but I think it also depends on your group leader because the amount of involvement and how much you enjoy it can also depend on your leader too. So, my current group I really enjoy it, it's great. Now granted, do I want to be studying for that hour? Of course I do but everyone in my group is great. I have a wonderful leader, he's so nice.

As shown from this exchange, student participants had mixed feelings about the value of the co-curricular group meeting part of the program as an academic support. The student participants agreed that, in theory, the program had its merits. They also cited a few merits of the program in practice. However, it was clear that most of the student participants did not consider the co-curricular group meetings as a key form of academic support, citing the pre-assigned topics, assigned grouping of students, and comfort level of students to share in a group setting as barriers to the program reaching its intended purpose.

Since faculty and students expressed differing opinions about the effectiveness of the program as an academic support, the researcher observed the program to collect data not influenced by the opinions of participants. Unfortunately, only one faculty participant, Jing, allowed the researcher to observe his group meeting. Other faculty participants were not comfortable with observation of their group meetings, citing the confidential nature of the meetings where students often share personal information. On the day of the observation, worldview and tolerance was the pre-assigned topic discussed by the group facilitated by Jing and another female faculty member. The meeting was in a small conference room. Nine

students were in attendance, as well as the female faculty member's husband, who had supplied food for the group. The meeting began with a prayer by Jing, followed by discussion of several miscellaneous topics prior to discussing the assigned topic. Of these miscellaneous items was a brainstorming session to discuss ideas for the group's mandatory volunteer group project. Jing then asked the students, "How are things going due to the new test policy?" To which, students responded that they were not aware of a new policy. After a brief explanation of the new policy by Jing, several students used the opportunity to express their frustrations and make Jing and the other faculty facilitator aware of other concerns regarding testing, such as lack of action when students question exam questions, scheduling lectures the day before an exam with the content on the test, frequency of exams, scheduling of other academic events. The students were very engaged in this conversation and this part of the meeting was very lively. Jing took advantage of a pause in the student's discussion to redirect the students. He began by thanking God for the ability to have a relationship with the students and encouraged the students to meet with him. Jing then redirected the group to the assigned topic of worldview and tolerance, to which the students reacted with an audible groan, suggesting that they would rather continue their discussion. However, Jing went ahead to introduce the assigned topic, which centered on the discussion of a case in which a surgeon, who worked in a catholic hospital, decided not to operate on a female patient for a hysterectomy because he was instructed not to because the female wanted to become a male. The female faculty member then shared a personal example of an ethical issue from her personal practice as a physician. Jing then shared an example of a physician in the community who lowered his prices one day a week and an example of a physician in Canada who was caught praying with a patient and then lost her license to practice medicine. The female faculty member and Jing closed by sharing a message about the

generosity of Christ, who did not turn those in need away. They also instructed students that they, as physicians, were not going to change the world because it is a fallen world, but that God had a plan for them, is training them, and that they will make a difference. As opposed to the beginning of the meeting, during the topical discussion, only one student took part by asking a question about the physician's ethical responsibility to the patient and guidelines for discharging a patient. The session closed with Jing asking if anyone in the group wanted to pray, to which a student volunteered and prayed. Jing then dismissed the group.

Following the meeting, since students shared quite a few concerns about the curriculum and testing at the beginning of the meeting, the researcher asked Jing, "Do you follow up with any of your advisees regarding the concerns they share during the meeting and do you ever share any of their concerns with other faculty or administration?" Jing replied:

I currently do not have a systematic practice of following up. I only follow up on major concerns that I think are worthy to follow up, such as the mechanisms of item evaluation after an exam. I try to discuss more detailed critics about individual faculty members with course directors. Faculty Council is another channel for faculty members to share academic concerns raised by students. I am quite certain that, once discussed in a group, students are more likely to write down things in the course evaluations. Once I see changes, I will follow up with my group. Again, I see a problem with one of my students, who constantly struggle between passing and failing. She has been out of school for years and has a small child. I have talked with her in my office. I pray for her before meetings and pray again afterwards. We have to admit that some should not have been admitted here and the final results are not in our hands. The biggest challenges for a faculty member are struggling students, either academically or spiritually.

This observation and later remarks by Jing, combined with faculty and student participant perceptions of the program, provided a valuable data regarding the program.

While there were several positive aspects of the program, the cumulative data collected suggested that the reality of the program varied from the intended purpose. Further, while faculty saw the program as a form of academic support, it is fair to say that students did not. This lack of fulfillment of purpose can be directly correlated to two factors. One factor that hindered the program from meeting its intended purpose was the assigned grouping of students. The opportunity to form relationships with other members of the group, including the faculty member who served as the group leader, outside of the classroom provided students with a built in support from the beginning of the first year, which is something that would have been more difficult for students to accomplish so quickly on their own. However, while a few of the student participants spoke of liking their group leader and the other students in their group, none had formed particularly close relationships to these individuals. In fact, some even referred to the assigned grouping of students as “forced grouping” and said that it hindered meaningful communication during group meetings and resulted in awkward relationships not just during group meetings but at other times as well. As a result, some students hesitated to fully engage in the group discussions and many certainly were not willing to share personal academic information with groups of people they had not formed meaningful relationships with. This was one reason that students did not perceive the program as a form of academic support.

The second factor that hindered the program from meeting its intended purpose was the pre-assigned topics. The program centered on the discussion of established topics designed to elicit the discovery and growth of the personal and professional identity of students based on biblical principles and values. As such, it was certainly valuable for the institution to pre-assign

topics for each group meeting, which included providing each group leader with speaking points for the meeting, to ensure that all students had the same opportunities. While some of the student participants found the topics useful, others found the topics juvenile and unrelated to their current status as a medical student or their future status as a physician. This resulted in varying degrees of engagement among students during group meetings, with some groups engrossed in conversation and others very disengaged. Student perceptions of the value of the pre-assigned topics appeared to result in students' viewing the program as a curricular requirement instead of an academic support. Furthermore, evidence suggested that the way in which the faculty group leader chose to conduct the meeting influenced its value among students. When the faculty leader served as a facilitator of the discussion of the pre-assigned topic and allowed the students to carry the weight of the discussion, students were more engaged and had more positive perceptions about the value of the program. Finally, strict adherence to the pre-assigned topics by some faculty group leaders also appeared to hinder the program from meeting its intended purpose. Although there is no question that each of the groups covered the intended lesson, there is evidence that some of the faculty leaders were more flexible in the discussion that occurred. When faculty leaders allowed students to use part of the meeting time to ask questions and discuss topics that they were concerned about or needed information on, the students reported the program being much more valuable.

***Monitoring of student academic progress and the provision of academic support.***

Faculty participants described monitoring of student academic progress and the provision of academic support by advisors and course directors as part of a systematic and deliberate institutional academic support process provided by faculty. Although described as systematic and deliberate, deeper exploration revealed that there were deficiencies in this process that

limited the effectiveness of an otherwise well-intentioned program. As stated in the previous sub-heading, faculty leaders of the co-curricular groups also served as academic advisors to the students in their groups. In addition to leading the groups of the co-curricular program, a main responsibility of the academic advisors was the monitoring of advisee's academic progress and later provision of academic support when needed. Faculty participants spoke of an institutional procedure whereby advisors received notification by the academic counselor when an advisee's course grade fell below 70%, requiring the advisor to contact the student and offer academic support. While faculty participants acknowledged that they received these notifications, the actions taken by the advisors upon receiving these notifications varied widely and often varied from student to student, limiting the effectiveness of this form of academic support and often negating the procedure all together. Jing described his approach as "gentle," stating:

I will talk to the other advisor and we will decide and definitely approach those students. But I don't press if they give me an explanation by email. I do not see much help in the email sometimes, just probably not blaming the right thing but there is not much I can do. If I ask them to come to my office, they will come. I was thinking I am not sure if I can help, they are already busy. I hesitate to force them to come.

Keith's description implied that he may or may not contact the advisee but when he did, the choice to access academic support was left to the student. He described his actions as follows, "Maybe you can reach out to them and say, 'Hey, do you want to come in and talk?' Maybe they are taking care of it though other channels. Sometimes students are reluctant to talk to their advisors." Randy did not address his direct actions upon being notified of his advisee's course grades but he described being in continuous contact with his advisees, stating, "We have a group meeting but we are going back and forth and stuff even when we're not meeting every



day, I'm meeting with them every two weeks." Chinara indicated that she did review the grading information sent to her and even went a step further by investigating the number of remaining exams in the course, so she could determine the ability of the student to recover in the course.

Robert was very vigilant about contacting his advisees, as well as other students who were struggling in the curriculum. However, Robert noted some of the deficiencies of the advising program. He shared:

Depending on the advisor, some advisors track the academic progress of their group members and offer to meet with them outside of the monthly group meeting to discuss academics. This is inconsistent. The college has provided no training to prepare group leaders to be academic advisors and to offer academic intervention or concrete steps to help students make the adjustment to med school academics. The academic counselor will give advice to a leader that asks for help on what advice to give to students, but faculty asking her for training does not occur regularly. For a while, the academic counselor was sending out e-mails to group leaders to inform them of when a student failed an exam. Group leaders were encouraged to follow up with each student who failed, but no one checks to see if the leaders meet with students that fail an exam or course. Another office took over the e-mailing failures duty from her. However, at the end of the spring semester, no grades were being sent out and group leaders did not know what grades students were getting unless the student came for help and told them.

Thus, although many of the advisors were vigilant in reviewing the notifications sent to them, there was great variance in the actions they took in response to learning of a student's failing course grade. In fact, there were times when advisors decided not to contact the student via email or otherwise. Further, even when contacting students and offering academic support,

advisors placed responsibility for accessing support on the student, which meant that students may or may not choose to take advantage of any offers of academic support. Moreover, as reported by Jing, advisors continued to contact students via email even though that format may not prove helpful in advising the student and often blindly accepted student's rationale even when they felt it was not valid or accurate. As a result, simply being made aware of a student's poor course performance often did not result in the student receiving help, negating the purpose of academic monitoring and the role of the advisor.

Chinara inadvertently shed light on another deficiency within the academic monitoring and support process that formed its effectiveness. As shared above, in describing her actions upon being notified of an advisee's poor course grade, Chinara stated, "I can then see how many more assessments are available so that I can have a sense of, okay this person is struggling and badly losing the chance to recuperate and I'll reach out based on those scores." As advisors received notification only when an advisee's course grade fell below 70%, depending on how many assessments were in the course and how low their course was, there may be little that advisors could offer in the way of academic support that would make a difference in the students' performance. In other words, basing notification on a course grade may have been an obstacle to advisors providing academic support that could result in an improved grade in the course.

As this was a primary form of academic support for the institution, this researcher looked to discover the rationale for this responsibility placed on academic advisors by exploring the existence of other forms of academic monitoring and support. In examining the collected data, the researcher discovered that there was no evidence of teaching faculty for a course monitoring students' exam or course grades. In response to this omission, this researcher asked faculty

participants how they, as teaching faculty, monitored exam grades and provided academic support as part of their teaching duties within a course. The response to this inquiry revealed that per institutional procedure, teaching faculty within a course did not have access to individual student exam grades; therefore, they did not provide academic support to those that were struggling in the course unless they discovered that the student was having difficulty through some other means. Moreover, as discussed in theme one, in their role as teaching faculty, faculty participants assumed responsibility for effectively delivering academic content, and several participants discussed using exam data to reflect on their teaching practices and improve content delivery or the quality of exam questions. However, it did not seem to occur to most of the faculty participants that they had responsibility as teaching faculty to monitor the academic progress of individual students in a course or to actively provide targeted academic support. Instead, faculty participants assigned this responsibility to the course director. Chinara described the process stating, “As a course director for a course you have access, but if you are just an advisor or maybe just teaching faculty member, of course you would not have automatic access to student grades.” Tristan, as a teaching faculty member, stated that he was “largely ignorant of student grades in the course” because that information was only available to the course director. When asked if he would change that process, he replied, “Well, I wouldn’t because the course director is particularly good about being here. So, if someone was not doing well, she would let us know.” Jing’s response to this inquiry was like the rest. He shared that the feedback he receives as a teaching faculty member of a course is limited to statistical data that the course director provides regarding student responses to questions he has written and that the course director is the party who is responsible for utilizing exam grade to provide academic support to students in the course. He further stated that as a teaching faculty member of the course he did

not reach out to students in the course who were struggling. Other faculty participants agreed that teaching faculty for the course have limited knowledge of how individual students were performing in the course. Randy reported that teaching faculty were not given access and cited HIPPA as a reason that teaching faculty were not made aware of students' exam grades. Keith spoke about being notified of his advisees' course performance and replied to my inquiry about having access to student exam grades as teaching faculty by stating, "So I only know whether the students in my group are having trouble in any particular class."

Upon learning that institutional procedures limited teaching faculty's role in monitoring students' academic progress and thus, the provision of academic support, and learning that the course director had access to exam grades and was responsible for monitoring the academic progress of students within the course he or she was directing, the researcher proceeded to explore the role of the course director in monitoring academic progress and providing academic support. Although faculty participants spoke of course directors having access to students' course grades, which was initially cited as an example of systematic academic support and justification in some cases as to why teaching faculty were not given access to grades, upon further investigation, they were not as certain of the actions of course directors in response to having access to exam grades. Robert, who served as a co-course director, shared that he had instituted a process whereby he met with every student who failed an exam in the course, each lasting about half an hour to forty-five minutes. He also spoke of trying to meet with students who were struggling but still passing but admitted that he was not always able to do that. Jing spoke of the course director monitoring exam grades but when asked if he knew if the course director met with students who were doing poorly on exams, he was able to cite Robert's efforts but was not sure about the actions of the other course directors. While Tristan was not sure of

the actions taken by the course directors in response to poor exam grades, he was certain that the course director would let teaching faculty know if there was a student in their group who needed academic support. Although, he stated that there had never been a student in his group that needed support.

Student participants also discussed the institutional procedures for monitoring course grades and providing academic support and were equally unsure about the actions that occurred. In fact, there was uncertainty among the student participants about course directors' knowledge of students' exam grades. A few of the student participants were aware that course directors received a list of students' grades on the exam; however, many were unaware. Upon asking the student participants if the course director contacted them after they had failed an exam, most of the students unanimously responded, "No." Molly was one of the student participants who was unaware that her advisor or course directors reviewed her grades and shared that "despite being in the danger zone on exams and in classes" she had not been contacted by anyone. However, she shared her belief that, "if that is something that they have in place and they say that they would use it, I think that would be a good starting point as far as like reaching out to a student." Pooja was aware that her advisor and course director reviewed her academic performance but shared, "When I was almost failing that one class, I never got an email from the director. I think that it is very important for you to reach out because you know who failed the test." Luis' experience was different, sharing that the course director had contacted him about a low grade. But his advisor had not. Caitlin shared a situation where an academic counselor contacted her but she did not hear from the course director or her advisor. She stated:

I got a poor test grade one day and just recent and I had an email that I received from our academic counselor here and she said, "Hey I realized you got this why don't you come

and meet and I'm going to set you up with a tutor in preparation for the next exam to evaluate how you're studying and let's get things changed” and it was just very proactive and she sought me out even before I sought her out, which I believe I would've done anyway, but she immediately was on that and I felt like I was noticed and that when I was struggling somebody was watching out for me, like, looking for the people who are kind of slipping on that exam and she just wanted to help me right away and get me hooked up with a tutor and just very proactive about it. So that really meant a lot to me as a student, even just dealing with my test grade and then just somebody came alongside me immediately, saying, “Let's do better on the next one I'm going to help you.”

Pooja shared a similar situation where Robert, one of the faculty participants, reached out to her due to poor exam grades in a class. When I asked her if he was the course director or her advisor she replied:

No, so that's what I think was so amazing too because he wasn't. I don't think he is involved in that course but that is usually what he does, he's done this consistently with a lot of other students too where someone is struggling. He goes to our academic support counselor and asks her, “Hey, who's struggling, who can I reach out to?” I think the course director, I feel like he kind of knew that many of us weren't doing well and I didn't feel warmth from the course director, but I felt it from Robert.

After learning of faculty's uncertainty about this process, it was not surprising that students were uncertain about the procedures that occurred as well. Although Luis reported grade monitoring and academic support from a course director when he was having difficulty in a course, others reported that they had never had contact with anyone, including their advisor or academic counselor.

In conclusion, while institutional procedures gave a framework for the provision of academic support by advisors and course directors, lack of specific guidelines as to the actions to be taken upon learning of a student's poor performance and notification to advisors of course grades instead of exam grades limited the effectiveness of the program. The inability of teaching faculty to monitor the academic progress of students in the course through review of exam grades also proved to be an obstacle to the provision of academic support by faculty. This resulted in the provision of academic support of varying quality and effectiveness.

*Post-exam review.* The last initiative described by faculty participants as part of a systematic and deliberate institutional academic support process was the post-exam review sessions. Post-exam reviews were held after each exam in the first- and second-year of the curriculum. During the post-exam review, faculty who taught content and wrote questions for the exam were available to discuss the questions that many students missed on the exam. The researcher conducted an observation of a post-exam review for the first exam of the gastrointestinal nutrition course. The post-exam review was held in the lecture hall and student attendance was optional, with 60 students attending on the day of my observation. As students entered the lecture hall, they received a password that allowed them to access their completed exam on their computer for review, without the ability to change their exam. Students received 15 minutes to review their exam, during which there was a lot of discussion among students about how well they thought certain questions were written, whether the content in the questions were taught at all or taught appropriately, and explanations of concepts on the exam. At the end of the review period, the course director called the students to attention for a discussion with faculty about specific questions. Exam questions were displayed on two large presentation screens at the front of the lecture hall and faculty members who taught and wrote questions for

the exam went to the front of the lecture hall to discuss those questions missed by at least 70% of the students. Therefore, discussion did not include each question on the exam. As each question came up on the screen, the faculty member would explain the answer. Some faculty members were brief and to the point in their explanations and others were more detailed. However, a few of the faculty members spent time engaging students who asked questions to try to understand the students' thinking process about the concept and/or their rationale for why another answer choice may be correct. Robert was one of those faculty members who spent a great deal of time trying to understand the students' interpretation of the questions and answer choices, so much so that the course director asked him to move on and speak to students with added concerns after the review.

Students were allowed to ask questions during the post-exam review. While students did appear to be interested in gaining an understanding of the concepts they missed, their questions to faculty were centered on relaying to faculty their interpretation of the way the content was presented in class or of what the question was asking. In other words, students appeared to focus on the validity of the questions rather than understanding concepts. This was further demonstrated by students leaving the exam review after the review of only a few questions or the question(s) they were most concerned about, leaving only a fraction of students in the lecture hall by the end of the review. Beyond the questions chosen by the course director for review, students had the ability to ask faculty to review more questions that they missed. At the end of the exam review, several faculty members remained to discuss questions or concepts with individual students. Following the post-exam review, students had the choice to appeal the correct answer of exam questions or the validity of questions by submitting an appeal form. Completion of the appeal forms were completed without having access to the exam question or



answer choices and needed documentation of the rationale for the appeal. After review by the course director, appeal forms go back to each student with a final decision and rationale for whether the exam question count toward the exam grade or not or whether other answers will be given credit.

Like the co-curricular program, students did not offer the post-exam reviews as a form of academic support and only discussed it when directly asked about it. When asked about the post-exam reviews, students shared that while the intended purpose of the reviews were good, they could use significant improvement to fulfill their purpose. The following discussion took place to discuss the post-exam reviews:

Caitlin said:

I feel like post-exam reviews are somewhat beneficial in just seeing what you got wrong. If you came away from a test and you knew, “Oh, I couldn't figure out that one question” or “I wonder what the right answer is to that,” that's like it's beneficial if you go into the review with like a few specific things you wanted to look. But, I've found that there are some students who just come in with the mindset that, “Okay, I'm going to, you know, attack this question and just try to get points back” and it becomes just a game of can we get to the professor to that point where they're so aggravated with this question that they throw it out. That becomes a whole different attitude. It goes from, “Let's learn from our mistakes” to “How can we get them to give points back?” kind of thing and there have been some instances where it I feel so uncomfortable sitting in the exam reviews because you're just sitting there listening to a professor get totally attacked over a question and we could have raised points about it in a way more professional manner and actually learned from it instead of just saying, “Oh, you didn't say this” and to the point that the professor

has to go back to a lecture and listen to themselves. I think it could be handled a much better way and our class was talked to a lot about it, but I don't think changes are really made. So, I see it kind of as a learning opportunity. Well, it has the potential to be a learning opportunity, but I feel like everybody's mindset has to be right in order to make that happen as a group. Otherwise, a few people can deter the whole purpose.

Molly said:

I think post-exam reviews kind of get monopolized by the same handful of students and they're the ones who are more outspoken, where I think a lot of us go there with the expectation like, "Oh, I knew I got some wrong. I want to know what I got wrong so, you know, if I see this again down the line I would like to get it right next time." If you do have a problem with the question, I think a lot of us prefer to do the non-confrontational fill out. You can fill out a form like an appeal form, so if I had an issue with question number two and I thought that X answer was better than Y answer, you can fill out an appeal form, provide documentation why you think whatever is a better answer than whatever and submit that and then the course director and well, I don't know, but two people in charge get to look at that and that's like a very like professional, cool way to go about that. You can like ask for them to explain it in front of everyone, especially if it's a question a lot of people got wrong. That's helpful. I knew there was one on the last neuro exam about something in the pathway getting blocked. I got it wrong so someone asked a question about it and I was like, "Okay, good I understand it now." But then it goes too far and students, I think they go into it with the mentality, "I'm gonna get back every point I can" rather than, "Oh, I want to learn from what I got wrong." And that's

when it gets to be very confrontational like on both ends. Like the student and professor sometimes getting a little snippy and it's very uncomfortable and it makes me leave early.

Luis said:

To go along with the exam appeals, I think that's a really good way to learn more in-depth and I've actually had questions answered and stopped the appeal because I was like, "Oh, there it is. There's the answer that I was appealing" because I found it. For the appeal form I had to go back and I had to look and say, "This is where I found it," so I think it does serve as a an academic support but a lot of people don't take it that way. I think that's how it was intended and if the instructor doesn't set the precedence at the beginning of the course and say a post-exam review is to learn, then it's going to turn into a wrestling match. Who's going to get the question right and it hasn't happened a lot second year because the docs are mostly running the courses and they're like, "Hey, this is what it is. I'm not fighting with you about it. We're going go over the questions that a lot of people got wrong and I'm going to explain to you why the right answer is the right answer" and they take most of the time and they turn it into a learning experience. And we have some instructors in second year that take the opportunity to actually teach during that time instead of just sit there and say, "I'm here ready for some questions." They'll actually teach and they'll actually say, "Hey, please, you answer this for me. You've got this question right, please answer that question for them and tell them why it's correct" so, in second year I saw that big difference. I love to come to exam reviews now because now I get to learn a little bit more about questions.

Caitlin said:

Yeah, it had gotten to the point this year where one of the professor's had to actually come in and sit on the front row and take notes of every single question that was asked by any student in the exam review and whether they felt satisfied with the answer and that way, if they got an exam appeal they would be like, "Oh, this person was already satisfied with that answer" so, it just got to that point where the professor had to document every word that was said because it was such a mess, so it'd be nice if it wasn't like that.

Molly said:

People were then even abusing the exam appeals. It's like they think there's power in numbers so, if a lot of people got whatever question wrong, people will be like, "Well, maybe he will change his mind if we get a whole bunch of us appealing the question" and we were told, "We don't. If one person appeals a question and it gets overturned, it'll be overturned for everyone. We don't need an influx of, you know, it's not like power in numbers will change our minds if 50 of you decided to appeal something" because I think in my entire first year I've only appealed two questions and only one was overturned and I was satisfied with being wrong on the other because they then provide documentation to guide you like, "Well if you look in this book on this page, this is what it was" or "If you go to this PowerPoint on this page, that's where it was" and it's like, "Oh, I missed that," or "It was in the notes section and I missed it." So, I think having that set at the beginning of the year might have been nice to make sure that certain people like don't run wild with it because I think sometimes it's now intimidating to go to post-exam review because it gets hairy so fast.

Luis said:

It's kind of hard to do the post-exam appeal for me, anyways, because then I have to remember the question. I have to remember what I thought the right answer was. I have to remember what the right answer was that they said. I've put the feedback in there a lot of times for the end of course reviews saying, "Hey, for the post-exam reviews, if we could have like a scrap piece of paper or if we could just fill out the exam appeals while we are in the post-exam review that would be great."

Molly said, "That's really smart."

Luis said:

And have the books in the back of the room to where we can go back and look things up. In the post-exam reviews we can't even open up PowerPoints, you know, which is fair because they don't want us to cheat and we've, you know, had that. Put that out there like, "Hey, let's have some resources set out so that whether it's a computer with the PowerPoint set up or whether it's a book, or you know, like one of the anatomy books so I can go to the back of the room and look it up. I got this one wrong. I'm appealing this." It's done now and now people aren't dwelling on it and writing up these, you know, manifestos of why. So, it's a work in progress like anything that's new and we're lucky because I've talked to other friends that are in medical school and they're like, "We don't even get to go over questions, you know, we don't do post-exam reviews. We get our grades at the end of the course, you know, or we get our grades at the end of the test." And I'm like, it's so different. Why can't it be the same?

As showed by this student exchange, students acknowledged the benefit of the post-exam review sessions when they functioned as designed. However, the data suggested that the sessions only partially functioned as designed. In their intended form, the post-exam reviews

provided students with a valuable form of academic support that enabled them to extend their learning after an exam. This would be particularly useful as students progressed through the curriculum and approached their board exams. However, two factors limited the effectiveness of these reviews. One factor was the inherent design of the exam review. As the exam review was intertwined with the question appeal process, some students took part in the reviews only to get points back on the exam, which changed the intended purpose of the review. As medical school is a high stakes environment, this was a natural response by students. When used by students to learn, the exam reviews served as meaningful learning opportunities and were valued by students.

The other factor was the lack of a consistent approach among faculty when reviewing those exam questions that were most missed during the review. While some of the faculty used the opportunity to explain concepts tested by the question, others simply stated the correct answer and moved on. Only when a student asked for further clarification did some faculty expand their explanation. Of course, this was partially due to time constraints. There should be some limit to faculty's explanation per question, but as the intended purpose of the post-exam review was to provide academic support, it must be designed in such a way that students gain knowledge they did not have prior to the exam.

In conclusion, initial phases of the study revealed a multifaceted academic support program of a deliberate and systematic nature. Further investigation revealed that several of the primary components of the program, specifically the co-curricular program, monitoring of student academic progress by advisors and course directors, and finally, students and faculty did not see the post-exam review sessions in the same way. Moreover, although cited by faculty as

both deliberate and systematic, the data suggested that this often was not the case, resulting in less than effective outcomes as academic supports and missed opportunities to support students.

### **Research Question Responses**

One central research question and three sub-questions guided the analysis of data. Exploration of the data collected during the study defined the ways in which faculty provided academic support to first- and second-year medical students. In addition, an analysis of the data also supplied evidence as to the factors that influenced the academic support provided to students, which included faculty assumptions about adult learners and faculty perceptions of academic performance. Further, the data was rich with evidence on the perceptions of faculty's ability to provide academic support. A discussion of the data as it pertains to each research question follows.

**Central research question: How do faculty provide academic support to first- and second-year medical students?** The central research question guiding this study was, how do faculty provide academic support to first- and second-year medical students? The data was rich with examples of the types of academic support that faculty participants provided. The academic support provided by faculty participants at the research site could be classified into two distinct categories: delivery of academic content and personal, academic, and professional development.

***Delivery of academic content.*** Delivery of academic content was the primary form of academic support provided by faculty participants. This form of academic support consisted of the development of presentations of academic content to aid in the effective delivery of content during the lecture portion of the curriculum. Keith described academic support as “helping the students understand the basic concepts and foundation for pharmacology.” Keith spoke of giving detailed PowerPoint presentations, lecture handouts, and study guide questions to students for

each lecture. He also spoke of linking each PowerPoint slide to the learning outcomes and study guide questions so that when students are studying outside of class it “should give them a good idea of what they should know, what I feel that they should know.” Randy’s description of the academic supports he provided focused primarily on his preparation of lecture materials, with a specific focus on the use of instructional technology. He spoke in detail of the new features of PowerPoint that allow the presenter to annotate slides with voice and ink that students can use outside of the classroom, describing it as a “real focused way for [the students] to go really rapidly to a specific slide in the lecture that they would like another iteration of or that I need to go over in a little bit more detail.” He also spoke of adding multiple-choice questions to lecture slides that allow the student to select an answer that they can use outside of class to “check whether or not they were actually comprehending the material” and pasting sections of related reading resources into the slides. Randy also showed an electronic wireless presenter tool that allows him to point to and zoom in and out of specific sections of a PowerPoint presentation during lecture, but that also shows up on Lecture Capture, unlike a laser pointer. In addition, Randy frequently adds summary slides at the end of the lecture slides “because sometimes there are bigger diagrams that you can’t really just go over in class because it’s too small and it’s just too much information on one slide or you will find these things that summarize the whole thing in one image that will help them pull it all together.” Chinara included presenting the material in class as an academic support, as well as providing free class reading materials right for the students’ level of learning and reference materials with the topic taught.

Academic support in the form of delivery of content also consisted of the use of pre-exam review sessions to clarify concepts taught during the lecture portion of the curriculum prior to the exams for the course. Randy stated, “I’ll usually give review sessions to the students for



anybody who wants to come.” He held these a few days prior to the exam. While Keith did not provide pre-exam reviews, he did share, “I know some of the faculty have met in our conference room just down the hall with a group of students to go over the material that they're presenting, trying to better explain it to the students so that they can grasp the concept.”

Although Jing did not speak of the use of specific teaching strategies or the use of pre-exam reviews as academic supports, he did speak of using post-exam data to improve his delivery of academic content. In speaking of this data, Jing stated, “It tells me how effective I am teaching. Because the questions may be valid, I am surprised sometimes they don't get it. That tells me to adjust my content or my way of presentation for the next year.” Robert spoke of this as well stating:

So, I think in helping, a good example is the most recent GI nutrition exam where 47 students failed, and the average was a 74. So, you think okay, what could I have done differently in presenting the material, or even writing the questions. But also, let's consider what other factors are in play that might have affected the student performance on the exam. What family issues? Okay they're coming back from break. The material was covered in a day less than it was last year because of the day that New Year's fell. They had the big winter banquet, last Friday. You know, maybe they've been sick, it's the time of year to be sick. And not that I say, “Oh, okay I covered the material perfectly or the assessment I wrote was stellar.” But kind of looking at the whole picture, what else could be going on and what can we learn from it? And then also how can we change our covering of the material to make sure that it's as effective as possible.

Faculty participants also spoke of using post-exam data to hold post-exam reviews for students. Post-exam reviews took place after each exam in the first- and second-year of the

curriculum. During the post-exam review, faculty who taught content and wrote questions for the exam were available to students who chose to attend, to discuss the questions that many students missed on the exam. Faculty spoke of using this opportunity to clarify concepts previously taught. They also used the opportunity to improve on their next delivery of the content and writing of exam questions.

Faculty participants also used the format of the Patient Centered Medicine course to deliver academic content, as well as monitor academic progress and provide individualized attention to students. Two faculty participants cited the format of the Patient Centered Medicine course to provide this type of academic support. Consisting of small groups of six to 10 students and a faculty member, the course focused on history taking and exam skills, and professionalism and behavior management. An observation of Chinara's group supplied insight into the course. Her group meeting was in a small conference room with several rectangular tables pushed together to form one large rectangular table in the center of the room, around which sat Chinara and eight first year students. The conference room was part of a larger room as one of the walls consisted of a floor to ceiling room divider and other groups could be easily heard through the divider. As a facilitator, Chinara stated that during these "small group sessions that I am going to facilitate, they [the students] have an opportunity to ask questions and present the material again apart from the large classroom."

On the day of the observation, the focus of the session was on taking a pediatric history with a focus on framing questions appropriately for patients and children. Students worked in groups of two during which they took turns playing the role of a physician and a parent using two pediatric cases. Each group received a script, of sorts, for each case that consisted of speaking points in terms of questions to ask and responses to said questions. The scripts for each

case consisted of a script for the student who was role-playing the physician and a script for the student who was role-playing the parent, with neither seeing the other script. The script given to the student role-playing the parent had pertinent facts across various categories about the patient. The script given to the student role-playing the physician had a range of relevant topics that a physician might inquire about while taking a patient history, from which the student had to formulate questions to ask the parent. Students were given 30 minutes for both cases, switching cases and roles after approximately 15 minutes. As students worked through each case, Chinara walked around the table listening to each group. Several times, she interrupted a group to ask for clarification about why they were asking a certain question or to answer a question, although this was minimal. Students in the role of the physician took notes during the role-play, after which, they received time to transform these notes into a history of the present illness to present to the class. Prior to their presentations, Chinara provided students with more information about taking a pediatric history and shared a form frequently used by physicians to assess the development of the child. As Chinara is a practicing pediatrician, the students asked several questions about her real-life experiences in taking a pediatric history. The session ended with each student, in the role of the physician, summarizing their history for the group.

Besides the academic support that faculty provided during the small group sessions for the course, Chinara and Tristan also commented on how they used the format of the course to provide additional academic support outside of the small group sessions. Chinara stated, “Because I interact with them on a regular basis, some of them I identify that they’re struggling and then I need to follow up with a discussion in other areas as well.” Similarly, Tristan described how the course director monitored students’ progress in the course and provided

additional attention to individual students through the small group structure of the course as an academic support stating:

So, some of my other colleagues, if they had a student who is struggling in their group, she [the course director] will let that person know and say, ‘What can we do to grab the student and spend a little extra time with them?’ If that fails, she will then intentionally move that student to her group.

Faculty participants used established curriculum and assessment structures to not only deliver academic content but also to provide various types of academic supports such as monitoring student progress and providing additional assistance.

Faculty participants also cited accessibility to students to answer questions, explain content, or provide other forms of academic support as a form of academic support. Keith stated:

All the faculty are pretty much available for meeting with individual students, or even groups of students, to explain different concepts that they're not getting, if they can make an appointment or just even sometimes just drop in. Some people prefer an appointment to be made. I don't care if they can drop in, so I try to help in that way. I know some of the faculty have met in our conference room just down the hall with a group of students to go over the material that they're presenting, trying to better explain it to the students so that they can grasp the concept.

Other faculty spoke of accessibility through email or phone outside of class time. Jing stated, “I always check my emails and especially when a test is coming and I check email very frequently and answer them immediately so I can do my best to support my students.” Randy stated, “I have my cell phone hooked up to forward calls from my office phone. They [students] call me at night and stuff and they'll email me and I'll login to a computer and respond to them

at night.” Student participants agreed that faculty members were accessible to students outside of the classroom. In discussing being proactive and reaching out to faculty for academic support, Caitlin referenced the ability to use faculty’s open office hours and offers by faculty to call or email with questions. Pooja gave an example of a professor giving students his Skype ID so that they could contact him outside of class.

***Personal, academic, and professional development.*** In addition to providing academic support centered on delivery of academic content, faculty participants also described providing academic support aimed at assisting students in their personal, academic, and professional development. While it is intuitive that academic and professional development would be included as a form of academic support, it may be less intuitive to include personal development. However, personal development clearly emerged as a form of academic support provided by faculty participants since it was not uncommon for faculty and students to discuss personal issues that may have been impacting their academic success. Faculty participants provided this type of academic support through many different means of both a formal and informal nature, including during curricular activities, during research, during group advising meetings, and during one-on-one meetings outside of the classroom.

Four of the six faculty participants cited a co-curricular program designed to help students develop their personal and professional identity based on biblical principles and values, as a form of academic support. As stated previously, the program was a faculty led program consisting of one to two faculty facilitators and eight to 10 students per group. Participation in the program was required for all first- and second-year students. The curriculum for the program consisted of eight group meetings during the academic year, each focused on a pre-designed topic designed to aid students in examining their worldview considering biblical principles and

values. Groups also were required to take part in community service projects. Randy gave the following description of the program:

It is thematic, but you always sort of start off with 'How you doing [*sic*], what's going on?' The topical things are sort self-exploratory things. So, the one we're doing tomorrow is on leadership, to look at different leadership models, different types of leaders, what makes a good leader type of thing. Just in the fact of being a physician, you are assumed the leader in a certain way. People put you right away in that role. I think it's a good idea for them to think about that role that they will play, whether they want to play it or not, kind of. It's a little bit forced on them, for them to really think about what that means and how to use that influence in a constructive way throughout their career. So, that is just an example of some of the topics.

Randy described his group environment in this way, stating:

That's one thing I like about the groups, is that it's pretty touchy-feely. I may not come off as touchy-feely but in that environment, it is a good safe environment for the students to feel supported because medical school is very stressful. As an adult, you look to address those sorts of needs that you might have, and you deal with it. Supporting people, I think is really important. It's really important to do in that sort of social, spiritual context of trying to keep them healthy. Medical school is really extremely stressful, and so helping them deal with that I think is a vital part of what everybody should be doing when here. Providing a safe space for them to bond to talk about family issues that are going on, I think that's really important. I really care for these guys.

Several faculty participants spoke of providing academic support aimed at assisting students in their personal, academic, and professional development during one-on-one meetings

outside of the classroom. This form of academic support typically occurred in response to academic difficulties among students. To do this, Keith described his meetings with students as helping them understand how to study the material. He stated:

What I try to do, but it's time consuming, is to lead them through steps and try to get them to understand the process or procedure so that they don't have to memorize everything. They can go back and kind of think through the steps again and get back to the right answer. There's a certain amount of memorization that they have to do, but then, it's trying to get them to apply it. I also direct them to the learning outcomes in the study guide questions. Most of the time, once I go to those study guide questions, I tell them to go through their mind and think out an answer, or they can sit down and write down answers. Or, if a concept map works better for you, use that. That's usually how I go back to in the study guide questions. Trying to get them to think of being able to compare and contrast different medication's mechanism of action. I keep telling them, don't memorize the mechanism of action for each individual drug. Learn them in classes. And the reason why they put them in the classes is because all the drugs in that class have a similar mechanism of action. So, we can give them, we can tell them these tips and things to do, but I don't know whether they really understand what we mean and how to apply to their own approach to studying.

Other faculty participants also recognized that many times the support provided needed to go beyond reteaching lecture material. Robert stated:

A lot of it really is study strategies more than the content. I mean you know, it's difficult especially depending on their background but I could tutor but I'm not doing a lot of

tutoring, "Okay, let's talk about this specific lecture." It's more of the study strategies than the content."

Chinara also described academic support that went beyond focusing on academic content.

She stated:

So, I do everything in the sense that I'm not just focusing on content because I know that they're human. Yes they are in medical school but there are so many other factors that contributes to their success, so I ask about how well are they eating, are you eating on a regular basis, what are you eating, are you eating healthy, or just living on protein bars, are you exercising, do have a routine that you follow, how about sleep, are you only just getting by or 24-hours of sleep, what do you do the night before, how do you prepare for difficult subjects, the areas where you really know that you're stronger with, how about testing, is that something you struggle with, is that new, is it something you struggled with before, do you have any pre-existing conditions, learning difficulties. So, I ask about everything. How about personal relationships? Do you have full support from family or friends or did you have to move from across the country to come to school here? Who would you identify with and how are the things going in the social aspects of life, do you have friends, church family, if you are Christian. Though I cover all the different aspects, none of us are one dimensional.

Several faculty participants also spoke of helping students with personal, academic, and professional development through prayer. Working for a faith-based university and being Christian fostered this type of academic support among faculty participants. In discussing his meetings with students, Tristan shared, "And here, because we're an unabashedly Christian, at times I will pray with students." Jing also spoke of praying with students. While he clearly



valued the power of prayer, and cited the osteopathic philosophy as fostering academic support through prayer, he also reported that he prayed with students when he was unsure of how to help them, stating:

You come, and we talk about the situation and I find out that you have external distractions and what can I do? I just pray with you. Pray with the students and encourage the students and direct them to the right people in support. In the system we have some kind of support for those situations, counseling, and I doubt how much they can help but I will direct them to them, to the right resources.

Caitlin acknowledged the encouragement and multiple aspects of support received from faculty. She shared, “I feel like everyone here is seeing me through not just in my academic life but they're wanting to see me successful in every part of my life and so, I find that something extremely valuable for me personally.”

Randy, who was an active researcher at the college, cited engaging students in research, to aid them in getting more competitive residency positions, as a form of academic support. In addition, through research, Randy spoke of forming close relationships to students in his research lab, through which he was able to give advice and academic support concerning areas other than research. He stated:

The people that are down in the lab doing research, I'm down there for hours and hours and hours with them. The people down there we just talk about everything or anything. Sometimes I have to step back and say “Okay, I'm not the dad.” It's just because that I care for them, I want what's best for them and stuff.

Chinara described the importance of helping students in developing the professional skills needed to secure a residency position and practice medicine. She stated:

People talk about measuring emotional intelligence and determining what it's like for students coming in and seeing how they progress over time. It's not just your grades or your board scores that matter. They are important, absolutely because nobody's gonna talk to you about residency if you don't have those grades but beyond that you need to take care of the other part, the way you treat people. That is something I look at with students.

Tristan also spoke of the importance of teaching and assessing students' ability to interact with people. He stated:

So, medicine's tricky that way, so it isn't just grades, right? Because we know that these students are going to be interacting. Okay, they might become a pathologist, but for the most part they're going to interact with people. And so there are social skills involved and there's being able to communicate clearly, as well as do you have the book knowledge to do it?

Although the academic support Tristan provided as a new faculty member was limited, Tristan was passionate about providing academic support in relation to helping inform students about the practice of family medicine. In describing the distinct types of academic supports he provided, Tristan stated:

So, there's some counselling about family medicine. So, most family doctors here don't do OB, there's a fair chunk that don't do pediatrics, there's a whole bunch that don't do office procedures, and care is in general a whole lot more not unified. That was not good grammar, but you know what I mean. And so, I see this opportunity to let students know that you can provide a whole lot of care for your patients and do it really well and that builds rapport. So, opening them to what family medicine can do is a large chunk of my

support services that I do. There's been a medicine of interest group I help out with a little bit.

Thus, Randy, Chinara, and Tristin's definition of academic support extended beyond supporting students academically through their four years of the medical school curriculum. They also perceived academic support as something that should help prepare students beyond graduation through residency and practice.

As shown, faculty were directly involved in providing a wealth of academic support to students. The academic supports fell within two distinct categories: delivery of academic content and personal, academic, and professional development. Merely by offering these academic supports, faculty showed a willingness and responsibility in the process. Moreover, while the primary responsibility of faculty was to assure that students' mastered the academic content, it is apparent from the other forms of academic support provided, that faculty acknowledged that students' ability to master academic content was dependent on multiple other factors; hence, the need for faculty to expand their academic supports beyond those related to academic content.

**Research sub-question one: How do faculty assumptions about adult learners influence the academic support provided to students?** By exploring faculty participants' assumptions about adult learners, the researcher looked to understand the rationale behind the academic support services they provided and whether these assumptions had any influence on the academic support they provided to students. Throughout the course of the study, there was a wealth of evidence that showed that faculty had formed distinct assumptions about adult learners, specifically adult learners in the medical education setting. An analysis of the data showed that these assumptions influenced how students accessed academic support provided by faculty and the level of academic support provided by faculty.

Regarding the academic support process, faculty participants made several assumptions about adult learners, especially those in the medical education setting. Keith shared:

I think it goes back to taking responsibility for their own learning. That means not just coming to class and expecting us to be able to pour it into them. Learning takes hard work. Most of the learning doesn't occur in a classroom, it occurs when they're studying on their own and working with classmates. Even with the physical skills, in learning how to do patient assessments and diagnosis and the simulated labs and simulated exams.

Yeah. Seek out. Come to the faculty members when they don't understand concepts, get to know their classmates, to know a classmate that might be stronger in particular area and that they can feel free to go to them for help as a classmate. They're going to have to do it when they're practicing real medicine. They are not gonna need to know all the disciplines as an individual specializing, so then they have to know what specialists do you go to to find out some answers that they don't know. To be able to realize when they don't know, realize what they don't know, and know which specialist do I go to, which one do I know, who might know this answer, or who in my patient care team can I go to. It's self-awareness too I guess on the part of the students, understanding what they know, what they don't know, when they need to get help, when they don't need to seek help, and maybe understanding other people to know when to help them with something.

Tristan held similar assumptions, stating:

I think medicine in general, and teaching as well, in the past had been a whole lot more patriarchal. I'm in charge, you're the learner, what I say goes. I say, "Jump!" and you say, "How high?" and you go on your way. I mean, I see these people as future peers in a matter of years. Not at all that many years, less than a decade of years potentially. Yes,

so I expect that they utilize the resources given them, meaning they have access to any of the presentations, are given links to videos to look over stuff, they know we have office hours, they know our emails, that if they need help that they will come get it if anything is fuzzy. And I trust that they also know like if I made it to medical school, I know there's deadlines, I know I need to prepare for deadlines. Maybe they didn't know that the first semester 'cause they were learning about, "Oh, this is a little different than undergraduate," but after that it starts to kick in. And I would say the school has a model that you communicate it clearly to students that we trust that whenever they show up they're giving their best effort. And that's if there's a concern or problem, we want to help out, do whatever we can to clarify it, make things more understandable and that we want them to come in good faith knowing that we're not out to demean or harass or, "Oh, maybe you're not gonna make the cut." And I think it keeps it a healthy environment.

Jing, too, held similar assumptions of adult learners:

I would expect them to be more proactive and we should give them more autonomy and impose less on them. We do not have to be too proactive in supporting them in a situation. Give the initiative to them. Also, these students are typically more prepared when they come, unlike my undergraduate students who come because they don't know how to do the homework, and basically you have to go over every problem with them, so they come basically asking you to do their homework for them. We don't expect that with medical students.

As shown, Keith, Tristan, and Jing had formed very similar assumptions about adult learners. They each assumed adult learners to be self-motivated, responsible, and self-aware in the learning and academic support process. These characteristics were highly valued by Keith,

Tristan, and Jing since they saw them as necessary for adult learners to use the resources available to them, including academic supports. According to these participants, the use of available resources, including academic supports, required adult learners to initiate the use of said resources and supports, placing responsibility for initiating the academic support process on the student. While these faculty participants were willing to provide academic support, and communicated their willingness and availability to students, they did not actively reach out to students who were experiencing difficulty but instead, placed this responsibility on the student. For example, Tristan relied on students to stop by during his open office hours if they needed support with the course, he was teaching in. When asked if he reached out to students in the course he replied, “So, personally I don’t” and went on to explain how, as teaching faculty for the course, he did not have access to the students’ grades. Keith also cited his open door policy and willingness to meet with students, but when asked if he reached out to students who needed support, he responded, “Maybe you can reach out to them say, ‘Hey, do you want to come in and talk?’”, or maybe they are taking care of it through other channels’. It’s usually the student reaching out to me.” Jing also took a more passive role, placing the responsibility for accessing academic support on the students. Further, these faculty participants showed an expectation that adult learners enter into the academic support process knowing the cause of their academic difficulty and soliciting focused academic support. These faculty participants expected all adults to enter the medical education setting with these characteristics well established. As such, Tristan, Keith, and Jing took a much more passive role in the academic support process since they assumed that all adult learners should have an inherent set of characteristics that enabled them to find and access the academic supports that they needed. Therefore, their assumptions

about the responsibility of adult learners in the academic support process appeared to influence the way in which students accessed their academic support.

Although there did appear to be a direct correlation between Tristan and Jing's assumptions about adult learners and the way in which students accessed the academic supports they provided, it should be noted that there was evidence that other factors may have also played a role in their approach to academic support. While Tristan's assumptions about adult learners appeared to have guided his more passive approach, his lack of being assigned advisees, his disconnect from the first- and second-year curriculum due to only being on campus one day a week, and not having access to students' grades for the courses he was teaching in may have also precipitated a less proactive role in providing support. Added factors may have also played a role in how students accessed the academic support provided by Jing. In discussing how students accessed the academic support he provided, Jing communicated uncertainly about his knowledge and skills to help students who were experiencing difficulty. This uncertainty, coupled with his assumptions of adult learners, resulted in a passive approach to the academic support process.

Although the remaining three faculty participants verbalized similar assumptions about adult learners as Keith, Tristan, and Jing, there were distinct differences, which resulted in distinct differences in how students accessed their academic supports and differences in the level of academic support provided. Although Robert shared the assumption that adult learners be academically responsible, which included responsibility for seeking academic support when needed, he also indicated that these assumptions were tempered with a dose of reality. He stated:

My expectation is that they would get help when they need it. I don't know if that's a realistic expectation because for so long they have seen success, that they're not used to

getting help. Then I imagine they don't think they have time to get help just because of the pace of the material. Falling behind is a real fear and it happens routinely. But then also it's a pride and humility issue. Who likes to admit that they're struggling? And so, I think that's an expectation that I have. And the academic counselor says a lot of times they say, "Oh, I think I should be able to handle it. I am an adult. I'm in a medical school. I should be able to do this even with personal issues. I should be strong enough to handle this and if I'm not, then there must be something wrong with me 'cause I look around and I see everyone else being able to handle it." I think in conducting some surveys that students are willing to listen to help if they're approached. You know invited for a talk or even informal talk in the hallway or something. "How you doing? Hey, have you considered this?" Another expectation would be that they've got it together more than we think they do, right? Okay, we forget our struggles as a student. I don't like to admit the number of times that I was not a good student, right? Did I always read the papers that I was supposed to? That I would do everything, all my assignments on time. You know, did I write my papers and then revise them and have my friends read them because I was done two weeks ahead of time. You know, no. How times did I have to get up early to finish a paper on the day it was due? And so, I think the expectation is that they have it all together when they don't and that it's okay to not have it all together. But I don't know that we communicate that very well with this expectation.

Just as the earlier three faculty participants, Robert also indicated that adult learners should assume primary responsibility in the academic support process. He too, expected adult learners to seek support when needed. However, Robert acknowledged that he may have formed unrealistic expectations of adult learners simply because they were adults. His thoughtful



reflection of his past experiences as an adult learner and his consideration of the unique setting of medical school showed that there was more to his assumptions about adult learners than initially stated. Thus, while Robert initially indicated that adult learners take primary responsibility in the academic support process, it became clear that his assumptions of adult learners were more complex. Robert did not assume that the help seeking behaviors of adult learners should change merely because they were adults. He based his assumptions on the needs of all learners at different points in their academic development, which included the assumption that adult learners often need inducement to seek support.

The influence of Robert's assumptions of adult learners in the academic support process is visible in the academic support he provided. Of all the faculty participants in the study, Robert took the most proactive role in the provision of academic support. In addition, the other faculty and student participants commented on the academic support he provided to students. Robert instituted an initiative to contact each student who failed an exam in the course he co-chaired, and he tried to meet with those who passed but had lower passing grades. He also often asked the academic counselor who was struggling in other courses in which he was not involved to ensure that someone touched base with them. He also worked to keep contact and follow up with all of the students he met with. He also cited the importance to go beyond academics when meeting with students, as issues outside of school often precipitated academic challenges. He noted that his approach was based, in part, on the fact that students "won't always necessarily ask for help but I think they appreciate when the offer is there." Thus, while Robert's assumptions about adult learners held that they should have the knowledge and ability to take primary responsibility for their learning, Robert also recognized the inability of many adult learners to take this responsibility. As such, he actively monitored and contacted students who

were experiencing difficulty in an attempt to assist them in utilizing the academic supports he offered. Therefore, Robert's understanding of the needs of all learners, helped shape his expectations of the students he worked with and certainly influenced how students accessed the academic support he provided.

The same was true of Chinara. Throughout the study, Chinara spoke extensively about her assumption that adult learners should take responsibility for their own learning, including taking the initiative in reaching out for academic support. For Chinara, this included the assumption that adult learners have self-awareness as to their strengths and weaknesses in the learning process. In describing this she shared:

One of the things I expect is that they will be able to evaluate the situation and come up with, this is where I am struggling, and this is why I think I'm struggling. When they come to me, I'm not expecting that they will want me to make a diagnosis for them. Well, maybe in the process of our discussion they might realize the reason why it's working out this way. Some come into my office and they seem to have no insight at all into whatever is going on or you have the ones that will blame the professor, "It's the way that he taught it which is very different from what the textbook said," or "cause the textbook is too hard or was too boring," then I know that I have a bigger problem. This is someone who is not really taking responsibility for their own learning. That's when I dig more into it. So, what's your motivation? Why did you decide to study medicine? Is this something you want to do for yourself or because somebody else is pushing you? I always expect that they will take initiative because as adults, if you aren't interested in something then don't do it. So, it's not my responsibility to try and hijack the courses

and do you a favor. I'll be there to support you, but I want them to be able to come to that conclusion. This is where the problem is, and this is what I'm willing to do face it.

As evident from her statement, similar to the other faculty participants, Chinara also indicated that adult learners should assume primary responsibility in the academic support process. However, her statement revealed that there may be more to Chinara's assumptions about adult learners than showed. In speaking of her assumption that adult learners have insight into their learning difficulties, she also reported that some adult learners may not enter into the academic support process with that insight. Instead, according to Chinara, some adult learners may need guidance to fully discover the cause of their academic difficulties.

To discover more about Chinara's assumptions about adult learners and if these assumptions had an influence on the academic support she provided, more exploration was necessary. Upon examining the academic support she provided, the researcher discovered that Chinara actively monitored the progress of her advisees, often times seeking out their course grades when they were not provided to her as usual, and contacted those students to schedule a meeting to discuss the poor grades. She also took an active role in monitoring and reaching out to the students in her group from the Patient Centered Medicine course and in courses in which she served as the course director. She shared that she was vigilant to changes in a student's demeanor during classes or group meetings, which prompted her to start a conversation with them. In addition, although Chinara verbalized that she expected adult learners to arrive with insight into the issues causing them academic difficulty, stating, "I'm not expecting that they will want me to make a diagnosis for them," she spent a great deal of time helping students dissect the problem. Chinara provided an example of what this might look like in a meeting with a student:

So, I do everything in the sense that I'm not just focusing on content because I know that they're human. Yes, they are in medical school but there are so many other factors that contributes to their success so I ask about how well are they eating, are you eating on a regular basis, what are you eating, are you eating healthy, or just living on protein bars, are you exercising, do have a routine that you follow, how about sleep, are you only just getting by or 24-hours of sleep, what do you do the night before, how do you prepare for difficult subjects, the areas where you really know that you're stronger with, how about testing assignment, is that something you value with, is it new, is it something you struggled with before, do you have any pre-existing conditions, learning difficulties. So, I ask about everything. How about personal relationships? Do you have full support from family or friends or did you have to move from across the country to come to school here? Who would you identify with and how are the things going in the social aspects of life, do you have friends, church family, if you are Christian, or if you just got here and you just stream over YouTube? I cover all the different aspects because none of us are one dimensional.

In another discussion, Chinara provided more insight into her assumptions about adult learners and gave insight into her beliefs about her role as a teacher, which applied to her role in the academic support process as well. She shared her belief that although adults have a high degree of responsibility for themselves, that both the learner and the teacher had to be willing participants in the learning process. She shared, "If I'm so excited to teach you and you're not interested in learning or, if you're so excited about learning and I don't do a good job by getting the information across, it's not going to work." Thus, like Robert, Chinara maintained elevated expectations of adult learners, but she did not assume that their help seeking behaviors change

merely because they were adults. Chinara assumed that adult learners needed guidance in the learning and academic support process, much like younger learners, and she also assumed that adult learners often needed inducement to seek support. A more complete picture of Chinara's assumptions of adult learners found that her assumptions of adult learners did have an influence, not only in how students accessed her academic support, but also in how she provided academic support.

Finally, as with the other five faculty participants, Randy also had formed distinct assumptions of adult learners in the medical education setting but like Robert and Chinara, he also recognized that many students did not arrive to the program as adult learners. In discussing his assumptions of adult learners, Randy stated:

First thing is, is to get them to be an adult learner. Some assumption there, maybe it's not always correct. I think they need self-motivating expectations. Mostly that they put the time in and their work ethic. Once they're here, I can't do anything about their capacity. I expect them to be serious about why they are here. I think that's a whole process of linking them as an adult learner. I don't think that they come here as an adult learner and so is an incumbent on, I mean, some do obviously, it's incumbent upon the administration to create an environment of adult learners and to foster that transition for the students. I think you have to respect them and treat them as adult learners, and not treat them as high school students. Most people will respond to that if you can show them that we respect why they're here and you want and what's the best for them. It's really important to respect these kids and put the responsibility on them, not take the responsibility away from them, but give them the responsibility so that they own their own responsibility and not like pretty much, you know, if you're not an adult learner the

learning process is on somebody else. You're there passively to say, "Hey. Give it a shot. Try and make me learn something," which is more of an undergrad type of thing. This should be totally different. Here, they should be saying, "Give it to me" and that they should accept that responsibility and it should become intrinsic to them. The less responsible that I have to be, and the institution has to be, the better it is in fostering them to be a true adult learner. That would be at any school. I'm not saying this is a specific claim to this particular school. If you don't respect them and you don't give them the responsibility, they're just not gonna do it, and they will continue to look outside of themselves or somebody else to be responsible.

As indicated, Randy's assumptions about adult learners included the assumptions that adult learners be self-motivated, have a strong work ethic, and assume responsibility for their own learning. Nevertheless, he also shared his assumption that many students, upon arriving to medical school, were not capable of navigating the medical education environment as adult learners. As such, he shared his belief that these students needed guidance to be able to meet his expectations of an adult learner. This included respecting students, giving them responsibilities, and holding elevated expectations of them. However, it was difficult to determine if Randy's assumptions influenced the academic support he provided due to inconsistency in his provision of academic support. For example, Randy had formed close relationships with the students he worked with in the research lab and with his advisees and shared that he checked in on the students in these groups routinely. When asked how often students reached out to him to for academic support, Randy relayed that it was constant in the research lab but lacking for the courses he taught. When asked if he reached out to students outside of those in his research lab or advisee groups to provide academic support he shared, "I don't think that would have a point.

Due to HIPPA and stuff were not really supposed to dig into people's brains and things like that, so I don't know." Although Randy appeared to maintain high expectations of students in both his lab and advisee groups, he appeared to be more proactive and engaged in providing these students' academic support, as compared to other students. Outside of those two groups, Randy appeared to expect students to initiate contact to receive academic support. Thus, while he believed that many students did not arrive capable of performing as adult learners, the support he provided to these students varied depending on his relationship with them; therefore, there was little consistency between his actions on the initiation of support services. As such, the findings on the influence of Randy's assumptions about adult learners on how students accessed his academic support was inconclusive.

In summary, the study provided rich evidence that faculty had indeed formed distinct assumptions about adult learners, especially those in the medical education setting. These assumptions included that adult learners were more motivated to learn and seek support, more insightful about their progress, and more self-aware of their strengths and weaknesses. Further, faculty placed a great deal of responsibility on adult learners and assumed that they should take primary responsibility for their own learning and should ask for academic support when needed. However, some faculty participants viewed the characteristics of adult learners as variable, differing for each student based on the development of that student and the learning environment they were in, instead of a static one-size-fits-all mentality. Those faculty participants who saw the characteristics of adult learners as developing over time and over situations were more proactive in the academic support process, often starting contact with students and providing more guidance in helping students' problem solve. Those who assumed that all adult learners come to the table with an inherent set of characteristics were less proactive and expected students

to start the academic support process, as well as to be able to identify the cause of their difficulty and solicit focused academic support. Regardless of the complexity of faculty's assumptions about adult learners, these assumptions did appear to influence how students accessed the academic support provided by faculty and the level of academic support provided.

**Research sub-question two: How do faculty perceptions of academic performance influence the provision of academic support?** In exploring how medical education faculty provide academic support to first- and second-year medical students, this researcher looked to understand if their perceptions regarding academic performance influenced their provision of the academic support. Interestingly, in discussing how they defined academic performance, many faculty participants described it in terms of how they assessed students. This was useful in helping to analyze if a connection existed between faculty participant's perceptions and the academic support they provided. During the study, it also became clear that faculty participants' perceptions regarding academic performance also included their perceptions about the challenges of medical school and why some students were successful academically and others were not. When examined holistically, the findings suggested that faculty participants' perceptions of academic performance were complex and of a multi-dimensional nature. The findings also suggested that faculty participants' perceptions of academic performance did have an influence on the academic support they provided. For some, a direct influence was very clear, for others, although present, the influence was much less direct and complicated, highlighting the complexity of the academic support process.

The exploration of this research question began by exploring faculty's definition of academic performance. In defining academic performance, Chinara was the first of three faculty



participants who defined it by the way in which faculty assessed students' performance. In describing academic performance, Chinara stated:

I would say grades are the most subjective way of making assessment of academic performance, but I also know that your patients don't care about your grades. I am also aware of the less objective and more subjective ways of assessing performance in the classroom. We have standardized patient encounters and that's another way we assess pass or fail. Some students really do great in the written test but when it comes to the interpersonal relationship with the patients, they just can't handle it. So, that's another routine assessment for academic performance. The other thing that we tend to look at is how are you with your peers? Do you study by yourself? How about when you have to work with other people? How are you going to work with department, the anatomy lab for example? You have to work together in small groups, how are you in terms of working on the team, what is your team spirit? That is also, in my opinion, a way to assess a students' performance. Yes, it does not determine your board scores but because you're gonna be involved in taking care of humans, that is something you need to be looking at.

Keith, in describing academic performance, also chose to discuss it in terms of evaluation. He stated:

Well, academic performance goes beyond just the grades that they're getting on exams for me, it goes to competencies and what I would like to see is competency-based grading. So, when they graduate, we have a list of competencies that the students should be able to do these things when they graduate. But then we're stuck with giving grades and how well they do on exam. They might be able to do well on exam but not be able to

meet the competencies and not be able to integrate all the different disciplines of basic sciences together with the clinical sciences; whereas, the competencies would look into whether they are making all of those connections and putting it together, integrating all of the information. So academic performance has to go beyond just the grades that they get on exams. And it's a difficult thing to try to approach and try to grade competencies. It takes more than multiple choice exams, they could take oral exams, they could take written essays but then, when you're dealing with almost 170 students how do you grade all those and get the feedback to them so that they can learn where their mistakes are and correct those mistakes. I think we know students are great at memorizing, regurgitating out and doing great on exams but then you get them into an examination room with a patient they might not be able to do anything because it takes the cognition, physical skills, values, and attitude all together. You know those who turn out to be good doctors must be competent in all those levels and have appropriate values and attitudes.

This was true of Tristan as well, who spoke of evaluating students' ability to effectively communicate with patients and show respect and empathy toward patients. Although discussed in terms of assessment, it was clear that Chinara, Keith, and Tristan viewed academic performance as multi-dimensional. Beyond exam grades, they also named interpersonal skills, ability to integrate the basic sciences with the clinical sciences, and patient care as important measures of academic performance.

Other faculty participants also viewed academic performance as multi-dimensional but were able to discuss it outside of how it was evaluated within the medical education setting. Randy's view of academic performance included not only how students were performing in their courses, but how they were preparing themselves for residency and beyond. For Randy, one

measure of academic performance included whether students took part in “serious research experience,” which he believed made the student a more competitive applicant for certain residency positions. He also regarded academic performance in terms of the students’ ability to understand their role as a student doctor and future physician. Robert shared a perspective about academic performance not verbalized by other faculty participants. In discussing poor academic performance, he stated:

My first answer would be, “Okay, look you're not passing,” which is the most obvious one. But I think a deeper, more meaningful answer might be not performing up to the best that you could. And I know there are a lot of extenuating circumstances. We have a number of students who were married, and they have children. So, they might choose to get a little bit lower grade than they could have. They're just like, “If I were single and all I had to do is study,” but I think even for them we'd say, “Okay, let's look at how you're utilizing your time. Could we make some tweaks to even maximize that time even more?” Because at the end of the day, you're going to take a national, standardized, graded exam without people taking into account, “Oh, well he's got kids, we'll cut him a little break.” And not that we do that here, but I think if I'm a little more accepting of that, you know, then there's this standardized exam, so I think that even someone who is getting an 83 could be performing poorly academically, if with a little bit of guidance and some tweaking they could be getting a 88 or an 89. You know that's my idealistic definition because that would take a lot of intervention, a lot of academic support.

Instead of defining academic performance according to a strict set of performance standards, Robert took a much more individualized approach to defining it. He recognized the need for established performance standards against which one could judge students’ academic

performance. But he also acknowledged that academic performance varied among students. Even though a student may be able to meet an established standard, they may not be performing to their potential. Thus, he perceived academic performance as individualized even though students must meet the same academic standards of the institution.

One faculty participant, Jing, appeared to have a much narrower view of academic performance for first- and second-year medical students than most of the other faculty participants. His view of academic performance tended to focus on how well students were doing in the biomedical science classes, showed by their exam grades and board scores. When asked to define poor academic performance, he shared that it “is constantly struggling to keep up with what we are teaching.” While not specifically about exam grades, this definition of poor academic performance highlights that Jing’s perception of academic performance is centered on the students’ ability to understand the content presented to them in a timely manner, as demonstrated by exam grades.

In discussing academic performance, faculty participants naturally gravitated to sharing their thoughts about the factors that could have an impact on a students’ academic performance. Chinara included sleep, eating healthy, learning difficulties, personal relationships, and social aspects of life as some of the factors that affected students’ academic performance. However, she believed that the primary reason that some students were successful, and others were not was the students’ level of motivation, commitment, and perseverance. She stated:

I don't think there is only one factor. Of course, a lot of times we instinctually draw lines but we have to be willing to look at each individual case. But, in general, one of the things that I always say that you tend to find is motivation. So, if somebody has an internal motivation, they would probably have higher chance of overcoming every

obstacle they encounter compared to somebody who doesn't have an internal motivation. Someone who has a natural motivation and knows why they're here and what they want to accomplish, they are more likely to be resilient and stay with it and keep staying with it. The person doesn't have that natural motivation or loses that one solution for whatever reason when things happen to them, maybe they lost interest and thought that it's not really what I anticipated and what I would be doing for the rest of my life or catastrophic things happen and they just give up. That is the immediate thing that I would say. They have of course all of the other supports; the curriculum, how the curriculum is designed, how it's delivered, what kind of support is available to maximize success and somebody who's struggling, is the environment conducive, how he gets support from peers or faculty or staff and all of that, but I believe that those are secondary. The primary thing is, "Okay, I'm committed. I want to get this done and I want to make it happen. I'm gonna hang in there until it happens."

Keith also believed that there were a multitude of reasons for the variation in academic performance among students. He stated:

There is probably a lot of factors going into that. Some of them, as mentioned before, have better time management and organization skills, so that they're able to prioritize what they need to know and go through that information and catch on to what they need to know more quickly than other students who might be more haphazard and scattered. And some probably relates to their undergraduate training, what school they've gone to as an undergraduate and how well they've been prepared at that undergraduate institution. Some of it I think depends on whether they try to do everything by themselves or whether they get in the study groups and work with other classmates. Undergraduates, in some

places, they get into that competition, so they don't want to share with other students. Here we are trying to get them to realize, you're gonna specialize in a discipline, a medical discipline, so you gonna see patients that may be outside, so you are going to have to consult with your peers, work with your peers. So, that's part of the team-based learning, how to work with peers and that's why when I interview applicants I ask them, "How do you study?" Those students who say, "I study to get the background and then I get into a study group so I can discuss the information, share ideas, and then explain things to each other, and teach each other," I think the students who are able to do that, not isolate themselves too much, apply more successful. I don't know for sure, but I would hope so. Then they get a better perspective of medicine. There's a lot of things that students can share with each other based on their backgrounds. Not only academic backgrounds, but experience as well. What they've done, mission trips that they've been on, whether they've been orientation advisers, whether they've even been a resident hall adviser in the past, what they've done in their volunteer work. Maybe some those students maybe get a better, bigger picture. Maybe they are the more successful ones. I think I would have to go back to what's going on with them outside of the academic setting. Whether they're married and have children, so they have to balance their life with that as well. That's a challenge to learning because then they have to really use their time management. Time to balance their life, time to spend with spouse and children and time spent studying on their own or with their classmates.

Although Keith recognized that several factors were involved in a students' academic performance, he reported that the underlying factor of academic success was the students' ability to make content connections and see the big picture. Tristan also spoke extensively about the

challenges of medical school and outlined a multitude of factors that might affect a students' academic performance.

So, I think like a lot of things in life that require a lot of work, balance is a difficult one. So we're asking students to commit a large amount of time in classrooms, in labs, and then a greater amount of time outside of those hours actually investing your own time studying, and we still tell them to eat healthy and exercise and brush your teeth and use the bathroom and get a healthy amount of sleep and interact with their kids or stuff if they have them, be involved in the church, volunteer, be part of an organization in medical school, like the government or whatever interest club. But I think one of the struggles is competing good, right? How do I do what's going to be most effective for my learning and my career, and meet the expectations of the faculty and my parents and what not and still remain sane? Also, there's certainly a subset of students, 'cause we know this is true in any population that have mental issues. I've known about the number of students who struggle with depression or depressive symptoms, but there are also statistics that about two-thirds at some point in their medical school career have significant depressive symptoms. And sometimes it takes a certain amount of stress to trigger those mental health issues to become problematic. And so, you know, that's probably a component of it. Medical school is also different in that you have people who are in different stages of life. You've had people who have gone into the world, they've had jobs, they've been responsible for other people and now they're coming back, and they're being put under authority again in a sense with faculty, and for some of them that's a real struggle. And then you have students who are just entering new phases of life. People who got married at the end of undergraduate and now they're trying to balance social relationships with a

new spouse, maybe they just had a kid or spouse is having a kid, or they're trying to be a new parent while taking on this sort of stuff. And I say that not to demean, I was in that boat. I had a kid between my second- and third-year of medical school, my first kiddo. Glad I did, but I mean, for some people that added layer of stuff doesn't equal good academic success.

Jing agreed with the other faculty participants in that there were many factors involved in shaping a students' academic performance. In addition to citing the challenges associated with the volume of information and length of courses, Jing shared his perception as to why some students are academically successful and others are not:

First is your academic background. Secondly the external situations. Some students come here with a larger family. Some are estranged from parents. I see students that struggle due to those reasons. I see quite a few. If you have support and don't have any distractions, with the proper background it is not so hard. The biggest challenge is for those students who do not have a biology background. For admission we like diversity, but as professors, we like those that are as prepared biologically as possible. The biochemistry that we teach, the microbiology that I teach, I would say it should be a good review. If you have already had it in undergraduate, then we build on it and focus on medical health related issues. But if you have never had them, it's going to be overwhelming.

In discussing academic performance, Robert showed that his perception was very much the same as the other faculty participants. Similarly, Randy recognized that a multitude of variables were involved in shaping the academic performance of students. However, Randy



believed that the primary variables impacting a students' academic performance were the students' capacity for medicine and their work ethic. He stated:

You have to such a capacity and not everybody has the same capacity. I think that's where the problem comes in, well, that and the work ethic. I would say that's part of it. You know, I've seen people who have a tremendous work ethic and then they just don't have the capacity and that's kind of a raw thing. You are kind of endowed that as a gift or you just don't have that, I mean that's just life. I'm not a professional basketball player because I'm not endowed with those gifts, it wasn't gonna happen, you know. So, I played basketball, I like basketball, but imagine me as a basketball player, no, not so much. Medicine is the same way. You have to be realistic with yourself and understand whether or not you have the capacity or not to start off with. And then it's the work ethic, because it's a lot of work, not just medical school but after you get out. I think either you're here and you have the capacity and the work ethic to do it or you should not be here. If you have psychological issues, you should get those addressed. Things happen with people that are temporary things and stuff.

These discussions supplied valuable insight into faculty's perceptions of academic performance, as examining the many components that make up a student's academic performance provided only part of the information needed to have a well-rounded view of faculty's perceptions on this matter. Further, both components when viewed together were necessary when examining how these perceptions influenced faculty's provision of academic support as will be shown.

A thorough analysis of this research question from many different perspectives revealed that faculty perceptions of academic performance did indeed influence the way in which they

provided academic support. For some, this influence was straightforward. This was true of Chinara. Since Chinara perceived that academic performance was measured through various means and attributed intrinsic motivation, commitment, and perseverance as the keys to academic success, the academic support she offered centered on guiding students through a discovery process to help them determine the reasons for their poor academic performance and give them strategies to overcome those reasons. Thus, Chinara's perception of academic performance was in direct alignment with the way in which she approached academic support.

Although it was difficult to assess whether Tristan's perceptions regarding academic performance influenced the academic support he provided since the academic support he provided to first- and second-year medical students was limited by only being on campus one day a week, it was apparent that there was some influence. Furthermore, as in Chinara's case, the influence was straightforward. Tristan recognized his limited role in this area, but he did provide some evidence of providing multi-dimensional academic support, which aligned with his perceptions regarding academic performance. In explaining what his meetings with students consisted of, he stated, "Content is the large part of it, but as you're having interactions with students you can tell if they seem anxious, down, or overly confident. So, there's the non-verbal stuff that I try to address with students as well." He also spoke of providing academic support to his group of students in the Patient Centered Medicine Course. Thus, although limited, Tristan's perceptions about academic performance did appear to influence how he provided academic support.

Finally, influencing Robert's approach to providing academic support was his perception of academic performance. Robert disclosed that his vision of academic performance, and subsequently his vision of academic support, included any student who was not performing to

their potential, and as multiple factors shaped a student's academic performance, he took a very individualized approach to providing academic support, stating:

I really try to listen to them and pick up on clues of what they're doing now and what works for them. Several times students have come in and they'll say, "So and so is doing well and he does this." I will respond, "Okay, that's true but does it work for you?" and a lot of times they say, "Not really," and so we'll just really figure out what does work. And a lot of times, I don't need to come up with a new study method for them. They know often what works, whether it's reading, whether it's listening to a lecture capture again, it's just a way to figure out how to do it more efficiently. So, it's not taking two to two and a half hours for every lecture and falling behind every day. Like you know, okay if they've got five lecturers and the professors say, "You've got to study it tonight." Okay, yes that's true on paper but they also have to sleep, right? And my experience, being at Osteopathic school is this is holistic, it can't just be the academics. You've got to take breaks, you've got to eat, you've got to see the sun and breathe some fresh air every so often. And then here we would encourage students to be involved to some extent at a local church. Although that's not a requirement and then I would say, "Oh, if you don't attend church I'm not going to help you academically." No, of course not. But that will be an aspect that they would be in a right body, mind, spirit. And so really, you know, a lot is listening, and I've learned a ton from the academic counselor just saying, "Okay, is that effective? Does this help you study?" "Yes, but it takes a long time." "Okay, so let's keep doing that but let's try to shrink the time frame that you're using to get through that."

Thus, Robert's perception of academic performance resulted in an individualized approach to academic support that often-required deep analysis to discover the problem and the use of strategies on a trial basis to finally assist the student in performing to the best of their ability.

For others, the influence of their perceptions of academic performance on the provision of academic support was much more complicated. As described earlier, Jing's perception of academic performance was of a one-dimensional nature, with academic performance described as largely consisting of how students performed on course and board exams. Although Jing referred to the role that external situations could have on a students' academic performance, he suggested that the single biggest factor was the students background in biomedical sciences prior to entering medical school. As such, while he did cite praying with students, the academic support he provided was mostly focused on helping students understanding course content. In this regard, the association between Jing's perception of academic performance and the academic support he provided was straightforward. However, Jing's perception about academic performance had an unexpected influence on his provision of academic support. Recognizing the stress medical students were under due to the challenges associated with medical school and the impact those factors had on students' academic performance, Jing had defaulted to employing a passive academic support process that would not add to the demands placed on the students. He stated, "What I do is less proactive and more passive, basically waiting for them to approach me, and if I have to approach them, I would do it very gently." Jing also shared that most of the academic support he provided was through email, largely in response to a student emailing him, and largely related to academic content. Again, Jing's perception about academic

performance did have an influence on the academic support he provided but this particular aspect was much more complicated, proving the complexity of the academic support process.

Randy's perception of academic performance and its influence on the academic support he provided was complicated as well. In many ways it was clear how his perceptions influenced the academic support he provided. For example, the academic support he provided through his research mentorship with students was directly influenced by his perception that participating in research experience was a measure of good academic performance. Also, as he defined academic performance in terms of the students' ability to understand their role as a student doctor and future physician, he deeply valued the academic support he provided through the advisee group meetings where he guided students in thematic discussions aimed at provoking self-exploration of their roles. Finally, as academic performance also included student's performance in courses, Randy spent a great deal of time and effort preparing his lectures, which he considered a key form of academic support. However, there was another side to Randy's perceptions of academic performance that was not as clear. Regardless of the fact that Randy acknowledged that multiple components made up a student's academic performance, that multiple factors played a role in the academic performance of students, and that he provided multiple forms of academic support in response, he concluded that students either had the capacity and work ethic to be successful or they did not. In fact, he was quick to say that students who were demonstrating poor academic performance should choose another career. When asked if he believed if a struggling student could continue in the program and be successful with the proper academic support, Randy stated:

I think you have to look at as, is this a systemic issue or a transient issue? One of my advisees, who also worked down in the lab, she has ulcerative colitis really bad and she

had a bad flare and on top of that, her alcoholic dad ended up dying because he went into DTs and wouldn't go to the hospital, so, there's some issues there. She's a wonderful person. She will make a really good doctor someday, but she decided wisely that she should sit out for a while. I think that she should be welcomed back with open arms and provided personal and emotional support to get through that experience because she will be a good doctor.

Therefore, while Randy acknowledged that there were factors that influenced a student's academic performance, was sympathetic to those issues, and believed in the provision of different forms of academic support, it appeared that there was a limit to his provision of academic support based on his judgement regarding the students' capacity and work ethic. Although slightly more complicated, Randy's perception of academic performance certainly had an influence on the academic support he provided.

The influence that Keith's perceptions had on the academic support he provided was complex as well. A preliminary examination seemed to show that Keith's perception of academic performance had no influence on the academic support he provided. Like other faculty participants, Keith viewed academic performance as multi-faceted, citing the need for students to develop competencies that incorporated a student's cognition, physical skills, values, and attitude. He also cited multiple factors as affecting a student's academic performance. However, the academic support he provided tended to be one-dimensional, focused on effective delivery of academic content and the integration of said content with other disciplines. In describing the academic support, he provided, he stated, "For me it's largely just trying to explain concepts to the students so that they understand the underlying basic concepts for pharmacology, which can involve biochemistry, physiology and bringing it all together." However, more reviews of the

data provided by Keith revealed that Keith's provision of academic support had influence by the perception of academic performance that he had to accept. As stated earlier, although Keith believed academic performance to be defined by more than grades on exams, he shared that he was not able to assess students beyond this since the college did not use competency-based grading. Instead, he had to define students' academic performance by exam grades. In accordance to how he had to assess academic performance, Keith aligned his form of academic support to match, offering academic support centered on academic content to assure that students could fulfill the requirements of the institutional measures of academic performance in his classes.

The concept of academic performance was complicated. Faculty participants expressed varying opinions about what constituted academic performance and the factors that affected a student's academic performance. However, when viewed holistically, the findings suggested that faculty participants' perceptions of academic performance were complex and of a multi-dimensional nature. The findings also suggested that faculty participants' perceptions of academic performance did have an influence on the academic support they provided. For some, a direct influence was very clear, for others, although present, the influence was much less direct and complicated, highlighting the complexity of the academic support process.

**Research sub-question three: What are the perceptions regarding faculty's ability to provide academic support?** As previously outlined, faculty participants came from various backgrounds with differing knowledge, skills and experiences and provided a wide range of academic support to first- and second-year medical students. Further, as outlined by research, few medical education faculty have formal qualifications in education and tend to develop teaching skills through personal experiences as learners, trial and error experiences, or through

ad hoc faculty development or training programs. This held true for the faculty participants for this study. While most had teaching experience, only one, Chinara, had formal qualifications in the field of education. Based on this reality, it would be important to gain an understanding of the perceptions about faculty's ability to provide academic support, as it may be helpful in understanding the role that faculty play in providing academic support.

Faculty participants' perceptions about their own ability to provide academic support varied among faculty members. Several of the faculty participants had a positive perception of their abilities. Chinara relayed her confidence in her ability to provide academic support, stating:

I feel like because I walked that road as well, I understand the challenges and the pitfalls and the things you need to guard against, but I also recognize that it's a totally different environment than I'm used to. It's a different generation, the distractions are different, social media to deal with and sensitivities are different as well, so I continually look for opportunities to create with whoever I'm advising with where they are rather than come with the preconceived idea that, "Oh this is what the problem is." I don't have a pre-diagnosis coming in. In my interaction with them, I just want to look at that individual and say, "Where are we here?" Of course, I'm not an expert. I don't consider myself an expert where I can see every student and say, "I know what you need to do." But I would say I feel really confident being able to advise them from an experienced physician standpoint and also having been in education for a number of years and I've got the clinical side, or now, going back to my pre-clerkship side of things. I feel pretty confident in my ability to provide academic support.

Robert also shared his perception that his ability to provide academic support to students was good. He stated:



My ability is getting much better. This is the second year that I've been involved in the course, heavily involved in this course, and as a co-course director and the first year we went through, I don't know why, but I just spent time, met the academic counselor and then started asking questions about the students and about their approaches. So, I've learned a bunch from her. Even this year I learned about questions and ways to approach struggling students. So, I think that it's good, adequate, you know? I don't think that I would ever be in a position to apply as an academic counselor to medical school, just because of my background, it would not be strong enough. You know, maybe in a few years if that were a possibility. Maybe that would be interesting. But my ability is adequate but getting better, really hoping to learn. I went to a fascinating conference last June on learning. I reminded me of some really good things and then I learned about some educational practices that people are putting into place.

Although Tristan had a very limited role in providing academic support to first and second year medical students, he had a positive perception of his ability to assist students in understanding the content in the course he was teaching, stating, "Certainly for what I teach, I'm able to help with that; otherwise, I direct them to the folks who are the course directors and academic support group we have in med-ed, down the hall." Beyond that, he was unable to supply any opinion on his abilities since the academic support he had provided was limited. Randy had an interesting response to my inquiry about his perception of his ability to provide academic support. When asked how he would describe his ability to provide academic support to students, he responded:

It depends on what... I don't like the question. I don't like the question because I don't think it's relevant to medical school. I think either you're here and you have the capacity

and the work ethic to do it or you should not be here. If you have psychological issues, okay, you should get those addressed. Things happen with people that are temporary things and stuff. You can say I'm a little bit hard-nosed about that issue. I think it's different. I don't see it that way. I don't like the question because I think the question doesn't apply.

After several follow up questions to try to understand what Randy did not like about the question and what did not apply, Randy stated:

I think that it's really important to support your students. That's what the advisee groups are for. But I interpreted your question to be more of just solely an academic question as far as learning material. If you say, ok these people are being supported, and I'm doing 110%, whatever I can to support them personally and spiritually to manage their stress and personal things that are going on in their lives and stuff. I'm not big on just pushing people through the system if they don't have the capacity or the work ethic to do what needs to be done.

It was never clear exactly what Randy objected to about the question. However, Randy did finally seem to indicate that he had a positive perception regarding his ability to provide personal and spiritual support to students.

Two of the faculty participants expressed less certainty about their abilities. Like Tristan, Jing had a positive perception of his ability to provide support for academic content. Jing also shared that he felt confident in his ability to provide academic support during the post-exam reviews due to his experience writing exam questions for the national board exams. He shared, "I write items for the osteopathic board so during the post-exam review I can better understand their arguments about questions," which allowed him to help untangle their misunderstanding of

content. However, he rated his ability to provide academic support for areas outside of academic content as lacking. When asked to describe his ability to provide academic support, Jing relayed:

I'm not very good at it. The content support I am more comfortable with more than life matters. Maybe there is a cultural barrier. It seems that I am not very good at finding their problems, analyzing their problems and helping them. I do not have much experience. I am not very good at interacting with the students. It is kind of a human skill that teachers need to know, but me, I am more of a scientist and not very good at it. That is my ability and my skills on how to approach students and gain their trust, so that they can tell me the truth. That takes skills. That is not my best strength.

Thus, Jing recognized the varying components of academic support and the different skills and abilities needed to supply said components. Although he acknowledged that his ability to help students in discovering the reasons for their academic difficulty and subsequently provide appropriate support was lacking, he was uncertain as to the reason his ability in this area was lacking. However, his perception was that he struggled in this area.

Keith also expressed uncertainty about his ability to provide academic support. While he was able to outline some of the strategies he used to help students better understand academic content, he reported mixed feelings regarding the effectiveness of the support he provided; thus, doubting his abilities. He shared:

That's a tough one here, because I'm not really sure. I don't have a whole lot of students coming in, so I don't know whether they are understanding material or just afraid to come in and talk to me. I guess it's a little bit difficult to gauge based on what they understand before they come in and after going over the material what they understand after.

Sometimes you gonna see that that, "Oh yeah, I get it now." Some others, it's hard to

gauge. I'm not really sure really whether after meeting with me, whether they have a better understanding or not. A lot of times, students asked, "How should I study for this task?" I'm not really sure what to answer, because their study strategies are maybe a little bit different than a classmate's study strategy. Even though I've given them suggestions on how to study and I've given them the learning outcomes in the study guide questions. Most of the time, I say, "Go through those study guide questions, if you read the question then go through your mind and think out an answer, or you can sit down and write down answers, or, if a concept map works better for you, use that." That's usually what I go back to in the study guide questions. Trying to get them to think of being able to compare and contrast different medications' mechanism of action. I keep telling them, "Don't memorize the mechanism of action for each individual drug. Put them into classes. And the reason why we put in the classes, because all the drugs in that class have a similar mechanism of action." I've had students in the past who try to memorize every single drug and then later realized that what I told them about learning the classes of drugs save them time and got them to understand it better. So, they came in, maybe a year later or so later and said, "Hi, I get it now! I see why you're telling us that and it would have saved me so much time and effort if I had done that to begin with." So, we can give them, we can tell them these tips and things to do, but whether they really understand what we mean, I don't know. I don't know whether they really understand what we mean and how to apply it to their own approach to studying.

Keith's reflection about his ability to provide academic support only included his ability to support students in understanding academic content. This was of significance and supported earlier findings that Keith's provision of limited academic support was to aiding students with

academic content. When specifically asked if he ever provided other forms of academic support such as helping students with personal issues, he replied, “Not here. I think I probably had more of that in the past when I worked at the pharmacy school.” In addition, although his account of the support he provided demonstrated knowledge of various strategies to assist students in approaching the study of pharmacology and better understanding the content, he expressed uncertainty in the effectiveness of these strategies largely because he was unable to evaluate whether students continued to appropriately utilize the strategies after meeting with him. In addition, he also expressed that his uncertainty was based on his inability to know what the student knew prior to meeting with him compared to what they knew after meeting with him, suggesting a lack of ability in being able evaluate a student’s knowledge and/or provide meaningful follow-up to monitor student’s progress.

Student participants also had mixed opinions about faculty’s ability to provide academic support. A few times, student participants shared positive perceptions about faculty’s ability to provide academic support. However, these examples were specific to a few faculty members and extremely limited. For example, Sarah supplied an example of a time when Robert, one of the faculty participants, contacted her because she had failed two exams. She relayed:

I failed my first two tests in anatomy and practical too, so I feel like I was really struggling with that class and by [Robert] just reaching out, emailing me, and just meeting up and having a discussion like, “Hey you’re so close, you’re getting 68 on the first two and you’re almost there, you’re getting that six out of 10. How do we get you to get you one or two more questions to get you at that 70 or 80?” When he said that it really put it into perspective for me because I was so hard on myself. I was like, “Oh my God, I can’t do this. How come I am not learning it? Why do I keep getting the same 60

or whatever on the first exam, the second, and the practical? I'm good at anatomy, what's going on?" So, he really put into perspective. He's like, "You're almost there, just try a little bit more, just one more pass and you'll get there." It's that open communication and like what Diane said, not being talked down to. He wasn't like, "What's wrong with you?" Nobody says that, but you know, that whole like, "You should've done better, like you should've studied." And I told him, I was like, "Look, things were going on in the outside world. I wasn't happy about what was going on and that distracted me significantly." There were days where I couldn't study because I didn't know what was going to happen and he understood that. There was even a point where he didn't even ask that, I just volunteered that information, so I didn't feel at all that I was being judged for not doing well on my first two exams and I think that is huge and I think faculty should be like that. It's just the whole thing of making you feel like you are smart, and you are okay, and everyone has little hiccups in their road and I'll be okay and not being judged. I think that's huge for many of us because we're here, so we're not used to having this type of failure.

However, outside of a few examples, the consensus among student participants was that faculty were limited in their ability to provide most forms of academic support for assorted reasons.

Several of the student participants shared the opinion that many of the faculty do not have the ability to provide certain aspects of academic support based on their credentials. For Luis, this opinion emerged while he was speaking about the academic support provided by a course director in response to a poor course grade. He shared:

He was pretty able to help because it wasn't a clinical type of class, it was our Foundations of Medicine course. He was able to kind of navigate me like, "Hey are you trying this? You should try this." He was able to kind of tell me what we'll focus on more during the course instead of trying to focus on a little of things. So, it was helpful when he reached out but as far as like the advisors reaching out for at least second year, like, I have an advisor who has a PhD as a researcher and he knows so much, he's super smart but I don't know how I would be talking to him. Other than just being like, "Hey, is everything okay?" as in like a personal, just like a check-in, like a mental check, "Are you doing alright? I see your grades are falling. Is everything good at home? Is everything good school-wise? How are you mentally doing?" I think it would be hard for him to advise me academically. I think the hard thing is not that not all of the advisors are physicians, or they don't have a medical background other than being a PhD in immunology or biochemistry. So, I think it's kind of hard to be an advisor in that aspect. It would be for me, anyways, to advise somebody if they're failing something that I've never done. I don't know what to say to you. You have to study better I understand that there's probably the same stuff that a PhD in biochemistry goes through as a student but they are much more in depth in books.

Molly shared a similar opinion about faculty's ability to provide academic support based on credentials. She specifically shared her belief that faculty with PhDs may not necessarily know what is on board exams since they didn't have to take them. Diane also alluded to faculty limitations in their ability to support students in specific areas due to their credentials. When discussing her experience appearing before the academic board for failing two courses in her first year of medical school, she shared:

I will say, I wish there were more clinicians on the board, it was more like PhDs, academic professors, not necessarily the clinicians, because I think that they, I hate to say it, but they're more, "Great, great, great, why didn't you do this?" There was one clinician the first time that I was there, and he was like, "Y'all, give her a break, she'll be fine. I understand, I've done this." So that was a little stressful. So, for my experience, when you met with them it was just to see, they're basically saying like, "You failed two classes," and I'm like, "Okay." "Do you think you can remediate?" "Yes." And then you have some professors who are like really going at you like, "Are you smart enough, blah, blah, blah" and I was like, wow this is not the time sir. That's hurtful. Anyway, so much for support. And then the second time I failed they were like, "Okay come back in, we'll talk to you," and they just talked at me and it was not helpful and they made me cry and I hate crying in front of people so I was like really angry about that. The second time it wasn't really that helpful. You meet with the dean after that and that's more helpful because he's like, "Okay this is what you're going to do" and he kind of talks with you. But the second time meeting with the academic committee it was like it was talking at me. I know I failed, I already feel bad about what you're saying to me. They weren't giving me anything helpful. That type of thing.

According to Luis, Molly, and Diane, faculty who had not completed medical school were often ill equipped to advise students regarding certain aspects of courses, board exams, or general academic difficulty since they had no personal experience with those courses or with being a medical student. While Luis and Molly made assumptions about faculty's ability to provide academic support based on credentials, they did indicate that faculty with PhDs may still be able to provide certain types of academic support, especially those aimed at providing content



support in that faculty member's field of study or those designed as simple check-ins with students.

Diane, David, and Pooja also shared the opinion that clinicians were better able to provide academic support than those faculty with a PhD. However, their opinion about faculty ability was not based on the knowledge or experiences of these faculty members but on their personality. The following exchange between student participants revealed this opinion.

Diane said, "I think there's a little bit of a difference between the clinicians' ability. It just seems like the clinicians are like, 'Yeah email me, I'll answer you'."

Sarah said, "The PhDs are like, 'Yeah, I have to do research'. I'm like, 'What?' They are like, 'Don't talk to me' and I'm like, 'What? I don't understand.'"

Diane said, "But in class they're like email me, call me."

David said:

I think that it has something to do on the fact that they're clinicians, makes them deal with people. Whereas, the PhD people, they deal with computers and rats. They're loners, that's their personality, that's why they do stuff in the lab instead of being doctors. They're both brilliant, but one chooses one career path and one doesn't.

Pooja said:

It is a personality thing I think for a lot of people because they've been on the books forever, so I think a lot of us might have this issue too when we get into the clinic, third year, like you're just so into the books that you forget how to talk to someone and help bring them up.

While the focus of this conversation was the inability of faculty with PhDs to provide academic support based on their personality, Pooja also suggested that the influence of personality on

ability may extend to faculty with other degrees as well. While she did not disagree with the assumptions made about faculty with PhDs, she did indicate that regardless of the type of degree faculty had earned, their years of personal academic or intellectual study may have negatively influenced their ability to form a personal connection with students; thus, hindering their ability to provide academic support.

Along these same lines, student participants also suggested that the longer the time between faculty graduating from medical school and serving as faculty members, the less able they became in providing academic support due to loss of relevance. In discussing the academic support second year students had received about board studying and resources, Pooja shared, “They [faculty] don’t know what the new board programs are right now. They took it like 10,000 years ago.” Although Luis made his point more indirectly through an explanation of the tutoring program provided by upperclassmen and the advice they provide to underclassmen regarding boards and rotations, he too indicated that faculty may be less able to provide academic support due to loss of relevance. Subtler still was the implication derived from other statements made by student participants. When asked to describe the academic support received by faculty, the students mentioned four types of academic support, only one of which involved faculty. Two of the primary forms of academic support mentioned by student participants were the tutoring program led by upperclassmen and the tutoring sessions hosted by the anatomy fellows, both of which were highly valued by students. While student participants valued the content knowledge of the tutors and anatomy fellows, which helped them prepare for classes and exams, it was also evident that they saw value in other aspects as well such as hearing experiences and receiving relevant advice from upperclassmen and fellows who are as not as far removed from students as

faculty were. Several of the student participants' also spoke highly of the academic support provided by the academic counselor. Molly shared:

I think the academic counselor does a really good job of guiding us in the right direction. So I've struggled a couple times this semester and you just go into her office and she kind of sits you down, let's you vent, then points you in the right direction, where to go next, what resources should I be using, who should I be talking to, because she's seen med students in the years before us now, like what worked for them, what didn't work for them and she kind of knows the ropes a little bit better than some of the first years do. She is a rock star.

Caitlin also valued her experience with the academic counselor for the same reasons but also cited the proactive contact made by the counselor as valuable, sharing, "Even just dealing with my test grade and then just somebody came alongside me immediately, saying. 'Let's do better on the next one I'm going to help you.'" Considering students' perceptions that those without a medical degree were less able to provide academic support, it was interesting that the support provided by the academic counselor was held in such high regard. However, in exploring the sentiments of students about her support, it appeared that she had managed to prove her worth by proactively reaching out to struggling students and the provision of relevant academic advice, which resulted in students valuing and utilizing the academic support she provided.

At the time of the student interview, there was little significance in students sharing these forms of academic support even though the topic under discussion was academic support provided by faculty. However, examined alongside students' perceptions of faculty's ability to provide academic support, the importance revealed itself. By highlighting academic support

provided by others when directly asked to describe the academic support provided by faculty, students reported that other forms of support were often more highly regarded than that provided by faculty, calling into question faculty's ability to provide certain forms of academic support. Student participants were not the only ones to allude to this during the study. Jing, a faculty participant, acknowledged this. He stated:

Sometimes there is much participation in the peer help groups. They come to their help sessions after hours, and sometimes 6 o'clock in the morning. When the helper is there, some students are there. So, they seek what they believe is helpful. The peers I think are more in their shoes. I am not surprised they find them more helpful than professors. I had an experience when I was teaching undergraduate students. We had a program called supplementation instruction, SI. I picked a good SI leader and the students would all go to her instead of coming to me. When she had a session, the students flocked to her. They don't think I speak their language.

While it is unclear, based only on this statement, why students chose to work with the SI leader instead of Jing, when examined in combination with statements by student participants, it is logical to conclude that students may have utilized the academic support provided by the SI leader based on their perception that Jing was unable to provide them with academic support that was relevant enough to meet their needs.

Through one of the interview questions, students were also able to supply insight into their perceptions of faculty's ability to provide academic support. When asked to describe what they think an ideal academic support meeting with a faculty member would look like, the following exchange occurred.

Caitlin said:

I would like to leave an academic support meeting with some sort of new plan of action because I feel like a lot of meetings, I leave I'm like, "What do I do? What do I change? What I do different?" Because I come in wanting to hear what I change, what I can do? Not just figure it out on my own or try a bunch of different things because I've had that and I'm like, "Well, I don't have time to try all sorts of things. I need to do like one thing that you recommend and just do that for right now." I just need direction and I feel like I get more frustrated and more stressed leaving a meeting with a faculty member and not having any firm directional change that I can make right then and there. So, I think just a plan of action when I leave a meeting that I can take something out of a meeting and do it. I feel like that's just something that would make me feel a lot more at ease than just, "Oh, just keep trying."

Luis said:

So, coming from somebody who's had multiple faculty meetings and I've had the meetings when they are like, "Just keep grinding, doing what you're doing" and "You're doing fine." I've had the ones that have said, "Hey, try this. Just do these things" and that wasn't successful so, it's really hard. I think it's really hard to say what would be the best thing for me. Gosh, I think just knowing even though I'm struggling, you know, when I go in there and then if I'm not doing enough, they would say, "Hey, you really need to pick it up." Being honest, being real and saying, "You are slacking. You're not doing enough. You're not putting in enough work." Give me that criticism, the constructive criticism that I need. That would be ideal for me whether it's saying giving me a plan or telling me to keep doing what I'm doing or put in more time. I think that would be ideal for me. It's just being more upfront.

Molly said:

So, going off of what Luis said, I have found a couple times that faculty who I've met with seem to put like the locus of responsibility elsewhere. I've never gotten like tough love from a professor when I probably needed it. They've been like, "Oh, med school is so tough" and "You know things will get better" and "How are things at home?" Those are good questions and things to be saying at the time but at the same time, I think sometimes I need like a little kick in the butt because I'm coming from undergrad, not used to studying this way, and like you know old habits pop up and, you know, sometimes you need to be reminded or point-blank asked, "How are you studying?" because that doesn't actually get asked all the time and so it's just, "Med school's so hard. You guys put yourself through so much. It's going to be okay." You know, those are nice things in the moment to hear but then I leave the meeting and I'm, "Well, what now? What do I do?" or "Is it just going to stay like this?" so, I agree with what you said and then I also think that it would be nice for some kind of like direction. I don't know how to describe that but just some direction.

Luis said:

So, I think you get the direction from them asking those direct questions like, "Hey, how are you studying?" And then we can build a plan on that but if it's a meeting and it's too feel good, you know, hug you and like the unicorn is waiting for you at the end of the tunnel, you don't get direction from that. They need to say, "Well, you need to change this or maybe instead of typing your notes out maybe you write them up," or maybe, you know, "You have to change. Something has to change because what you're doing isn't working." And that has helped for me as opposed to, "Hey, I know it's hard." So, that's

how you get direction is figuring out what you're doing right now and then adjusting on that to do what you need to do to get to do better. So the first time I ever got asked how I was studying was when I went to the student progress committee, which is if you fail two courses you have to go in front of a board and they ask you questions to see if you are capable to continue on with school or not, and that happened last year and they were, "So how long you study?" and I was like "I get up at 6 o'clock and I study, study, study. I eat some lunch and then I study, study, study, study and then at about 9 o'clock I'm just burnt." They were like, "You just have to study more." I was like, "That's your answer for me?", but that was the first time anyone asked me about how I studied. I had to fail two courses before I heard, "Hey, how are you studying?"

David said, "Ideal would be one on one. Definitely one on one."

Diane said:

One on one. Don't kind of talk down to me. Kind of encourage me, "How can I help you or where do you feel..." do some emotional interviewing. Kind of be like, "Where are you at and here am I and how can we meet and set our goal with that." And check back in. You might not have to be like, "Let's have a long talk" but email, you see me, that type of thing. That would be magical.

Pooja said:

I feel like I can talk about this just because this was literally what happened with me but the thirty-minute meeting with Robert, we met up and we talked for thirty minutes and he claims that he didn't say anything special but to me it was special whatever he was saying. Then he followed up during the week. He's like, 'Hey how's studying going?

Are you doing okay? Are you doing the things we talked about in the meeting?’ To me I felt like there was a part of me that I want to make him proud too.

David asked, “Accountability.”

Pooja said:

Yeah, accountability. There was that accountability that I want to make him proud so it’s like motivation in that sense. Also, follow up when I do well. I refused to check my grade when our final grades came out, I was too scared and I was just like, I’m just going to go home and then I’ll have my mom or my dad open it, but he emailed me and he’s the one who told me like I passed. The email heading was “You did it”. It was nice getting that email too. Have that first reach out, have that thirty-minute situation, talk it through, follow up and when we do all of it or even if we don’t do it just send another email being like, “Hey, I’m sorry it didn’t go okay.” or “Hey, it’s awesome that it went well.”

Because you’ll feel like you’re cared for and it’s different coming from someone that you don’t expect it from.

Diane said, “Reach out. You know who's failing. Reach out.”

David said, “Talk to people even if they’re not failing.”

Diane said, “Yeah, even if they’re doing well. You never know what’s going on.”

Pooja said, “Be kind.”

As demonstrated, this question allowed student participants to reflect on their personal academic support experiences with faculty. Accounts of these experiences revealed that, even when students received academic support from faculty, they often concluded feeling like they did not receive the support that they needed or wanted. At the most basic level, students often felt that they left academic support meetings feeling more encouraged but without a specific plan for



making improvements. Students also relayed that they often desired constructive criticism and felt that faculty often neglected to provide this to students. Students also relayed a desire for faculty to follow up with them following the first meeting to supply encouragement and accountability. They also expressed a desire of faculty to talk with them, instead of to them. These accounts supported earlier statements made by students on faculty ability to provide academic support, which when examined together suggested a negative perception of faculty's ability to provide academic support.

In conclusion, faculty participants' perceptions about their own ability to provide academic support varied; however, most faculty participants perceived their abilities as positive. This differed vastly from student participants' perceptions. While students shared a few positive academic support experiences with faculty. The majority of experiences portrayed by students were as lacking or entirely negative, citing faculty's inability to assist them in developing a specific plan for improvement or provide constructive criticism, lack of faculty to follow up with encouragement or accountability, and inability of faculty to talk to students instead of talking at them. Student participants expressed multiple reasons why faculty ability may be lacking, including faculty credentials, personality, and relevance.

### **Summary**

The purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students. This researcher looked to gain an in-depth understanding of how and why the faculty and students experienced this phenomenon. This chapter gave a description of the research site and each of the research participants and included a discussion of the results of the study, which included a description of

the theme development and responses to the research questions. An analysis of the data revealed three themes: responsibility, willingness, and effectiveness.

## CHAPTER FIVE: CONCLUSION

### Overview

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students. This researcher seeks to gain an in-depth understanding of how and why the faculty and students experienced this phenomenon. Chapter Five begins with a summary of the findings of the study from Chapter Four. The summary of findings is followed by a discussion of the findings and the implications considering the relevant literature and theory and the empirical, theoretical, and practical implications. The chapter concludes with an outline of the study delimitations and limitations and recommendations for future research.

### Summary of Findings

The purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. One central research question and three sub-questions guided the analysis of data. A brief summary of the study findings in relation to each research question follows.

**Central Research Question: How do faculty provide academic support to first- and second-year medical students?**

An examination of the research data revealed that the academic support provided by faculty participants at the research site could be classified into two distinct categories: (a) delivery of academic content, and (b) personal, academic, and professional development. Delivery of academic content appeared to be the primary form of academic support provided by

faculty participants. Faculty participants used a variety of teaching strategies to deliver academic content. One strategy often used was the development of teaching materials. This included thoughtful development of PowerPoint presentations for lecture delivery. Faculty participants also spent time and effort developing additional materials, such as handouts, reading materials, and practice questions, to aid students in understanding the academic content. Some faculty participants also used instructional technology to aid in their presentation of academic content. Faculty participants also utilized pre and post-exam review sessions to help students better understand academic content, as well as using post-exam data to reflect on their teaching practices to improve on their delivery of academic content. Making themselves accessible to students outside of class time to answer questions or explain concepts was a common strategy used by faculty participants to provide academic support.

Academic support provided by faculty participants also consisted of strategies to help students in their personal, academic, and professional development. Faculty participants did this largely through the co-curricular program designed to help students develop their personal and professional identities based on biblical principles and values. Through their role as advisors in relation to this program, faculty also checked the academic progress of their advisees and provided academic support for a variety of issues. Being in a faith-based university, faculty participants also cited the use of prayer to provide this form of academic support to students. Academic support aimed at assisting students in developing the skills needed to secure a residency position and practice medicine was also a focus of faculty. This included engaging students in research, developing interprofessional skills, and informing students of various specialty areas of practice.

Through the provision of these many different forms of academic support, faculty participants showed a responsibility and willingness in the academic support process. While the primary form of academic support was the delivery of academic content, faculty participants showed an awareness that the academic challenges faced by students were often the result of other factors; thus, the need for faculty to expand their academic supports beyond those related to academic content.

**Research Sub-question One: How do faculty assumptions about adult learners influence the academic support provided to students?**

Faculty participants had formed distinct assumptions about adult learners, especially those in the medical education setting. Faculty participants assumed that adult learners were more motivated to learn and seek support, more insightful about their progress, and more self-aware of their strengths and weaknesses. Further, faculty placed a great deal of responsibility on adult learners and assumed that they should take primary responsibility for their own learning and should ask for academic support when needed. However, some faculty participants viewed the characteristics of adult learners as variable, differing for each student based on the development of that student and the learning environment they were in, instead of a static one-size-fits-all mentality. Those faculty participants who saw the characteristics of adult learners as developing over time and over situations were more proactive in the academic support process, often initiating contact with students and providing more guidance in helping students' problem solve. Those who assumed that all adult learners matriculate with an inherent set of characteristics were less proactive and expected students to start the academic support process, as well as to be able to identify the cause of their difficulty and solicit focused academic support. Regardless of the complexity of faculty's assumptions about adult learners, these assumptions

did appear to influence how students accessed the academic support provided by faculty and the type of academic support provided.

**Research Sub-question Two: How do faculty perceptions of academic performance influence the provision of academic support?**

Examination of this research question revealed that faculty participants' perceptions of academic performance was complex and of a multi-dimensional nature. Multiple factors were involved in how faculty participants thought about academic performance. For some faculty participants, their perceptions of academic performance included the way in which they assessed students. Beyond exam grades, they also found interpersonal skills, ability to integrate the basic sciences with the clinical sciences, and patient care as important measures of academic performance. Other faculty participants also viewed academic performance as multi-dimensional but were able to discuss it outside of how it was evaluated within the medical education setting. These perceptions of academic performance included not only how students performed in their courses, but how they prepared themselves for residency and beyond. Whether students participated in research experiences, how students perceived their role as a student doctor and future physician, and students' ability to perform to their own individual potential were components of this preparation. Faculty participants' perceptions of academic performance also included the challenges of medical school and the impact they had on a student's academic performance. Multiple challenges that could have an impact on students' academic performance included sleep, eating healthy, learning difficulties, time management, organizational skills, prior educational experiences, personal relationships, interpersonal skills, and social aspects of life. Motivation, commitment, perseverance, ability to make content connections, volume of information, length of courses, faculty ability, work ethic, and ability for

medicine were also identified as challenges that students face. When examined together, these components supplied a comprehensive view of faculty's perceptions of academic performance.

A thorough analysis of this research question from many different perspectives revealed that faculty perceptions of academic performance did indeed influence the way in which they provided academic support. For some, this influence was straightforward. Most of the faculty participants viewed academic performance as complex and multidimensional and as such, the academic support they provided corresponded. For others, the influence of their perceptions of academic performance on the provision of academic support was much more complicated. For these faculty participants, their perceptions of academic performance did influence the way in which they provided academic support, but additional factors also influenced the academic support they provided. Regardless, the findings suggested that faculty participants' perceptions of academic performance did have an influence on the academic support they provided. For some, a direct influence was very clear, for others, although present, the influence was much less direct and complicated, highlighting the complexity of the academic support process.

**Research Sub-question Three: What are the perceptions regarding faculty's ability to provide academic support?**

Faculty participants' perceptions about their own ability to provide academic support varied among faculty members. Many of the faculty participants had a positive perception of their abilities. Earlier experience as a medical student, years of working with medical students, roles in courses, knowledge gained through participation in conferences and mentoring by other academic professionals, and effort were some of the reasons cited as contributing to their ability to provide academic support. Two of the faculty participants expressed less certainty about their abilities. While these participants cited some of their strengths in providing academic support,

they also cited weaknesses, resulting in overall uncertainty regarding their ability to provide academic support.

Student participants also had mixed opinions on faculty's ability to provide academic support. A few times, student participants shared positive perceptions about faculty's ability to provide academic support. However, these examples were specific to a few faculty members and were extremely limited. Several of the student participants shared the opinion that many of the faculty do not have the ability to provide certain aspects of academic support based on their credentials. According to the student participants, faculty who had not completed medical school were often ill equipped to advise students regarding certain aspects of courses, board exams, or general academic difficulty since they had no personal experience with those courses or with being a medical student. Student participants also shared the opinion that clinicians were better able to provide academic support than those faculty with a PhD due to personality. However, the students indicated that regardless of the type of degree faculty had earned, their years of personal academic or intellectual study may have negatively influenced their ability to form a personal connection with students; hindering their ability to provide academic support. Student participants also suggested that the longer the time between faculty graduating from medical school and serving as faculty members, the less able they became in providing academic support due to loss of relevance. Further, student participants shared that even when students received academic support from faculty, they often concluded feeling like they did not receive the support that they needed or wanted. At the most basic level, students often felt that they left academic support meetings feeling more encouraged but without a specific plan for making improvements. Students also relayed that they often desired constructive criticism and felt that faculty often neglected to provide this to students. Students also relayed a desire for faculty to



follow up with them following the first meeting to provide encouragement and accountability. They also expressed a desire of faculty to talk with them, instead of to them. These accounts supported earlier statements made by students regarding faculty ability to provide academic support, which when examined together suggested a negative perception of faculty's ability to provide academic support.

## **Discussion**

The purpose of this instrumental case study is to understand what role faculty play in providing academic support to first- and second-year medical students. This researcher looked to gain an in-depth understanding of how and why the faculty and students experienced this phenomenon. There were significant findings in relation to the empirical and theoretical literature reviewed in Chapter Two which confirm and extend earlier research and the theory of andragogy. Further, the findings of this study provide novel contribution to the empirical and theoretical literature.

### **Empirical Literature Discussion**

Although there is an existing wealth of literature on many topics within the field of medical education, only a few studies (Paul et al., 2009; Saks & Karl, 2004) have looked at the academic support services that exist within institutions of medical education. Although these studies provided the most current information regarding the prevalence, implementation, and types of academic support services provided by medical schools, these studies are dated and a gap in the literature on academic support still exists. Further, earlier studies focused on formal academic support programs, which found the academic support services provided by designated in-house personnel. This study not only provides current data on the academic support provided

to first- and second-year medical students, but also adds to the field of knowledge on the role of faculty in the day to day academic support process, a component that was previously unstudied.

This study has found the types of academic supports provided by faculty, which can be categorized into two distinct categories: (a) delivery of academic content, and (b) personal, academic, and professional development. As such, this study corroborates the findings of previous research on academic support offered within medical education (Paul et al., 2009; Saks & Karl, 2004), which identified academic support in the form of content review sessions; individual faculty/student tutoring, time management; testing, skill development/assessment; and provision of materials, all of which were also identified and classified in one of the two categories. However, this study extends this knowledge by also including delivery of academic content in the form of the development of presentations of academic content by faculty and the use of post-exam data to improve delivery and assessment of academic content as academic supports. In addition, this study found that faculty also identified their accessibility to students as a form of academic support, which was not previously identified as a form of academic support. These discoveries supply evidence on how faculty think about academic support, in that academic support provided by faculty may not necessarily include interactions with students but may include efforts undertaken by faculty in preparation for direct interaction with students. This study also extends prior knowledge of the types of academic supports provided by faculty by identifying academic supports aimed at preparing students for residency and practice. While this form of academic support included development of skills needed for the practice of medicine, as was previously found as a form of academic support, it extended beyond mere skill development to include assisting students in developing their personal and professional identity based on biblical principles and values, engaging students in activities such as research to help

them in getting more competitive residency positions, and aiding students in discovering specialty areas of practice. There is new understanding that the academic supports provided by faculty may not be related to the coursework of students. It may extend beyond student emergent academic issues but may also include academic support that prepares students beyond graduation through residency and practice.

Through the exploration of the types of academic supports provided by faculty, three themes emerged. First, a sense of responsibility in the academic support process was clear among both faculty and students. Among faculty participants, responsibility to ensure that students gained the knowledge and skills required to successfully complete medical school and become competent physicians, emerged. Among student participants, the theme of responsibility emerged largely from their commitment to becoming a physician and overcoming the many challenges of medical school. Andragogy holds that adult learners assume responsibility for their own learning by developing self-direction and self-reliance to fulfill their need “to be seen by others and treated by others as being capable of self-direction” (Knowles et al., 1998, p. 65). However, andragogy is also referred to as a transactional model due to its focus on the characteristics of learning transaction (Brookfield, 1986), with adult educators evaluating the learning situation and applying the andragogic assumptions as appropriate to aid adult learners in meeting the andragogic assumptions (Knowles, 1990). Despite faculty’s awareness of the specific challenges faced by students in medical education, which confirmed the findings of earlier literature (Compton et al., 2008; Khan, et al., 2016; Saipanish, 2003; Vitaliano et al., 1984), and faculty awareness regarding the help seeking behaviors of their students, which also confirmed earlier literature (Han et al., 2012; Sinclair & Cleland, 2007; Yates, 2012), half of the faculty participants continued to place primary responsibility for accessing academic support on

the student. Although faculty participants took an active role in the academic support process, their belief that adult learners take primary responsibility for their own academic success was clear.

Second, faculty and students were willing participants in the academic support process; however, this was complicated by several factors that gave the appearance that neither faculty nor students were willing participants in the process. Although faculty cited their willingness to provide academic supports, it was clear that other commitments such as teaching load, research, or clinical work often interfered. This study supports the findings of earlier research that found that the competing demands placed on medical education faculty often interfered with faculty's teaching duties (Rider et al., 2002; Simpson et al, 2001; Van den Berg et al., 2013). Further, this study discovered a link between student's knowledge of the competing demands placed on faculty and their willingness to seek academic support, which was previously unidentified.

Willingness to participate in academic supports was also evident among students. However, multiple factors such as disbelief, pride, embarrassment, reliance on self and hard work, and lack of knowledge of existing supports influenced their willingness to participate in some or all academic supports. These findings are consistent with existing literature about the help seeking behaviors of medical students, especially those that suggest that previous high academic achievement in educational settings prior to medical school may contribute to students' lack of knowledge or ability to seek support (Han et al., 2012; Sinclair & Cleland, 2007; Yates, 2012). These findings also demonstrated the factors that contribute to medical students neglecting to seek support for mental health issues are similar to those that contribute to medical students neglecting to seek academic support (Puthran et al., 2016). Further, this study did not find evidence to corroborate earlier research that suggested that students were unwilling to

participate in academic support with faculty for fear of faculty forming a negative opinion that may have a future negative impact on them (Cleland et al., 2005). Mitigating the student's willingness to participate in academic support was the belief that someone would reach out to them to offer support. Unlike previous research that found that medical students were often unaware of their poor performance and assumed that it was acceptable because faculty had not contacted them (Challis et al., 1999), students in this study were very aware when they were performing poorly. However, many still did not seek support due to the factors cited above and indicated that they would have if they had been contacted. Cleland et al. (2005) found similar sentiments among medical students but also found that many of the students in their study were in fact contacted on several occasions by faculty and staff with concerns about their performance but did not respond. There was no evidence that this had occurred with the participants of this study.

Third, although faculty participants' accounts depicted a systematic and deliberate institutional academic support process, the study found a significant lack of effectiveness, resulting in missed opportunities to support students. Several of the primary components of the program, specifically the co-curricular program, monitoring of student academic progress by advisors and course directors, and post-exam review sessions were not regarded in the same way by faculty and students. Researchers have agreed that academic difficulty is multi-faceted with inter-connected aspects, suggesting that academic support initiatives be proactive and comprehensive (Guerrasio et al., 2014; Olmesdahl, 1999; Paul et al., 2009). While these primary components, along with the other academic supports provided by faculty, supplied a multi-faceted approach to academic support, students were unaware of these components as academic supports or, if aware, did not value them as academic supports. One problem discovered was the

inconsistency in implementation of components of these programs. Of significance was the lack of faculty to contact students who experienced academic difficulty, even though this was a critical part of the process. Previous studies on the academic support provided by institutions of medical education have identified the failure of medical schools to identify students demonstrating poor academic performance until it is often too late (Cleland et al., 2005; Denison et al., 2006) and that faculty were often hesitant to confront students who experiencing difficulty (Cleland et al., 2013). This suggested that lack of formal training in teaching and learning (Gibson & Campbell, 2000; Misch, 2002; Steinert, 2010) may leave faculty unprepared to perform the academic support initiatives expected of them (Williams et al., 2009). In addition, these findings align with earlier research that found that medical students report poor knowledge about available support services (Chew-Graham et al., 2003). Further, andragogy holds that adults are problem-centered in their orientation to learning. “Adults are motivated to learn to the extent that they perceive that learning will help them perform tasks to deal with problems that they confront in their life situations” (Knowles et al., 1998, p. 67). Although this assumption applies to learning tasks, this study suggests that it may also apply to the way in which adult learners perceive academic supports, valuing those perceived to best aid them in solving their academic deficit.

### **Theoretical Literature Discussion**

This study found that faculty had formed distinct assumptions about adult learners. These included that (a) adult learners were more motivated to learn and seek support, (b) more insightful about their progress, and (c) more self-aware of their strengths and weaknesses than children. Further, faculty placed a great deal of responsibility on adult learners and assumed that they should take primary responsibility for their own learning and should ask for academic

support when needed. Although the faculty participants did not use the same terminology as Knowles, faculty were able to identify three of the six basic assumptions proposed by Knowles (Knowles, Holton, & Swanson, 2015). These included the learner's self-concept, readiness to learn, and motivation. These findings support earlier research that found that adult educators were knowledgeable of the characteristics of adult learners even without a formal education in teaching adult learners (Day et al., 2011; Scherling, 2013).

This study also adds a unique perspective to the theory of andragogy, not before examined. Knowles (1979) specified that the six assumptions must be flexible in application, to be altered based on the learning situation. As Knowles recognized that to be fully useful to adult educators a learning theory must be applied to a theory of teaching, he outlined a model of teaching that follows andragogic tenants (Knowles et al., 2015). This theory of teaching includes eight elements for the educator to consider when helping learners acquire information and skills. At the heart of these theories is the basic tenant that educators take responsibility for examining the learning situation and subsequently applying the andragogic assumptions as appropriate in an attempt to aid adult learners in meeting the andragogic assumptions (Knowles, 1990). While research has examined adult educators' ability to modify their teaching practices, according to andragogic theory, in response to the learning situation (Day et al., 2011; Scherling, 2013), no research has explored adult educators' ability to modify their academic support practices, according to andragogic theory, in response to the learning situation. This study supplies evidence that faculty beliefs about adult learners influenced how students accessed the academic support provided by faculty and the level of academic support provided. Those faculty participants who saw the characteristics of adult learners as developing over time and over situations were more proactive in the academic support process, often initiating contact with

students and providing more guidance in helping students' problem solve. Those who assumed that all adult learners come to matriculate with an inherent set of characteristics were less proactive and expected students to initiate the academic support process, as well as to be able to identify the cause of their difficulty and solicit focused academic support.

### **Implications**

The findings of this study have empirical, theoretical, and practical implications for faculty, administrators, policyholders, researchers, and students within the field of medical education and settings of adult education. The findings of this study revealed that both faculty and students have a deep sense of responsibility in the academic process, including the academic support process. In addition, both faculty and students were willing participants in the academic support process, but other factors often mitigated that willingness. The study also found that institutionally established academic support initiatives in practice did not always meet their intended purpose. Further, the study found that faculty's beliefs about adult learners and their beliefs about academic performance influenced their provision of academic support. Finally, the study found that students and faculty had differing opinions about faculty's ability to provide academic support.

### **Empirical Implications**

The findings of this study have empirical significance for researchers and faculty, administrators, and students. Existing research in the field of medical education was plentiful, with a multitude of studies centered on the academic performance of medical students. While a few studies indicated some involvement among medical education faculty in providing academic remediation, the role of medical education faculty in providing academic support to first- and



second-year students was not fully understood. This study directly explored the role that medical education faculty played in providing academic support to first- and second-year medical students. At the most basic level, this study gave empirical documentation of the types of academic supports provided by medical education faculty previously undefined in the literature. Beyond this, this research provides empirical data about the academic support experiences of faculty and students, also previously unexplored. Further, this research suggests that faculty's beliefs about adult learners and faculty's beliefs about academic performance influenced their provision of academic support, evidence not previously discovered in research. This discovery gives an empirical foundation on which future researchers can build, expanding the empirical data on academic support services in higher education and andragogy; thus, adding to the literature that may be used by faculty at other institutions to help shape their academic support practices. In addition, this research may encourage the growth of empirical data on academic factors that affect medical students' success in the academic program, shifting the focus away from the current attempt to assign students with the sole responsibility.

### **Theoretical Implications**

The findings of this study have theoretical significance for researchers, adult education faculty, administrators, and students. The study of theories of adult education, specifically the study of andragogy, has been plentiful. However, as the literature review for this study shows, there was no research that examined the role of the educator in providing academic support through the lens of andragogy. Earlier research has instead focused largely on the role of the student or how students learn in certain learning environments, including students in healthcare education (Jons-Cox, 2014; Misch, 2002). There have also been a few studies that explored the beliefs of educators regarding adult learners (Day et al., 2011) and the relationship between

faculty's beliefs about adult learners and teaching practices (Scherling, 2013). This study suggests that educators' beliefs about adult learners influences the academic supports they provide. This provides researchers with evidence that andragogy has application to other areas of academics, not all of which focused on the teaching or learning of academic content. It is hoped that this study may encourage researchers to add to the field of knowledge about adult educators' beliefs about adult learners and how those beliefs impact educational practices beyond the classroom.

For adult education faculty and administrators, this study may encourage consideration of andragogic theory when designing academic support initiatives. This study suggests that faculty are knowledgeable of the characteristics of adult learners and, in some cases, have adapted their academic support practices with these characteristics in mind. However, only one of the faculty participants reported having formal qualification in the field of teaching or formal training in educational theory, including andragogy. As such, beyond having acquired some knowledge about the unique characteristics of adult learners, there was a lack of understanding of the theory in whole. In applying the tenants of andragogy, faculty and administrators should expand their knowledge beyond the characteristics of adult learners and work to build their understanding of the transactional tenants and the process model for learning of the theory. As research suggested there is a direct relationship between teaching conceptions, teaching practice, and student learning (Devlin, 2006), it is important for faculty and administrators to engage in formal training related to teaching and learning theories. Therefore, the suggestion is that administrators ensure that faculty receive formal training in educational theory. Moreover, administrators should purposefully include discussions of educational theory in all aspects of planning and evaluation to substantiate the importance of basing educational practices in theory.

For students, the hope is that through an increased consideration of andragogic theory, the tailoring of academic support practices will be to better meet the needs of adult learners, increasing their success in the educational program. This study also provides students with information about how faculty beliefs about adult learners influence the academic support they provide, which may increase students understanding of the actions of faculty in the academic support process and aid in opening a dialogue between faculty, administration, and students.

### **Practical Implications**

The findings of this study have practical significance for faculty, administrators, policyholders, and students. For faculty, this study supplies insight into the provision of academic support by medical education faculty, which was previously unexplored. Moreover, this study examined academic support from the students' perspective, uncovering the expectations of students and their perceptions of ability about academic support services provided by faculty, which was also previously unexplored by research. Of specific relevance for faculty is the information gained about the influence of faculty's beliefs about adult learners and their provision of academic support. While faculty participants were able to cite the challenges of medical school and the barriers to students seeking academic support, only half of the faculty participants viewed the characteristics of adult learners as variable, differing for each student based on the development of the student and the learning environment they were in, demonstrating a lack of understanding of andragogy. Also, of specific relevance, is the information gained on the influence of faculty's perceptions about academic performance and their provision of academic support. Although most faculty participants saw academic performance as multi-dimensional, several continued to provide one-dimensional academic support. As such, this study may help faculty in examining and improving upon their own

academic support practices, through self-reflection and strategic professional development, especially in terms of academic support strategies and andragogy.

As this study also provided evidence that student and faculty willingness in the academic support process often appeared to be lacking due to other factors, when in fact students and faculty were more than willing to participate, it is hoped that faculty will have a newfound understanding of the reasons that students neglect to seek out or utilize academic supports offered by faculty. This may aid faculty in forming new beliefs about students' willingness and in turn may help encourage faculty to change their approach to the initiation of academic support.

As during the course of this study, first- and second-year medical students often shared their disappointment in or unawareness of those academic support initiatives established by the institution, this study may assist administrators in examining the strengths and weaknesses of their purported foundational academic support initiatives and make improvements that allow said initiatives to reach their intended purpose. One such area administrators may wish to evaluate is the institutional practices guiding which faculty have access to exam and course grades. As this study discovered, course directors had access to exam and course grades of all students and faculty advisors received an alert when their advisee's course grade fell below a 70%. However, teaching faculty within the course did not have access to individual student exam or course grades. Administrators may consider that practices such as this not only limit the academic support available to students but limit the quality of the academic support available to students since the teaching faculty within a course are the most qualified to provide content support related to that course to students. Furthermore, blinding teaching faculty to the academic progress of students within the course deters them from experiencing personally experiencing the

struggles of students and may limit their feelings of accountability for student mastery of content and from developing appreciation of the challenges of pursuing a medical education, which may shape their personal and professional development as educators. Finally, as academic advisors only receive alerts when an advisee's course grade falls below 70%, this may be too late to affect any meaningful improvement even if immediate academic support occurs. As one faculty member cited the Health Insurance Portability and Accountability Act (HIPPA) as rationale for limiting access to students' grades, administrators may consider engaging in their own professional development about the access rights of individuals to student educational records by exploring the Family Educational Rights and Privacy Act (FERPA), which has application to educational records, not HIPPA.

As both faculty and students involved in the study emphasized multiple barriers to the provision of and access to academic support, this study may help administrators in removing such barriers in the future. One barrier of significance that calls for thoughtful analysis by administration is the time constraint of faculty to provide meaningful academic supports. Administrators may wish to reconsider their employment practices and examine the benefits of hiring a cadre of faculty who are solely dedicated to the art of teaching and provision of academic support, or hire enough faculty to evenly distribute the additional workload while still allowing a majority of time to be spent teaching and supporting students, especially in the first and second year of their education. Another barrier of significance that should be under consideration by administrators is the ability of faculty. While this study found that most of the faculty participants rated their ability to provide academic support positively, students' perceptions of the ability of the majority of faculty was negative. Previous research found that few faculty had formal qualifications in education (Gibson & Campbell, 2000; Huwendiek et al.,

2010; Misch, 2002; Steinert, 2010), with the majority developing their teaching skills through personal experiences as learners (McLeod et al, 2009), trial by error experiences (Irby, 1994), or through ad hoc faculty development or training programs (Masunaga & Hitchcock, 2011; Srinivasan et al., 2011). While earlier studies focused on instructional skills of faculty, this study provides evidence that lack of formal qualifications in education may also have an impact on other aspects, such as the provision of academic support. Thus, administrators may consider expanding the qualifications expected of faculty, especially for those hired to be heavily engaged in delivering the curriculum and providing academic support to students, to include formal qualification in the field of teaching. This study may also help administrators develop faculty development initiatives that will aid faculty in increasing their knowledge and skills on academic support for medical education students, especially in regard to the needs of students in the academic support process, the barriers to students seeking support, and andragogy. Such faculty development initiatives may help administrators set up continuity in academic support services across courses and faculty members. Finally, this study may encourage administrators to seek the viewpoint of students about the academic supports offered by their institution. For existing supports, administrators may wish to survey the student body to gather information that may be used to change or expand existing supports. For existing and future supports, administrators may wish to include student representatives in planning meetings so that the needs and wants of students are heard and so that academic support initiatives are designed with the student in mind, which will hopefully increase student use of said supports.

Policyholders of the accrediting bodies of medical education may also find practical implications from this study. The LCME (2018) and the COCA (2017) require medical education institutions to ensure that faculty are qualified to deliver the curriculum, meet other

institutional needs, and fulfill the mission of the college. In addition, the COCA (2017) outlined that faculty department chairs or their equivalent have proven experience in teaching and academic leadership in the medical education setting and required that some clinical discipline chairs be a D.O. who is AOA board-certified or ABMS board-certified in a specific specialty. However, these requirements are lacking in the guidance needed by institutions to ensure the hiring of qualified faculty, especially in teaching and academic support. Simply asking medical schools to *ensure* that faculty are qualified leaves schools to set their own qualifications, which may not be adequate. Further, this practice leaves great variance in the qualifications and abilities of faculty between schools, resulting in a wide array of educational experiences for students. In addition, although the COCA (2017) supplied more guidance for the hiring of some clinical discipline chairs, requiring that they have proven experience in teaching and academic leadership in the medical education setting, this does not ensure that they have the proper qualifications. As shown by earlier research, experience without formal qualification in the field of education may lead to faculty not developing the knowledge and skills needed to promote conceptual change in their students (Bulik & Frye, 2002). As such, policyholders of the accrediting bodies for medical education may wish to challenge their belief system that equates the experiences and formal qualifications of physicians to those who hold formal qualifications in the field of education, which may result in policies that require formal qualification in the field of education and provide more guidance to medical schools.

This study also holds practical implications for the policyholders at the individual medical school level as well. As the accrediting bodies for medical education have left the determining of faculty qualification up to each medical school, policyholders of each medical institution may consider revising the requirements of teaching faculty to include formal

qualification in the field of education, along with those qualifications outlined by the accrediting bodies. Policyholders at the school level may also consider developing formal policies and procedures for academic support initiatives of the institution. As this study showed, although a framework was put in place whereby academic advisors and course directors were made aware of the academic progress of students and responsibility was placed on these individuals to provide academic support in response of being notified of a failing course grade, this often did not occur. Moreover, the academic support provided to students often ended when students received contact, whether the student received said support or not. Policyholders may consider developing formal policies that very clearly outline the academic support process and the requirements of faculty within this process. Policyholders might consider the inclusion of specific triggers that once reached, require a student to participate in academic support. Further, policyholders may consider the inclusion of tracking requirements in said policies and procedures that would require faculty and administration to document their academic support activities utilizing tracking software. Not only could this help the institution in ensuring faculty carry out academic support activities as outlined but could also supply data that could assist the institution in making decisions about future academic support initiatives.

The practical implication for students lies in the use of the findings of this study by medical education administrators, policymakers, and faculty to improve the academic support services provided to students, which may result in improved educational outcomes for students. However, there are other practical implications for students. First and foremost, this study is important in defining the types of academic supports that exist for students, providing students with increased awareness of the many varieties of academic support that may be available to them, even if they have not been informed of said supports by the faculty, administration, or staff



of their institution. Second, although this study centered on exploring the role that medical education faculty play in providing academic support to first- and second-year medical students, evidence about the student's role in the academic support process was also discovered. Of great significance is that this study found that medical students often hesitated or fully neglected to use the academic support provided by faculty, largely because they had not faced academic difficulty in the past and lacked the knowledge or skills needed to overcome the difficulty. Further, feelings of disbelief, pride, and the belief that someone would reach out to them served as barriers to seeking support. This study supplies evidence to students experiencing difficulty that they are not alone in their struggles and that the challenges of medical school are many and experienced by many other students. The hope is that this awareness may enable students to start the academic support they need in a timely fashion. Finally, the evidence provided in the study may serve to inform current students of the state of academic support in the medical education setting so that they, as students and potential future medical education faculty, administrators, and policymakers may serve as advocates for academic support initiatives that meet the needs of future medical students.

### **Delimitations and Limitations**

The researcher considered the delimitations and limitations of this study at each step of the research process, from the establishment of the study design to the discussion of research findings, to limit their impact on the research findings. However, there were still several delimitations and limitations of the study. The delimitations of the study include the use of a selection criterion for faculty participants, the selection of a qualitative case study over a quantitative design, and the selection of a case study methodology over other qualitative

methodologies. The limitations of the study include two impact limitations and one data limitation.

### **Delimitations**

There are three delimitations of the study. The first delimitation involves the criterion that faculty must have been teaching a minimum of 10 hours in the first and/or second year of the medical education curriculum at the research site at the time of the study. This delimitation did limit the boundaries of the study, excluding the experiences of those faculty who taught less than 10 hours and those who may have previously taught a minimum of 10 hours prior to the study but did not at that time of the study. However, this study was concerned with the real-world experiences of faculty and students in the academic support process, it was important to ensure that faculty be actively involved in educating students at the time of the study. Thus, limiting the participation to those faculty teaching a minimum of 10 hours added to the validity of the study. Further, as qualitative research studies a phenomenon in its natural context (Hancock & Algozzine, 2011), it was important to limit the participation to only those faculty actively teaching at the time of the study.

The second delimitation of the study was the choice of a qualitative case study over a quantitative design, which limited the scope of the study. Qualitative research is useful when a phenomenon needs exploration and understanding in a complex, detailed manner (Creswell, 2013). As this research explored and attempted to understand the role faculty played in providing academic support to first- and second-year medical students, a qualitative research design was the most appropriate design. Further, qualitative research is useful when quantitative research methods and statistical analysis may not capture the complexity of the problem (Creswell, 2013). Merriam (1998) supported that the key philosophical assumption of qualitative

research is the view that reality is a construct of interactions between individuals and their social worlds. The complexity of the phenomenon of interest of this study, due to the multiple experiences of faculty and students and the need to understand these experiences holistically, lent itself to a qualitative research design.

The final delimitation of the study was the choice of a case study method over other qualitative methods. Thomas (2011) defined case studies as “analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more method” (p. 511). Yin (2016) asserted that case study research is an empirical investigation of a contemporary phenomenon in its natural context using a variety of sources of evidence. Although this study explored the experiences of faculty and students, the actual case was the collective experiences of these participants, which resulted in an analysis of the phenomenon of academic support provided to students by faculty. Thus, a case study method was the choice over other qualitative research methodologies.

### **Limitations**

There are several limitations of this study. First, the study examined the role of faculty in providing academic support to first- and second-year medical students at one osteopathic medical school in the United States. Academic support initiatives at other medical schools may vary and faculty may play different roles in providing academic support at other medical schools. Second, maximum variation sampling was the purposive sampling strategy selected for this study, which would have allowed the researcher to select faculty participants that differed on the criteria and increased the exploration of different perspectives (Creswell, 2013). However, as the study required the selection of six faculty participants, and only six faculty members volunteered to participate, it was impossible to use maximum variation sampling. As a result, there was limited

variation among participants in terms of gender, age, and degree. For these two reasons, the results are not generalizable to other populations. Third, as with all educational research, there are multiple factors that influence the knowledge, skills, and involvement of faculty in the academic support process. Further, there are multiple factors that influence students' perceptions of the academic supports that are provided by faculty. As such, this study cannot conclusively determine the influences that faculty's beliefs about adult learners and perceptions of academic performance had on their provision of academic support.

### **Recommendations for Future Research**

In consideration of the study findings, limitation, and the delimitations placed on this study, there are several recommendations and directions for future research. First, it is recommended that future research be conducted on the academic support services provided by medical or other healthcare professional educational institutions, as well as by other institutions of higher education. The findings of this study prove that there is a wealth of data surrounding academic support services that has been previously unexplored. This study not only supplies evidence as to the types of academic supports that are provided but also illustrates the role that faculty played in providing academic support, as well as the influence that their perceptions regarding academic performance and adult learners have on the academic support they provide. Moreover, the study supplies data on previously unstudied aspects of faculty ability in the academic support process. These and a multitude of other factors surrounding faculty's role in academic support and need further exploration.

As this study only explored the role of medical education faculty in providing academic support to first- and second-year medical students within one osteopathic medical school in the

United States, it is recommended that future studies include multiple medical schools so as to develop a more comprehensive understanding of the state of academic support within medical schools within the United States. In addition, as this study included only six faculty participants with less variation among participants than desired in terms of gender, age, and degree, it is recommended that future studies might include a larger number of faculty participants so as to gain the perspective of a wider range of participants and increase the generalization of findings to other populations. Also, as this study limited faculty participation to only those who had been teaching a minimum of 10 hours in the first and/or second year of the medical education curriculum at the research site at the time of the study, future research could consider the inclusion of those faculty who are teaching less hours within the curriculum so as to include the academic support experiences of all faculty. Moreover, since this study examined the phenomenon through a qualitative case study design, future research using multiple forms of research design to aid in variation of the perspective studied. As the limit of this study was to the academic support provided to first- and second-year medical students, future research exploring academic support services provided to third- and fourth-year medical students should also occur since their education is largely conducted outside the educational institution in the clinical setting with clinical faculty. As these students are further along in the academic program, it would be interesting to explore whether faculty perceptions of their academic performance or assumptions of them as adult learners vary from this study and the impact these perceptions have on the academic support provided to them.

The findings of this study found variation in the level and quality of academic support provided to students by faculty. While this study did not attempt to explore the impact that academic support services had on medical students' academic success, future medical education

researchers could shift their focus away from the current attempt to assign students with sole responsibility for their academic success and explore factors that are external to the students, such as the types and quality of academic supports available to students.

Future research regarding faculty ability to provide academic support is also recommended. This study provided evidence that faculty and students rated faculty's ability to provide academic support vastly different, with faculty having a more positive perception of their abilities than students. Another recommendation would be studies that explore these perceptions among larger populations of students and faculty. In addition, future research in this area include quantitative research designs that will enable researchers to collect data on specific areas of ability across large populations. Quantitative studies that also explore the relationship between faculty ability and other factors such as faculty credentials, personality, and experience is another recommendation.

Finally, as this study is the first to explore the role of medical education faculty in providing academic support through the lens of andragogy and found that faculty perceptions of adult learners had an impact on the academic support they provided, it is suggested that future research on andragogy further explore the relationship between adult educators' beliefs about adult learners and how those beliefs impact those educational practices that go beyond delivery of academic content, such as academic support. It is also recommended that quantitative studies on medical education faculty's assumptions about adult learners be conducted so that their knowledge of specific tenants of andragogy can be examined. Further, as this study found that students were not always capable of meeting the expectations of faculty in the academic support process, it is recommended that quantitative studies be conducted that explore the presence of andragogic characteristics among medical students, which will aid faculty in establishing their

expectations of students and in designing the types and levels of academic supports available to students.

### **Summary**

In summary, the purpose of this instrumental case study was to understand what role faculty play in providing academic support to first- and second-year medical students at an osteopathic medical college in the United States. One central research question and three sub-questions guided the analysis of data. Three themes emerged from the analysis of the data: responsibility, willingness, and effectiveness.

The major finding of this study was that the academic support provided by faculty to first- and second-year medical students was extremely complex. A multitude of factors influenced the provision of and access to academic support, some which were previously found by research and others not. As such, it is critical that educators and researchers devote more time to exploring this field to aid policymakers and administrators in designing effective academic support initiatives. Finally, it is highly suggested that institutions of medical education conduct an in-depth analysis of the academic supports that they provide to ensure that they are designed with the findings of existing literature in mind and with input of their students to assure that they are both utilized and effective. Further, it is suggested that policymakers, administrators, and faculty take seriously the findings that medical education faculty's lack of formal training in teaching and learning may seriously hinder their ability to provide effective academic support. Administrators and policymakers must shift their focus away from hiring faculty merely based on their scientific or medical degree and hire faculty with formal qualifications in the field of teaching. Institutions must also place more value on the delivery of the curriculum and the

provision of academic support by unburdening faculty's commitments to duties that shift their focus away from teaching and supporting students.



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**APPENDIX A: IRB RESEARCH APPROVAL****LIBERTY UNIVERSITY.**  
INSTITUTIONAL REVIEW BOARD

October 3, 2017

Deborah West  
IRB Approval 2978.100317: A Case Study Exploring the Role of Faculty in Providing Academic Support to First and Second Year Medical Students

Dear Deborah West,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

**G. Michele Baker, MA, CIP**  
*Administrative Chair of Institutional Research*  
**The Graduate School**

**LIBERTY**  
UNIVERSITY.  
*Liberty University | Training Champions for Christ since 1971*

**APPENDIX B: FACULTY RECRUITMENT EMAIL**

Dear Faculty Member,

My name is Deborah West and I am an EdD student working under the supervision of Dr. Mark Lamport in the School of Education at Liberty University. I am conducting a qualitative case study that will explore the role of faculty in providing academic support to first- and second-year medical students. You are receiving this email because you are a faculty member teaching a minimum of 10 hours in the first and/or second year of the medical education curriculum at the research site, which meets the criteria for inclusion in my research project. I am currently seeking volunteers to participate in this study. In addition to meeting this criteria, I will be selecting participants who differ in demographics to ensure that the study includes different perspectives. Your identity will be kept confidential. To ensure confidentiality, you will be assigned a pseudonym (i.e. John) for any publication of the research.

If you are interested in participating in this study, you will need to complete a brief demographic screening survey that should take approximately 15 minutes of your time. Not everyone who completes the survey will be selected to participate in the study. After receiving your completed survey, I will email you to inform you of whether you are or are not selected to participate in the study. If you are interested in participating, please use the following link to access the survey: [https://survey.az1.qualtrics.com/jfe/form/SV\\_9zXZskasCdXCW1f](https://survey.az1.qualtrics.com/jfe/form/SV_9zXZskasCdXCW1f)

In addition to completing the brief demographic screening survey, participation in this study involves your participation in at least one individual interview. Participation also requires that you allow me to observe one or more of the academic support activities you provide for students. You will also be asked to review the preliminary analysis of the data for accuracy, to

identify missing information, and to share your opinion of the analysis. Participation in this study would take approximately 3 hours of your time.

I would like to assure you that the study has been reviewed and received approval from your Dean and the Liberty University Institutional Review Board. However, the final decision about participation is yours.

If you are interested in participating, please read the attached informed consent document and complete the brief demographic screening survey. After receiving your completed survey, I will email you to inform you of whether you are or are not selected to participate in the study and to schedule a date, time, and location for the first interview. If you are selected and if you agree to participate, you will be asked to sign and date the consent form when we meet prior to the interview. If you have any questions please contact me and I will be glad to answer them for you.

Sincerely,

Deborah West

**APPENDIX C: FACULTY BRIEF DEMOGRAPHIC SURVEY**

Dear Faculty Member,

Thank you for your interest in participating in my qualitative case study that will explore the role of faculty in providing academic support to first and second year medical students. Please complete the following demographic screening survey. Your identity will be kept confidential. After receiving your completed survey, I will email you to inform you of whether you are or are not selected to participate in the study. Please contact me at [dwest15@liberty.edu](mailto:dwest15@liberty.edu) if you have any questions.

Q1 Name (First, Last)

Q2 Gender:

Male (1)

Female (2)

Q3 Age:

Q4 Race:

- American Indian or Alaska Native (1)
- Asian (2)
- Black or African American (3)
- Native Hawaiian or Other Pacific Islander (4)
- White - Non Hispanic (5)
- Hispanic or Latino (6)
- Two or More Races (please list) (7)

Q5 Degree(s) - Please list all degrees earned:

Q6 Total number of years of teaching experience (please include all teaching experiences including those outside of the medical education setting and those other than your current position):

Q7 Total number of years of teaching experience in a DO or MD educational program:

Q8 Total number of years of teaching experience at the research site in the DO program:

Q9 Total number of teaching hours in the 2017-2018 academic year in the first year DO curriculum:

Q10 Total number of teaching hours in the 2017-2018 academic year in the second year DO curriculum:



## APPENDIX D: FACULTY CONSENT FORM

### FACULTY CONSENT FORM

A Case Study Exploring the Role of Faculty in Providing Academic Support to First and Second Year Medical Students

Deborah Fawn West  
Liberty University  
School of Education

You are invited to be in a research study of academic support provided to first and second year medical students. You were selected as a possible participant because you are a faculty member of the research site who is currently teaching a minimum of ten hours in the first and/or second year medical school curriculum. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Deborah Fawn West, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:** The purpose of this study is to understand what role faculty play in providing academic support to first and second year medical students. The study hopes to answer the following research questions:

1. How do faculty provide academic support to first and second year medical students? The sub-questions are as follows:
  - How do faculty assumptions about adult learners influence the academic support provided to students?
  - How do faculty perceptions of academic performance influence the provision of academic support?
  - What are the perceptions regarding faculty's ability to provide academic support?

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

1. Complete a brief demographic screening survey. The data collected by the survey will be used by the researcher to select participants who differ demographically to increase the exploration of different perspectives. Should you be selected to participate in the study, the results from the demographic screening survey will reported in the study. You will be assigned a pseudonym. Completing the survey will take approximately 15 minutes.

2. Participate in one or more individual interviews. Your participation is confidential. The interviews will be audio recorded. Each interview will take approximately 1 hour.
3. Allow me to observe one or more of the academic support activities you provide for students. The meetings will be audio recorded. Each observation will last the entire length of the activity; therefore, the length is determined by the participant. However, it is estimated that each observation will last approximately 1 hour.
4. You will be asked to review the preliminary analysis of the data for accuracy, to identify missing information, and to share your opinion of the analysis. This task will take approximately 1 hour.

**Risks and Benefits of being in the Study:** The risks involved in this study are minimal, no more than you would encounter in everyday life.

There are no direct benefits to participating in this study. However, there may be benefits to society. The study may provide faculty and administrators important insight into how faculty provide academic assistance to students demonstrating poor academic performance. The findings may also provide faculty and administrators with increased awareness regarding the academic needs of medical students who are experiencing difficulty. For administrators, the results may help guide the establishment of academic support expectations for faculty to ensure continuity in services across courses and faculty members. Study findings may also help administrators develop faculty development initiatives that will aid faculty in understanding and establishing active monitoring of students' academic progress. Finally, the study has practical significance in that through the establishment of effective academic support services, the student attrition rate may be decreased.

**Compensation:** Participants will not be compensated for participating in this study.

**Confidentiality:** The records of this study will be kept private. To ensure confidentiality, you will be assigned a pseudonym (i.e. John). Only I will know your identity and your identity will not be shared with other participants or your institution of employment. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject.

Research records will be stored securely and only I will have access to the records. Data will be stored electronically on my personal computer and will be password protected. Beyond the current study, there is no further anticipated use of the data in the future. Data will be retained for a minimum of three years upon completion of the study per federal regulations. After such time, data will be deleted.

**Voluntary Nature of the Study:** Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the university. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

**How 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.

**Contacts and Questions:** The researcher conducting this study is Deborah Fawn West. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at: [dwest15@liberty.edu](mailto:dwest15@liberty.edu) or 540-200-9053. You may also contact the researcher's dissertation chair, Dr. Mark Lamport, at [malamport@liberty.edu](mailto:malamport@liberty.edu).

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 1887, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

*Please notify the researcher if you would like a copy of this information for your records.*

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

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

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

---

Signature of Participant

Date

---

Signature of Investigator

Date

**APPENDIX E: FACULTY INVITATION EMAIL**

Dear Dr. \_\_\_\_\_,

Thank you for your interest in participating in the qualitative case study I am conducting that will explore the role of faculty in providing academic support to first and second year medical students. Thank you also for completing the brief demographic screening survey to aid in the selection of participants.

I am pleased to tell you that you have been selected to participate in the study. I want to assure you that your identity will be kept confidential. To ensure confidentiality, you will be assigned a pseudonym (i.e. John) for any publication of the research.

In addition to completing the brief demographic screening survey, participation in this study involves your participation in at least one individual interview. Participation also requires that you allow me to observe one or more of the academic support activities you provide for students. You will also be asked to review the preliminary analysis of the data for accuracy, to identify missing information, and to share your opinion of the analysis. Participation in this study would take approximately 3 hours of your time.

If you are still interested in participating, please read the attached informed consent document and email me to schedule a date, time, and location for the first interview. Prior to the interview you will be asked to sign and date the consent form. If you have any questions please contact me and I will be glad to answer them for you.

Sincerely,

Deborah West

**APPENDIX F: STUDENT RECRUITMENT EMAIL**

Dear Student,

My name is Deborah West and I am an EdD student working under the supervision of Dr. Mark Lamport in the School of Education at Liberty University. I am conducting a qualitative case study that will explore the role of faculty in providing academic support to first and second year medical students. You are receiving this email because you are a first or second year medical student at the research site, which meets the criteria for inclusion in my research project. I am currently seeking volunteers to participate in this study. Your identity will be kept confidential, except to the other students participating in the student group interview. To ensure confidentiality, you will be assigned a pseudonym (i.e. John) for any publication of the research.

Participation in this study involves your participation in a group interview with five other first and second year students. You will also be asked to review the preliminary analysis of the data for accuracy, to identify missing information, and to share your opinion of the analysis. Participation in this study would take approximately 2 hours of your time.

I would like to assure you that the study has been reviewed and received approval from your Dean and the Liberty University Institutional Review Board. However, the final decision about participation is yours.

If you are interested in participating, please read the attached informed consent document and contact me at [dwest15@liberty.edu](mailto:dwest15@liberty.edu) notifying me of your interest to participate. If you agree to participate, you will be asked to sign and date the consent form when we meet prior to the group interview. If you have any questions please contact me and I will be glad to answer them

for you. As a group, participants will help select the date, time and location of the student group interview so this information will be provided at a later date.

Sincerely,

Deborah West

## APPENDIX G: STUDENT CONSENT FORM

### STUDENT CONSENT FORM

A Case Study Exploring the Role of Faculty in Providing Academic Support to First and Second Year Medical Students

Deborah Fawn West  
Liberty University  
School of Education

You are invited to be in a research study of academic support provided to first and second year medical students. You were selected as a possible participant because you are a first or second year student of the research site. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Deborah Fawn West, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:** The purpose of this study is to understand what role faculty play in providing academic support to first and second year medical students. The study hopes to answer the following research questions:

1. How do faculty provide academic support to first and second year medical students? The sub-questions are as follows:
  - How do faculty assumptions about adult learners influence the academic support provided to students?
  - How do faculty perceptions of academic performance influence the provision of academic support?
  - What are the perceptions regarding faculty's ability to provide academic support?

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

1. Participate a group interview with other first and second year medical students. The group interview will be audio recorded. The interview will last approximately 1 hour.
2. You will be asked to review the preliminary analysis of the data for accuracy, to identify missing information, and to share your opinion of the analysis. This task will take approximately 1 hour.

**Risks and Benefits of being in the Study:** The risks involved in this study are minimal, no more than you would encounter in everyday life.

There are no direct benefits to participating in this study. However, there may be benefits to society. The study may provide faculty and administrators important insight into how faculty provide academic assistance to students demonstrating poor academic performance. The findings may also provide faculty and administrators increased awareness regarding the academic needs of medical students who are experiencing difficulty. For administrators, the results may help guide the establishment of academic support expectations for faculty to ensure continuity in services across courses and faculty members. Study findings may also help administrators develop faculty development initiatives that will aid faculty in understanding and establishing active monitoring of students' academic progress. Finally, the study has practical significance in that through the establishment of effective academic support services, the student attrition rate may be decreased.

**Compensation:** Participants will not be compensated for participating in this study.

**Confidentiality:** The records of this study will be kept private. To ensure confidentiality, you will be assigned a pseudonym (i.e. John). Should you participate in the group interview, I cannot assure you that other members of the group will maintain your confidentiality and privacy. Your identity will not be shared with participants outside of the group interview or your educational institution. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject.

Research records will be stored securely and only I will have access to the records. Data will be stored electronically on my personal computer and will be password protected. Beyond the current study, there is no further anticipated use of the data in the future. Data will be retained for a minimum of three years upon completion of the study per federal regulations. After such time, data will be deleted.

**Voluntary Nature of the Study:** Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the university. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

**How 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, apart from group interview data, will be destroyed immediately and will not be included in this study. Group interview data will not be destroyed,



but your contributions to the group interview will not be included in the study if you choose to withdraw.

**Contacts and Questions:** The researcher conducting this study is Deborah Fawn West. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at: [dwest15@liberty.edu](mailto:dwest15@liberty.edu) or 540-200-9053. You may also contact the researcher's dissertation chair, Dr. Mark Lamport, at [malamport@liberty.edu](mailto:malamport@liberty.edu).

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 1887, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

*Please notify the researcher if you would like a copy of this information for your records.*

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

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

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

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Signature of Participant

Date

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Signature of Investigator

Date