2019

Utilization-Focused Evaluation: Exploring the Academic Self-Efficacy of Paramedic Students in a Hybrid Learning Program

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Program recommendations for practice discussed SASE and learning in a hybrid program. They also discussed student satisfaction, reliance, and motivation. Nine specific recommendations were offered to the program: (1) foster intentional instructional practices, (2) promote resilience, (3) offer precourse student training, (4) improve student-instructor interaction, (5) offer faculty professional development, (6) improve instructor competence, (7) make changes to the curriculum design, (8) adjust course scheduling, (9) and improve the clinical coordination process. Recommendations for future research include identifying the specific motivational factors that interact directly with SASE in hybrid learning; addressing hybrid learning and self-efficacy from the faculty perspective; exploring what instructional elements support SASE in hybrid learning; and re-evaluating the paramedic hybrid program after program improvements have been implemented.

Document Type

Doctoral Research Paper

Degree Name

Ed.D.

Department

Higher Education

First Advisor

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Keywords

Utilization-focused evaluation, Paramedic, Hybrid learning, Academic self-efficacy

Subject Categories

Community College Leadership | Educational Assessment, Evaluation, and Research | Educational Methods | Higher Education

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A Dissertation

Presented to

Morgridge College of Education

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctorate of Education

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by

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August 2019

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Degree Date: August 2019

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Acknowledgements

I would like to express my sincere gratitude to the University of Denver Morgridge College of Education and Colorado Mountain College for giving me the opportunity to fulfill my educational goals toward a doctoral degree. I would especially like to thank Dr. Matt Gianneschi for being innovative and forward thinking in creating a partnership between the University of Denver and Colorado Mountain College, which afforded me this opportunity. I would also like to thank my committee for taking the extra time and effort to support me on my journey.

I could not have reached my goal without the love and support from my CMC cohort colleagues and friends, Chris Wenger, Jeremiah Johnson, Jacki Brazill, Chris Harnden, Amy Blakey, and Maureen Stepp. We now have an undeniable bond as we 'pushed-pulled-dragged' each other to completion. I thank each of you.

I would especially like to thank both my children, Isabella and Sophia, for their love, support, and understanding. I am so fortunate to be the mother to two independent girls, and I am so proud of the young women you are becoming. You both made many sacrifices to support me during this journey, and it has not always been easy. I couldn't be more grateful. Isabella, thank you for your patience and for teaching your sister that there is more than one way to do math and helping her with her homework when I could not. Sophia, thank you for all you do for me and your sister and your kind generous heart. Thank you especially for learning how to cook. Your sister would probably still be living on toast. Thank you both for always doing your best and striving for success, and I could not have done this without you both.

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Chapter One:

Introduction

The U.S. Bureau of Labor Statistics (2019) predicted that the need for paramedics and emergency medical technicians (EMTs) will grow 15% more quickly than the average job from 2016 to 2026. Many states face unique challenges in developing programs to meet the needs of both rural and urban programs in respect to this growth. Explosive population growth requires a corresponding increase in available opportunities for education and training. In the current academic climate, educators must target nontraditional students with nontraditional methods—namely, hybrid instructional programs. Colorado has struggled to address the general trend of an increase in online learning experiences because of additional obstacles related to its prohibitive geography and empirical size. The paramedic program at Colorado Mountain College (CMC) is an example of a hybrid instructional program designed to meet the increased need.

Research in hybrid instruction has mainly focused on nursing, physical therapy, and public health, with limited research regarding web-based or hybrid methods of instruction for paramedic and emergency medical services (EMS). Nevertheless, the EMS field has been using one form or another of blended learning for over 10 years (Zaveri & Agrowal, 2006). Because of this, hybrid education in EMS education deserves attention

and further research to identify if it is an effective tool to ensure students are learning critical thinking.

Hybrid education has had several iterations and definitions through the years. It is different than online learning in that it has both a face-to-face component and an online component; however, there is no clear definition of what percentage either component should be. Research suggested that hybrid education is as effective for learning as traditional education if it is used appropriately (Arbaugh, 2014). College administrators and educators do not have a clear understanding of how or why hybrid education is an effective educational strategy. This lack of understanding can affect student outcomes, satisfaction, and learning unless educators consider best practices prior to implementing hybrid instruction (Arbaugh, 2014). Best practices found in the hybrid education model are centered on positive student outcomes, including delivery methodology, and include student-teacher interaction, synchronous collaboration, high-quality videos and materials, purposeful curriculum building, ongoing assessment, and intentional community building (Garrison & Kanuka, 2004). Effectively integrating these components in the hybrid mode of teaching and learning is a challenge without a distinct awareness of why and how to assimilate them. Thus, a study exploring student academic self-efficacy (SASE) in a hybrid paramedic program specifically at a rural community college will benefit program and college administrators.

Statement of the Problem

Paramedic education enrollment in rural western Colorado is increasing as job opportunities persist. One challenge employers have is finding qualified paramedics in

these rural areas of Colorado. In response, academic leaders face competition as program length and resources remain limited, especially in rural areas. Leaders are challenged to identify instructional methods to meet these demands while also meeting the academic needs of rural paramedic students. Hybrid instructional methods are increasingly used in higher education to better use resources, provide greater flexibility, and create learner-centered environments; however, there is little research in regards to SASE for allied health education in relation to hybrid courses.

Paramedic and EMS training is innately hands-on and physical. In 2013, CMC developed a hybrid instructional paramedic program, prompting an investigation to determine if this was a good solution. In other words, is hybrid learning sufficient in its scope to continue to effectively meet student needs in paramedic education?

Many educators have incorporated hybrid instructional methods in many areas of allied health education (Garrison & Vaughan, 2008). Hybrid instruction includes both face-to-face and online learning strategies to integrate better resources and supplement student learning involvement (Graham & Allen, 2005). These methods are being used throughout higher education based on the needs of students and external stakeholders (Garrison & Vaughan, 2008). However, with increasing enrollment and the need in rural areas for qualified paramedics, academic leaders are being challenged to effectively manage resources and adjust program length and time to adequately train students efficiently and successfully (Twigg, 2013). Hybrid instruction use in program delivery can aid rural colleges in different areas, as it has been shown to be more effective in time management, resources, and engaging students (Twigg, 2013). To identify the effectiveness of hybrid instruction, educators must consider if students suffer because

hybrid training doesn't aptly meet scenario-specific learning. Another consideration for educators to explore is whether hybrid learning affects SASE as a mostly psychological aspect of student learning. Without substantiation to support student academic efficacy in hybrid instructional delivery, leaders in allied health education will not have sufficient evidence to promote future hybrid instructional methods to ensure student success. Educators must take a definitive stance, per the students, to determine whether to continue expanding this type of program.

This program evaluation sought to answer two research questions:

Q1. What is the relationship between SASE and learning in a paramedic hybrid learning environment?

Q2. How does SASE affect program satisfaction in a hybrid learning paramedic program?

SASE predicts the satisfaction and level of learning in innovative instructional models (Garrison & Vaughan, 2008). Researching SASE within a hybrid instructional paramedic program could provide academic leaders essential findings to make appropriate decisions when implementing this method of instruction.

The hybrid method of teaching has been shown to be a positive alternative to face-to-face learning, and one of the ways to evaluate the effectiveness of hybrid learning is through the satisfaction of students (Arbaugh, 2014). There have been many studies on online education, but studies specific to hybrid learning and SASE are scarce (Arbaugh, 2014). The overarching issue that guided this program evaluation was how hybrid instructional methods in higher education and allied health programs can transform program delivery in the rural setting. Leaders of allied health programs will need to

evaluate how students perceive their SASE within this method of instruction to ensure learning is taking place (Arbaugh, 2014). However, evidence supporting paramedic SASE in a hybrid instructional model is lacking. According to Garrison and Vaughan (2008), without sufficient research, educational leaders will be hesitant to change the curriculum from face-to-face to hybrid instructional methods, and without understanding SASE toward learning, students will be less likely to succeed (Garrison & Vaughan, 2008).

Research Model

A methodological perspective was applied to the study, with research questions driving the data collection and analysis. The research study had value in that it informed and improved practice (Creswell, 2003). The utilization-focused evaluation (U-FE) model (Patton, 2008) was chosen based on its focus on utility and actual use of the study findings. When designing a U-FE, the focus is on the intended use by the intended users. Because U-FE does not prescribe any one method, theory, or content, it is more of a guiding framework and not a methodology (Patton, 2012). The U-FE evaluation is useful for highlighting what a program has done well and where it is successful and also investigating underlying problems or instances where there could be improvement (Patton, 2012).

The goal of U-FE is to increase the likelihood that an evaluation will be used, and subsequently have an impact, by identifying a small group of stakeholders, often referred to as primary intended users, who are in a position to use the evaluation findings (Patton, 2008). Primary intended users are identified from the larger pool of potential stakeholders

and are involved in the study design (Patton, 2008). Primary intended users are the stakeholders who have a principal role in decision-making and, in turn, are in the position to utilize results. Since no evaluation is value free, U-FE identifies whose values will frame the evaluation by working with clearly defined primary users who have a responsibility to apply findings and implement recommendations. The evaluator develops a working relationship with the primary users, negotiating the content, model, method, theory, and uses for the program evaluation (Stufflebeam & Shinkfield, 2007). U-FE is appropriate as it identifies the group or stakeholders who care about the evaluation and the findings. This increases the chances that the findings generated will be utilized (Patton, 2008).

This U-FE sought participation from the program stakeholders from the paramedic program; to address the needs of the stakeholders, it included several methods. Qualitative data were gathered based on the needs of the intended users and to ensure the use of the evaluation for program improvement and to bring about change. Change is more likely to occur if stakeholders are involved and invested in the evaluation along the way to include the utilization of results (Patton, 2008).

Purpose of the Evaluation

The purpose of this program evaluation was to investigate the SASE in a hybrid paramedic curriculum among students in a rural community college, specifically CMC. This U-FE explored the perceptions of SASE and learning in a hybrid paramedic program to determine the relationship between SASE and learning and how SASE affects program satisfaction. Clear evidence was needed to establish the relationship between self-efficacy

and its impact on student academic achievement and learning in a paramedic hybrid program. Schunk (1991) found that high levels of SASE directly strengthened academic performance.

One way to evaluate the effectiveness of hybrid learning is through the satisfaction of its users (Arbaugh, 2014). Wu and Hwang (2010) considered student satisfaction a crucial parameter to evaluate and assess learning effectiveness. Assessing learning effectiveness specifically in higher education is especially important when different modalities of learning are utilized to understand if students are indeed learning. Clear evidence is needed to determine overall student satisfaction in a hybrid instructional program and how or if it plays a role in SASE (Garrison & Vaughan, 2008).

Investigation

Over the last decade, institutions of higher education have adopted the use of a hybrid model for instruction for many courses and programs (Hew & Cheung, 2012). This evaluation allowed stakeholders to identify if hybrid methods of teaching enhance learning for students that translates to their clinical settings. The study investigated the perceptions of students who successfully graduated from the paramedic program to determine their SASE while learning in a hybrid program and how CMC can improve or implement more of this type of instruction in other program areas. Finding, defining, and understanding innovative instructional methods within community college programs could explain how or why students can succeed in those programs. Most community colleges offer a vast array of courses and programs, which typically are offered through

traditional face-to-face instructional methods, but more are utilizing distance or online components in one way or another.

Rationale for Research

CMC is an accredited 2-year and 4-year community college with 11 campuses covering 12,000 square miles in Western Colorado. CMC serves rural communities by offering degrees and certificates to over 20,000 students. Western Colorado has seen a great deal of growth along with the rest of Colorado, and the need for rural EMS education continues to grow. For example, in 2017, the State of Colorado added 77,049 residents in urban areas of the state and also experienced significant population growth in many rural areas (U.S. Bureau of Labor Statistics, 2019). In response to this growth, the demand for rural EMS services in Colorado led to the creation of the Central Mountains Regional Emergency Medical and Trauma Advisory Council (CMRETAC). CMRETAC supports EMS services in rural areas west of the continental divide, stretching over 6,883 miles in the mountainous regions of Colorado. It works with local employers and education leaders to ensure this region in Western Colorado is supported with trained and much-needed EMS personnel. Institutions that serve this area have seen an increase in hybrid methods of instruction to address the need for skilled EMS personnel, including other allied health programs.

Research in allied health education has shown the promise of incorporating hybrid methods of instruction, indicating a better use of resources and increased learning satisfaction, especially within nursing education (Bowen, Chingos, Lack, & Nygren, 2013; Garrison & Vaughan, 2008). However, there is scant research thus far to support

claims of improved SASE in hybrid paramedic programs. A recent study suggested that blended courses can encourage more interaction between teacher and student than face-to-face classes, increasing student understanding and thought processes, but did not address student perceptions of SASE (Bandura, 2012; Garrison, 2012).

CMC's paramedic program implemented hybrid instructional methods in the 2013-2014 academic year to meet the demands of employers and students in rural Western Colorado. However, without a strong understanding of the perceptions of SASE, program directors and administrators cannot adequately utilize resources. Exploring SASE in hybrid courses, specifically in the paramedic program, will benefit college administrators, program directors, and program accreditation governing bodies in that it can help identify the perceived competency a student feels when approaching tasks (Bandura, 1997). The investigation of academic self-efficacy in a hybrid paramedic program may benefit from these findings regarding student satisfaction and experiences within the hybrid method of instruction.

Definition of Key Terms

Allied health: Allied health professionals are usually defined as those who are involved in the delivery of health or related services pertaining to evaluation and prevention of diseases. They are usually nonphysician, nonnurse health providers, including EMTs, health information technologists, health educators, counselors, pharmacy personnel, and medical assistants.

Self-efficacy: Self-efficacy is defined as how individuals judge their abilities to plan and initiate the necessary behaviors to achieve a specific goal (Bandura, 1997).

Student academic self-efficacy: Student academic self-efficacy refers to how well students believe they are capable of successfully achieving, on a specified level, an academic task or goal (Bandura, 1997).

Hybrid instruction: Hybrid instruction, also known as web-enhanced/assisted or blended learning, combines face-to-face instruction with distance teaching (Lorenzetti, 2004). CMC defines a hybrid course as a blend of both traditional classroom instruction and online learning activities that may reside in its learning management system Canvas course. Students are required to attend and actively participate in both face-to-face instruction (which may include interactive video streaming) and approximately 1% to 75% online learning environments (CMC, 2018). The main difference between a classroom course that utilizes the seven basics of Canvas and a hybrid class is the amount of content, instruction, and interaction/activities that are housed in an online environment. By having more than a syllabus, grades, and a weekly discussion post, the faculty is changing the way students learn and the amount of face-to-face contact with the faculty member. The online component moves the course to a hybrid-style course at CMC, and students need to be aware of the unique learning environment (CMC, 2018).

Blended learning: Similar to hybrid learning, blended learning is a course that is a combination of both face-to-face instruction with distance teaching (Arbaugh, 2007).

Paramedic: A paramedic is an advanced provider of emergency medical care and is highly educated in topics such as anatomy and physiology, cardiology, medications, and medical procedures. Paramedics build on their EMT education and learn more skills such as administering medications, starting intravenous lines, providing advanced airway

management for patients, and learning to resuscitate and support patients with significant problems, including heart attacks and traumas.

EMT-Basic: This licensure represents a current and valid EMT certificate issued by the Colorado Department of Public Health and Environment, indicating that the individual is authorized to provide basic emergency medical care in accordance with the *Rules Pertaining to EMS Practice and Medical Director Oversight.*

EMT-Intermediate: This licensure represents a current and valid EMT-I certificate issued by the Colorado Department of Public Health and Environment, indicating that the individual is authorized to provide limited acts of advanced emergency medical care in accordance with the *Rules Pertaining to EMS Practice and Medical Director Oversight.*

Summary

This study evaluated SASE in a paramedic hybrid learning program. The questionnaire, interviews, and focus group data gathered described student perceptions of learning in a hybrid learning program. The paradigm of social constructionism was utilized as data were collected through a multi-methods design intended to highlight the research questions and enable the findings to be used by the primary users of the study. The theoretical framework of social cognitive learning provided the lens through which to review participant perceptions. The research provided the primary users of this U-FE information for ongoing improvement of the paramedic hybrid program.

Chapter Two:

Literature Review

> Self-belief does not necessarily ensure success, but self-disbelief assuredly spawns failure. —Albert Bandura (1997)

This chapter reviews the literature relevant to this study in four main sections. The first section reviews self-efficacy theory, including the sources of self-efficacy and student academic self-efficacy (SASE). The second section focuses on hybrid learning: its advantages, challenges, and outcomes, as well as its application in allied health and emergency medical services (EMS) programs. The third section addresses the literature linking the elements of SASE and hybrid learning, and the chapter closes with a conclusion.

Self-Efficacy Theory

To understand the framework of self-efficacy, it is important to understand social cognitive theory. Social cognitive theory combines ideas and methods from the emotional, behavior, and cognitive aspects of social and behavior theory. The basis of social cognitive theory is that individuals learn through their own experiences, observing others and the results of those actions (Bandura, 1986). Key constructs of social cognitive theory that are relevant to learning include observational learning, self-control, reinforcement, and self-efficacy. Self-efficacy is engrained in social cognitive theory,

where it is defined as a form of self-evaluation that influences behaviors, mastery, persistence, and efforts (Bandura, 2006).

Bandura's (1986) social cognitive theory has been utilized as a theoretical framework in different settings, situations, and environments and is often applied in educational settings. Social cognitive theory can be used to guide behavior change interventions, including understanding behavior within learning environments. It may be particularly useful for educators examining how students interact with their surroundings in the learning environment. Bandura's theory is used extensively throughout different areas of education because self-efficacy is important to influencing behavior along with goals, human functioning, and outcome expectations (Zimmerman & Bandura, 1994).

Bandura (1997; Zimmerman & Bandura, 1994) stated that a critical aspect of social cognitive theory is individual self-efficacy, as he found this provided the framework for personal accomplishments, motivation, and well-being. Self-efficacy is based on Bandura's (1997) social cognitive theory as a behavioral mechanism and is a form of self-evaluation that influences effort and persistence when faced with obstacles (Bandura, 2012). Self-efficacy also affects whether people think strategically about their courses of action, goals, effort, and ability to cope with life choices and environmental stresses (Bandura, 2006). Bandura (2012) advanced his theory of self-efficacy as a perception of competency or an internal belief that someone thinks or feels they have mastered specific tasks. This can directly influence self-doubt and self-belief, in that if individuals doubt their ability, they are less likely to persist. In contrast, if they believe they will succeed, they are more likely to persevere (Bandura, 2012).

Sources of self-efficacy. Self-efficacy expectations are influenced by four sources of information listed in order of importance: mastery, vicarious experience, verbal persuasion, and physiological states of being (Bandura, 2006). These are considered core elements for how individuals develop and experience self-efficacy. In the learning environment, these sources are influential for success.

Bandura (1997) stated that mastery or performance accomplishments are the most important source of individual self-efficacy (Bandura, 1997). Having repeated success with tasks will diminish individuals' fear of failure, consequently leading to higher self-efficacy expectations. This then can be replicated when they experience or encounter the same task.

Self-efficacy is based in social cognitive theory, which is mainly focused on observing others. Bandura (1997) stated that vicarious experience is the second most important source of self-efficacy. With vicarious experiences, individuals rely not on their own successes, but on the performance and success of others. This social comparison is useful in that seeing someone else performing the task successfully can provide an increase in self-confidence and self-efficacy. Bandura (1997) stated that individuals will persuade themselves to do a task if they observe others doing it successfully, especially if they have little or no experience.

Verbal persuasion is the third source of self-efficacy. Receiving encouraging words from influential people can increase individuals' belief that they can succeed (Bandura, 1997).

Finally, Bandura (1997) found that emotional experience or physiological state impacts self-efficacy. Being in a state of stress or anxiety can have an adverse effect on

self-efficacy (Bandura, 1997). The importance of overall well-being cannot be overstated, and how an individual copes with challenges or changes directly affects self-efficacy. Individuals with high self-efficacy find it easier to buffer stress and are overall more satisfied and committed (Chemers, Hu, & Garcia, 2001).

Student academic self-efficacy. In the academic context, SASE represents the way students perceive themselves as learners and their views about specific academic abilities and perceptions (Bracken, 2009). SASE is grounded in self-efficacy theory and social cognitive theory (Bandura & Walters, 1977). Zimmerman (1995) defined SASE as the ability to accomplish an academic task through courses of action to obtain specific types of educational achievement.

Faulin, Juan, Fonseca, Pla, and Rodriguez (2009) stated that SASE plays a critical role in learning because it determines how students motivate and orient themselves in learning environments. As SASE develops over time, the sources that influence it seem to change from the environment to behavioral and personal factors (Zimmerman & Schunk, 2012). Research has suggested that self-efficacy has a significant influence on academic achievement (Faulin et al., 2009). Akçaoglu's (2016) research on teacher candidate self-efficacy found that student teacher candidates with higher SASE were more successful, studied harder, and persisted in the face of difficulties. This study concluded that by possessing higher SASE with some procedural help, students could achieve better academic results and implement better reasoning strategies (Akçaoglu, 2016). Chemers et al. (2001) found that students with higher SASE were also more optimistic that they would be successful. These positive outcomes indicate that students coped better with

stress and obstacles and had higher satisfaction and commitment to stay in school (Chemers et al., 2001).

SASE is an important concept not only for traditional instruction, but for hybrid instruction as well. The next section reviews the literature on hybrid learning.

Hybrid Learning in Higher Education

The body of relevant research references several different definitions of what constitutes hybrid learning, but most authors agree that a hybrid course, also known as a blended course, is a course that intentionally combines face-to-face learning with an online component, where between 20% and 70% of the content is delivered online (Garrison & Kanuka, 2004; Oliver & Trigwell, 2005). The combination of asynchronous and synchronous discussion, combined with classroom experiences and in-person learning experiences, allows for different opportunities for students to connect via various community-building pathways (Garrison & Kanuka, 2004).

Hybrid instruction appears to be a fixed feature in higher education with real growth potential and is currently used by 32% of U.S. colleges and universities (Allen & Seaman, 2010; Kim & Bonk, 2006). The adoption of hybrid courses in higher education is part of an effort to compete with traditional face-to-face programs, as well as to meet the demands of online learning across the career college spectrum. Some institutions and colleges have been developing predominantly online instruction, with some in-person student-teacher interaction as part of the curriculum, while other institutions supplement their traditional offerings with online integration (Allen & Seaman, 2010). The emergence and increased use of hybrid learning were due to learner desires for

asynchronous and synchronous instruction that includes face-to-face time with the instructor and other learners in the class (Yen & Lee, 2011). Yen and Lee (2011) asserted that a combination of both online and face-to-face instruction would emerge as the effective teaching modality of the future.

Advantages of hybrid instruction. Hybrid learning's continued expansion in higher education has many potential advantages. Bowen et al. (2013) indicated that programs using hybrid learning methods of instruction had lower operational costs as well as a better allocation of resources, which made the approach appealing to institutions facing increasing financial constraints. Garrison and Kanuka (2004) found that hybrid learning can be transformative by providing institutions with the opportunity to encourage meaningful learning as well as embrace technology. In most hybrid classes, instruction is a combination of traditional and online classroom meetings with online learning modalities. This combination of learning techniques generally has students and instructors spending less than 50% of the time in the classroom and more at an alternative location (Beattie, Hartshorne, Jordan, & O'Brien, 2011). The application of hybrid and distance learning in higher education adapts to the increasing needs of learners, better utilizes institutional resources, and embeds advanced technology for skill training (Bowen et al., 2013). Hybrid learning has the ability not only to use technology but also to expand the scope of how instructors interact with students.

Hybrid instruction is also a benefit for students. Today, the vast majority of students are commuting to campuses, and traditional noncommuter students are in the vast minority (Forbus, Newbold, & Mehta, 2011). Hybrid instruction allows these

learners to collaborate with each other and share information and easily interface with other resources and other subject-matter experts (Clark & Mayer, 2003).

Ahmed (2010) found one factor that affected learners' attitudes toward hybrid learning was the flexibility and ability to schedule courses according to the needs of each student (Ahmed, 2010). Students were more likely to choose hybrid learning since it provided them with more control and allowed them to assume more responsibility for their learning compared to face-to-face instruction (O'Brien, Hartshorne, Beattie, & Jordan, 2011). Kenney and Newcombe (2011) concluded in their investigation of student perceptions of hybrid learning that students were more active learners, participated more frequently, and had improved test scores overall when blended components were added to core courses. In another study investigating the efficacy of face-to-face versus hybrid methods of instruction in rural areas, Beattie et al. (2011) found no significant differences between the learning methods and showed that hybrid students were more engaged and better prepared. Smyth et al. (2012) found nursing students perceived hybrid learning positively, as it provided improved access to resources and better prepared them for practical instruction.

Bowen et al. (2013) looked at randomly selected students at six different universities who agreed to take either online or hybrid courses. In total, 605 students were randomly placed into either a hybrid course or traditional face-to-face section (Bowen et al., 2013). Participants took a survey at the beginning of the study to identify why they were interested in taking a hybrid course and then again at the end of the study to discern what their experience was like in the class. Most students found that hybrid courses allowed them to persist in school (Bowen et al., 2013).

Challenges related to technology. The use of hybrid learning can pose some challenges for students and universities. Colleges and universities are challenged by time and support issues, as many instructors are not trained in specific blended/hybrid course pedagogies or best practices (Vaughan, 2007). A challenge for students is the difficulty with the more sophisticated technologies used in blended learning. In many rural areas, students reported considerable frustration with poor Internet connections or connectivity, which inhibited their ability to engage in online discussions or coursework and negatively impacted their learning and confidence (King, 2002; Smyth, Houghton, Cooney, & Casey, 2012; Welker & Berardino, 2005). However, administrators and educators in rural colleges found that hybrid learning can better utilize resources and improve flexibility for learners who may have to travel great distances to attend class (Adams, 2013).

Guzer and Caner (2014) found that hybrid methods of instruction have expanded over the last decade and will continue to develop due to technological advances embraced by learners. Technology such as smartphones and interactive touch-screens can be used to enhance traditional face-to-face methods of instruction (Guzer & Caner, 2014).

Outcomes of hybrid instruction. Garrison and Kanuka (2004) found that in higher education settings within online and hybrid courses, it is still vital to assess satisfaction and academic achievement, both outcomes in the learning process. For hybrid learning to promote learning, its face-to-face and online components must be combined effectively to complement each other (Graham, 2006; Picciano, 2002). The rapid expansion of hybrid instruction in institutions should have significant implications for how students interact and connect (Owsten, York, & Murtha, 2013).

Blended and hybrid learning models have been shown to produce excellent educational outcomes equal to those of traditional learning models or entirely online classes. In a study in the United Kingdom, researchers investigated a blended learning environment utilized to better prepare students for classes and increase student support (Gomes, 2014). They found that students felt increased confidence and determination using online learning methods (Gomes, 2014).

Research has shown that learner satisfaction is an essential factor in determining the effectiveness of hybrid education programs and should be included in all program evaluations (Garrison & Kanuka, 2004). Assessing student satisfaction of hybrid education can provide useful information by offering instructors and program designers feedback to determine the learning application (Chute, Thompson, & Hancock, 1999). Several studies have examined students' perceptions of and attitudes about hybrid learning (Ahmed, 2010; Beattie et al., 2011; Bures et al., 2000; Kenney & Newcombe, 2011; Smyth et al., 2012).

Students who receive instruction in a solely online format are believed to perform poorly, as learning quality and quantity suffer compared to students receiving instruction in a hybrid format (Poon, 2013). Poon's (2103) research supported earlier studies that found that hybrid learning encourages student satisfaction and enables students to become more involved and motivated in the learning process, subsequently increasing their commitment and ability to persist in academic tasks (Woltering, Herrler, Sptizer, & Spreckelsen, 2009).

Lynch and Dembo (2004) mirrored much of the fundamental work of Chickering and Gamson (1987) in online learning and learner characteristics. Research has suggested

that utilizing constructivist learning techniques can increase the effectiveness of online learning environments (Gold, 2001). One of the most popular constructivist models is the "Seven Principles for Good Practice" in online learning (Chickering & Gamson, 1987). The seven principles include (1) encourage contact between student and faculty, (2) develop reciprocity and cooperation among students, (3) encourage active learning, (4) provide prompt feedback, (5) emphasize time on task, (6) communicate high expectations, and (7) respect different ways of learning. Chickering and Gamson (1987) suggested that the choice of pedagogical techniques and course tools was dependent on both curriculum and learner characteristics, indicating the importance of understanding both. However, the seven principles are designed mainly for improving faculty teaching in an online learning environment and focus on curriculum with steps to create a more learner-centered online environment.

Hybrid education in medical and emergency medical technician programs. No other discipline has received more attention regarding distance education than the allied health sciences (Jacob, 2001), although currently only 20% of published studies regarding distance education in allied health science fields focus on learners, learning, and support (Bonk & Dennen, 2003). Because of this fact, allied health science fields are attempting to improve the learning process in their distance and hybrid education programs (Bonk & Dennen, 2003). Several studies of hybrid education in the allied health field have examined course/program effectiveness, with fewer studies concerned with student satisfaction or self-efficacy (Smyth et al., 2012). Research on hybrid instruction has focused mainly on nursing, physical therapy, and public health, with

limited research regarding web-based or hybrid methods of instruction for paramedics and emergency medical technicians (EMTs).

One qualitative study addressed medical students supplementing their learning by using online videos and e-learning to improve their overall satisfaction and self-efficacy in a hybrid learning environment (Wiecha, Gramling, Joachim, & Vanderschmidt, 2003). Researchers found that learners reported an increase in self-awareness and were capable of understanding critical concepts, including the benefits of online learning (Wiecha et al., 2003). Participants reported increased satisfaction with the online learning modality and were more likely to achieve course objectives. They concluded that online education has the potential to enhance the curriculum on the medical interview, especially among students trained in rural community settings who may have to travel great distances to their medical training center (Wiecha et al., 2003).

Although the literature is scant in EMS hybrid education, the field of EMS has been using some form of blended learning for over 10 years (Zaveri & Agrowal, 2006). Because EMS providers need to learn clinical reasoning and critical thinking skills to provide competent and effective patient care, educators need to find instructional methods to develop these skills in students. However, developing practical knowledge in healthcare is complex, and educators are challenged to provide appropriate learning modalities to present complex and critical thinking scenarios. While clinical education provides students with real-world learning experiences, students still need to first access implicit knowledge and clinical reasoning in order to decipher clinical problems (Rowe, Frantz, & Bozalek, 2012). Hybrid learning offers opportunities for educators to integrate these complexities using online and face-to-face interaction (Rowe et al., 2012).

EMTs and paramedics are essential members of the allied healthcare workforce; however, in rural areas, which are underserved by EMTs and paramedics, they are more likely to be volunteers or have less education than in urban areas (Hobbs, Moshinskie, Roden, & Jarvis, 1998). Many end up leaving these rural areas, where jobs are scarce or educational opportunities are offered many miles from their homes (Hobbs et al., 1998). Hybrid learning may be an effective alternative to increasing the supply of EMTs and paramedics in rural environments.

Hobbs et al. (1998) examined two different distance learning techniques to determine if they were as effective as classroom teaching when training EMT-Intermediate students in a rural-based EMS system. They found no difference in average test scores or attrition rates between the EMT-I students in the two different learning environments (Hobbs et al., 1998). These results led to the conclusion that distance learning strategies may be an effective alternative for EMS providers in rural areas (Hobbs et al., 1998).

Hybrid learning technology appears to be an effective learning model for offering didactic education off campus. It is particularly beneficial in rural areas that lack paramedic training programs or a sufficient number of qualified instructors (Hobbs et al., 1998). Conversely, hybrid learning for healthcare students can provide a wide range of patient simulations and clinical simulation scenarios, which can improve their communication and clinical skills under supervision (Abelsson, Rystedt, Suserud, & Lindwall, 2016).

The online learning environment component in hybrid learning does not change how students learn, as they still need to be active in the learning process and confident

that what they are doing is worthwhile (Chickering & Gamson, 1987). How students learn in hybrid instruction drives the need for more research on SASE in the hybrid model. To better understand how students learn in a hybrid learning model, research has shown that a student's perceived ease of use, readiness with technology, competency, and prior experience with online learning play important roles relating to SASE and student satisfaction (Jan, 2015; Wu & Hwang, 2010). The next section discusses the linkage of SASE and hybrid learning in more detail.

The Linkage of Student Academic Self-Efficacy and Hybrid Learning

An examination of SASE in the hybrid learning environment framed within social cognitive theory is an essential construct for college administrators and program directors to use in developing appropriate programs (Bandura, 1993, 1997, 2007). SASE can serve as a catalyst of academic success (Linnenbrink & Pintrich, 2002). SASE refers to how individuals are influenced in their belief that they can successfully achieve on a specified level on an academic task or goal (Bandura, 1997; Gresham, 1988; Linnenbrink & Pintrich, 2002; Wigfield & Eccles, 2002; Zimmerman, 2002). Learners with high SASE are more likely to be able to self-regulate how they develop study skills and learning strategies to adapt to their learning environments (Lynch & Dembo, 2004). Additionally, those with a strong sense of SASE use it to enhance their task performance (Bandura, 2002, 2006, 2012). This, in turn, can further motivate them to pursue additional academic attainment and achievement (Bandura, 2002; Lynch & Dembo, 2004).

Although Bandura (1997) mainly addressed self-efficacy in traditional classroom learning environments, Lin, Liang, Yang, and Tsai (2013) found the sources of SASE to

be similar in online environments. Similarly, in a quasi-experimental study, Yen and Lee (2011) studied how students experience and perceive hybrid instruction. They collected data from 34 students learning in a hybrid learning environment experiencing hybrid web scenarios, classroom instruction, and web scenarios. They found that the students participating in hybrid methods of instruction strengthened their perceptions of SASE as well as their educational experience (Yen & Lee, 2011).

Many factors can affect student perceptions of learning and self-efficacy. Online and hybrid learners are similar, in that their SASE has similar sources: (1) performance accomplishments or mastery experiences, (2) vicarious experiences, (3) verbal persuasion, and (4) physiological states (Bandura, 1997). In regards to online learning, the sources of influence are similar and include (1) previous online experiences, (2) precourse training and interactive curriculum, (3) instructor feedback, and (4) online-hybrid learning anxiety (Bates & Khasawneh, 2007).

In a quantitative analysis of 94 undergraduate students, 75% of whom were online learners and 25% of whom were face-to-face learners, Lynch and Dembo (2004) demonstrated a correlation in the relationship between SASE and performance in online education. They concluded there was a significant positive relationship between self-efficacy perceptions and performance in online courses, indicating these should be assessed before the course to identify low performance (Lynch & Dembo, 2004). Since their research did not investigate hybrid education, they suggested more research was needed on how self-efficacy with various blended learning models affects student performance (Lynch & Dembo, 2004).

In an article providing an overview of blended learning practices in higher education, Arbaugh (2014) found research that suggested that the effectiveness of learning in a hybrid environment is based on the satisfaction of the online learners (Arbaugh, 2014). The less satisfied students are, the less likely they are to persist in academic tasks or succeed, which can affect how they feel about their academic abilities (Arbaugh, 2014). Because SASE is a component of learner characteristics in a learning environment, it also has a major influence on positive outcomes in hybrid learning (Artino, La Rochelle, & Durning, 2010).

In an observational longitudinal study conducted on undergraduate physiotherapy students, Artino et al. (2010) found that SASE was a key motivation for student success. They identified a positive correlation between SASE, motivation to learn, and overall academic performance (Artino et al., 2010). SASE and student satisfaction were related, as a strong sense of SASE enhances well-being (Pajares & Schunk, 2001). For example, if students experience a high degree of stress or anxiety while engaging with a course, this will influence their confidence and satisfaction, and they will probably not persist in their academic goals (Pajares & Schunk, 2001).

Concerning efficacy beliefs related to technology, Bures, Abrami, and Amundsen (2000) found a significant relationship between students' success expectations and attitudes towards technology, as well as a correlation between student anxiety in relation to learning technology and its impact on motivation. The researchers found that when performance expectations for learning were high, student attitudes toward learning technology were positive, and student anxiety was low. When using new learning technologies, student motivation in the class was high. Inversely, motivation was low

when performance expectations were low, attitudes toward learning technologies were tenuous, and students expressed anxiety about using a particular type of learning technology. This indicates the importance of early communication regarding the expectations and use of specific learning technologies, as well as providing adequate resources and training for students.

SASE for learning course content and for technology skills has been found to be predictive of learner performance (Wang & Newlin, 2002). It is crucial for educators to assist in developing a positive self-efficacy about the use of technology, as it is part of the successful experience of online learning (Wang & Newlin, 2002). In a quasi-experimental study, Wang and Newlin (2002) investigated college students' reasoning for taking online courses and whether their self-efficacy would predict their performance in the online sections of a course related to the technological components or course content. They found that it was essential to ensure that students who learn online are both competent and comfortable using technological tools, as such tools are central to their academic experience (Wang & Newlin, 2002).

Summary

The importance of the influence of SASE on academic performance cannot be overstated. Because social cognitive theory is based on external social systems and internal self-influences, specifically self-efficacy, which motivates and regulates specific behaviors, it is an excellent framework for identifying learners' judgments about their abilities to meet their educational goals (Bandura, 1986, 1997; Honicke & Broadbent, 2016; Pintrich, 2004).

Research is limited regarding SASE in hybrid programs for paramedics. Hybrid instruction has been adopted by many higher education institutions, including CMC. This utilization-focused evaluation contributes to the research on educational strategies such as hybrid learning in EMS education and is intended to provide insights to improve the program. The evaluation applied Bandura's (1997) social cognitive theory and self-efficacy as the theoretical framework for data collection and analysis. The study's methodology is detailed in the next chapter.

Chapter Three:

Methodology and Methods

Research Design

The purpose of this study was to investigate student academic self-efficacy (SASE) and to analyze whether a relationship exists between SASE and a hybrid instructional program and how these perceptions affect program satisfaction. This study used qualitative data collection methods and analysis (Patton, 2008). The qualitative data included qualitative semistructured interviews, which were conducted with students who completed the initial questionnaire, as well as a focus group with stakeholders. Qualitative research methodologies can utilize semistructured interviews that can add depth to the numerical data analysis (Creswell, 2008). As a result, this research study was a multiple-method qualitative evaluation.

This utilization-focused evaluation (U-FE) focused explicitly on understanding student perceptions of their SASE in a hybrid paramedic program. The primary intended users of the information obtained in this study were the program director, paramedic advisory board, faculty, and administrators at Colorado Mountain College (CMC). The evaluation sought to answer two research questions:

Q1. What is the relationship between SASE and learning in a paramedic hybrid learning environment?

Q2. How does SASE affect program satisfaction in a hybrid learning paramedic program?

Location and Program

CMC is an accredited 2-year and 4-year community college with 11 campus sites covering 12,000 square miles in Western Colorado, serving rural communities. Its degree and certificate programs serve over 20,000 students. CMC offers several allied health programs, including the paramedic program at the Vail Valley campus in Edwards, Colorado. The Vail Valley campus is a smaller commuter campus that sports a state-of-the-art emergency medical services (EMS) simulation lab, medical assisting lab, and other medical classroom training areas for paramedic training.

The paramedic is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the emergency medical system. Students are accepted into the paramedic program during the fall semester and begin the program in January of the spring semester as a cohort of 8 to 15 students. The year-long paramedic program consists of three full-time semesters totaling over 1,200 hours of classroom and clinical and field instruction.

In 2013, the paramedic program, working in collaboration with the advisory committee and considering the needs of the rural EMS community, implemented a hybrid curriculum from a mainly face-to-face curriculum. This hybrid program offers the option of completing lecture hours via face-to-face or distance learning. Although students can choose to take the didactic portion of the program either online or face-to-face, most choose online. All must participate in skill lab sessions at the Edwards campus once a

week. Students who successfully complete the program are allowed to sit for the National Registry Paramedic Exam. Since 2014, there have been 65 successful graduates who participated in the hybrid model of learning and were asked to participate in this study.

Conceptual Framework

This program evaluation implemented Michael Patton's (2008) U-FE method, which has two essential themes. First, the primary intended users of the evaluation must be identified and personally engaged at the beginning of the evaluation process to ensure that their primary intended uses can be determined (Patton, 2008). Second, the intended uses of the evaluation must guide all decisions made about the evaluation process (Patton, 2008). The evaluator's job is not to make decisions for the intended users, but facilitate decision making among those who will use the findings of the evaluation (Patton, 2012).

U-FE does not prescribe any specific content, method, or theory. It is a guiding framework, as opposed to a methodology (Patton, 2012). The U-FE is useful for assuring that the evaluation will highlight what a program has done well and can compare less successful to more successful cases by investigating contextual factors and underlying causes. I evaluated SASE in CMC's paramedic hybrid program to identify if it produces intended or positive outcomes. The findings allowed me to explain if the hybrid model is successful and to identify the relationship between SASE and learning by identifying motivational triggers (Bandura, 1997). The study could advance learning in a hybrid environment in a paramedic program. It could also identify changes occurring within the environment and why the hybrid model is good and why it works.

Rationale for Program Evaluation Methodology

U-FE is a methodologically neutral framework that can encompass a variety of research methods (Patton, 2008). It is a versatile and adaptive approach appropriate for all evaluative purposes, including program development. For example, a recently published collection of evaluations modeling U-FE approaches included evaluation for curriculum development, program redirection, impact evaluation, program assessment, and outcomes evaluation (Norris, Phillips, & Korpan, 2003). What is critical is that the choice of methods is made in consultation with the users.

Patton (2012) suggested a step-by-step process to provide a framework, understanding that the users of the evaluation will benefit from it. There are five major steps of U-FE: (1) identifying stakeholders; (2) developing with the users what the focus of the evaluation should be and how it will be utilized; (3) involving the stakeholders in methods, design, and measurement; (4) ensuring that stakeholders are actively engaged in understanding the findings of the evaluation; and (5) making decisions on how to move forward (Patton, 2012) (see Appendix B). This study followed these five major steps.

The primary research method chosen for this program evaluation was qualitative, as this choice was based on the foundation that individuals construct reality as they interact with the social world. Further knowledge is best discovered by examining rich descriptions of individual experiences as well as the meanings attached to those experiences (Patton, 2002). The qualitative data were complemented with questionnaire survey data.

The American Evaluation Association set forth five guiding principles for evaluators:

A. Systematic Inquiry: Evaluators conduct systematic, data-based inquiries about whatever is being evaluated.
B. Competence: Evaluators provide competent performance to stakeholders.
C. Integrity/Honesty: Evaluators ensure the honesty and integrity of the entire evaluation process.
D. Respect for People: Evaluators respect the security, dignity and self-worth of the respondents, program participants, clients, and other stakeholders with whom they interact.
E. Responsibilities for General and Public Welfare: Evaluators articulate and take into account the diversity of interests and values that may be related to the general and public welfare. (American Evaluation Association, 2018)

These standards are recognized as the benchmark by which all evaluations are judged (Patton, 2008; Preskill & Donaldson, 2008; Rossi, Lipsey, & Freeman, 2004; Stufflebeam & Shinkfield, 2007).

Stakeholders

Patton (1978) stated that identifying the primary users of the program evaluation is the most crucial step. U-FE provides meaningful information to the program's primary intended users. The qualitative data were also developed with the needs of the intended users of the U-FE in mind. The primary users of this U-FE were (1) the director of the paramedic program; (2) the paramedic faculty; (3) the academic administrators; (4) students who have graduated or are enrolled in the paramedic program; and (5) the paramedic program's eight-member advisory committee, which includes the medical director, the program director and faculty member, an adjunct instructor, a past graduate, a current student, and three community partners. Their roles were undoubtedly essential to the process and success of this study. Each played a role in the program: faculty teach in the program and have a vested interest in student success; academic administrators make decisions regarding the paramedic program; the program director coordinates with

faculty and instructors; the advisory committee wants to uphold the mission and vision of the program as related to student outcomes, assessment, and success; and students are directly affected by the instructional learning environment. To ensure a smooth U-FE process, I worked in collaboration with the paramedic program stakeholders and the program director of the paramedic program, who is the identified main primary user of this U-FE.

Participants

The participants for two components of this study, the questionnaire and the individual interviews, were 65 students who had successfully graduated from the CMC paramedic program from 2014 to 2018.

The year 2014 was chosen since that is the first graduating class following implementation of hybrid instructional methods in the paramedic program. All graduates were invited to participate in the study through an online questionnaire; the respondents were then selected to participate in interviews to share their perspectives of the hybrid program. To keep all stakeholders involved in the evaluation, I worked with the program director to ascertain emails and contact information from the program database, to include student graduates, faculty, and the advisory committee. The advisory committee participated in a focus group to share their perceptions of the hybrid paramedic program.

Exclusions

This study included only data from past graduates. Students who are taking prerequisite courses working toward admission to the Paramedic program were excluded as many of these courses are offered as traditional face-to-face classes. Also, any student

who did not complete the Paramedic program were excluded because a student who did not complete may not have enough experience in the program to provide substantive insight into the hybrid program. However, from 2014 to 2018, 105 students started the program, but 39 of them "changed their minds" according to CMC institutional research data. No further data were available regarding *why* students changed their minds, and those who dropped out of the program did not participate in this research study. Students who did not complete the program may have various reasons for not completing unrelated to the program including 39 students in the years 2014-18 who changed their minds for progressing in the program and may not have had enough experience to provide substantive insight into the hybrid program. Faculty not directly teaching in the Paramedic program were also excluded. Denied applications were excluded, and students who are wait-listed were also excluded.

Data Collection

Collaboration with the paramedic program stakeholders informed the protocols for the methods, measurement, and design of the evaluation, so that they would be committed to the use of the program evaluation. As the primary facilitator of the data, I was able to maximize opportunities for collecting meaningful information (Patton, 2013).

. Data collection methods for this evaluation were central in exploring SASE. The purpose of this evaluation was to explore student academic self-efficacy for learning in a paramedic hybrid learning environment. Understanding SASE for learning in a hybrid learning environment may affect how the program stakeholders implement hybrid instruction at CMC. Data were collected through three sources: an emailed questionnaire

using the hosting application Qualtrics, graduate phone interviews, and an eight-member stakeholder focus group interview. The questionnaire was selected as the most appropriate instrument to capture the perceptions and opinions of past paramedic program graduates who experienced the hybrid method of instruction. These included 65 graduates in the years 2014 to 2018, when the first graduates completed the hybrid program after it was implemented in 2013.

Instrument. The questionnaire employed in this study was developed specifically for the project drawing from Bandura's (2006) guide for constructing self-efficacy scales. In health professions, nursing educators have used different surveys or questionnaires that focus on student perceptions of their educational settings. For example, Chan, Hue, Chou, and Tzeng (2001) developed a method to assess nursing student perceptions of the learning environment. In the health professions, nurse educators have paid particular attention to student perceptions of the hospital as an educational learning environment. Since this study had a narrow purpose that was not previously investigated, an original questionnaire was developed based on the construct of SASE. The questionnaire, shown in Appendix A, asked students 28 questions on whether they were currently certified and employed as paramedics, about their satisfaction and motivation in the hybrid program, and regarding SASE, confidence, and program satisfaction. Of the 28 questions, 13 were open-ended allowing for free text responses. There were 15 questions related to learning in a hybrid program, 10 questions related to SASE, one open-ended question related to motivation and one open-ended question related to program improvement The four-point agreement rating scale (Brown, 2004) used for some of the questions had options of

strongly disagree, *mostly disagree*, *agree*, and *strongly agree*. These responses were categorized into "agree" and "disagree" for analysis.

Questionnaire. After receiving exemption from both the University of Denver and CMC institutional review boards, I worked with the program director to facilitate contact with 65 past graduates from 2014 to 2018. Participants were sent an email link on November 1, 2018, through Qualtrics with a statement of the purpose of the study. A reminder email was sent 4 and 6 weeks after the initial email. Responses were tallied by Qualtrics and then analyzed and recorded on a secure private computer. Participants were able to respond to the questionnaire from November 2018 through January 2019. The program director assisted with data collection by contacting past graduates and encouraging them to participate. The questionnaire's open-ended comments and discussion were transcribed through a thematic analysis process using Qualtrics.

Interviews. Interview participants were randomly selected from those who responded to the questionnaire. An email was sent to those respondents seeking volunteers, with a goal of randomly selecting 7 to 10 students. Ultimately, seven individuals participated. These interviews built on responses from the questionnaire to understand graduate perceptions in their own words. Specifically, key questionnaire results were used to stimulate discussion as per the U-FE model (Patton, 1997, 2008). The interviews, conducted by phone for four participants and in person for three participants, lasted 20 to 30 minutes each. Clarifying questions were asked to provide a deeper understanding and perspective from students who experienced learning in the hybrid context.

I made digital recordings and then transferred them to my password-protected laptop. Each interview was transcribed using a transcription service in preparation for the data analysis. The transcriptions were carefully read for accuracy and then provided to participants for clarification and way to do member-checking to ensure validity and accuracy. Upon completion of the transcripts, the data were sorted and organized into an Excel spreadsheet.

Focus group. I also conducted a U-FE stakeholder focus group interview involving the eight members of the program advisory committee and other U-FE members invested in the success of the paramedic program. The average service on the advisory committee was 5 years, and members represented the community, college administrators, hospital partners, instructors, a past student, current students, and a physician medical advisor. Stakeholder focus group protocols were determined based on the questionnaire data. All the focus group participants met the definition of a stakeholder for this U-FE (Patton, 1978, 2008).

The data provided rich, deep content to investigate perspectives on a hybrid learning environment and were evaluated to determine if there was a convergence of evidence to answer the study's research questions.

Data Analysis

Quantitative data from the questionnaire were analyzed using descriptive statistics specifically looking at distribution. Qualitative data from three data sources—(1) written comments from the questionnaire from 39 past graduates from the paramedic program who experienced the hybrid learning model, (2) follow-up interviews from seven past

graduates who were randomly selected and responded to the initial questionnaire, and (3) a focus group session with the advisory committee that makes decisions about the direction and implementation of the paramedic program—were analyzed through open and axial coding (Creswell, 2009). I reviewed the coded data to determine emergent themes or major elements (Creswell, 2009).

Tesch's (1990) eight steps in the coding process were followed to ensure accuracy in identifying categories and patterns (Creswell, 2014). Initial coding was done line by line (Creswell, 2014). In addition, the interviews were coded to identify categories, which allowed me to further identify recurring key elements as well as related terms to develop conclusions regarding the perceptions of students toward hybrid instruction (Masters & Gibbs, 2007). Coding was done several times and required several iterations to ensure no new instances were identified. I carefully selected codes that best answered the research questions and best represented the majority of participant feedback. Once coding was completed, codes were categorized so that the data in each category were analyzed to reveal four major elements: the learning environment, self-reliance, instructor preparedness, and prior knowledge. Under each major element, several subfindings emerged.

Measurement of SASE

The construct of self-efficacy best explains academic self-confidence in students. Academic self-efficacy and confidence is founded within Bandura's work of self-efficacy. Self-efficacy beliefs provide the foundation for motivation, well-being, personal accomplishment and self-regulation (Bandura, 1997).). SASE can serve as a catalyst of

academic success and more importantly refers to how individuals perceive their ability whether they can successfully achieve academic tasks or goals (Bandura, 1997). Learners with high SASE are more likely to be able to self-regulate how they develop study skills and learning strategies to adapt to their learning environments including the hybrid learning environment (Lynch & Dembo, 2004). Additionally, those with a strong sense of SASE use it to enhance their task performance and is associated with positive academic achievement (Bandura, 1997). Students who have a strong belief of SASE established an increased interest in achieving their academic goals and tasks (Lynch & Dembo, 2004). Aforementioned, SASE affects academic performance by influencing persistence, effort and determination (Bandura, 1997). Additionally, students with high degrees of SASE experienced less stress and anxiety which enabled them to adjust to the learning environment and how they engage in the course (Chemers et al., 2001). For example, students who were more satisfied in their hybrid learning environment may have a higher degree of SASE than students who less satisfied due to different intrinsic factors such as prior experience with hybrid learning. This prior experience may provide students the confidence to navigate through the course thus decreasing their anxiety in the hybrid context.

Recommendations to Program Director

Due to the nature of U-FE, it was essential to include all paramedic program stakeholders, especially the primary user. This required explaining how I identified weaknesses or strengths and asking them to provide further insight during the stakeholder focus group. I described the data in the evaluation using a narrative description and

descriptive statistics. We reviewed the evaluation findings through my descriptive analysis, which allowed me to make program recommendations. This ensured that the evaluation findings will be utilized. The program director and CMC administrators have expressed the desire to understand the value of hybrid instructional methods.

Validity and Reliability

The validity of the initial questionnaire instrument was ascertained through a pilot study with two program stakeholders. The questions were found to provide the information they were expected to provide; thus, the questionnaire was considered reliable (Creswell, 2013). The qualitative questions were examined for depth in responses to ensure the research questions could be answered from the collected data. Due to the U-FE program evaluation framework, several meetings were held with the primary user. Because it was vital for me to maintain the stakeholders' interest and commitment to the program and the evaluation, we had monthly scheduled meetings to address concerns and the progress of the program evaluation. Communication was an ongoing process throughout the evaluation, including phone calls and WebEx meetings.

The use of multiple data sources, or triangulation, helped to strengthen the validity of the findings from the U-FE (Creswell, 2008; Patton, 2008). I reviewed the structure of the hybrid courses and conducted stakeholder questionnaires along with interviews to obtain information about how the hybrid program is delivered and how students perceive their SASE in this learning model. According to Patton (2002, 2008), constant comparative analysis of the qualitative data is a necessary strategy for making meaning from all the information collected in a study.

To further ensure and establish credibility and trustworthiness, I sent copies of the specific descriptions of the findings back to the participants to determine whether they felt those descriptions were accurate (Creswell, 2014). Each of the interviewees agreed with the interpretation of the data and did not feel it needed changes or edits. The convergence of evidence and member check ensure the participant's perspective was interpreted accurately. Moreover, member checking is an important way of ensuring that what participants say isn't misinterpreted and comes from their perspective (Creswell & Creswell, 2017). Member check is also an important way to identify researcher biases and misunderstanding of what was observed (Creswell & Creswell, 2017). Validity strategies such as member checking can enhance credibility (Creswell & Miller, 2000).

Another way to ensure the trustworthiness of the study is to clarify the researcher's positionality and role. Hybrid instructional methods interested me for several reasons, both professionally and personally. In 2008, the medical assisting program at CMC was looking for ways to meet the needs of external stakeholders, students, and community healthcare providers. As the program director for the medical assisting program, I collaborated with the director of allied health to develop hybrid instructional methods for the program so that students in rural Western Colorado wouldn't have to travel long distances for class. Due to the success of this hybrid program, the program director for the paramedic program felt a hybrid instructional model would work in that program as well. My experience as an educator of hybrid instructional methods informed my participation as the evaluator, in that I have experienced how student success depends on how well students perceive their academic ability for success. Finally, my own experiences as a student learning in hybrid instruction informed my role.

Ethical Issues

Due to the nature of the topic, there was minimal risk of harm to subjects. All participants could choose not to participate in the study at any time. All requirements of the institutional review boards of both CMC and the University of Denver were followed. Data were stored on a secure device. As the initial questionnaire was administered over the Internet, care was taken to ensure participant consent and understanding. Participants were not queried about their personal health information or medical information of any sort. The evaluation followed the five broad principles of the American Educational Research Association: (1) professional competence; (2) integrity; (3) professional responsibility; (4) respect for people's rights, dignity, and diversity; and (5) social responsibility (Johnson & Christensen, 2008).

Limitations

One limitation of this program evaluation was the small sample size, which may limit the generalizability of the outcomes among all hybrid programs. An additional limitation was stakeholder biases, which must be carefully guarded against in order to avoid influencing responses or accuracy. Time limitations and access to graduates were concerns in obtaining a sound sample in a timely manner. Another limitation of the program evaluation was the single interview process, which could have interfered with the richness of data by limiting responses from participants. Researcher bias regarding shared perspectives during the interview process must also be guarded so as not to influence responses; efforts were made to avoid bias through constant awareness and regular monthly check-ins with stakeholders.

Significance

The results of this program evaluation were used to (1) inform the paramedic program director of student perspectives of their SASE in a hybrid learning model and make improvements, (2) offer institutions a new perspective of hybrid learning in a rural paramedic program by adding to the scant literature, and (3) inform my own experiences in hybrid teaching and learning as an educator who utilizes hybrid instruction in allied health.

The findings of this evaluation provided useful information to the paramedic program director on SASE learning in a hybrid environment and how it affects program satisfaction. The results of the program evaluation provided the program director with sufficient data to develop and make improvements to the paramedic program to support student learning. As CMC and other institutions continue to expand online learning methods, including hybrid methods, there is a need to increase the quality and effectiveness of this model of instruction. Although the lens taken in this study was narrow, results inform best practices for other programs, especially rural paramedic programs, which intend to implement a hybrid format. Finally, this program evaluation begins to fill a gap in the research literature related to paramedic hybrid instruction and SASE.

Since I am an educator in higher education, this program evaluation also contributed to my professional development. Working and collaborating with different areas in my department, including academic affairs, allowed me to integrate concepts with my colleagues, including performing a program evaluation and applying its results. Because U-FE is designed so that its recommendations are likely to be utilized, I was

actively involved and engaged with the intended users, thereby fostering “buy-in” (Patton, 2002).

Chapter Four:

Results

The purpose of this program evaluation was to evaluate the student academic self-efficacy (SASE) of those in a paramedic hybrid program and how this relates to learning and program satisfaction. Clear evidence was needed to establish the relationship between self-efficacy and its impact on student academic achievement and learning in a paramedic hybrid program. Schunk (1991) found that high levels of SASE directly strengthened academic performance. The effectiveness of hybrid learning is evaluated through the satisfaction of its users (Arbaugh, 2014). Assessing learning effectiveness specifically in higher education, Wu and Hwang (2010) considered student satisfaction a crucial parameter to evaluate and assess learning effectiveness.

In paramedic hybrid education, the importance of developing SASE cannot be overstated. In Bandura's theory of self-efficacy in the context of online learning, four factors affect SASE: (1) previous success with online learning, (2) precourse training, (3) instructor feedback, and (4) online learning technology anxiety (Artino, 2007). The findings from the U-FE are similar, as four major elements emerged from the data collection: (1) learning environment, (2) self-reliance, (3) faculty and program facilitator preparedness, and (4) prior knowledge.

Using the findings of this evaluation, paramedic and emergency medical services (EMS) educators, specifically those at Colorado Mountain College (CMC), will be able to justify implementing hybrid learning methods for promoting emergency medical technician (EMT) and paramedic training in rural areas. The outcomes and analysis of the findings discussed in this chapter are related to the two research questions upon which the study was situated:

Q1. What is the relationship between SASE and learning in a paramedic hybrid learning environment?

Q2. How does SASE affect program satisfaction in a hybrid learning paramedic program?

This chapter begins by reviewing the study's methodology. It then presents results for the four major elements of the program, using data from all sources.

Review of Methodology

I used a variety of means to evaluate and identify participants' SASE of learning in a hybrid paramedic program. The methodology for arriving at improvements for the hybrid paramedic program was the utilization-focused evaluation (U-FE) (Patton, 2002). Patton's U-FE model allowed me to select the most suitable method of data collection and analysis to determine how to improve the paramedic program. A multi-method design was conducted, which involves using two or more research methods, each conducted rigorously (Creswell, 2008). The results were triangulated to form a complete whole (Creswell, 2008, 2009; Patton, 2008). The questionnaire was emailed to 65 students who graduated between the years 2014-18. This date range was chosen because

the paramedic program first introduced the hybrid program beginning in 2014. There were 39 responses to the questionnaire, for a distribution response rate of 58%. Further, there were seven participants for the individual interviews and eight participants in the focus group.

Major Elements

According to Creswell (2012) an element in a given context, and which is present in significant quantity is a major element or theme. Each major element is a constituent part representative of SASE in the hybrid paramedic program. There were 4 major elements found in the data from the questionnaire, interviews and stakeholder focus-group connected to the purpose of this evaluation. These major element contained several sub-findings which were identified from the data and which examined:

Q1. What is the relationship between student academic self-efficacy (SASE) and learning in a Paramedic hybrid learning environment? Additionally, these major element were relevant to the significance of the study which investigated **Q2.** How does SASE affect program satisfaction in hybrid learning Paramedic Program? Currently, it has been assumed that SASE is one of the most important factors or predictors for learners to achieve learning success. This may mean that if a student's SASE is enhanced, the student may be able to achieve higher academic results.

Major Element 1: Learning Environment

a. The students' relationship with the learning environment.

Students in the CMC paramedic hybrid program can choose to take their didactic classes either online or in person at the CMC Edwards campus. However, all students are

required to attend the in-person skill lab sessions. Many of the students in the paramedic program chose to take the paramedic courses in the hybrid learning environment.

Of the 39 participants who responded to the questionnaire, 22 (55%) chose mainly to take their courses online, and 17 (22%) decided to take courses both online and in person. Several participants indicated that even though they were better learners in a face-to-face classroom environment, convenience seemed to outweigh preference. They indicated that this was mainly due to the distance they would have to travel to the classroom. Several participants responded, “It was the only way I could keep working while going to school.” Another participant whose employer was paying for the training felt a great deal of external pressure from her employer to complete the program. She stated, “There was a lot riding on being successful,” emphasizing that “living in a rural area, there weren’t many other program choices.” Several participants found that distance was a major factor, with one participant stating that “the distance to travel in rural Colorado was a major factor and it was the only paramedic program close to me.” Some participants indicated that the reason for choosing online courses related to both distance and finances. One stated that it was “the only way I could stay employed and raise my family and go to paramedic school” and another commented that she “couldn’t afford to drive to campus every day.” Most participants indicated that the ability to work from home and continue to support their families was a motivating factor toward the end goal of working as a paramedic in the different geographical areas they lived. There was agreement that attending online was essential for many to be able to balance work, families, and school.

Many agreed that having the choice and ability to learn remotely for the didactic portion of the program had a significant impact on their emotional well-being. For most of the participants, this impact was fundamental and related to how they learned and performed overall. One participant found that the ability to remain "close to my family" and "not stressing about money" really encouraged her to stay positive and remain in the program.

The program's advisory board and stakeholders offered interesting insights regarding the paramedic hybrid program's impact on students. The focus group stakeholders, which included employers, past graduates, and current students, found that the hybrid program was working. All agreed that many of the students were working regular jobs. Since "adult learners . . . cannot afford the level of commitment required for a traditional, face-to-face program," the hybrid program was a necessary learning modality to "afford more students the opportunity to receive a paramedic education." They also stated that most past graduates were working in the paramedic profession. This was evident in the responses from the 39 who responded: 33 (85%) were currently working for a paramedic service, and 26 (67%) were currently certified.

Most participants felt, overall, that the hybrid learning environment motivated them as learners. Of the 39 respondents, 30 (77%) agreed it impacted their motivation to learn, and they were generally satisfied with the hybrid learning environment. They found that satisfaction in their learning environment was fundamental for decisions regarding academic performance and their overall well-being. This belief impacted their definition of goals and individual emotional reactions to the learning environment. When asked if they had expected to do well learning in the hybrid structure of the paramedic program,

34 (87%) responded they did and only 5 (13%) said they did not. Only one participant indicated that it was beneficial to understand “exactly what hybrid learning” was and that learning in a hybrid environment could be difficult due to inexperience with hybrid learning.

When asked, only 9 participants (23%) responded that hybrid learning did not motivate them because they felt they were mainly “in-person learners” or that “it was at times distracting” to learn while at home. Overall, despite the difficulty of the course and the hybrid learning context, 38 (97%) of the participants felt they did well in the paramedic program. Many participants indicated they believed they were capable of success in their capability to be flexible in the online learning environment. This suggested high SASE. One participant stated that “the degree of flexibility and autonomy” had a positive effect on how he perceived the learning environment. Another indicated that “the mix of online and face-to-face allowed me to exchange ideas” as she normally would have done in the classroom setting. This suggested that a learning environment where collaboration is allowed can lead to positive learning outcomes.

The stakeholders agreed that no one had ever failed the paramedic program; the cumulative grade-point average (GPA) for 64 graduates from 2014 to 2018 was 3.74, with the 65th student falling below 3.0 with a 2.8 GPA. According to the program director and primary stakeholder, the program had a 100% passing rate for the National Registry Emergency Medical Technician-Paramedic exam.

Since familiarity with online learning may affect the relationship between SASE and academic performance in online learning settings, those who are not familiar with online learning may not achieve high enough academic success in an online learning

environment. There were several findings in regards to SASE and satisfaction with technology. These subfindings fall within the main element of learning environment: Confidence with technology (computer), satisfaction with the hybrid structure (hybrid curriculum) of the paramedic program, and communication within a hybrid learning environment. These subfindings are discussed below.

b. The students' relationship with computer confidence. Technology, including students' confidence with technology, is an important component in hybrid learning. Most respondents (36, 92%) indicated that overall they were satisfied with the hybrid structure of the program; only 3 (7%) were dissatisfied. Most had prior online learning experience and some felt that the hybrid approach encouraged them to learn in greater detail. One respondent said that he felt that he actually understood the material better because "you actually have to read the material" and "you have to keep up in order to pass the course." He also indicated that this made him feel more satisfied with the learning environment, because "in a traditional classroom, you basically just have to show up and have a pulse to pass." Another respondent felt that using different technology applications such as PowerPoint and an iPad or laptop "worked well once I got it all worked out"; although it "was a huge learning curve for me," she felt it "increased my confidence as my learning experience with hybrid technology developed." While online learning technology anxiety was a concern among the respondents, most discovered that a balance between convenience and their comfort level with technology helped ease this anxiety.

c. The hybrid curriculum. Although SASE is predictive of academic success, it is not predictive of academic capability (Pintrich, 2004). Two separate questions posed to

students concerning their confidence understanding complex material and challenging readings presented in the hybrid context had similar results, with 31 (79%) of the respondents replying they were confident and 8 (21%) replying they were not confident. Hybrid curriculum and communication in the online context were two components participants discussed. Regarding the hybrid curriculum, some participants complained about technology barriers, such as "the complexities in medicine covered in the hybrid context" not being addressed well enough with only audio and no visual aids; others commented on glitches that occurred. Students indicated that this impaired their ability to learn or succeed in academic tasks in the hybrid learning environment. The respondents who were most confident felt that "hybrid helps this program in being able to provide visualization of certain medical conditions, procedures that would otherwise not be accessible to me." However, some participants felt that the visual aids needed to be more relevant and accurate, as some of the pictures were difficult to see online. One participant believed it would be beneficial to incorporate more practical application instead of "let's lecture for a few days and then let's meet up and run practice." Practical applications in technology could improve learning outcomes.

According to the focus group with advisory committee members, hybrid education is the future of EMS education nationally; CMS needed to "get on board and get instructors trained better" to provide quality and effective teaching. One member of the advisory committee, who also is an instructor in the paramedic program, stated that learning and learning outcomes in the hybrid context required "incorporating classroom video into a lecture to prepare students for psychomotor skills." For example, she suggested that the hybrid curriculum include teaching a complex psychomotor skill, such

as intubation, in lecture, video, and synchronous video of the instructor performing the skill, which students should then be prepared to do during the lab portion of the program. This suggestion was supported by several participants. One commented, “Certain things we learn need to be taught in class so the instructor can help you. Things like 12 leads [electrocardiogram] can be hard to grasp online.” Another student asserted, “I believe that hybrid learning is beneficial to implement in addition to the face-to-face learning in order to provide further clarification that is not addressed during the online portion.”

The stakeholder focus group discussed providing students better learning experiences in the program. There was a consensus among the stakeholder focus group that it is essential for the future direction of paramedic education, “especially in rural areas,” to embrace hybrid methods of instruction to be current in educational methodology, to better use classroom time, and to remain competitive in EMS education. In other words, the stakeholders believed that education needs to change to keep up with the new demands of the profession. Another advisory committee member indicated such changes would also increase rigor, which was a concern among several participants and appeared in comments regarding how to improve the hybrid structure. While this suggestion seemed contrary to the data from the questionnaire, it aligned with students’ perceptions of structure and the need to improve the delivery of complex material in the hybrid learning environment. Participants in this study often referred to the hybrid curriculum and incorporating more rigor and in-depth information within the didactic portion. Several participants stated, “Because the testing online was open book, you didn’t really have to know the material,” and “that is not the way the real world of

paramedic works." These comments indicated that it is important to develop critical thinking to perform paramedic skills.

d. Student and instructor communication. Students' need to feel supported by the instructor and the importance of instructor feedback were identified as important components of the learning environment. Some participants expressed concern about the inability to ask questions and receive immediate feedback when accessing information during online sessions. One participant noted that in these online sessions, "being able to ask a question and receive an answer right away" was a challenge that caused some frustration. The inability to communicate fluidly during the online portion of the course frustrated many students, as many stated it was discouraging if they "couldn't get answers to questions" when they needed them to understand academic tasks or complex material.

SASE is students' belief about their capability of success in an academic task, and most participants found that instructor feedback helped them focus their attention and enhanced their learning. Instructor persuasion and encouragement to remain on task were important to many of the participants. In fact, many participants indicated that lacking important feedback or the ability to ask clarifying questions made them feel less confident with learning a subject, whether it was complex or basic. To further support the importance of instructor feedback and communication in the online context, data showed that 22 respondents (56%) felt they were confident they could do an excellent job on the online assignments, and 17 (44%) felt they were not confident they would do an excellent job. Many reported they needed "other students or the instructor" to complete assignments correctly through feedback. One participant stated that "half the time if other

students would ask a question, the instructor would just kind of keep going. . . . By the time I unmuted to ask my question, she was already like two topics down the line." When we discussed how she would come to the answer she was seeking, she stated, "I would just have to look it up myself." In addition, the participants observed that while the self-learning nature of hybrid courses was appealing, it could also "feel isolating." Therefore, these results suggested that online learners require more personal and frequent communication.

The data suggested a relationship between SASE and learning with the learning environment. It also suggested that the learning environment affects SASE via communication with faculty, technology comfortability, the hybrid curriculum, and the environment a student is taking a class in, such as the home or classroom. Participants were more satisfied with the hybrid learning environment if they had higher degrees of SASE.

Major Element 2: Student Self-Reliance

Another theme that emerged from the data was self-reliance. For the purpose of this study, self-reliance is defined as having the ability, knowledge, and motivation to complete tasks in a hybrid learning environment. It is knowing and trusting yourself and your ability. It is not a super-independence, but recognition that you are there for yourself. By extension, this aspect of self-efficacy helps bolster students' confidence so that they can be successful and persist in academic tasks.

Although most participants felt they were better in-person learners, they mainly chose the online option. One participant stated, "I do a lot better practicing and being able

to ask questions in person" and felt that she would have "done better note taking" if she was in the classroom. Participants expressed several reasons that convinced them to take the hybrid program, such as convenience, finances, and location, which were all important factors impacting the decision to learn online. One student stated that because her "department paid for the program," she had a lot riding on succeeding in the program and "had to find it in me to be motivated." She felt grateful that the program was offered in a hybrid format, since that was the only way she could get a paramedic certificate and "is what actually allowed me to be able to go to school." This sentiment was echoed by several other respondents who also felt that the "convenience outweighed the comfort" of their typical learning styles.

When participants were asked if they believed they would receive an excellent grade in the paramedic program after learning in the online context, 24 respondents (62%) agreed they were confident and 15 (38%) felt less confident. Understanding student confidence and motivation in a hybrid learning environment and factors that bolster confidence are important when discussing SASE in the hybrid learning environment. Participants who felt more motivated in the hybrid structure (76%) also seemed to possess a great deal of SASE. One participant stated, "I could have done much of the online learning modules on my own," without the help of the instructor. He went on to say, "What really motivated me was further developing my skills and abilities." In the paramedic field, the stakes are high when dealing with emergency situations and human life. Participants found this to be an added pressure for learning the content and being able to perform the skills; it was more about "quality as opposed to quantity." One participant stated, "When the stakes are high, you can't afford to screw this up."

One stakeholder stated that “hybrid is, in fact, working, as no one has failed out or complained and classes continue to flow smoothly.” This view was common among stakeholders, who tended to associate success with academic success. There were 65 successful graduates from 2014 to 2018 with an average cumulative GPA of 3.7. No students received a failing grade during those years. This study included only data from past graduates. However, from 2014 to 2018, 105 students started the program, but 39 of them “changed their minds” according to CMC institutional research data. No further data were available regarding *why* students changed their minds, and those who dropped out of the program did not participate in this research study.

a. Student confidence affects SASE in a hybrid learning environment. The data suggested that confidence played a large role in how students perceived their self-efficacy. When participants were asked if they were confident they could do an excellent job on online assignments, 22 (56%) agreed and 17 (44%) disagreed. One participant stated that he “was not good with technology” and “needed direct communication and feedback to feel I was on track with assignments and concepts.” He indicated that direct feedback from the instructor would have helped him feel better about his understanding of the course material. Another participant felt that the best way for him to feel both confident and motivated was “totally up to him.” He also found that “texting each other during class” helped him stay engaged and pay attention. In fact, several of the participants indicated they would spend some portion during the online learning context communicating with their peers, which made them feel like they weren’t totally alone in the hybrid learning environment.

Self-reliance does not mean you are isolated from others, only that you can trust and rely on yourself. Some participants indicated low self-efficacy about their capability to learn the most complex material in the hybrid learning environment, with 8 (21%) feeling less confident. Participants provided some reasons: “the instructor didn’t give enough time for feedback or questions” or the student “didn’t understand and I didn’t want my classmates to think I was incompetent.” Reflecting on the amount of complex material to learn and how this affected their SASE, one participant stated, “I think hybrid helps me increase my overall academic confidence and ability to learn.” Another participant expressed that the ability to review material, concepts, and skills “helped me manage a large amount of information I need to know and how I could absorb it.” However, he went on to say, “because we have so much to learn independently, tools such as apps or videos could help with review and make us more prepared.”

The stakeholder focus group felt that recognizing what students need in the hybrid learning context is important for understanding what improvements could be implemented to bolster SASE. One stakeholder felt that the challenges he has experienced with hybrid learning were the lack of “student engagement,” which corresponded with data regarding self-efficacy.

Self-reliance pairs self-efficacy with how a student responds to tasks, including academic tasks. Several of the participants felt that there was a great deal of value in hybrid learning, as they felt “better prepared to participate in the lab skill portion of the program,” and from their perspectives, the hybrid approach “gave me the confidence I need” to be more motivated to apply the knowledge and skills in the lab. Most of the participants set goals and had positive perceptions of their academic ability; however,

most felt that the importance of self-reliance and confidence encouraged them “to further engage in tasks,” which incidentally fostered the development of their knowledge, skills, and abilities.

Several participants stated that their drive for success was continued self-improvement. For example, one respondent indicated that as an adult learner, he felt it was his “responsibility to learn.” Specifically, students need the “skill and the will” to be successful. When participants were asked if they were confident with the most basic concepts in the hybrid context, 37 (95%) agreed and 2 (5%) disagreed. This high level of confidence in their academic ability may suggest that a high level of confidence affects learning in the hybrid environment.

b. Students’ self-reliance with technology. Technology is important in hybrid education, as most of the didactic learning takes place in an online classroom. The data revealed many obstacles related to online technology, including logging on, accessing course materials, communicating with the instructor, and engagement. Participants were asked if they expected to do well in the hybrid structure, and 34 (87%) felt they would. However, when asked if they were confident they would do an excellent job on the online assignments, 22 (56%) stated they were confident and 17 (44%) stated they were not confident.

One participant stated that several times throughout the semester, “there would be no sound or no video” and they would sometimes “lose like 10 to 20 minutes messing with the technology” instead of learning. However, many realized the benefit of hybrid learning and made efforts to educate and train themselves so they “could keep up.” Another participant stated that he “understood technology to be the wave of the future in

medical education" and that it helped that he already had experience, with "video conferences and other technology." This prior experience was echoed by many of the participants. Several found that the glitches were not from "their end of things," but that the instructor sometimes struggled to understand the technology. In fact, many of the participants had past online learning experiences, and most had taken one or two courses to learn either cardiopulmonary resuscitation or advanced cardiac life support in a "blended learning environment." This experience proved to be invaluable for how they perceived the online portion of the program and how satisfied they were with the courses. If there were problems with the technology, most felt they were more experienced than the instructor and had the ability to fix problems on their own.

The past success or failures they experienced in an online learning environment shaped their current perceptions of the program. One participant felt frustrated most of the time based on his past experience with a different online program at another institution. He felt this prior experience was very positive, as his past instructor would ensure students were engaged and "rarely ever experienced technical problems, and if he did, he was able to fix them." He found that the instructor with more technological "savvy" helped to create more self-reliance in himself as he was able to follow directions easier and build confidence with his own computer skills. This prior experience caused him to have certain expectations in the online context of the paramedic program. He felt that the paramedic instructor "couldn't engage students, communicate how to use the different applications," and then mostly used only PowerPoints, which left him feeling frustrated. Although the instruction was online, the instructor used "the sage on the stage" style of teaching, where learning is very linear, and that style didn't "fit for him." He

relied on his own “research and apps” to improve his own experience. In contrast, another participant who had little experience with online coursework felt that the instructor was better with technology than she was. She stated that “although there were glitches, I struggled just to learn the system overall.” She also mentioned that it would have been better to have more online experience or training so she didn’t struggle as much.

It was clear from the data that both problems with technology and engagement affected how students perceived they were capable of success. Echoing this perception, one participant stated that previous experience with hybrid instructional methods “allowed him to grasp the material in class” and “refresh my understanding” of the technology used.

The data suggested a relationship between self-reliance, learning, and SASE. Self-reliance affects SASE via participants’ ability to effectively navigate technology, their confidence in themselves, and their own skill sets. These data also suggested that being more self-reliant increased students’ SASE, leaving them more satisfied with the hybrid context.

Major Element 3: Faculty and Program Facilitator Preparedness

Another major element that emerged from the data was participants’ perceptions of instructor preparedness in the hybrid learning context. Several things related to this element stood out in the data regarding the instructors, including how much they interacted, if they were organized, their experience with technology, and their knowledge of/competence with the course material. Many reported that these aspects of instructor

preparedness affected how they learned in the hybrid environment, as well as their program satisfaction and overall confidence.

a. Instructor interaction with students through technology affects SASE.

When discussing instructor interaction during online learning, one participant found that "I really have questions, but I just can't get them across right now" during the lecture. Participants explained that the instructor used the technology application WebEx during class meeting times. One of the stakeholder focus group members who also is an instructor in the hybrid program was surprised, as she didn't use the WebEx meeting app but instead used "the WebEx training application." She found that the WebEx training application presented differently and offered students several options for asking questions in real time such as "virtual hand-raising, text messaging, and group coordination." Participants complained that in the WebEx meeting application, they "had to remain muted or there was too much feedback" when the instructor was talking. Most participants did not use headsets and found "the ambient noise made it difficult to understand or follow" during lectures unless everyone was muted. Another stated that "when you do go to unmute, you are competing with other students" who have already asked a question. One participant who did use a headset said, "I think that wearing the headset helped me pay better attention and hear what was going on" or what the instructor was saying. He further suggested that "better microphones" may help with instructor interaction.

Although most participants were satisfied with the hybrid structure, when participants were asked why they weren't satisfied with the hybrid structure, many responded that it "took away from the ability to participate." There were times the

instructor presented case studies and allowed students to “be more interactive, which was really helpful.” One participant stated that much of the time, “when she [the instructor] did just straight lecture stuff, that was probably where we struggled. . . . I mean, I’m sure some of us just zoned out.” When asked what could be the biggest improvement, several participants said “it needs to be way more interactive.”

Participants were required to attend the virtual class two full days a week and to log in 80% of the time; however, “there wasn’t necessarily accountability of who logged in or not” and “it was mainly up to you.” Due to the length of the online class time (sometimes up to 6 hours), one participant noted that he “had to force myself to do it [log in] and pay attention,” and sometimes “there were days I was like, okay, I’m going to go make a sandwich.”

Participants were asked if they felt the instructor was available to them most of the time; 33 (85%) agreed and 6 (15%) disagreed. When asked to explain this, it was clear from the comments that the instructor was “very generous with her time” and “really cared about our success as students.” Participants also found the instructor to personally “be very nice.” However, there was the perception that “she hated the hybrid program and online context” because “she had done it the other way [face-to-face] for so long.” Another participant stated that “she [the instructor] really tried to get most of us to show up to class in the face-to-face session” instead of attending online by telling them “it is probably easier.” However, most said “they can’t always do that.” When asked why, several stated reasons they were taking the hybrid program in the first place, i.e., distance, finances, and time.

One participant offered an idea to make the online class more interesting, which was “to include guest speakers and mix up who is lecturing” more often to keep “us more engaged and less on the instructor.” Several participants stated they felt it was more interesting and satisfying when “all of us were able to discuss concepts and share different ideas. All of us kind of coming up with different stuff.” In fact, one student exclaimed that if “online interactivity” is a missing component, then the program “may as well be a basic online correspondence” program where you read chapters and “upload assignments.” This indicated that participants preferred improved instructor interaction along with reciprocal participation, which left them more satisfied and motivated to do well.

b. Instructor organization in the hybrid context affects SASE. When participants were asked if they believed the faculty members were knowledgeable and prepared to teach in the online learning context of the program, 29 students (74%) agreed and 10 (26%) disagreed the instructor was organized. It was clear from the research data that instructor organization played a role in student satisfaction and learners’ attitudes in the online environment. One participant stated, “She [the instructor] was really scattered and seemed to jump from one subject to another.” Another participant said that “better organization of classroom time” and “more organization ahead of class” would be a “better learning environment.” Participants felt that “a lot of time was wasted figuring out what direction the class should take for the day.” One participant felt that it would have helped his attitude if he “showed up to the online class and the instructor was more prepared than I was.” This was an area of frustration for many participants.

c. Instructors' use of technology affects SASE. Use of technology was important to the success of the hybrid learning program. Many of the participants felt that the instructor lacked "technology skills basic to running the online courses," even though "technology is only improving" and is the way of the future. Many felt that instruction needed to go beyond just "PowerPoints and then, here, read the book and then get online and do work." Making the online class run as well "as if we were in person" and using "technology more fluidly" were brought up in several instances. Some participants felt it "was harder for her [the instructor] to get stuff across. I think she just struggled because the tech changed or updated," which made things look different, and "she wouldn't know what to do or where to find stuff."

d. Instructor competence and knowledge of course material affects SASE. When participants were asked if the instructor possessed the knowledge and competence for them to be successful in the paramedic program, 33 (85%) agreed the instructor was knowledgeable. Aside from the fact that most felt the instructor lacked technology skills, most participants felt that the instructor "excelled when teaching the face-to-face lab class" and "could really help me to critically think my way through a scenario." This contrasted significantly with the instructor's online ability, according to the participants. This was also contrary to what the stakeholder focus group believed was important, such as "improving our ability to effectively teach remotely (other than lecture) and hybrid learning." Because participants enjoyed the lab portion with the instructor, some participants suggested "more lab time."

e. Clinical coordination, organization, and facilitator participation affect program satisfaction. Although this research project did not specifically set out to

investigate the clinical coordination component of the paramedic program, data emerged regarding clinical coordination. U-FE requires that the stakeholders are involved and interested in wanting to improve the program (Patton, 2008). Because clinical coordination is a large part of the paramedic program, it was important in this U-FE to identify how or if this related to SASE and program satisfaction. SASE relates to students' belief in their capability of success on an academic task, and clinical tasks are related to the paramedic program. Once students complete all the coursework and classroom labs, they are required to complete mandatory clinical rotations and field work, which equates to more than 600 total hours. Clinical rotations and the field internship are a large component of the paramedic program, consisting of approximately 166 to 238 hours of clinical hospital time and then 500 hours of field internship. During these clinicals, students must successfully meet the objectives of skills and a certain number of patient contacts in order to meet the paramedic program requirements. The clinical rotations are required in the first and second semester of the program in order to enter the field internship portion in the last semester of the program. The amount of hours students are required to complete certainly increases their stress and anxiety, as they want to complete the program in a timely fashion. This stress was compounded by a lack of coordination, organization, and feedback by the clinical coordinator.

The scheduling of these clinical sessions was an area of tension identified by participants in this U-FE and had an effect on their learning experience and program satisfaction. Scheduling clinical sessions was the responsibility of the paramedic program clinical coordinator. Students were not authorized to attend any clinical experience

without coordination by the clinical coordinator, who was to make all the arrangements for students including placement (where) and scheduling (when).

Participants overwhelming felt there were several issues regarding the clinical coordinator, including lack of communication, disorganization, and improper placement, which caused a great deal of "frustration, anxiety, confusion, and distrust." One participant stated that that element was "the biggest downfall of the entire program," adding, "I don't think it matters if the program is hybrid or not, he [the clinical coordinator] did not do a good job." Many echoed this sentiment and found that "he [the clinical coordinator] never called us back" or "waited until the last minute," which was frustrating "when you are trying to get things scheduled to complete the clinicals on time." Some indicated that there was "not a real clear process how clinicals are coordinated" and that many times, the hospitals that did allow clinicals were "not appropriate to learn at." For example, although the program has an affiliation agreement with Denver Health, most felt that "Denver Health is a horrible place to learn," causing a great deal of anxiety in some participants. When asked why this created so much anxiety, most felt "the preceptors didn't even want us there" and "no one checked in ever again with us to make sure it was a positive experience" or "checked in with the preceptor to make sure we were working out" unless there was a problem.

This suggested that a lack of coordination and communication affected participants' emotional well-being in regards to the clinical aspect of the paramedic program. They said this affected how they viewed the program and their "overall satisfaction." This was surprising, as the data suggested that most were satisfied with the program overall. When asked why they didn't reflect this in the questionnaire, many

stated, “Well, there were no questions regarding that specific area of the program.” Many felt that the clinical coordinator should “be there for us, support us, and do weekly check-ins to make sure we are good.”

There was a general opinion “that he [the clinical coordinator] really forgot the rest of the hospitals in the areas we had access to.” It would have been helpful “to spread students out more” so that “we could serve the local hospitals and clinics” and not just the Denver area. He stated, “I will more than likely be working in my local area, so it would be better to try and partner with them,” which could potentially lead to a future job. Because each hospital did things very differently, participants also felt a lack of consistency with learning outcomes or believed that they had to “do most of the initiating to get placement,” which caused a great deal of stress. Another participant suggested the need to “make sure each student finds the place that works for them, not the place that the school thinks should work for everyone.” Some had ways “to get around him [clinical coordinator]” and “self-scheduled.” Several participants had to enlist the help of the primary instructor to get in contact with the clinical coordinator after not hearing back from an email “for like 3 days” but indicated that “it shouldn’t be that way as it wasn’t her [the instructor’s] job.” This suggested that further investigation is required regarding clinical coordination. These findings were important to show the relationship between the instructor/program facilitator, SASE, and learning.

Major Element 4: Prior Knowledge

Students bring to the classroom a wide range of skills, beliefs, and attitudes. This prior knowledge frames how students interpret and organize incoming information. New

learning is constructed on prior knowledge, and many of the participants felt this was important to learning. Adult students bring even more experiences—sometimes years of experience—which frames how they experience learning and the learning environment.

a. Experience in emergency medical technology affects SASE. Many participants had some prior knowledge, either as a basic emergency medical technician (EMT-B) or in other basic medical training such as cardiopulmonary resuscitation or advanced first aid. This prior knowledge proved invaluable during the paramedic learning experience. One participant stated, "The hybrid program worked great for me. . . . I had been in EMS for 16 years before paramedic school so I was not the normal paramedic student." Many were currently employed as paramedics, with 33 (85%) responding they were currently employed or worked as an EMT or volunteer EMT prior to the program. When participants were asked if they felt the program prepared them for the paramedic profession, 37 (95%) agreed it did. Several participants stated, "I think you have to have a good EMT basic platform. This 'zero to hero' stuff is crap." "Zero to hero" refers to going through the EMT-B course and then going straight into the paramedic program, "without ever stepping foot in the field." Another agreed, commenting, "I have worked with many of them and they couldn't deal with a critical patient." He felt "they don't even have the experience to deal with the basics" when working in the field. One participant stated he was "first an EMT-B and then an EMT-Intermediate (EMT-I), so I wasn't like a 'zero to hero' kind of student." This was further explained by another participant who was also an EMT-I with prior experience, where she "was frustrated how she had to wait for everyone else to catch up just like she was in EMT-B class again." She also said, "You could tell the students who had no experience; it was frustrating

waiting for them to catch up in class" because the ones with no experience are "still learning basic patient assessment or learning how to make eye contact and talk to a patient." Several felt that although they possessed prior experience, no value was placed on it. Several participants agreed that "at least 2 years' experience" as an EMT-B would be beneficial to the program.

Working part-time or volunteering as an EMT-B on an ambulance service gave participants a better foundation for understanding and meeting the demanding nature of the paramedic program. Two stakeholders from the focus group worked for hospitals in the CMC-serving areas and employed a few past graduates. They discussed the "zero to hero" concerns from the participants and felt that using hybrid technology and creating better "learning activities prior to the in-person lab by memorizing steps and supporting concepts" would allow students to come to the lab more prepared to perform skills and practice procedures. This would take away the time spent in lab reviewing the online content again and would provide "students more time to gain confidence with skills."

They also brought up that paramedic students must also complete 600 clinical hours working with an ambulance service prior to entering the paramedic profession and that the paramedics they employed did come with prior experience. Some admitted that to help students "feel more successful and produce quality paramedics ready for the real world," the prior experience would be beneficial. Participants with prior knowledge felt they performed better and struggled less than those who had no experience. One participant who had no experience stated that he "struggled to keep up most of the time"; although he passed the program, he felt less confident in the real world working as a paramedic. He also stated, "I wasn't as sure I would be successful" with the hybrid

context, as the learning curve was higher. Although he was working today as a paramedic, he was happy to work with a very experienced paramedic who was willing to mentor him. These perceptions suggested that prior experience and past success working or having experience in the EMT field impacted whether or not students believed they would be successful in a paramedic program.

This finding was important to SASE and program satisfaction. Students' prior knowledge affected SASE through having prior experience and real-world knowledge, allowing them to be better equipped for the program. Because students felt more confident with this base knowledge, they were more satisfied with the hybrid context. Those who did not have as much experience seemed to slow down the pace of the learning for the group as a whole and were less confident and less satisfied.

Summary of Findings

This chapter explored SASE in a hybrid paramedic program through the data collected from the questionnaire, graduate interviews, and the stakeholder focus group. These results identified major elements and trends regarding a relationship between SASE and learning in a hybrid environment and the effect on program satisfaction. The findings of this U-FE can add to paramedic hybrid education and improve the ability to effectively teach remotely. Chapter V discusses the implications of these findings and outcomes and presents recommendations.

Chapter Five:

Discussion and Recommendations

The purpose of this study was to conduct a utilization-focused evaluation (U-FE) of student academic self-efficacy (SASE) in a paramedic hybrid program and evaluate how SASE affects program satisfaction. Bandura (1997) stated that self-efficacy is task specific and determines how people feel, think, behave, and motivate themselves. SASE is an extension of self-efficacy related to students' belief in their ability to succeed on academic tasks. Students who had a higher degree of SASE had more confidence they could learn and be successful in the hybrid learning environment. This relationship influenced their motivation, confidence, academic performance, program satisfaction, drive for success, and personal well-being.

Self-efficacy beliefs structure how individuals commit and achieve their desired outcomes successfully. Students who possess a high level of SASE and confidence in their capabilities are considered to have a stronger sense of their overall academic abilities and are more satisfied than students who do not (Bandura, 1997). They set challenging goals for themselves, commit to these goals, and recover quickly if these goals aren't met. This results in lower stress and anxiety, along with an increased sense of personal accomplishment (Zimmerman & Bandura, 1994). The accumulation of evidence since Zimmerman and Bandura's (1994) article on self-efficacy has positively linked

SASE and learning motivation and satisfaction (Schunk, 1991). Specifically, students with high academic self-efficacy engage in functions that foster development of their skills, knowledge, and abilities in various academic domains, persist with challenging tasks, and exert a higher degree of effort in the face of difficulty (Honicke & Broadbent, 2016). Pintrich, Smith, Garcia, and McKeachie (1993) asserted that to be successful in an online course, students must be highly motivated and self-regulated learners (Pintrich et al., 1993).

The findings of this study, based on the perceptions of participants and stakeholders of the paramedic hybrid program, provided information to the primary intended users for program improvement. One fundamental purpose of evaluations is learning and formative improvement, which allows the primary users regularly involved in the program to implement changes (Patton, 2008).

The findings were presented based on the analysis of graduate questionnaire responses, graduate interviews, and focus group discussions. These findings are related to the study's two research questions:

Q1. What is the relationship between SASE and learning in a paramedic hybrid learning environment?

Q2. How does SASE affect program satisfaction in a hybrid learning paramedic program?

The findings included four major elements: (1) learning environment, (2) self-reliance, (3) faculty and program facilitator preparedness, and (4) prior knowledge. Several subfindings were related to each major element. The next section discusses these

findings in the context of related information from the literature review and implications for the primary intended users.

Discussion

Major Element 1: Learning environment. The data showed a relationship between SASE and the learning environment. Several components within the learning environment affected SASE and learning in the hybrid context, including communication with faculty, comfort with technology, the hybrid curriculum, and the environment a student took a class in, such as home vs. classroom. Participants in this study who were more satisfied with the hybrid learning environment possessed higher degrees of SASE. The participants also expected to learn well in the hybrid environment of the paramedic program, with 34 (87%) responding that they did and only 5 (13%) that they did not. They found that satisfaction affected their motivation to learn, and they were generally satisfied with the hybrid learning environment. They indicated that satisfaction in their learning environment was fundamental for decisions regarding academic performance and their overall general well-being. This belief impacted their definition of goals and individual emotional reactions to the learning environment.

This finding aligns with Bandura's (1997) research on self-efficacy, where he found that satisfaction in school is fundamental for the judgments that students make regarding their general well-being. Although Bandura (1997) mainly addressed traditional classroom learning environments, Lin et al. (2013) found similar sources of self-efficacy for online learners as for learners in traditional environments. In other words, experiencing a great deal of anxiety in accomplishing a task, such as traveling

long distances to the classroom, will likely trigger negative responses that affect the formation of higher perceived SASE. In the hybrid learning environment, students benefited from increased time and flexibility, wider and easier access, and the ability to regulate their own learning.

Computer confidence. Technology is an important component in hybrid learning, including students' confidence with the computer, applications, and access. Most participants were mostly satisfied with the online learning components in the hybrid program and found them easy to access. Many participants for this study indicated that they had previous experience with online learning. One participant who self-reported minimal experience in online learning felt less satisfied and was slow to catch up with the rest of the class. Once she "worked it out" for herself, she felt it went well. However, she did suggest that she would have liked better preparation prior to beginning the program, adding that an instructor-provided short training would have been beneficial to her learning. Research has suggested that students who find technology easy to operate or easy to use perform better and are more satisfied with online learning (Joo, Lim, & Kim, 2011). Wu and Hwang (2010) found that a student's perceived ease of use and readiness to use a variety of learning technologies are positively related to student satisfaction. This suggested the need to emphasize student competency and readiness with technology and develop online content that meets the needs and expectations of students (Wu & Hwang, 2010). In another study, Jan (2015) measured student satisfaction, SASE, computer self-efficacy, and prior experience with online learning. Significant relationships were found between computer self-efficacy, prior experience, and satisfaction, indicating that self-efficacy and prior experience play an important role in online learning (Jan, 2015).

Hybrid curriculum. The hybrid curriculum and its delivery were especially important to the participants of this U-FE. Most indicated how the patient simulation, complex skills, and critical thinking presented in the online context should be more intentional and interactive. Participants felt these were important components of learning emergency medical services (EMS) skills and being able to apply these skills in real-world settings. Data showed that most of the participants were confident when learning the most basic concepts (94%) in the hybrid context; however, 79% were less confident when the concepts were more complex. There was agreement that this lack of confidence affected their SASE directly, because if they were less likely to understand the complex material, they were less likely to be successful in learning and applying the skills.

Bandura (1986, 1997) believed that educators should focus on providing students with mastery experiences. In the context of online learning, instructional practices focused on providing students opportunities that emphasize experience and performance success are important to increasing SASE, as success raises SASE and failure lowers it (Bandura, 1997; Schunk, 1991). For example, several participants indicated that the cardiovascular mechanisms related to electrocardiograms were difficult to understand. Instead of gaining a deeper understanding of the physiology of these structures or mechanisms, they instead chose to memorize the electrocardiogram strips. This perception of difficulty hindered their ability to answer critical thinking questions about cardiovascular content in the lab. The U-FE stakeholder focus group echoed the importance of developing an innovative curriculum to meet the needs of future hybrid EMS education and encourage critical thinking and student learning.

Student and instructor communication. Participants found that student and instructor communication in the online context of the program was essential for exchanging ideas, engaging in collaborative activities, and receiving feedback. Communication within the online forum was very insufficient, leaving participants frustrated or questions unanswered. Participants felt that responsive communication and timely feedback had a major influence on learning and improving SASE. In addition, participants felt that the ability to ask a question or share an idea with the class helped them develop important critical thinking skills needed for success. Research in the education literature discusses the importance of student and instructor communication in the traditional classroom. In the online context, one study by Sher (2009) confirmed that student learning and satisfaction were directly related to how students interacted in their educational environment. This communication loop with effective feedback is an important component of SASE and overall program satisfaction.

Major Element 2: Student self-reliance and confidence. Participants' perceptions of their capabilities are central to how they respond to academic tasks (Bandura, 1997). The degree of SASE influences students' motivation and the drive for academic growth and success. In this study, participants mostly depended on their own initiative and, by extension, this aspect of self-efficacy helped bolster their confidence, which allowed them to be successful and persist in academic tasks. For example, participants who were less confident in their knowledge or skills exhibited lower degrees of SASE than those who were more confident. Although most participants felt they were better in-person learners, the convenience and location of the program outweighed that consideration. Most participants felt they had to rely on their inner confidence and self-

reliance to be successful in the online context. Bandura (1997) suggested that implementing instructional practices that promote the development of confidence is an important aspect of learning.

Participants mostly had to rely on their own technological abilities in the hybrid learning environment. Many were frustrated with the technical problems they experienced when connecting online, and most expressed that problems were due to the inexperience of the instructor. Some felt they were more knowledgeable than their instructor in fixing or understanding technological problems. The instructor's lack of technology experience affected students' ability to learn effectively and use their time wisely. Although participants were most confident in their abilities to learn the most basic content in an online context, many were not confident in learning the most complex material. Participants said they would have to find their own outside resources to further their understanding of the course material. They felt it was important to include e-learning material aside from a PowerPoint and lecture model. Because many participants indicated they had some prior experience with online learning in other courses, they felt that if the instructor possessed more technological "savvy," that would have helped build more self-reliance as well as increase confidence with their own computer skills.

Self-reliance affected SASE via the ability of participants to effectively navigate technology and their confidence in themselves and their own skill sets. This suggested that being more self-reliant increased students' SASE, leaving them more satisfied with the hybrid context.

Major Element 3: Faculty and program facilitator preparedness. Many aspects of instructor preparedness affected how participants experienced the hybrid environment, as well as their program satisfaction and overall confidence. These aspects included how much the instructor interacted with the students, if the instructor was organized, and how experienced the instructor was with technology and the content of the course material.

Participants believed more instructor interaction and participation would have made them more satisfied and more motivated. Although many participants felt the instructor was very caring, most agreed this wasn't enough. Many wanted the instructor to be engaged throughout the context of online learning, to be competent with technology, and to be knowledgeable about the course material. Research regarding feedback and SASE indicated that when the instructor is caring and praises students, praise that doesn't depend on performance is actually harmful since it isn't based on students' knowledge or skills (Chemers et al., 2001).

Participants expressed a perception that the instructor disliked hybrid learning and at times encouraged students to come to the physical classroom as opposed to the online classroom. This was frustrating to many participants who could not make that work due to circumstances such as distance, finances, and time constraints.

Feedback from the questionnaire indicated that although most participants (87%) expected to do well in the hybrid structure, some indicated that the hybrid structure did not motivate them to learn. When asked to explain why it didn't motivate them, many participants (23%) said it was because there was not enough interaction with the instructor. Bandura (1997) highlighted social persuasion or feedback from others as

important to SASE. The questionnaire also found that 44% of the participants felt that better instructor resources, technology training, and communication were needed to improve SASE and program satisfaction. Some unexpected comments regarding the instructor were that there needed to be more rigor and critical thinking skills in the content presented in the online learning environment. Overall, participants indicated that having an instructor who was better prepared and more organized would have improved their overall learning experience, satisfaction, and SASE.

Clinical coordination, organization, and facilitator participation. Although the questionnaire did not specifically ask questions concerning the clinical component of the paramedic program, there was an overwhelming consensus that the clinical coordination, organization, and facilitator participation had a negative effect on students' learning experiences. Participants were extremely frustrated with how clinicals were organized because they often were not scheduled in a timely manner. Since students had only 16 weeks to complete the required 600 hours, not starting at the beginning of the semester caused a great deal of stress and anxiety. Participants also found that the instructor was unavailable to them most of the time, leaving them feeling like they were in the dark about where, when, and how they were going to complete their clinical rotations. According to Bandura (1997), self-efficacy affects an individual's choice of effort, activities, and persistence across a broad range of human functioning. The lack of clinical coordination had a significant effect on students' confidence in their ability to complete the clinical aspect of the program, thus impacting their overall program satisfaction. Medical educators can implement practices that foster and influence SASE such as encouraging clear and specific goals for students (Artino et al., 2010).

Major Element 4: Prior knowledge. This finding was important to SASE and program satisfaction. Students' prior knowledge affected SASE since their experience and real-world knowledge made them better equipped for the program. Because students felt more confident with this base knowledge, they were more satisfied with the hybrid context. Those who did not have as much experience seemed to slow down the pace of learning for the group as a whole and were less confident and less satisfied.

Recommendations for Practice

Findings from this study identified several aspects of the hybrid paramedic program as very effective and also highlighted several areas that need improvement. Patton (2008) stated that the primary users of the evaluation seek findings that can be used to improve the program. With a clear understanding of SASE, educators would be well advised to implement and develop effective instructional strategies. Past research regarding SASE has focused on traditional classroom learning; although hybrid learning is not new to higher education, most research has highlighted the importance of self-efficacy with technology, particularly computer or learning management systems (Jan, 2015). With the gap in research investigating the effect of SASE in the hybrid learning environment, this study expands on previous literature by uncovering how paramedic students learn in a hybrid learning environment.

The paramedic program is doing well and exhibits strengths in the following areas:

1. Having a state-of-the art EMS training facility and simulation center
2. Having a flexible program design to meet various student needs

3. Demonstrating exceptional support from the communities of interest
4. Having an exceptionally involved advisory committee
5. Having a commendable instructor-to-student ratio

However, based on the findings of this U-FE, there are nine areas the paramedic program can improve, as discussed below.

1. Foster intentional instructional practices. Intentionally promoting SASE in the hybrid learning environment, which fosters approaches to building student confidence for learning, is an important component for program stakeholders to understand (Broadbent, 2016). Students do not always regulate their SASE; in fact, findings from this study showed that they underestimate their SASE capabilities. There are several ways the program can develop more effective instructional practices to encourage and strengthen SASE in the hybrid learning context. Providing students opportunities for small successes in the online setting is one way of improving confidence. Other examples include having students design presentations or projects based on their experience in EMS or prior knowledge, or having them research topics and present that knowledge to the class in the online course. Because some participants had prior knowledge or were currently working as an EMT, having peers display skills correctly can improve SASE by way of vicarious experiences or social persuasion. In other words, if someone else can do it, they will try. Another component of intentional practices could be incorporating the rich knowledge and experience from students who have already developed skills through their experience.

2. Promote resilience. Program stakeholders should consider promoting resilience in academic beliefs within the online context. This effort is based on the

understanding that when student stress and anxiety are low, confidence is higher. Because SASE beliefs influence anxiety and stress, instructors should engage students early and often through active feedback to ensure students are calibrating their knowledge correctly. This includes supporting student interaction with the available technology and learning tools. Building self-confidence will also help educators promote student motivation and persistence in academic tasks (Pajares & Schunk, 2001). Another proven strategy is self-monitoring and self-testing for improving and creating a deeper understanding of course material. For example, having students complete surveys or exit tickets at the end of online learning sessions can help students self-reflect on the progress or lack of progress they are making in the program. Instead of students giving up when faced with obstacles, shifting the focus away from actual performance evaluation would be an effective tool for improving SASE.

3. Offer precourse training to help students set clear and specific goals. Precourse student training will enable students to become familiar with and practice using the online learning system provided by the program. This could be accomplished in the form of models such as a student hybrid toolkit (Appendix D). Providing students with basic guidelines and clear specific guidelines for progressing in a hybrid course may improve student outcomes. The hybrid toolkit may provide this guidance. Within the models, students can set specific learning goals and engage in activities that provide clear tasks in order to be successful in the online learning environment. Thus, SASE can be improved as students rehearse information, practice using tools, and understand the requirements for managing online coursework to meet the face-to-face skill lab components. Improving SASE can decrease the amount of stress and anxiety students

may experience navigating new technology and tools. For example, the program can provide students with well-articulated goals for hybrid course expectations and then ask them to develop their own clear goals and review those goals throughout the learning process.

4. Improve student-instructor interaction. Interactivity is what differentiates an effective online course from a high-tech correspondence course. The feedback and interaction provided by the faculty and program instructors are important sources to enhance SASE. Students who are provided clear and concise goals by the instructor have been shown to be more successful with their prescribed tasks and more likely to persist toward those goals (Bandura, 1997). Efforts to enhance student engagement, including striving for presence, should have affective, interactive, cohesive, and cognitive measures. For example, affective characteristics, addressing the expression of emotion, feelings, or mood, can be measured using tools in the online learning platform, WebEx training. Students can provide emojis that best represent how they are feeling during lectures and can also virtually raise their hands. Such measures will not replace dialogic exchange; however, calibrating students' feelings and emotions within the online context persistently using available web tools can encourage students to continue toward success in the online setting.

Interactivity relates to how and how often students engage. Interactivity can be achieved through group work, student-led discussions, interactive or instructional videos, accountability for reading the material, and attendance. Communication is another way for students to feel engaged in the virtual setting. Three-loop communication is needed, whereby the instructor has students summarize complex material or further critical

thinking within emergency or real-world situations in the context of EMS. Another important component is to give students honest and explicit feedback to provide critical information for them to gauge their SASE. Praise that is generic can actually be detrimental to goal achievement, as it will not provide specific feedback toward students' growth of knowledge or improvement. Feedback, in contrast, builds SASE by allowing students to correctly attribute their failures and successes. The messages students receive from the instructor, program director, or other influential professionals can also have a positive or negative influence on SASE. The online/hybrid social presence focuses more on learner-learner and learner-instructor interactions, which is where students work in groups and seek feedback from the instructor and their peers. One important point is that students need to have the appropriate tools available to them to ensure they can communicate in the online setting, including good internet connectivity, proper cameras, good headsets, and laptops.

Cohesive online communities that promote a sense of belonging and social presence are essential to online learning excellence. Instructors should design collaborative interaction activities that best meet the program and course objectives and should select the computer-mediated tools that best facilitate the interaction.

5. Offer faculty training and professional development. Because paramedics require critical thinking and clinical reasoning skills to effectively and competently carry out patient care, educators need to find effective methods to develop this knowledge and skills in students, particularly in the online context. Bandura's (1997) model of self-efficacy suggested that one way that students' confidence can be strengthened is through vicarious experiences. These include social comparisons, where students are influenced

by how others are performing in an academic setting. If they perceive others are succeeding or failing, they are more likely to compare how they are doing relative to others in order to develop their SASE. Instructional strategies should be focused on providing students with learning opportunities that focus on both mastery and vicarious experiences. This recommendation aligns well with Bandura's (1997) self-efficacy theory. While instructional strategies should align with attaining skills and knowledge, they should also focus on improving student confidence to support improving SASE. To produce confidence, faculty will need to have content knowledge, technology knowledge, and skills to ensure students are learning. Because there is no clear definition of what constitutes best practices in hybrid instruction in the paramedic program, stakeholders should develop a template along with the primary user so that faculty will possess the skills and knowledge to be consistent and effective in the hybrid teaching program.

6. Improve instructor competence. If students perceive the instructor isn't organized or knowledgeable in the subject area, they will be less confident and less satisfied with their learning. Educators should ensure instructors have prior online teaching experience in EMS or a related field and that they have a deep understanding of the complex material involved in paramedic education. This may require professional development to ensure instructor competence with not only the course material, but also the different technological aspects required to effectively teach online. The instructor in online/hybrid teaching primarily deals with learner-instructor and learner-content interactions, where instructors provide learner supports and present content and assessments. Developing opportunities for professional training, development, and mentorship would improve learning conditions for students. Examples may include

hybrid learning models for training, peer training and collaboration, and mentorship or support from instructors with a great deal of experience in hybrid learning.

7. Make changes to the curriculum design. Creating innovation, interactive, and appropriate curricula is another area of suggested improvement. Bandura (1997) found that the messages we receive from experts and influencers in the profession play a role in the development of SASE. From this, the program director and U-FE stakeholders should consider developing an innovative curriculum including guest speakers associated with the field of medicine, videos, and demonstrations with experts completing skills for students to watch in the online context. For example, the hybrid curriculum should teach a complex psychomotor skill, such as intubation, in lecture, video, and synchronous video of the instructor performing the skill, and students should then be prepared to perform that skill during the lab portion of the program. Another tool that could be used is student-led sessions. As the lectures are synchronous (live), the program should offer students appropriate tools to encourage learning and build SASE in this forum.

The curriculum should align with state guidelines for paramedic practice and outcomes as well as meet the needs of the hybrid model of the program. Collaborative curriculum design with input from program stakeholders would be appropriate to ensure consistency and effective learning environments in both the online and lab context of the program. As with faculty and professional development, a curriculum hybrid template would be useful for best practices and consistency.

8. Adjust course scheduling. Time management outlines should be designed to give students clear and concise goals for program success. The program stakeholder focus group expressed concern about the length of time students were required to be

online for lecture. Currently, the online lectures last 6 hours, but stakeholders suggested this timeframe should be reduced for the synchronous classes. There was a general consensus that it is difficult to engage students for 6 hours in a traditional classroom, let alone an online classroom. The program may consider less synchronous learning time with the addition of asynchronous learning. This could include outside group work, projects to promote critical thinking, or work within hospitals and clinics to ensure learning outcomes can be achieved.

9. Improve the clinical coordination process. Participants' overwhelming consensus was that the clinical coordination, organization, and instructor overall negatively impacted their learning experiences and program satisfaction. Although this study did not set out to identify relationships or problems related to the clinical coordination aspect of the paramedic program, it warrants attention due to the participants' concerns. Clinical rotations and field internships are a large component of the paramedic program, with approximately 166 to 238 hours of clinical hospital time and 500 hours of field internship. During these clinicals, students must successfully meet the skill objectives and engage in a certain number of patient contacts to meet the paramedic program requirements. The clinical rotations are required in the first and second semester of the program to then enter the field internship portion in the last semester of the program. The amount of time students are required to complete certainly increases their stress and anxiety. This stress was compounded by the lack of coordination, organization, and feedback by the clinical coordinator. As many participants felt this was the weakest part of the program, program stakeholders should immediately change how clinicals are organized, as that continues to negatively affect student satisfaction, outcomes, and

learning. The program director should work to rectify the entire clinical and field placement process in coordination with the program stakeholders. This effort includes re-examining clinic and hospital affiliations to effectively meet the needs of students. A very clear job description and training are needed for the clinical coordinator, as well as a clear and concise step-by-step process for students to smoothly transition into these clinical and field internships.

Recommendations for Future Research

The current study was a U-FE of a hybrid paramedic program to identify strengths, weaknesses, and improvement (Patton, 2008). This particular study explored the relationship between SASE and student learning and how it affects program satisfaction. Because there is little research in the area of hybrid SASE, further research could expand the narrow scope. While this study identified the learning environment and self-reliance as positively or negatively affecting SASE, additional studies could identify the specific motivational factors that interact directly with self-efficacy.

In addition, future studies could provide information on hybrid learning from the faculty perspective and how or if faculty members' self-efficacy affects SASE in the hybrid environment.

Research is needed that explores what instructional elements support SASE in hybrid learning. As this study did not account for gender or demographic information, that could be another area of expansion.

Once the paramedic program stakeholder utilizes the recommendations from this U-FE, it would be useful to re-evaluate the program after improvements are made.

Because CMC is making changes to what defines a hybrid course, program, or instruction, it would also be interesting to research best practices in other hybrid programs.

Summary

The purpose of this study was to conduct a U-FE of the paramedic hybrid program at CMC, which is a rural community college. The study examined the relationship between SASE and learning in a hybrid program and if SASE affects program satisfaction. Data were collected through multiple methods, including a questionnaire of program graduates from 2014 to 2018, interviews of seven past graduates, and a focus group involving eight stakeholders. These data were carefully analyzed for accuracy and then coded for relevant elements. The findings, evaluated in relation to the two guiding research questions, were presented in terms of four major elements of the program: (1) learning environment, (2) self-reliance, (3) faculty and program facilitator preparedness, and (4) prior knowledge.

Program recommendations for practice discussed SASE and learning in a hybrid program. They also discussed student satisfaction, reliance, and motivation. Nine specific recommendations were offered to the program: (1) foster intentional instructional practices, (2) promote resilience, (3) offer precourse student training, (4) improve student-instructor interaction, (5) offer faculty professional development, (6) improve instructor competence, (7) make changes to the curriculum design, (8) adjust course scheduling, (9) and improve the clinical coordination process.

Recommendations for future research include identifying the specific motivational factors that interact directly with SASE in hybrid learning; addressing hybrid learning and self-efficacy from the faculty perspective; exploring what instructional elements support SASE in hybrid learning; and re-evaluating the paramedic hybrid program after program improvements have been implemented.

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Appendix A:

Paramedic Graduate Questionnaire

Survey Flow

Standard: Are you currently employed as a Paramedic? (4 questions)
Standard: Program survey: Please answer the following questions (15 questions)
Standard: General program questions (9 questions)
Standard: Program improvement suggestion: Block 3 (1 question)

Q1. Are you currently employed as a paramedic?

- O Yes
- O No

Q2. Are you currently certified as a paramedic?

- O Yes
- O No

Q3. Did you mostly take the paramedic courses online or did you choose face-to-face in Edwards?

- O Online
- O In-person (Edwards)

Q4. Why did you choose to attend the courses online instead of face to face?

_____

Start of Block: Program Survey: Please answer the following questions.

Q5. I believed I would receive an excellent grade in the paramedic program after learning in the online context.

- O Strongly disagree
- O Somewhat disagree
- O Somewhat agree
- O Strongly agree

Q6. If you disagree, please tell us why.

_____

Q7. The hybrid structure motivated me as the learner.

- O Strongly agree
- O Agree
- O Somewhat disagree
- O Strongly disagree

Q8. If you disagree, why didn't the hybrid structure motivate you?

_____

Q9. I'm sure I understood the most challenging material presented in the readings for the online learning context.

- O Agree
- O Somewhat agree
- O Strongly disagree
- O Somewhat disagree

Q10. If you disagree, please tell us why.

_____

Q11. I was confident I could do an excellent job on the online assignments in this course.

- O Strongly disagree
- O Somewhat disagree
- O Strongly agree
- O Agree

Q12. If you disagree, please tell us why.

_____

Q13. I expected to do well learning in the hybrid structure of the paramedic program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q14. I was confident I understood the BASIC concepts presented in the online learning context of this program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q15. If you disagree, please tell us why.

_____

Q16. I understood the most COMPLEX concepts presented in the online learning context of this program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q17. If you disagree, please tell us why.

_____

Q18. Considering the difficulty of this course, the hybrid learning context, the teacher, my skills, I think I did well in the paramedic program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q19. If you disagree, please tell us why.

_____

Start of Block: General Program Questions

Q20. I believe the faculty was knowledgeable and prepared to teach in the online learning context of the program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q21. If you disagree, please tell us why.

_____

Q22. I feel the program prepared me for the paramedic profession.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q23. I was overall satisfied with the hybrid structure of the program.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q24. If you disagree, why weren't you satisfied with the hybrid structure?

_____

Q25. I felt the instructor was available to me most of the time.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q26. If you disagree, please tell us why.

_____

Q27. I was and still am confident I can master the skills being taught in the paramedic program in relation to real-world clinical experiences.

- O Strongly agree
- O Somewhat agree
- O Somewhat disagree
- O Strongly disagree

Q28. What specific changes would you recommend to improve your learning experience in the paramedic program?

_____

Thank you!

Appendix B:

Utilization Model Graphic

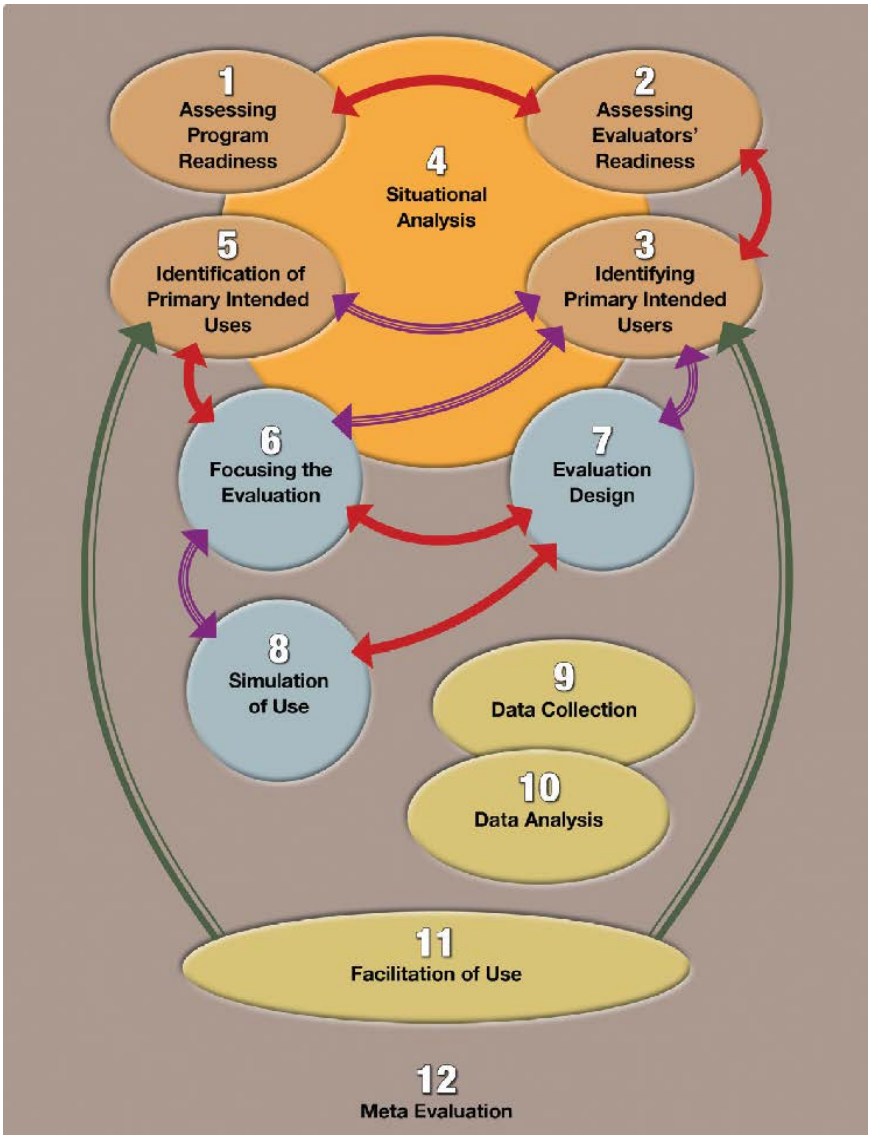


Figure A.1. U-FE process (phases and steps). Adapted from Ramirez and Broadhead (2013).

Appendix C:

Executive Summary

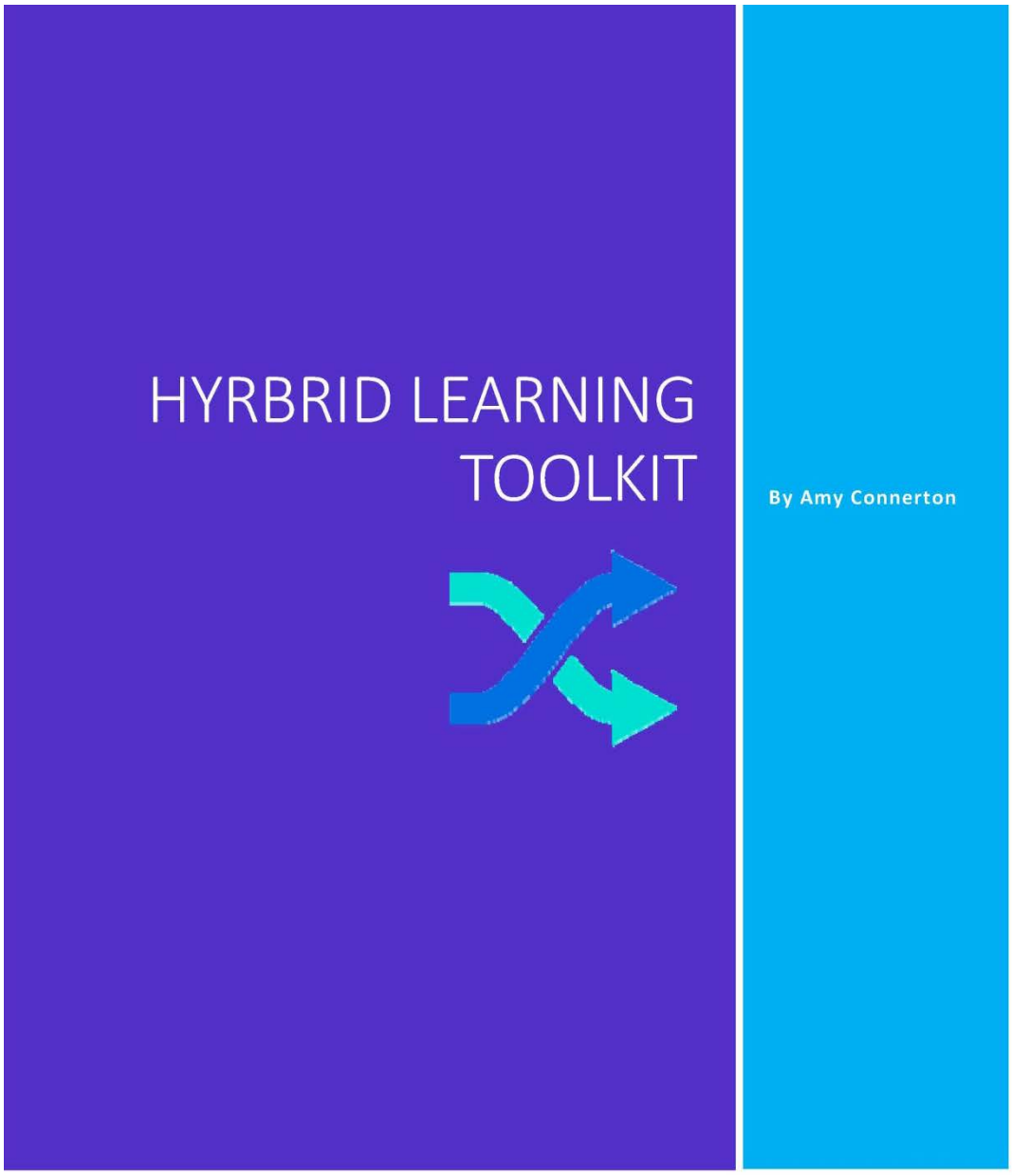
The purpose of this program evaluation was to conduct a utilization-focused evaluation of the paramedic hybrid learning program at Colorado Mountain College, a rural community college. The U-FE examined the relationship between student academic self-efficacy (SASE) and learning in a hybrid program and the effect of SASE on program satisfaction.

Data were collected through multiple methods, including a questionnaire of program graduates from 2014 to 2018, interviews of seven past graduates, and a focus group involving eight stakeholders. These data were carefully analyzed for accuracy and then coded for relevant elements. The findings, evaluated in relation to two guiding research questions, were presented in terms of four major elements of the program: (1) learning environment, (2) self-reliance, (3) faculty and program facilitator preparedness, and (4) prior knowledge.

Program recommendations for practice discussed SASE and learning in a hybrid program. They also discussed student satisfaction, reliance, and motivation. Nine specific recommendations were offered to the program: (1) foster intentional instructional practices, (2) promote resilience, (3) offer pre-course student training, (4) improve student-instructor interaction, (5) offer faculty professional development, (6) improve instructor competence, (7) make changes to the curriculum design, (8) adjust course scheduling, (9) and improve the clinical coordination process.

Appendix D:

Praxis



Hybrid Course Definition

Colorado Mountain College has identified a hybrid course as a blend of both classroom instruction and online learning activities. Students are required to attend and actively participate in face-to-face instruction, which may include LMS (Canvas), IVS, or web conferencing tools (WebEx). Between 25-75% of the course "contact hours" will be online instruction.

Student Hybrid Toolkit

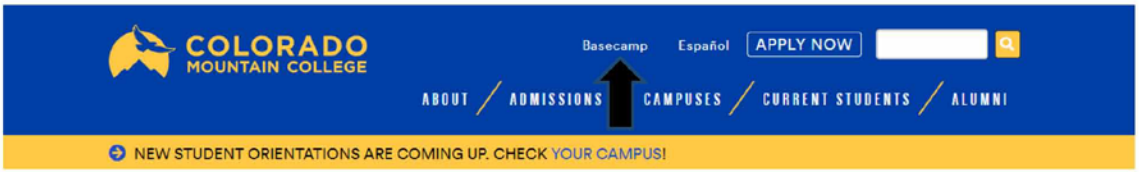
The following student hybrid toolkit is designed to help students and offer best practices for hybrid learning in the paramedic program. Best practices for effective hybrid learning and specific to the nine recommendations included ,(1) prior experience with online learning, (2) motivation and persistence, (3) comfort with technology, (4) time management, (5) study habits and (5) communication skills. Colorado Mountain College uses Canvas as its learning management system and Microsoft SharePoint for its web content management platform. SharePoint easily builds reliable web based content which integrates with the CMC intranet site. Currently CMC is utilizing SharePoint content from 2013 and will be upgrading to 2019 beginning in January 2020.

The following toolkit is found within the paramedic Canvas course and students should follow the Module in their Canvas course prior to beginning paramedic course work. It is important to ensure your technology is up-to-date and have a plan for back-up technology access. It is also necessary to purchase or borrow from the CMC library a headset which is compatible with your computer system. This will ensure during synchronous learning you will be able to listen, participate and hear effectively.

Student Hybrid Learning Tool-Kit

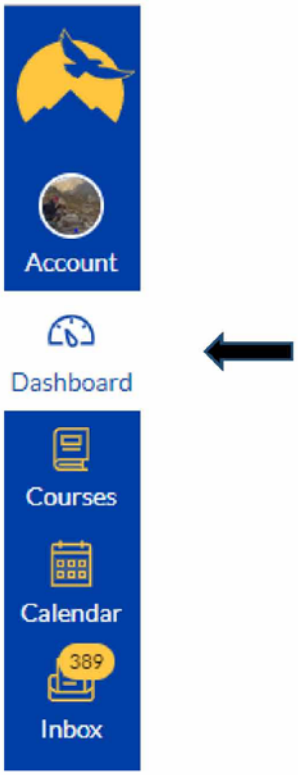
Getting Started

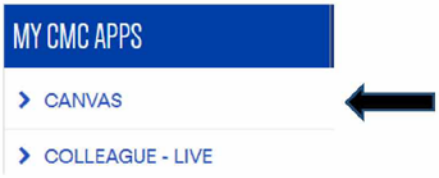
First, access your Basecamp. This is accessed currently from the main intranet page.



Then, Log- in to your Basecamp to access your home Basecamp page and web applications which includes the Learning Management System of Canvas. Canvas is where most online learning content will be based and information for in class learning. This includes your syllabus, schedule, grades and other useful information for your course. (If you are having trouble logging in contact the Service desk servicedesk@coloradomtn.edu or 970-947-8438).

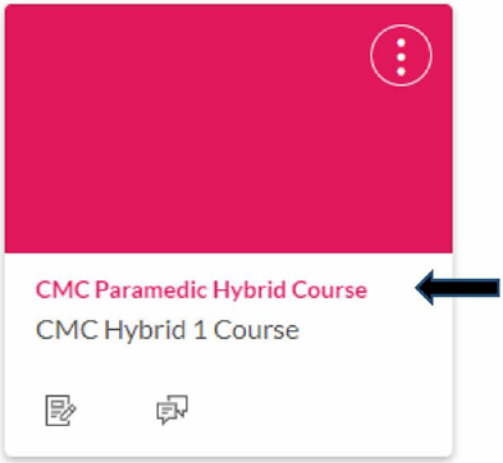
Access Canvas from your CMC APPS





Student Hybrid Learning Tool-Kit

Once you access your Canvas choose your course:



Once you open the Course you will see:

- ✓ Classes are not self-paced - online courses at CMC have regular due dates
- ✓ Online courses require as much work each week as face-to-face classes
- ✓ Most CMC online courses ask students to work together at a distance on group projects
- ✓ Many courses rely heavily on your ability to record audio and/or video of yourself when participating in online discussions
- ✓ CMC online courses are delivered through Canvas and are mostly asynchronous, meaning that you probably won't be required to meet online at a certain time each week (*but remember that you will have regular due dates!*)

Click on the following: ⬅

What is Canvas?

What is Online Learning?

What is Blended/Hybrid Learning?

Definitions will appear ⬅

What is Canvas?
Canvas is a constantly evolving, feature rich web application designed to simplify course management for face-to-face, hybrid and online courses. SU students turn in papers, take part in online discussions, collaborate on group projects, and communicate with instructors and classmates using Canvas.

What is an online class?
Online courses totally eliminate geography as a factor in the relationship between the student and the institution. They consist entirely of online interactions: with content, the instructor, and other students. Most course activities are completed by students asynchronously (*at different times*), however students may be asked to meet for a class session online or in-person (*e.g.: introductory course session, office hours, field trip, etc.*). Online courses that require specific meeting times usually provide alternatives to students that are unable to attend sessions at specific times or places.

What is a blended/hybrid class?
Online activity replaces many of the classroom sessions in a blended/hybrid course. For example, if a course traditionally meets in a classroom three times per week, a blended version might use online sessions to replace one or two of the traditional weekly classroom sessions. Some blended/hybrid courses will only have a few classroom sessions during the entire quarter.

What's covered in this tutorial?

1) This tutorial prepares students to practice characteristics of a successful online learner:

- Prior online learning experience
- Motivation and persistence
- Comfort with technology
- Time management strategies
- Study habits
- Communication skills

2) A link to CMC's academic integrity policy and a link to the CMC Library guide on proper citation for course work

3) Lastly, a link to **Canvas how-to tutorials (Links to an external site.)** is provided

How long will this tutorial take?

You should expect to set aside **30-45 minutes** to read through the tutorial content and complete all the activities and Canvas help videos.

Though, at any time you can click **Modules** in the course navigation to skip to a specific page.

Learn How to Use Canvas!

Go to Canvas Tutorials

If you ever need Canvas help, click the Help icon on the left side navigation bar. Here you will find a link to student-focused Canvas tutorials and a link to chat with the 24/7 Canvas support team. Alternatively, you can call the Canvas Help Desk 24/7 at **(844) 668-0893**.

Canvas Tutorials

- **Getting Started with Canvas**
  - Getting Around Canvas
  - Hardware/Software Requirements
- **Completing Assignments & Checking Grades**
  - Turn in an Assignment
  - Reply to Discussions
  - Uploading Videos & Webcam Recordings
  - Take a Quiz
  - Submit a Peer Review
  - Group Workspaces
  - Check Your Grades and Feedback
- **Communicating with Instructors and Classmates**
  - Course Announcements
  - Send a Personal Message Using the Inbox
- Canvas on the Go!

-- Canvas Mobile Apps (iOS & Android)

Course Evaluations -- EvaluationKit

Begin Tutorial

Module 1-Prior Learning Experience

If you haven't taken an online course before you may be worried about feeling isolated at your computer. Even though online courses at CMC are highly interactive and collaborative, you may be used to the in-person classroom experience. Persistence and self-motivation are two characteristics that help online learners adapt to this new learning experience.

The button below links to the Online Learning Insights blog, which provides strategies for success in the online learning component of the course. As you read through this article, reflect on which step is most helpful to you.

Five-Step Strategy for Success with Hybrid Learning

(Links to an external site.)

Take action! Choose a strategy

Assessing your motivation

Before you dive into your hybrid course, think about exactly what you're looking to achieve. For instance, how does this course fit into your academic goals as a student at CMC? When you graduate, what skills and concepts do you hope to remember from this course? How does this course fit into your personal goals? How can you use what you've learned in the course to enrich all aspects of your life?

You will experience increased self-motivation and engagement in a hybrid course by writing out your learning goals, which will help you remain persistent if you run into problems finding the information you need, or if you need help fixing problems with your technology. The button below links to CMC Advising Services information about setting short-term and long-term goals. Consider taking advantage of CMC Advising Services to focus your learning goals, whether you're taking an online course or not.

CMC Advising Link

(Links to an external site.)

Module 2-Comfort with Technology

It can be really exciting getting a new smartphone. You might be able to video chat on the go, or quickly find a great restaurant or park in a neighborhood you've never been to before. The world's information is at your fingertips!

It will certainly help you succeed in an online course if you're technologically savvy. However, comfort with technology is only one skill needed to succeed in an online course. On subsequent screens we will discuss how successful online learners also need to have good study habits, for example. You won't be physically meeting in a classroom each week, so you'll want to spend some time thinking about whether your study space is conducive for learning, and whether you will be able to effectively manage your workload to meet course deadlines.

Technology Self-Assessment

Please download the following handouts to make sure your technology is ready for your online course, and to ensure you know how to tackle technology problems that may arise when taking an online course.

Make Sure your technology works

Links to an external site.)

5 ways to fix your technology problems

Links to an external site.)

Module 3-Communication Skills

Expectations for Communication, Discussions, and Group Work

In an era of "always on" internet communication, it's common to assume an instructor for an online class will be able to respond to your questions 24/7. In fact, your instructor will be just as available to answer questions in an online course as they are your in-person courses. Check your course syllabus for information about your instructor's office hours and turnaround time for answering emails. If you can't find this information, ask your instructor! Everyone in your class will benefit from a shared understanding of instructor and student expectations.

You will be asked to contribute to online discussions, and work with classmates on group projects in your online courses at CMC. Many of your discussion posts will be written, so it's essential for you to be able to communicate your thoughts clearly through writing. Additionally, you'll need to be comfortable speaking in front of a webcam in online discussions and while working on group projects.

Please look over the following materials, which provide common considerations for communicating with instructors and classmates in an online course. If your instructor hasn't discussed the following considerations, make sure to ask for clarification and guidance, as communication policies and procedures will vary from course to course.

Student expectations for communication

Links to an external site.)

Notes on class discussions

Links to an external site.)

Working together on group projects

Links to an external site.)

CMC Writing Center

Links to an external site.)

Module 4-Time Management

An online course offers you more flexibility for when you'll participate in class discussion. With this flexibility, you'll need to be conscious of how to manage your time to make sure you're keeping up with required class activities. It's very easy to overlook how much of your day is spent commuting to work, preparing meals, and when there's time...sleeping!

Watch this video to get you started!

To get started thinking about managing your time, please watch this video for advice from experienced online students:

Here are some additional materials to help you manage your time.

The reality of **time management** for a 5 cr. class

For every one hour spent in class you should spend 2 hours outside of class preparing

Course Length	Time spent in class/week	Time spent outside of class/week	Total time spent on class/week
11 weeks	4 hours, 10 min.	8 hours, 20 min.	12.5 hours
8 weeks	> 5 hours	>10 hours	>15 hours
4 weeks	>10 hours	>20 hours	>30 hours

Yikes...that's a lot of time.

Understand your course navigation

In other words....do not rely on CANVAS to tell you when an assignment is due

Is your course organized by Modules?

How is a "week" defined in your course? Sun-Sat? Mon-Fri? When does the week end?

When is your professor available to answer questions? M-F, 9-5?

How do the course deadlines translate to your time zone?

What are the weekly assignments?

Do you need to post to a Discussion Board every week? By when?

Do you need to respond to Discussion Board posts every week? By when?

Are there bigger projects that will take a few weeks to complete? Rough drafts or outlines due ahead of time?

Presentations? Group work?

Daily Time Inventory Tool

This tool will help you think about how you spend your time during a typical day. Will you have enough time in the day for your online coursework?

It's required that your entries below add up to exactly 24 hours. Don't be discouraged if you run over the 24 hour limit. Make sure to change your hours around in order to leave enough time for your online classes and homework.

Classes	0	hrs
Studying/Homework	0	hrs
Sleeping	0	hrs
Work/Internship	0	hrs
Family commitments	0	hrs
Personal care/grooming	0	hrs
Meal preparation/eating/dishes	0	hrs
Transportation (school/work)	0	hrs
Socializing/Exercise/Hobbies (Music, Sports, Movies, etc.)	0	hrs
Relaxing (TV, video games, etc.)	0	hrs
Total	0	hrs

Save Daily Time Inventory

Click on the above link to view how you and other students in this course divide their daily time.

Weekly Assignment Plan

WEEKLY ASSIGNMENT PLAN

(Use to plan out when you will do specific study/assignments/papers)

	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Morning							
Afternoon							
Evening							

Study Habits and Resources

- Research Path (Links to an external site.)
  - CMC Libraries provides step-by-step guide to help guide your online research.
- Get Research Help from an CMC Librarian (Links to an external site.)
  - Email, call, or chat online with a CMC Library Services librarian for assistance during any stage of the research process - even help sorting through information you find on the internet.
- Learning and Study Strategies Inventory (LASSI) (Links to an external site.)

- **CMC Learning Assistance Programs has written a guide to help you use the right type of studying for various learning goals 1) taking notes 2) move information into long-term memory 3) check for understanding of concepts 4) prevent forgetting 5) improving learning skills**