A Recommendation for Improvement in Student Success and Retention Through Video Recording of Clinical Skills  
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A Recommendation for Improvement in Student Success and Retention Through Video Recording of Clinical Skills

University of Wisconsin-Platteville

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Rachel Otremba

2019
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Abstract

Based on data presented by the U.S. Bureau of Labor Statistics (BLS) (2019), the need for medical assistants (MAs) is projected to increase; however the yearly graduation rate of MAs is in a decline (Atkins, 2019). Based on demographic data provided by the BLS, the challenges that many MA students face while attending school may contribute to low MA program completion rates. What can be done to address these challenges and the need for more medical assistants? An increase in interaction and collaboration between students, their peers, and their instructors through the use of video, could build a greater sense of community that might increase retention and graduation rates for medical assisting programs. The potential benefits of building community through video recording were addressed through the review of literature. Focus was placed on the use of video and its potential to increase opportunity for student, peer, and instructor collaboration, feedback, and teamwork to build a supportive learning environment. Although most of the inquiry produced positive results, video recording did not always show benefit if it occurred without guidance and individualized instructor feedback. Based on the gathered information, it is possible that building community through video might improve graduation rates and it should be considered a tool for increased retention rates and learner success.

Keywords: Nontraditional students ■ Retention ■ Clinical skills lab ■ Video recordings ■ Community ■ Instructor feedback ■ Community college ■ Online education ■ Medical Assistant
There is a shortage of competent, highly skilled medical assistants in the medical industry and this need will continue to grow (Bureau of Labor Statistics, 2019). The American Association of Medical Assistants (AAMA, 2019) defined a medical assistant as “a healthcare professional who works alongside physicians, mainly in outpatient or ambulatory care facilities such as medical offices and clinics. They are cross trained to perform administrative and clinical duties” (para.1). Among their many tasks, medical assistants gather medical histories, collect vital signs, administer medications, perform venipuncture, give injections, complete electrocardiograms (EKGs), remove sutures/staples, perform dressing changes, assist with physical or specialty examinations, and teach, counsel, and instruct patients (AAMA, 2019).

Based on statistics from 2018, the U.S. Bureau of Labor Statistics (BLS)(2019), predicted the rise in the U.S. population of adults over the age of 65 would drive the expanded need for healthcare workers, which included medical assistants. Researchers Bragg and Hansen (2015) calculated that an estimated 10,000 Americans turn 65 each day. It was predicted that, by 2030, the population of adults aged 66-84 will number 61 million in the U.S. alone and the “oldest old” (85 and older) would number 8.9 million (United States Census Bureau, 2014). With the advances in healthcare, people are living longer, and this includes those with disabilities. The population in the United States is aging and the percentage of those older adults with disabilities is increasing as well. In 2011, 37% of adults aged 65 and older lived with a disability. This number was projected to increase from 11 million (37%) to 18 million
(61%) by the year 2029 (Bragg & Hansen, 2015) and the care required by this large population could overtax the current capacity of healthcare workers. Bragg and Hansen (2015) predicted that medical care would be focused on the care of geriatric patients—the oldest old and those older adults with disabilities. With a substantial older population, there would also be an increased need for preventative medical services provided by physicians. These preventative services would occur within the clinical setting. Bragg and Hansen (2015) explained that the domino effect of physicians who focus on the increased number of older patients and the complexity of their cases would bring about the need to hire additional support staff. Clinic administrators might be required to hire more staff to perform the routine clinical and administrative duties left undone by the physicians. From 2018 data gathered by the BLS (2019), there was projected to be an additional 1.9 million healthcare jobs by the year 2028. The requirement for medical assistants was specifically pointed out to grow at a rate of 23% which would eclipse the U.S. average for all occupations (BLS, 2019). This is a numeric change of 154,900 more jobs by the year 2028 for the MA profession alone (BLS, 2019).

Atkins (2019) documented trends from 2013 that showed the number of students who graduated from medical assisting programs nationwide dropped 25%. In 2011, there were approximately 140,000 medical assistant graduates, but just 2 years later, that number dropped to 105,000 graduates. Researchers at the National Center for Educational Statistics (NCES) (2019) showed a mean graduation rate of 58.8% for the top 50 face-to-face medical assistant schools. Though a medical assistant can earn a technical diploma in one to two years (AAMA, 2019; BLS, 2019), over 40% of students
who entered MA programs never reached graduation. The current educational format may not have effectively supported the needs of this population of medical assisting students. Based on the information above, by the year 2028, the need for medical assistants will grow by 23% and the pool of available skilled medical assistants will be unable to fill that need.

What might be the reason for the decreased graduation rates of medical assistants? Why do over 40% of MA students never complete their programs and what can be done to improve this statistic? A look at the typical medical assistant student might help one to understand the low graduation rates.

Students who enter post-secondary schools are labeled as “traditional” or “nontraditional” (Ellis, 2019). A traditional undergraduate student was defined as someone who has earned a high school diploma, enrolled in postsecondary education immediately after high school, was dependent on parents for financial support and either did not work or worked part time (Ellis, 2019). This student is more of the exception in today’s community college student population and less of the rule. In 2017, seventy-four percent (74%) of college undergraduates were considered nontraditional students (NCES, 2019). In 2018, the National Center for Education Statistics (2019) explained a nontraditional student as someone who possessed one or more of the following characteristics: older than typical age, part-time attendance, independent of parents, employed full time while enrolled, having dependents, a single parent, and a recipient of a General Education Diploma (GED) or high school completion certificate. Traditional undergraduate students were generally able to direct most of their energy toward their studies; while nontraditional students had a multitude of responsibilities that
competed with school for the student’s time, energy and financial resources (Ellis, 2019; Travers, 2016). Because of these responsibilities and the competition for their time, nontraditional students were statistically more vulnerable and at-risk of program incompletion (NCES, 2019). Based on 2017 data provided by The United States Census Bureau as cited by Data USA (n.d.) and the American Association of Community Colleges (2019), most medical assisting students identified with one or more of the nontraditional student descriptors.

Administration and faculty at community colleges have worked to make secondary education more accessible to nontraditional students by offering programs with a quick turnaround (time from enrollment to graduation) and more online classes and online programs (Ellis, 2019; Pelletier, 2010; Travers, 2016). Leaders and instructors within medical assisting programs followed this trend and converted many of their courses to online offerings. The clinical skills instruction remained face-to-face in clinical skills laboratories, but more recently many of the lecture-based courses shifted to online options (Atkins, 2019; Power & Cole, 2017). Travers (2016) found that the online movement to accommodate the nontraditional student benefited the student in its convenience and accessibility, but he reported that course completion rates were significantly lower in online courses than those same courses taught in the traditional format. He determined this low online course completion rate was, in part, connected to a student’s sense of isolation and a perceived lack of community. The online format negatively affected the dynamics of the educational community with a sense of isolation and less connectedness (Phirangee & Malec, 2017). In addition, the quick turnaround of the one- to two-year program, though desired by the non-traditional student,
decreased the classroom time and impeded the opportunities for relationship growth (Pelletier, 2010).

For nontraditional students, this need to feel connected was well-documented (Fettig & Friesen, 2014; Goncalves & Trunk, 2014; Lanford, 2019; Phirangee & Malec, 2017; Travers, 2016). A student’s sense of place within the institutional community, within their peer community, and in their relationships with faculty were important in student retention (Fettig & Friesen, 2014; Goncalves & Trunk, 2014; Travers, 2016). The addition of video in both the face-to-face clinical skills laboratory and the online courses might be a solution to the sense of isolation and separation felt by nontraditional students. Within chapter 2 of this paper, examples of how the research could be applied will be presented through example assignments. Video recording could be used effectively in both components (the clinical skills laboratory and the online courses) of the medical assisting program and may address the need for greater connectedness and the cause of the decline in graduation rates.

Goncalves and Trunk (2014) found that increases in a student’s sense of belonging, connection, and community, were associated with higher retention rates. Fettig & Friesen (2014) identified that socialization and building bonds engaged students and improved retention rates. Lanford (2019) encouraged the establishment of relationships within the community of peers and faculty to reduce “exit points” for students. Exit points are circumstances under which students leave or remove themselves from a program, class, or institution (Wisconsin Department of Public Instruction, n.d.).
Establishing an increased sense of belonging, connection, and community created bonds; however, those relationships and bonds were difficult to cultivate when many of the courses were transitioned to an online format (Brock, 2010; Travers, 2016; Phirangee & Malec, 2017). Video has the potential to increase student-to-faculty and peer interaction, provide additional opportunities for valuable feedback, and allow group work through recorded simulated exercises (Ali et al., 2011; Cooper & Higgins, 2014; Domuracki, Wong, Olivieri, & Griersen, 2015; Ellis, 2019). An increase in communication, feedback, and interaction between students and instructors through video recording of clinical skills simulations, might build a greater sense of community that could increase retention and graduation rates for medical assisting programs.

**Statement of the Problem**

There is a significant decline in the graduation rates of medical assisting programs and the need for more medical assistants continues to grow. Instructors are looking for alternative teaching methods to assist their students to graduation. The majority of MA students identify as nontraditional students. Busy nontraditional students require programs with a short academic turnaround (enrollment to graduation) and online options. To accommodate the needs of the nontraditional student, many healthcare instructors maintain the face-to-face clinical skills laboratory to teach the psychomotor component of the competencies (Medical Assisting Education Review Board, 2009), but have transitioned the lecture-based classes to online options (Atkins,
2019; Power & Cole, 2017). With short duration programs (one to two years) and an increase in online learning, the sense of community and engagement decreased (Travers, 2016). Retention, successful program completion, and satisfaction dropped when students felt unsupported and isolated (Goncalves & Trunk, 2014; Travers, 2016). Most nontraditional students need the convenience and flexibility of online learning and the ability to enter a program and complete it in an expedited manner (Travers, 2016), but for improved student success and retention, instructors need to consider ways to build the sense of community that may be lost as they deliver greater portions of instruction in an online format (Brock, 2010; Ellis, 2019). Could video recording of clinical skills work to build and strengthen bonds between students and instructors and create an additional area for experiences, communication and interaction?

Significance of the Study

Healthcare practitioners are in great demand. That demand is magnified in the medical assisting field where the need far exceeds the current supply and the need is forecasted to increase significantly as the population of the United States ages (Bureau of Labor Statistics, 2019). By the year 2028, the BLS (2019) projected the need for medical assistants would increase by 23% or 154,900 more jobs. Based on the projected needs, MA programs would be challenged to graduate more students and still maintain the quality of healthcare practitioners required by patients, providers, and national standards. However, the number of medical assistants was in a decline between 2011 and 2013 when the number of new medical assistant graduates dropped 25% (Atkins, 2019). In part, this was due to low graduation rates (58%) for medical assistant programs in the United States (NCES, 2019).
Improved program completion and graduation rates would assist in providing a greater number of trained MAs and might be attainable through the fostering of a better sense of community (Goncalves & Trunk, 2014; Phirangee & Malec, 2017; Travers, 2016). An increase in interaction among students and between students and their instructors through the use of video could build a greater sense of community that might increase retention and graduation rates for medical assisting programs.

Purpose of the Study

Included in this literature review are findings related to student retention and building a sense of community. Information was included related to the potential benefits of implementation of video recording in healthcare education. Specific interest was paid to nontraditional students, community colleges, and retention and graduation rates. This might be generalizable and applicable to similar educational programs that instruct online with face-to-face teaching of technical, hands-on skills. By creating a sense of community and belonging through video, community college MA programs might improve program retention and program completion and graduation rates.

Definition of Terms

Alternative teaching methods: simulation, virtual/augmented reality, and thoughtfully integrated technology (Francis & O’Brien, 2019).

Clinical skills laboratory: a safe and protected environment in which the learner can practice clinical skills under the guidance of an instructor before their use in a real clinical setting (Abdulmohsen, 2007).


Geriatric: an aged person (Dictionary by Merriam-Webster, n.d.).

Injections: insertion of a hypodermic medical needle into a specific location into or beneath the skin to inject liquid or medicine (The Free Dictionary, 2019).

Medical assistant: a healthcare professional who works alongside physicians, mainly in outpatient or ambulatory care facilities, such as medical offices and clinics (American Association of Medical Assistants, 2019).

Nontraditional student: An adult student who possesses one or more of the seven possible characteristics. Nontraditional students often are older than typical college age, attend school part-time, are independent of parents, work full time while enrolled, having dependents, are single parents, and are recipients of GEDs or high school completion certificates. (NCES, 2019)


Traditional teaching method: face-to-face, lecture-based curriculum which uses textbooks, self-instruction and live demonstration (Cooper & Higgins, 2014).

Traditional undergraduate: characterized as someone who earns a high school diploma, enrolls full-time immediately after finishing high school, depends on parents for financial
support, and either does not work during the school year or works part-time (Ellis, 2019; NCES, 2019; Pelletier, 2010).

Venipuncture: surgical puncture of a vein, to draw or collect blood specimens (The Free Dictionary, 2019).

Vital signs: a basic, non-invasive test of blood pressure, temperature, respiration, pulse, height and weight. For pediatrics, this may involve head circumference (The Free Dictionary, 2019).

Delimitations of Research

This study included peer-reviewed articles with the majority published between 2010-2019. The information was gathered through the online search tool EBSCOhost provided by the University of Wisconsin-Platteville’s Karrmann Library. The search was conducted from May 2019 – November 2019.

Method of Approach

considerable information with regards to video recording and building community was accessible within the literature review. A brief review of EBSCOhost of the terms “retention” and “nontraditional student” resulted in articles that dated back to the 1960s. Focus was placed on articles that were published after 2010 unless it was specific to requirements by medical education review boards. A brief review of the recent research and meta-analyses (2010-present) associated with nontraditional students, building community, and the implementation and integration of video recording into clinical skills laboratory was conducted. The information spanned conventional, current practice, and forefront educational methods with specific interest in student retention related to building a sense of community. Initially, the search terms included “nontraditional
students”, “clinical skills”, “retention”, “community college” and “online education”. The search terms grew to include “video and video recording” paired with “nontraditional student” and “sense of community” or “sense of belonging”; “community college” and “nontraditional student”; “video recording” and “instructor feedback”, “video recording” and “clinical skills”. These pairings produced a collection of valuable literature related to the importance of the sense of community for student success and the possible benefits of video recording. The data is summarized and synthesized in Chapter 2 of this paper. Conclusions and recommendations are included in Chapter 3.
Chapter Two: Review of Related Literature

Introduction

The average graduation rate for students in Medical Assistant programs was 58.8% in the United States in 2018 (NCES, 2019). Because of this low graduation rate, there was a significant loss of potential MAs who were available to enter the workforce. Improvement in the graduation rates of these students could increase the number of medical assistants available to be employed by over 40%. To address this loss of potential medical assistants, the needs of the student population of medical assisting programs should be acknowledged and instructors should consider how they can support this population to successful program completion. As presented by NCES (2019), the predominant population of medical assistant students were nontraditional students who met one or more of the following descriptors: were older than typical age, attended school part-time, were financially independent of parents, were employed full-time while enrolled in school, had dependents, were single parents, and earned a GED or high school completion certificate (NCES, 2019). Compared to traditional students, nontraditional students tended to have more external commitments and were less available to interact with faculty and become involved in collaborative experiences outside of class (Goncalves & Trunk, 2014; Travers, 2016). Though nontraditional students typically did well in a single course and persevered to complete a course, they had very low retention rates in program completion (Brock, 2010; Ellis, 2019). Fettig and Friesen (2014) attributed the high attrition rate of nontraditional students to the lack of a supportive learning environment and lack of a sense of community within their programs and schools. The quick turnaround from enrollment to graduation of the
community college programs and the push toward online learning might have fit many of
the nontraditional student’s needs but fell short when it came to the need to feel like
they belonged (Brock, 2010; Ellis, 2019).

Rather than attempt to control or eliminate the external influences faced by the
nontraditional student, instructors can focus on what can be manipulated. Instructors
can continue to teach online classes, but work to change the educational environment,
instructional methods, and how information is delivered and received (Hurtubise, Martin,
Gilliland, & Mahan, 2013). Through video, instructors could individualize instructor-to-
student feedback and collaboration and promote student-to-student interaction through
simulation, support, collaboration and feedback.(Fettig & Friesen, 2013). This has the
potential to increase that sense of belonging that might be a key element to improve
program completion rates.

In order to illustrate how the use of video recording in instruction might build
community, assignment examples are presented in this chapter. In these examples,
video recording is used in both the face-to-face skills laboratory and the online
classroom. By looking at individual assignments across both formats of the educational
program, the benefits of video recording in the medical assistant program can be
recognized.

Use of Video Recording in Health Care Education- Best Practices

Through review of the research, 4 areas have been identified as instructional
practices that might help non-traditional students be more successful in MA programs
by helping them feel more connected through the use of video recording. The research
related to these best practices is included in this section along with a short description of how this research can be put into practice using video recording as an instructional tool. According to the research found in this literature review, instructors should consider the following best practices related to the use of video recording as part of a healthcare education program to increase student success and to promote higher program completion rates.

- Be intentional to build a sense of community and connectedness between students and between the students and their instructors (Brock, 2010; Fettig & Friesen, 2014; Goncalves & Trunk, 2014; Phirangee & Malec, 2017; Strand, Gulbrandsen, Slettebo, & Naden, 2016; Thompson, Miller & Franz, 2013; Travers, 2016).
- Provide regular opportunities for peer interaction and peer feedback (Brock, 2010; Fettig & Friesen, 2014; Strand et al., 2016).
- Increase the number of times a student views important practical skills for better skill development (Ali et al., 2012; Francis & O’Brien, 2019; Grierson, Barry, Kapralos, Carnahan, & Dubrowski, 2012; Lockwood, Compton, Green & Rasmussen, 2018; Mehrpour, Aghamirsalim, Motamed, Larijani, & Sorbi, R., 2012; Power & Cole, 2017).
- Provide individualized, specific feedback for proper skill development (Aper, Reniers, Koole, Valcke, & Derese, 2012; Fettig & Friesen, 2014; Francis & O’Brien, 2019; Grierson et al., 2012; Maloney, Paynter, Storr & Morgan, 2013; O'Donovan, & Maruthappu, 2015; Sanderson, Kearney, Kissel & Salisbury, 2016; Strand et al., 2016).
Intentionally build community through use of video recording- research to practice.

Historically, healthcare students and instructors relied on textbooks, lectures, manuals, self-instruction and live demonstration for educational support and skills development (Cooper & Higgins, 2014; Lockwood, 2018; Rutt, 2017). Learning clinical skills by lecture and live demonstration “has long been recognized as a successful and well-researched instructional method” (Cooper & Higgins, 2014 p.769). Though many lecture-based classes have transitioned to online, healthcare instructors frequently maintain the face-to-face skills demonstrations and patient simulation to teach the psychomotor component of the competencies (Francis & O’Brien, 2019; Grierson et al., 2012; Heinrichs, Cattano & Morrison, 2013; Medical Assisting Education Review Board, 2009; Power & Cole, 2017; Sanderson et. al.2016). By maintaining the face-to-face skills laboratory portion of the program, the foundation for community could start here with a conceptual video assignment that begins in the clinical skills lab and transitions into the online portion of the medical assistant program.

Based on research from Goncalves and Trunk (2014), connection occurred through student-to-student interaction and shared experiences. They found that group work brought students together in their experiences and helped them relate to one another in their common learning. Strand et al. (2016) identified the value of interaction through simulation and imitation with peers. They described the importance of shared experiences in promotion of sociocultural interaction, peer counseling, and a perception of closeness.
How can this research be used to inform instructional practice? Assignments that are designed to build community, enhance student interaction, and promote group work could include peer partnerships to role-play and record a simulated patient encounter. Students would take the roles of the healthcare worker (MA), the patient, or the videographer. They would create and simulate a situation to incorporate demonstrations of the knowledge and skills acquired throughout the semester. In subsequent videos, students could layer and build their competencies as they include more skills and knowledge as the semester progresses. Together, members of this small group could create community while each member of the group assumes a different role for each role play video. With the use of new scenarios and the potential to mix with other groups, the community has multiple opportunities to grow. Students could discuss, collaborate, and work to develop their best practices and error-free skills, and then submit a presentation approved by the group members. Each recorded scenario assignment could then be extended and integrated to the online portion of class. The next phase of this proposed assignment would be to review and provide feedback of the performed skills. Peer-to-peer evaluation and feedback has the potential to continue the common learning and shared experiences.

**Use peer feedback to build community- research to practice.**

In his qualitative inquiry, Lanford’s (2019) nontraditional college students described their online education experiences in community colleges. The students found it to be “impersonal” and the environment left them feeling “detached” (Lanford, 2019 p.510). Both Lanford (2019) and Travers (2016) explained that for the nontraditional student, the decision to remain in school or withdraw was significantly
influenced by interactions with peers and instructors. A sense of place, of community, and how they fit into that community were important to retention of the nontraditional student.

Peer interactions both within and beyond the classroom increased the likelihood of students’ persistence through college (Brock, 2010; Ellis, 2019; Fettig & Friesen, 2014). Strand et al. (2016) and Lanford (2019) argued that nontraditional students were positively and profoundly impacted by the receipt of useful and actionable feedback from peers. Peer interactions and relationships impacted a student’s progression through coursework and on to program completion. For this reason, it might be helpful for MA instructors to incorporate peer feedback as a regular practice in MA programs.

To apply this research to instruction in MA programs, an instructor might consider incorporation of activities such as those described here. After groups of students have recorded patient interaction simulations, the video recordings could be submitted for peer feedback from members of other groups. This activity could provide the opportunity to continue to develop relationships through planned communication between students. After the students have reviewed the video recordings, they can provide meaningful peer feedback using specific criteria provided by the instructor. To give feedback on both the flawless and the flawed portions of the demonstrations not only could provide further opportunity for peer relationships and community, but there are other potential benefits to incorporation of this practice in the education of MA students as well.

**The benefits of repeated observations- research to practice.**
According to Francis and O’Brien (2019), Mehrpour et al. (2012); and O’Donovan and Maruthappu (2015), students benefitted from the observation and repetitive examination of clinical skills demonstrations. They found that whether students viewed their own video recorded skill or a peer video, the repeated viewing and examination (specifically examination while providing actionable feedback) improved their own skill performance. Peer review and feedback can occur either in a face-to-face learning environment or in an online environment. Online assignments might be more desirable for the nontraditional student (Poon, 2013). This feedback should be specific to the knowledge and skills taught and practiced. Meaningful critique would not only benefit the student being assessed but also the assessor. Fettig and Friesen (2014) noted that when students reviewed the demonstrated performance and gave actionable feedback to peers, it grew the student’s own competence and their peer partnerships. The shift from instructor-centered to student-centered instruction helped students become engaged, active and interactive learners (Poon, 2013). However, Domuracki et al., (2015) emphasized the need for faculty interaction and feedback in order to recognize and confirm the peer feedback and to differentiate between best practice and error-filled performances. Aper et al. (2012) corroborated this and stated that without the feedback and correct perspective from an instructor, flawed performances had the potential to be adopted by the novice learner as best practice. The quality and frequency of both peer and instructor interactions and feedback shaped a student’s experience and their academic outcome (Brock, 2010; Ellis, 2019; Phirangée & Malec, 2017). With proper instructor guidance, students who had the opportunity to repetitively watch video
recorded skills and provide feedback to peers performing those skills, solidified their familiarity with the skill and improved their own performance (Ali et al., 2012).

**The importance of instructor feedback – research to practice.**

Brock (2010) observed that individualized instructor interaction created the most effective way for students to gain the sense of community and connectedness with the college. Whether through online or face-to-face avenues, learners became more engaged when there was perceived collaboration with their instructors (Goncalves & Trunk, 2014). Travers (2016) echoed this and cited research from Leist and Travis (2010) where they considered the effect unengaged, impersonal instructor feedback had on a student. Whether instructors were inexperienced or overworked, the lack of guidance and individualized, prompt feedback led students to feeling distanced and cut off from their college community. In many instances, high student-to-instructor ratios led to fewer one-on-one interactions and a sense of rushed encounters with unprepared or underprepared instructors (O’Donovan & Maruthappu, 2015). A potential bridge for the creation of community between students and instructors exists in the use of video.

O’Donovan and Maruthappu (2015) found that video allowed teachers the extra time and opportunity for individualized, time-sensitive, thoughtful instruction and formative learner feedback. Video enabled instructors to tailor education to an individual student (Grierson et al., 2012). Through video, instructors could provide guidance, motivation, and counsel (Strand et al., 2016). Video was highlighted as a very basic, but favorable, enhancement to learning and promoted community outside of the classroom (O’Donovan & Maruthappu, 2015). This type of tailored feedback was linked with: increased feelings of belonging, increased satisfaction and motivation,
improved perception and self-esteem, improved attitudes, increased confidence, decreased anxiety and stress (Hammoud, Morgan, Edwards, Lyon & White, 2012; O’Donovan & Maruthappu, 2015) and culminated in the increased sense of community which was found to improve retention rates (Travers, 2016).

In the MA educational program, after the peer review, the recorded simulation of the clinical skills event could be submitted to the instructor. Through remote communication of the online portion of the class, the student could receive detailed and personalized feedback from the instructor. The students could then be invited to respond which would provide an opportunity for dialogue (and connection) between students and faculty. Dialogue and personal interaction can enhance the instructor and student collaboration that is so important in education and retention (Goncalves & Trunk, 2014). Instructor guidance and the quality and frequency of feedback contribute to the student’s educational satisfaction. It contributes to their perception of community, of engagement and belonging and ultimately is a predictor of their academic success (Brock, 2010; Ellis, 2019).

**Challenges**

Though highly recommended, adoption of video recording as a regular instructional tool had not yet crossed over into education of healthcare professionals in the years between 2012 and 2016 (Cooper & Higgins, 2014; Gomez, 2016; Grierson et al., 2012; Hurtubise et al., 2013). This might have been true for various reasons.
Gomez (2016) pointed out that technology had the tendency to make many educators uncomfortable and their teaching life more difficult. It might have demanded skills that teachers hadn’t developed and might have required further education and professional development (Gomez, 2016). Hurtubise et al. (2013) described adoption of video in education as “placing high-level demands” on instructors. The history of success with traditional teaching methods reinforced the instructor’s comfort with the face-to-face experience and environment (Gomez, 2016; Wilke, King, Ashmore & Stanley, 2015). However, Cooper and Higgins (2014) and Hurtubise et al. (2013) encouraged the growth, advancement, and continued education of instructors to adopt video technology into their classrooms for student benefit.

There were further challenges with implementation of video recording into the clinical skills laboratory. If curriculum was not well-designed, video recording and cameras may have caused anxiety and stress to students and may have led to an impedance in their ability to learn (Strand et al., 2016). Students might have had negative thoughts about themselves and video-recorded images may have intensified those perceptions. In some cases, this led to poorer critiques of themselves based on negative self-images (Strand et al., 2016). If video was implemented without proper instructor feedback and guidance, some students might have misinterpreted or accepted inaccurate self or peer feedback and adopted poor clinical techniques (Aper et al., 2012; Domuracki et al., 2015). Though video implementation must be thoughtfully integrated, and obstacles could be encountered, the potential to build community and create connections between students and their peers and students and their instructors
is compelling and might lead to improved student retention and ultimately higher graduation rates.

**Summary**

The future need for healthcare practitioners is predicted to exceed the supply. Though this is a concern for many healthcare professions, there is predicted to be an exceptional disparity between supply and demand for medical assistants. To add to that concern, the number of graduates from medical assisting programs has been in decline since 2011. The goal of this study was to look at how community and a sense of belonging might improve retention rates and how this might be done with the addition of video in the medical assisting clinical skills laboratory.

An important portion of the research, which should be noted, is the finding that both peer and instructor feedback regarding videotaped skills demonstrations were vital to skill development and the feeling of connectedness that nontraditional students needed. Though peer review and feedback were found to be beneficial for building community, appropriate skill development might not have occurred without instructor feedback. Individualized instructor feedback is recommended for accurate, proper clinical learning.
Chapter Three: Conclusions and Recommendations

The aim for this study was to determine a potential cause for the decline in graduation rates of medical assisting students and to find a means to positively influence those rates. As community colleges look to make education more accessible to the nontraditional student, a greater number of classes have transitioned to an online format. With this change to online instruction, the potential for collaboration and connection between students and between students and their instructors might decrease and the sense of community might be more difficult to attain. It is known that community and a sense of belonging lead to improved retention rates. Video recording might be the bridge to connect students to this sense of community both within the face-to-face clinical skills laboratory and the online classroom. Video is not a new educational tool, but it continues to be under-utilized in healthcare education. Through video recorded group work, simulation, peer and instructor feedback, there exists the potential for a myriad of assignments both in and outside of the classroom to create community. Example assignments were presented within this paper. Based on recent research, video recording may increase student-to-student and student-to-instructor interaction leading to collaboration, engagement, and a deeper sense of community. Ultimately this sense of community might positively affect the retention rates and graduation rates of medical assisting students. However, video recording with peer feedback alone might not provide desired positive results if educational activities and instructor feedback are not structured in a thoughtful and considerate way. Students can be intimidated by recordings of themselves and negative thoughts could undermine
their learning. It is also necessary to be guided by the instructor with thoughtful and formative feedback to promote proper clinical skill development.

Future researchers should consider the potential effects video has on instructor workload. There is the possibility of workload increase and time constraints which may be dependent on class size. The addition of peer feedback would lessen the workload; however, the importance of instructor feedback and collaboration is significant. Faculty need to be solidly engaged and involved to implement video into the clinical skills laboratory.

Video recording can promote a greater sense of community and belonging and may positively influence students' success and the graduation rates of medical assisting programs. To address the continued decrease in graduation rates for medical assisting programs, video should be considered as part of the medical assisting clinical skills laboratory educational experience.
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