
EVALUATION OF CONTENT DELIVERY MODALITIES TO SUPPORT HEALTH MANAGEMENT EDUCATION

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ABSTRACT

The Commission on Accreditation of Healthcare Management Education (CAHME) has recently eliminated the 120-hour requirement of synchronous education as an eligibility requirement for any program seeking to achieve and maintain accreditation. This change provides an opportunity for graduate programs to pursue CAHME accreditation via a wider range of educational modalities, but naturally leads to a question of which modality is most suitable for delivering value to the various stakeholder groups involved with health management education.

Thus, the purpose of this systematic review was to evaluate the literature attributed to synchronous, asynchronous, and blended educational modalities, and compare their potential value among students, faculty, and employers. To date, no studies to our knowledge have examined the specific question of perceived value of content delivery modality among stakeholders within the healthcare administration field. Following an extensive literature search of over 500 articles, our final analysis included a review of 33 documents that met our inclusion criteria. Of the 33 articles, 24 discussed student performance, 15 discussed student perception, and 7 discussed employer perception. Our results generally indicate student and faculty perceptions are mixed on the value of each modality, but most employers and employee gatekeepers believe that educational programs should have a synchronous component within the curriculum.

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INTRODUCTION

Fueled by fluctuations in the economy, increased technological competence, fast-paced lifestyles, geographic dispersion, and the need for workers to possess new skill sets and credentialing, the demand for online degrees has grown dramatically over the past decade (Columbaro & Monaghan, 2012; Kiviniemi, 2014; Brown & Park, 2016). Methods in distance learning have grown from their infancy of the correspondence course format to today's technologically advanced capabilities of educational platforms in asynchronous web-based environments and synchronous video-conference classrooms. The increased accessibility that online education technology provides has led to large-scale global access to courses and degree programs (McCutcheon, Lohan, Traynor, & Martin, 2015). A 2015 study by the Babson Survey Research Group states that a total of 5.8 million students in the United States are involved in distance education, with 2.85 million taking all of their courses online. Furthermore, the 2015 growth rate for online courses was 3.9%, up from 3.7% in 2014. Additionally, 63.3% of academic leaders claim that online learning is critical to their university's long-term strategy (Allen & Seaman, 2016). This growth and change in the educational landscape has many implications for students, universities, employers, and accreditors, yet many questions remain regarding the effectiveness and value of online instruction compared to traditional forms of face-to-face (F2F) education.

A key question in this study is the impact of educational modality on student competency development. With the growing number of fully online programs, academic and industry leaders, to include accrediting bodies, are questioning the differences (if any) among synchronous, asynchronous, or blended modalities in achieving educational outcomes. Some accrediting bodies such as the Association to Advance Collegiate Schools of Business (AACSB), the primary Master of Business Administration (MBA) accreditor, and the Council on Education for Public Health (CEPH), the nationally recognized accrediting body for both schools of public health and public health programs, fully accredit asynchronous programs in addition to traditional ones. The Association of University Programs in Health Administration (AUPHA) also certifies both fully online and traditional programs at the undergraduate level. The Commission on Accreditation of Healthcare Management Education (CAHME) has recently eliminated the 120-hour requirement of synchronous education as an eligibility requirement for any program seeking to achieve and maintain accreditation.

Although numerous authors have considered the matter of online education as a pedagogical tool within the healthcare management field over the past several decades, the evaluation of perceived value among all stakeholders remains

largely untouched (Hewitt, Mast & Zimmerman, 2015). A primary indicator of value among educational program stakeholders is student competency attainment. Thus, the primary purpose of our study was a systematic review of the literature pertaining to competency development for post-secondary educational programs based on learning modality. Our initial search yielded few studies on this educational outcome. Thus, we expanded our outcomes to include those found in the literature which could be grouped into three main categories: student outcomes, student perceptions, and employer perceptions. Modalities included in this study are synchronous, asynchronous, and a blend of synchronous and asynchronous. Synchronous learning includes the traditional F2F classroom learning or online learning occurring at the same time and where meaningful interactions between instructors and students occurs via digital technology (live-streaming webinars, video-conferencing, online discussion, etc.). The asynchronous modality includes learning that does not occur at the same time. Examples of asynchronous learning may include pre-recorded lectures or videos and other learning not occurring in real time. The blended learning modality may be any combination where both synchronous and asynchronous modalities are present.

In this systematic review, special attention was devoted to performance and outcome-based measures such as knowledge gain, exam scores or grades, demonstrated skills, etc. In our opinion, outcome-based measures more closely align with competency development. Additionally, due to potential bias inherent within perceptions, attitudes, or beliefs of students and faculty, this was not the focus of our study.

METHODS

Consistent with Booth (2006) and Petty (2013), we utilized the STARLITE framework to screen and evaluate articles for inclusion in this study. STARLITE is a mnemonic associated with the sampling strategy, type of study, approaches, range of years, limits, inclusion and exclusions, terms used and electronic sources (see Figure 1). Our sample screening strategy focused on all studies concentrating on comparative outcomes-based research from asynchronous and synchronous learning modalities in post-secondary education (undergraduate and graduate). We included all types of research methods in our analysis including qualitative, quantitative, mixed methods, meta-analyses, and literature reviews. We excluded studies that did not examine performance outcomes, were exclusively focused on skill-based learning, and/or were drawn from non-university education (e.g., training courses, K-12 education, etc). Searches were performed within the Trinity University's and Baylor University's OneSearch, PubMed, JSTOR, and EBSCO databases

including publication dates between January 2008 and January 2018. The publication country was not restricted. However, all articles were required to be written in English. Our initial search was formatted as: (online and face to face learning) AND (student performance) AND (comparison) AND (skills) AND (asynchronous) AND (synchronous).

As shown in Figure 2, our initial search resulted in 578 articles requiring systematic screening. Subsequent application of the primary screening criteria excluded 528 articles leaving 50 articles available for secondary review. Our secondary exclusion review excluded an additional 17 articles. Five of these articles were based upon hands-on skill development or teaching specific medical techniques such as oral radiology. After further review, seven of these articles did not meet our comparison study qualifications. Five additional articles based their performance outcome comparison exclusively on student grades, a variable we considered inadequate to accurately portray a significant difference in student outcomes and subject to bias from a number of confounding factors including student motivation, professor bias, and field of study.

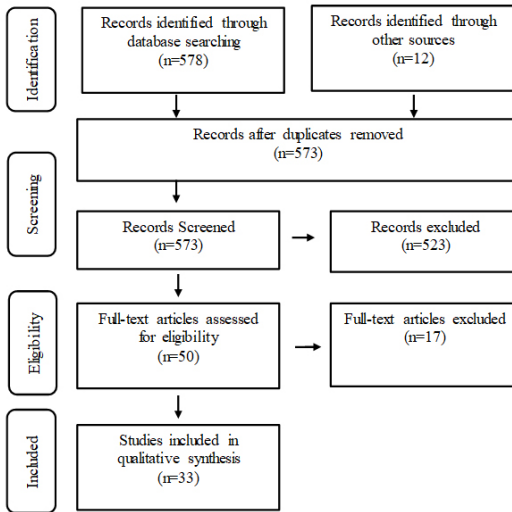
Figure 1

The STARLITE framework

S	Sampling Strategy	Comprehensive review of all relevant studies surrounding asynchronous and synchronous learning modalities.
T	Type of Study	Educational research for qualitative, quantitative, and mixed methods, to include meta-analyses and literature reviews.
A	Approach	Electronic database searches with citation snowballing for secondary sources.
R	Range of Years	Articles included were from January 2008-January 2018.
L	Limits	Publishing country was not restricted, however all articles were required to be written in English.
I	Inclusion & Exclusion	<p><i>Inclusion:</i></p> <p>Post-secondary education: Undergraduate/Graduate</p> <p>Outcome-based research: Studies must look at outcomes from at least two instructional approaches for comparison</p> <p>Comparison studies: Studies must compare outcomes between the two instructional approaches</p> <p><i>Exclusion:</i></p> <p>Student performance comparison: Studies that did not look at performance outcomes</p> <p>Skill-based learning: Studies only looking at specific hands on skills competency</p> <p>Non-university education: Studies comparing modalities within training courses, weekend courses, or K-12</p>
T	Terms Used	Asynchronous, synchronous, face-to-face, traditional learning, online, competency, outcome-based, perception (employer, faculty, student), performance, blended.
E	Electronic Sources	PubMed, Baylor University's OneSearch, JSTOR, EBSCO

Figure 2

Inclusion and Exclusion review process



RESULTS

Completion of our review and analysis of all articles yielded results consistent with our primary stakeholder groups and aligned in three broad themes: student performance, student perception, and employer perception. Detailed analysis for each article is summarized in Figure 3.

Figure 3

Inclusion & Exclusion review process, summary analysis

Student Performance <i>n</i> =24 studies	Student Perception <i>n</i> =14 studies	Employer Perception <i>n</i> =7 studies
<u>Measurements:</u> Exam	<u>Measurements:</u>	<u>Measurements:</u>
Grades	Satisfaction	Credibility of Degree
GPA	Self-Efficacy	Quality of Education
Final Course Grade	Effectiveness of	Effectiveness of Education
Practicum Assessment	Knowledge Transfer	Hiring Desirability
National Boards	Retention Rates	
Group Projects	Group Projects	
<u>Findings:</u>	<u>Findings:</u>	<u>Findings:</u>
No significant difference: 14	No significant difference: 5	No significant difference: 1
Pro Face-to-Face: 4	Pro Face-to-Face: 2	Pro Face-to-Face: 4
Pro Blended: 3	Pro Blended: 5	Pro Blended/Mixed: 2
Pro Asynchronous: 3	Pro Asynchronous: 2	Pro Asynchronous: 0

Student performance

Within the selected studies there were 24 articles pertaining to student performance. These articles drew primarily from mixed methods used to measure and compare student performance within synchronous, asynchronous, and blended environments. A review of the relevant studies reflects 14 works that found no significant difference, 4 were pro F2F, 3 were pro-online, and 3 were pro-blended.

Brown and Park (2016) conducted analysis on Master of Social Work (MSW) students' knowledge after course completion. Examining 32 F2F and 16 online students, no significant difference was found between both modalities directly after the class or one year after the class. In addition to student performance, Brown and Park provided evidence for similar knowledge retention between both modalities. Girard, Yerby, and Floyd (2016) analyzed a Bachelor of Science in Management capstone course with 82 online and 84 F2F students. Utilizing an assessment tool nested in the programs core competencies this research tested if there was a difference in knowledge outcomes between the two modalities. There was no significant difference between either modality when comparing assessment scores earned. Unlike Brown and Park (2016),

Girard et al. (2016) utilized a standardized assessment across a multitude of management classes instead of comparing student performance to test scores or overall GPA. Furthermore, Biel and Brame (2016) conducted a literature review of 13 articles pertaining to the effectiveness of online and traditional modalities in undergraduate biology courses. Like our results, the majority of their literature (9) found no significant differences between the modalities while the other 4 were split evenly between pro traditional and pro online. Biel and Brame (2016) were unique in defining online as a course having 80% of the curriculum fully asynchronous. Although this follows the standard Babson definition of online education, many articles did not define what percentage declared the course "online." Ni (2013) examined 3 online and 3 F2F research methods classes in a Master of Public Administration (MPA) program measuring student performance through "learning effectiveness." After analyzing 81 online and 72 F2F students on final grades, the study found that student performance is independent of mode of instruction, but some courses may be more effective in a traditional environment. McCutcheon et al. (2015), in a mixed methods systematic review of 19 articles, found that no significant difference existed between traditional or online modalities within undergraduate nurse clinical skills. Aper, Reniers, Koole, Valke, and Derese (2012) also found that there was no significant difference in medical student cognitive development of consultation skills between either modality. The authors do however reiterate the importance of the traditional approach since students have an experienced physician to directly answer any questions. However, Raupach, Münscher, Pukrop, Anders, and Harendza (2010) analyzed 74 fourth-year medical students in a cardiorespiratory class taught in both the asynchronous online and traditional environments, and found that final course exams were significantly higher for the 40 asynchronous students.

Conversely, Callister and Love (2016) examined the question of whether skills-based courses can achieve similar outcomes in both traditional and online environments. After examining 76 online and 58 F2F students taking a negotiation skills class within a master's degree program at a large public university, no significant difference in exams or final grades were evident. However, although students were found to master negotiation content similarly in each modality, they did not master the skill of negotiation evenly. Traditional F2F students outperformed online students in a F2F business negotiation and a virtual job negotiation practicum. Thus, traditional students outperformed online students even when technology was held constant.

Kemp and Grieve (2014) found no significant difference when comparing student performance between online and traditional formats within an Australian university. However, they concluded that there were benefits within both

modalities and the extent of those benefits differed among different types of students. Thus, Kemp and Grieve recommend pedagogical course development centered around the combination of both modalities. This is supported by Demirer and Sahin (2009) and Kavadella, Tsiklakis, Vougiouklakis, and Lionarakis (2012) by their research stating that students perform higher in blended modalities rather than the traditional setting. Kavadella et al. (2012) studied final-year dental students (23 F2F/24 blended) and found a significant difference comparing mean grades of post-knowledge tests with blended outperforming the traditional modality. Demirer and Sahin (2009) analyzed 44 undergraduate students in Turkey with 22 in a blended class and 22 in a traditional class. They concluded that the blended cohort was more effective in transferring their learning through multimedia projects. Evans et al. (2016) assessed first-year Stanford University medical students taking a Quantitative Medicine course, with 78 examined from a 2011 traditional course and 101 examined from a 2013 piloted blended course, and found no significant difference in final exam scores. Mu, Coppard, Bracciano, and Bradberry (2014) also found no significant differences when examining 81 F2F students and 13 blended students from an occupational therapy doctoral program. Not only did this study analyze student performance pertaining to GPA, but also analyzed both national board and certification exams. Although the sample size for the hybrid program was small, no significant difference was apparent with any student performance measurements. Similarly, Elmer, Carter, Armga, and Carter (2016) compared an undergraduate physiology lab class in both blended and traditional modalities. Although the sample size was low at 16 for class one and 17 for class two, the authors conducted a randomized crossover design for evaluating student performance. In comparing both modalities, Elmer et al. concluded that there were no significant differences in student performance for either modality.

The studies above did not take into consideration the important variable of student aptitude. In analyzing an undergraduate histology class, Barbeau, Johnson, Gibson, and Rogers (2013) found that foundational course grades were a strong predictor of performance, but revealed no significant difference in student performance between online and traditional F2F when controlling for foundational course grades. However, it must be noted that the online course analyzed allowed students to choose asynchronous or synchronous lectures. In a robust study of 198 F2F and 170 online students, Driscoll, Jicha, Hunt, Tichavsky, and Thompson (2012) found no significant difference between modalities after adjusting for student aptitude. Their initial results concluded that students performed better within a traditional modality, but decided to control for student aptitude based upon a selection bias because

smarter students typically choose F2F learning. Conversely, Detwiler (2008) found that students in a blended modality performed better than traditional students in an undergraduate Geographic Information Systems (GIS) class. However, when taking student aptitude into consideration, no significant difference was found between modalities. Lu and Lemonde (2013) focused on comparing student aptitude to student performance across both online asynchronous and traditional modalities within an undergraduate health science program. They concluded that lower performing students performed better in a traditional environment whereas the higher performing students' performances were equitable between modalities. This implies that online asynchronous modalities can be as effective as traditional modalities for higher performing students. Countering Lu and Lemonde's findings, an analysis of 66 Master of Public Health (MPH) students, of which 38 were F2F and 28 were enrolled in blended formats, Kiviniemi (2014) found that a blended modality was more effective even after controlling for student aptitude. Verhoeven and Wakeling (2011) challenged the student aptitude variable by demonstrating that students performed worse in the blended modality compared to a traditional modality, regardless of aptitude. Their conclusion could further support both Ni (2013) and Callister and Love's (2016) conclusions that only certain types of classes are effective when taught in an online environment. Sohn and Romal (2015) conducted a meta-analysis of nine articles meeting their inclusion criteria regarding the efficacy of online and traditional modalities within economics courses. Their research concluded that student performance was better within a F2F traditional modality. However, they noted that identifying the specific factors that contribute to a difference in performance may alter the design of online classes. Larson and Sung (2009) completed a three-way comparison study of blended, F2F, and online learning modalities. They analyzed 63 F2F, 22 online, and 83 blended students in an introductory information management systems course. They found no significant difference in student performance among any modality. Validating Sohn and Romal's study, they conclude that many factors beyond modality play into student performance, including course design, selection of the right content, instructor/student interaction, and student motivation. Furthermore, they conclude that students adapt to the modality given to them rendering the modality variable unimportant.

Student perception

Many articles analyzing student performance measures outlined in the previous section also compared student perception metrics such as student satisfaction, effectiveness or enhancement of learning, motivation or engagement, group

cohesion, and self-efficacy in the mastery of course materials. Additional student feedback was gathered in qualitative studies which illuminated both positive and negative characteristics of each learning modality. Finally, while not directly measuring student perception, retention rates may indicate acceptability of the modality for learning. A review of the relevant studies reflects five works that found no significant difference, two that were pro-F2F, five that were pro-blended, and two that were pro-online.

Several articles found student perceptions were inconclusive or equivalent between modalities. Brown and Park (2016) evaluated an asynchronous and F2F class on research methods (declarative knowledge) and found no significant differences in research self-efficacy between modalities within a Master of Social Work program. Driscoll, et al. (2012) found no statistically significant difference in student satisfaction between online and F2F modalities of an undergraduate sociology course. Additionally, a systematic review of 19 articles centered on the development of clinical skills in undergraduate nurse education found inconclusive results between student satisfaction and preference between F2F and online modalities (McCutcheon et al., 2015). Larson & Sung (2009) also found that online modalities were at least as good as F2F, specifically for stimulating interest, critical thinking, and motivating students to work at their highest level in the subject. They also found that faculty perceived blended classes with online discussions as richer with students participating more than F2F. Finally, Barbeau et al. (2013) compared a F2F to an online (asynchronous and synchronous) microscopic anatomy laboratory course. Student course evaluations did not show a statistically significant difference in scores between the modalities, indicating that the courses were considered effective and equivalent learning experiences by the students.

In the quasi-experimental study entitled *Grades, Student Satisfaction, and Retention in Online and Face-to-Face Introductory Psychology Units: A Test of Equivalency Theory*, the authors found that while student satisfaction was generally high in both F2F and asynchronous online modalities, group work was identified as the key dissatisfier in the asynchronous learners (Garratt-Reed, Roberts, & Heritage, 2016). Furthermore, they found that retention rates were lower in the asynchronous modality group when compared to the F2F group, possibly reinforcing negative perceptions by the students. Sohn & Romal (2015) also noted that online students had a higher dropout rate (30.3%) compared to F2F (21.4%).

Some articles found that students favored a blended or asynchronous modality compared to F2F. Kiviniemi (2014) found that student evaluations of the blended approach were very positive and the majority of students (83%) preferred the blended learning approach in the social and behavioral science

courses within the public health program. Raupach et al. (2010) noted that student motivation and participation was enhanced in the blended modality as students spent an average of three extra hours a week in the online module. Smith et al. (2015) found that the students in an online, synchronous counseling program course had a higher perceived efficiency of learning and favored it over the equivalent F2F course. Elmer et al. (2016) found that students reported viewing video demonstrations (asynchronous), when compared to assigned reading, greatly enhanced learning of the course material in Kinesiology & Integrative Physiology lab courses. Sajid et al. (2016) found satisfaction was high with blended learning in a Saudi Arabian medical program. De Jong, Vertegen, Tan, and O'Connor (2013) found that an asynchronous statistics course led to higher group cohesion, higher motivation, and overall satisfaction among student compared to the F2F course. Students reported that the asynchronous course was more interesting, they did not need an instructor to facilitate discussion, they learned much more from other students, and the quality of the course was good. The students also responded that they were pleased overall with the course. Conversely, Ni (2013) found that F2F was preferred over the online modality for a research methods class in a Master of Public Administration program, based on satisfaction rates of 100% and 83%, respectively.

Kemp & Grieve (2014) discussed student perceptions favoring online or F2F instruction. Students favoring F2F reported they felt more engaged in the classroom, preferred to receive immediate feedback. They did not wish to read others' comments on asynchronous discussion boards but rather preferred hearing fellow students' comments in class. Students favoring online learning perceived it as more convenient, having wider contributions and participation from all students, and providing more detailed responses with the extra time to respond and think about the content.

Employer perception

Findings suggest that there is ongoing argument about the perceived credibility and quality of online degrees within the employer community. Adams (2008) reviewed four national surveys about hiring practices and acceptance of degrees wholly or partially earned online for business, health professions, and academic hiring situations. The authors examined gatekeeper acceptability of the college degrees earned online and not just the values of online learning. They found that gatekeepers viewed online degrees as less desirable than traditional F2F degrees due to less student interaction with professors and peers, which respondents viewed as being an essential part of education. Academic rigor and reputation of the university were also found to contribute

significantly to the perception of a quality education, but F2F was thought to contribute more. However, participants commented that online courses are more acceptable for training, certificates, and undergraduate classes. A review of the relevant studies reflects one work that found no significant difference, four which were pro-F2F, and two which were pro-blended. None of the studies were pro-online.

Several studies had similar findings with employer and gatekeeper perceptions of F2F being superior to online education modalities (Baker, 2016; Columbaro & Monaghan, 2008; Curran et al., 2017; Linardopoulos, 2012). Baker's (2016) literature review examined perceptions of students, faculty, administrators, and hiring recruiters. None of the groups in this study believe that online classes are as effective or provide the same level of quality education as F2F. Though Baker (2016) reported that recruiters for Certified Public Accountant prefer candidates with traditional F2F education, they found that recruiters for MBA candidates view online university education as equivalent to F2F degrees.

Columbaro and Monaghan (2008) conducted a seven-year review of six studies and found that employers view candidates who complete F2F degrees more favorably than those who complete online degrees. Gatekeepers reported an overall negative perception of online education. Reasons cited for their reluctance to accept online degrees included lack of rigor, lack of F2F interaction, increased potential for academic dishonesty, perceived relationship with diploma mills, and lack of commitment on the student's part due to not being sufficiently committed to education to attend a traditional campus.

Columbaro and Monaghan (2008) and Linardopoulos (2012) reported that although the perception still exists that F2F degrees are superior to online degrees, when study participants were shown resumes of hypothetical candidates, 98% expressed preference for applicants with comparable experience regardless of different degree types (online, hybrid, and F2F). They provided factors that could positively influence perception of online degrees, including: name recognition of the institution, level and type of accreditation, perception that online students are more disciplined, and relevant work experience.

Curran, et al. (2017) looked at employer perceptions of online Master of Social Work degrees compared to F2F degrees. Of the 332 study participants, 9.1% had previously hired a person with an online degree, 17.4% were unsure, and 73.5% had never hired someone with an online degree. Over half of the participants (57.4%) believed that online degrees were inferior to F2F. The most common reservation participants had about hiring individuals with online degrees involved a perceived lack of interpersonal interaction (i.e., that the online format potentially undermines the educational experience and hinders

learning outcomes). But 54.5% agreed or strongly agreed that students can develop effective practical skills though the online modality.

There were two studies of hiring managers and recruiters that had more positive findings with respect to perception. Mandelbaum (2014) conducted a survey of 31 hiring gatekeepers, including receptionists, human resource recruiters, and resume screeners, and asked their hiring preference of three hypothetical candidates based on education modality. Consistent with previously mentioned studies, hiring managers felt strongly that online degrees are not rigorous enough; 50% strongly agreed that methodology of the degree is irrelevant if the candidate has the necessary experience. Finally, Tabatabaei and Gardiner (2012) used a vignette experiment methodology with 82 Information System recruiters and found that, overall, recruiters perceive academic performance and work experience to be the most important factors in judging applicant attractiveness. Participants ranked four factors: work experience, academic performance, institution reputation, and education mode. There was no significant difference in applicant attractiveness responses based on education modality. Similarly, there was no evidence to suggest that whether a potential job applicant completed his studies in a traditional F2F or online education mode affected judgments of applicant appeal.

DISCUSSION

Numerous stakeholders in the academic, student, and employer communities characterize online degree programs as viable options for students. This review of studies reveals that there is generally little significant difference in student performance with F2F, asynchronous, and blended degrees, as measured in GPA, test scores, grades, and board performance. Likewise, the literature primarily shows no difference in student perceptions of course efficacy and overall satisfaction with online versus F2F instruction. Many of the authors identified student factors, such as gender (female), age (younger), access and familiarization with computers and technology, and intrinsic motivation, that are linked to positive student perceptions of blended or asynchronous education modalities (McCutcheon et al., 2015; Raupach et al., 2010).

Some report that there are risks associated with pursuing online degrees over F2F degree programs (Columbaro & Monaghan, 2008). Some authors revealed that positive student perceptions for a blended or asynchronous modality did not always lead to improved performance when compared to F2F learning (Elmer et al., 2016; Kemp & Grieve, 2014). This indicates that, while student perceptions of or preference for asynchronous degree programs may increase, this may not necessarily lead to better performance.

Further, as we examine this matter from the accreditation viewpoint, there is room for doubt whether an asynchronous educational modality can satisfy the educational and skill development requirements in an increasingly relationship-focused healthcare management landscape. Specifically, we question the viability of purely asynchronous education to capably support graduate-level accreditation requirements without modification. Guided by both the practitioner and academic community, CAHME and AUPHA have increasingly focused attention on competency development over the past several decades (CAHME, n.d., AUPHA, n.d.). CAHME currently requires accredited programs to develop students' competencies across five broad dimensions: (a) knowledge of the health sector (Criterion III.A.2.); (b) communication and interpersonal effectiveness (III.A.3.); (c) critical thinking, analysis, and problem solving (III.A.4.); (d) management and leadership (III.A.5.); and (e) professionalism and ethics (III.A.6.). Although numerous areas of competency can be developed in any modality, several authors found that some courses and curricula lend themselves to the F2F environment to create a more effective learning environment, particularly those that require more interpersonal interaction and clinical skills (Hewitt, Mast & Zimmerman, 2015; Ni, 2013; Callister & Love, 2016; McCutcheon et al., 2015; Kemp & Grieve, 2014). For example, Aper et al. (2012) suggest that a blended modality best leads to competency development of consultation skills for physicians. They first recommend a traditional modality of instruction to establish a strong foundation of knowledge which serves as a basis for consultation skill development. Once the foundation is set, self-efficacy and competency development can be further identified and developed through performance self-reflection and feedback from peers and experienced faculty in F2F or virtual modes.

AUPHA also requires competency development among its member programs. In all, 20 separate competency areas are listed in the most recent version of the certification standards, primarily focused on concepts, roles, and principles (AUPHA, n.d.). We judge the literature provides a more supportive perspective to inclusion of all modalities of instruction that support this level of development in the healthcare management field. This is at least partially attributable to different expectations with respect to the level of competency development required at the undergraduate level (Bloom, 1956). It is also supported by the work of Adams (2008), who indicates fully online courses are more acceptable for training, certificates, and undergraduate classes.

As the number of online degree programs increases, an important consideration for students in selecting a higher education option is how skills and competency are being delivered and whether employers will view the quality of their education in sufficiently positive light to extend a job offer. We note

that none of the studies that met our inclusion criteria focused on competency development as a primary outcome measure. In general, we found there is a lack of literature on the topic. However, we judge the ability to secure and retain employment is the ultimate measure of competency. Based on our study, employers have been reticent to recognize asynchronous education to be as viable as F2F instruction. If students and faculty believe that an online degree is credible, but recruiters, hiring gatekeepers, or prospective employers do not, the value of that degree is diminished for the student. Yet, we fully recognize as a greater number of students seek and secure online degrees and prove competency in the healthcare management field, the perception of online degrees may change (Linardopoulos, 2012).

LIMITATIONS AND RECOMMENDATIONS

The studies examined looked at students and employers from various disciplines, based on a review of available literature. Perceptions about the quality and effectiveness of degree programs vary depending on what skills and fields of study are involved. Previous studies assessed programs in areas such as Information Systems, Social Work, Biology Labs, Statistics, Economics, Research Methods, Medical, Public Health, Counseling, and Nursing. Though some information can be gleaned from those studies, a limitation of this research review is that there were no studies that specifically examined Health Care Administration or Health Care Management programs. Thus, we recognize that more research needs to be completed in this area. Ideally, this research would build upon our study to leverage extant quantitative data to assess if competency development can be achieved as effectively asynchronously as with F2F or blended instruction. Future research should examine student and employer perceptions of healthcare administration degree programs and graduates, to include student performance and competency achievement, and how the balance of online and synchronous learning contributes to development of the competency-based criteria required for CAHME accreditation.

CONCLUSION

The demand for online distance degree programs continues to grow in the United States. Popularity of online education is tied to convenience, accessibility, affordability, and the changing demographic of the student population. This review of the literature finds that there is still no clear consensus on the perception of quality, credibility, and equivalence of online, blended, and F2F degrees among the student and academic communities. However, our results generally indicate student and faculty perceptions are mixed on the value of online education, but most employers and employee gatekeepers believe that

educational programs should have a synchronous component within the curriculum. What the synchronous element of the curriculum should consist of is not defined in the literature. Our findings do not provide guidance regarding what the right mix of modalities might be for any given health administration program. Akkoyunlu and Yilmaz-Soylu (2008) wrote that the establishment of a balance between F2F education and the online environment is a challenging process, depending on factors such as instructional objectives, characteristics of students, the condition of online resources, and the educator's experience. Yet, we note that a blend of synchronous and asynchronous modalities can meet both employer and accreditation requirements without imposing unduly burdensome requirements on programs. A blended modality allows sufficient latitude to attract a diverse student population, allows educational modality flexibility for colleges and universities, and may overcome the shortcomings the employer community cited as areas of weakness in purely online programs from other industries. As we have detailed, several studies have found that blended modalities with asynchronous delivery of course materials coupled with F2F interaction may also serve to promote student-driven learning models and continues the learning outside of the classroom (Evans et al., 2016).

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