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Effective Practices for Teaching Online Courses at Marshalltown Community College

Background of online teaching

With a high technological demand in today's world, more and more teachers are finding ways to deliver their instruction online (Clark & Mayer, 2008). Recently in 2020-2021, in order to mitigate the COVID-19 virus spread, many school districts required their teachers to go from face-to face teaching to full virtual/online instruction within weeks (Center for Disease and Control, 2020). Some teachers were prepared for the change in instruction, while others were not.

Over the past 30 years, online instruction has gained popularity with the growth of personal computers and rise of the internet. The first online course offered in the US was by the University of Phoenix in 1989. It was created to deliver educational programs to non-traditional students (Kentnor, 2015). Students were offered the option to complete a full bachelor's or master's degree online. Since then, online teaching has been a popular choice for both instructors and students. Blackboard Learning announced in 2003 that over 40,000 faculty were teaching 150,000 courses virtually that year in over 20 countries around the world. Today, more than 35.3% of students enrolled in a community college or university are reportedly taking at least one online course (U.S Department of Education, 2019).

Online teaching can look very different from institute to institute or teacher to teacher. Oberlo.com describes online teaching as educating other using the internet or through group or one-on-one video calls. Online teaching is synonymous to virtual

teaching, online learning, e-learning and more. In this paper, online teaching is defined as using any form of technology in the classroom to provide off campus education.

Hybrid course are included.

Online courses were designed for various reasons. A few main reasons were: 1) to allow students scattered demographically the opportunity to take courses without driving long distances 2) to increase classroom space without increasing classroom seats 3) to give students born in the digital age, the opportunity to receive their college education in the same format they were raised in and 4) to eliminate barriers to students who were unable to attend face-to-face classroom settings (Parsad & Lewis, 2008). These students include, but are not limited to, full-time employees, parents, family caregivers or students who have a need for flexibility in learning. Currently, a more recent and new demand for online teaching has arisen: the need during a global pandemic such as COVID-19. With Iowa's state regulations in place, many school districts have moved towards teaching their students virtually at least 50% to 100% of the time during the 2019-2021 academic school year. Instructors must be ready for this change.

Marshalltown, IA community

The Marshalltown, IA community can be characterized as young, diverse, but economically disadvantaged. In 2015, Marshalltown had a population of 27,770 people. In 2019, that number decreased to 27,053. Housing income in Marshalltown has also seen a decrease overtime. Between 2016-2018, the average household income declined from \$54,193 to \$52,752 (a -2.66% decrease). The current median property value in Marshalltown, IA is \$94,300, compared to the state of Iowa's being \$153,000

(Housing Trend Report, 2017). Manufacturing is the most common type of employment held in Marshalltown, followed by healthcare/social assistance, and retail trade. The average household income in Marshalltown was \$52,035 in 2018. The state of Iowa's was \$58,580 (U.S. Census Bureau, 2018).

Marshalltown's community is growing younger and more diverse. In 2016, the median age was recorded as 39. In one year, that median age decreased to 36. The decrease in median age may be due to the increase in immigrant population demographics. Over the past 15 years, Marshalltown has seen a growth in their ethnic group migration with 81.1% of their current population being Caucasian, 30.7% Hispanic, and 5.2% Asian. The latest county data, from 2018, shows that 12.5% of Marshalltown residents were born out of the country.

Although Marshalltown is a small town, it houses Marshalltown Community College (MCC), a post graduate institution. A report from MCC demonstrates that the majority of its students are in-state, with a large portion of them being graduates of the local high school or surrounding areas. More females (57%) attend MCC than males (43%). In 2017, the college awarded 362 degrees. The majority of graduates from MCC were Caucasian (69.8%) and Latinos (15.6%), with white students graduating at a higher rate compared to Latinos. The top 3 most popular degrees students receive at MCC were associate degrees (51.5%), welding (9.65%) and nursing (5.9%) (U.S Census Bureau, 2017). In 2019, approximately 53% of all students enrolled in one or more credit of online coursework, and 18% of all students were enrolled as full-time distance learning (U.S Census Bureau, 2019; College Navigator).

The Marshalltown community has many barriers that online teaching can mitigate. In 2014, more than 2,550 families in Marshalltown reported owning only 1 car for transportation purposes and 416 had no vehicle, there has been little change 5 years later (2,520, 430, respectively). For the past 10 years, many high school students relied on city bus transportation to commute to school daily, because parents were unable to drive them to school due to work schedules or because families were limited to 1 vehicle or less. This was done so much that the local high school started partnering with the city to reduce students' bus fares. The majority of MCC's students come from the local high school, therefore, commuting may be a potential barrier for student wanting to pursue higher education. Secondly, the largest demographic group living in poverty in Marshalltown are females between the ages of 25-34 years. A MCC report shows that 58% of their students are female and fit this age group. In addition, the U.S Census Bureau estimates that 14.8% of Marshalltown population is classified as living in poverty. Students who are struggling financially may be more likely to have multiple jobs, and therefore have less flexibility to attend face-to-face classes. Online teaching can provide a way into college for these students. Furthermore, over 11% of students at MCC are currently non-traditional students who have families or are studying part time because they have a full-time job. Having small children or caring for a family while going to school is another barrier to face-to-face classroom instruction.

In addition to the Marshalltown community becoming younger and more diverse, they are also at an economic disadvantage compared to other cities in Iowa. Despite this huge disadvantage, over 78.7% of the community (25 years and older) have obtained their high school degree. While high school completion may open the door to

pursue higher education, many may not due to the above mentioned barriers. Online teaching may be a good option to help mitigate those barriers.

Research Focus

Many instructors are seeking direction on how to effectively teach their classes online. A survey created by Inside Higher Ed and Gallup (2019) demonstrated that over 46% of instructors are currently teaching an online class in the U.S and this trend continues to increase. The survey went on to reveal that over 50% of the instructors who have taught an online course created their class from scratch. Only 17% of those who had built on their own had received help from an instructional designer (such as students, IT support staff on campus and faculty colleagues). The average age of a teacher in the U.S is 42 years old (U.S Department of Education, 2012), many of whom were trained to teach in classroom settings, not virtually. These teachers need guidance for best virtual classroom delivery such as: how to provide content, how to increase participation, how to engage students and how to work with diverse populations. In addition, although online courses are very beneficial to some students, they have been found to have higher withdrawal rates than face-to-face courses (Moore, Bartkovich, Fetzner & Ison, 2003; Carr, 2000; Beatty-Guenter, 2003). In order to keep online courses going, we need to learn how to effectively teach students in these courses. In order to do that we first need to know our community.

Many pedagogies have been created to help teachers design their classrooms, but I believe that each community has different needs that should be considered when designing an online course. The objective of my creative component is to provide effective, efficient, and evidence-based practices to help guide current and future

instructors teaching online courses at MCC. Because the majority of MCC's students are local, using the SWOT analysis, I will determine strengths, weakness, opportunities, and threats to effective online teaching practices based on the community's description. The purpose of this paper is to share recommendations for designing and teaching courses that engage, challenge, develop, and support students at MCC.

Marshalltown communities demographics description

- **Young:** Although there is a broad age range of students attending MCC, the majority of MCC's student body were born between 1999-2003. Approximately 89% of MCC students are under the age of 24. This includes current junior and senior high school students enrolled in college level classes at Marshalltown High School. Students born between these years are classified as Generation Z. This generation group is known to be very tech savvy and are used to receiving communication and feedback fairly quickly.
- **Diverse:** MCC's student body is diverse, similar to the diversity seen in the community where it is located. MCC's study body consisted primarily of 45% of Caucasian students, followed by 15% Latino students and 3% of African American. A total of 1,947 students were enrolled at MCC as of fall 2019. Of those, 57% identified as female and 43% identified as male. Diversity is part of MCC's core values. Students of all ages, abilities, and genders are accepted and respected on campus. In order to promote diversity and inclusion, the school and student body regularly hosts events to embrace the culture of diversity this campus has to offer



such as First-Generation Day, MLK day, L.G.B.T.Q.I.A.+ events, Community Pow Wow, and International Education week.

- **Economically Disadvantaged:** Recent MCC reports show that over 38% of their student body received the Federal Student Pell Grant during the 2019-2020 school year. This grant is available for students who demonstrate significant financial need. Students must have an expected family contribution (EFC) amount below \$5,711 to be eligible for the Pell Grant. Only 12% of students who were first time degree seekers, enrolled full time receiving the Pell Grant and completed an associate degree and 7% completed a certificate. If students are ineligible for Pell Grant, they will often request student loans to cover expenses. Goldrick-Rab (2016) showed that students from economically disadvantaged households are more likely to take out student loans than their counterparts. Over 35% of students at MCC received a student loan in 2019-2020. The need for student loans and eligibility for the Pell Grant show that financing for college is a challenge for more than a third of MCC students. In addition to tuition costs, many of these students may also have other financial barriers including transportation expenses, technological costs (e.g. laptop, internet access at home), and books or other school fees.

Evidence based effective practices for virtual learning and SWOT analysis

Young

To guide the future course of instruction, it is important to consider the differences between current students' learning styles and how teachers from a different generation were trained. Current teachers and students were brought up very differently and under distinct events that shaped who they are and what they expect. Therefore,

instructors' expectations about how teaching should be implemented may not be the most effective way that students from a younger generation master concepts and learning. For example, currently the majority of faculty in the U.S. are "Millennials" born between 1977-1995; one-fourth are "Generation X" born between 1965-1976, and the remaining were born during the Baby Boomer era, 1946-1964 (Daughtrey, 2020). Many of these educators were never exposed to technology growing up and were never taught how to integrate technology in their classrooms while obtaining their teaching degrees. Some have taken continuing education courses, but more needs to be done to support instructors. In comparison, the majority of students currently enrolled at MCC are classified as the "Generation Z" cohort (89%), born after 1995 (Cilliers, 2017; Ensari, 2017). Those born in the younger Generation Z era are the first cohort to be raised with digital technology from infancy and have widespread access to smartphones and computers both at home and in school. Technology is a crucial part of their day-to-day environment (McCarthy, 2017).

Studies have shown that students in the generation Z cohort do not learn the best through the "talk-text-test" teaching approach. They require more visual stimulation than interesting text and diagrams to hold their attention. Generation Z students require visual media, entertaining, and relatable graphics or tools to keep them engaged (Miller, 1986). Some apps recommended for engagement include: Poll Everywhere, memes, infographics, Jing or Camtasia for voice over instruction. Moreover, research conducted by Boller (2012) demonstrated that students who are engaged with instructional games in the classroom do better overall in the course (Plump & LaRosa,

2017). Two tools that were proven useful includes Kahoot or Polleverywhere (Goksun & Gursoy, 2019; Gubbiyappa, et al. 2016).

An interesting finding was shown in a study conducted by Seemiller and Grace (2017) where Gen Z students were characterized as being “observers.” These students have grown up watching others complete tasks prior to applying the learning themselves. This may be influenced by the popularity of this generation viewing YouTube videos for self-learning. One student in the study (Seemiller & Grace, 2017) summarized this clearly in his narrative, “If I don’t understand something or if I need to watch something to help me... I’ll look it up on YouTube,” (p. 23). Instructors can utilize these findings in their online classrooms by recording demonstrational videos to guide students on assignments or projects.

Social media is also an integral part of this generation’s upbringing. Generation Z students are used to expressing their opinions on a daily basis, and this transcends into the classroom. One recommendation for online teaching is giving students the ability to express their opinions in small group discussions or through reflection papers. Another suggestion would be to let them provide feedback and comments on their peer’s projects. This would be a good exercise because it teaches students how to provide meaningful, tactful, helpful feedback in the critical world we live in today.

Generation Z students have also been found to prefer more intrapersonal learning (Seemiller, 2017). The researchers in Seemiller’s study recommended placing students into small groups and breaking down a project into quarterly “checkpoints.” Prior to each checkpoint, students would engage in a Think-Pair-Share method, where each student would have time to reflect and gather their information to present to a

single partner, receive feedback, and then take it up to the small group (after making changes) to receive more feedback. As a small group, they would then develop a final project taking into consideration all their improvements. This method teaches students to: 1) think through their objectives 2) work independently 3) practice public speaking in a smaller setting 4) learn to accept or provide constructive criticism, and 5) work in a team setting. All can be done through platforms such as Zoom or Google Teams with careful planning.

There are many changes instructors can make to improve their classrooms online, but there are also some challenges they may face with their young students. Growing up in a technological world, where any question can be answered with a few clicks on a computer, has made it the norm for Gen Z students to receive information quickly and readily. These young students are used to receiving immediate answers and feedback and have preferred platforms they utilize for this type of communication. However, instructors who have been raised in a pre-computer world, where face-to-face or emailing are their preferred way to contact students, may have a difficult time reaching students. Another barrier that may arise is holding on to this generations' attention for a long period of time. These students expect brief, concise information. Shatto and Erwin (2016) found that Gen Z takes 8 seconds to decide whether content is worth their time and if it benefits them. One recommendation to overcome this is delivering large amounts of content in small batches. Furthermore, another challenge that arises is the lack of training instructors receive for use of technology in their classrooms. Many instructors were taught methods of teaching that were not fully integrated with computers, but are expected to know how to use them, how to

troubleshoot, and what applications are available to use in their classrooms. As one NYC college professor puts it, “In my online faculty position I need to be as much a tech troubleshooter as an educator.” Teachers can do a few different things to help navigate these obstacles: 1) find conferences that discuss technology in education 2) read journal articles about integrating technology in the classroom to stay up to date on new changes (Appendix A) or 3) collaborate with younger instructors that may have been trained with these important technological tools.

It is important to remember that not all students at MCC will be a part of the Generation Z cohort, however, these findings can help instructors respond to the larger population of students they will be serving. Instructors can then accommodate to the smaller student population and use more traditional methods of teaching if that is their preferred method. It is important to note that some of these students may also prefer these new methods over traditional ones, or a blend of the two.

Young			
Strength	Weakness	Opportunities	Threats
<ul style="list-style-type: none"> • Very tech savvy • Computer and cellphones are a part of their upbringing • Strong observers • Visual learners • Creative • Self-reflectors • Critical thinkers 	<ul style="list-style-type: none"> • Expect quick information and communication this may not be possible at times • Lose interest fairly quickly • Policies established may cause barriers for integration of some apps or social media 	<ul style="list-style-type: none"> • Work in small groups • Like to use apps • Observational learners • require visual media, entertaining, and relatable graphics or tools to keep them engaged • Reflection papers • Think Pair Share method 	<ul style="list-style-type: none"> • Email • Talk-text-test method • Use of only traditional methods of teaching

Diverse students

In order to connect to our students, we must first learn about their backgrounds and their experiences. MCC's student body is very diverse. This includes people of all abilities, races, nationalities, gender, sexual orientation, religions, socioeconomic classes, and ages. MCC's student body represents people of different nationalities: Caucasians (45%), Hispanics (15%), African Americans (3%) and Asian (2%) to name a few. For this particular report, I will be focusing on race/ethnicity, sexual orientation, and age.

Race/ethnicity. Currently in the U.S changes in immigration patterns have shifted the diversity in our country with an increase in primarily Hispanics racial groups. This shift has transcended into Marshalltown, IA with the increase in Hispanics in the community. The change in ethnic diversity has also been seen within the predominant Generation Z student population. According to a Pew Research Center report (2018), Generation Z is the country's most racially and ethnically diverse generation, with nearly half of all Generation Z individuals identifying as a minority. It is imperative, now more than ever, that educators teach students how to work with diverse groups and discover how these students learn best.

MCC recruits many international students who represent several nationalities from around the world such as Brazil, Mexico, and Argentina to name a few. International students represent 7% of MCC's student body (U.S Department of Education, 2019). Online courses take away the physical presence of interaction and shifts it into written communication. This can be a barrier for students whose first language is not English. Faculty noted in a study conducted by Coppola et al (2002) the

change having an absence of nonverbal cues had on their instruction. Eye contact, facial expression, voice quality and body movement were needed to provide effective teaching. Furthermore, a meta-analysis conducted by the U.S Dept of Education revealed that face-to-face instruction results in similar outcomes than online learning if the online course was hybrid. Therefore, it is recommended that instructors use tools that continue to emphasize that face-to-face interaction in alternative ways. Tools such as Blackboard Collaborate, Zoom and live chat can be useful as a face-to-face meeting alternative. Written words also create space for misinterpretation. Educreations is another useful tool where instructors can provide recorded mini lessons to explain assignments or for other announcements. This tool gives that visual aspect email or announcements lack.

Students who come from non-western countries tend to view their instructors differently and this difference can influence the student's learning. Whereas western raised students see the instructor as a facilitator to their learning, non-western students view them as authoritative. These students tend to want the instructor to just "tell them what to do," versus having them "figure out what the answer is." Western culture's teaching style encourages critical thinking whereas non-western culture promotes passive learning practices. To help overcome this barrier, it is recommended to explain, teach and facilitate the difference between teaching styles at the start of the course. Another suggestion is to be flexible. Students who are international struggle with the amount of work required because it takes them longer to learn so extending deadlines and being tolerant of language variations can be productive (Sadykova & Meskill, 2019).

The aesthetics of the content lectured is also another important thing to consider when designing a course. How your students see and interpret your content, images, and graphs will influence their learning. Kumi-Yeboah and Yuan (2017) found that ethnically diverse students do better in the classroom when instructors include diverse content in their course and bring forth public figures that represent their race/ethnicity.

Sandoval (2014) found two major themes that contributed to underrepresented student success: relationships with faculty and campus engagement and support. It is the instructor's responsibility to establish a safe space in the classroom where students feel comfortable to share their experiences and perspectives. Some ways instructors can promote diversity in the classroom include celebrating diversity, providing equal opportunities, encouraging discussion and including diverse learning material into their course.

Sexual orientation. Ideas about gender identity are rapidly changing in the U.S, with more people coming out and identifying as L.G.B.T.Q.I.A.+ . When asked if forms should include options for gender neutral identification, 59% of Gen Z people said they believed the forms should, compared with 50% of Millennials and 37% of Baby Boomers (Pew Research Center, 2018). Members of Gen Z were 50% more likely to agree that society is not accepting enough of people in the L.G.B.T.Q.I.A.+ . community.

MCC currently has a small group of students who identify as L.G.B.T.Q.I.A.+.. For some, schools are the one place where L.G.B.T.Q.I.A.+ . students can be themselves and express who they really are. That face-to-face interaction these students need can be a barrier through online teaching, but teachers can help mitigate this by creating safe teaching environments on their virtual classrooms.

Recommendations on working with the L.G.B.T.Q.I.A.+ include integrating L.G.B.T.Q.I.A.+ topics into lectures, highlighting L.G.B.T.Q.I.A.+ leaders in the field, and training educators on the barriers the L.G.B.T.Q.I.A.+ community faces (Lim, 2015; Donahue, 2013; Garrett & Spano, 2017). Another recommendation is to always promote L.G.B.T.Q.I.A.+ school and community events to connect students to resources on and off campus (Mehra & Braquet, 2011).

The most important thing instructors can do is to encourage open and supportive spaces for L.G.B.T.Q.I.A.+ students to feel comfortable to express who they are. Inclusivity in the classroom can be modeled by carrying out small, but significant, requests such as using preferred pronouns to describe a student or by using a different name than what is on the roster if the student requests it. In addition, it is important to be aware that some of these students may not be sharing their sexual orientation with anyone other than you. As an instructor it is very important that we respect that confidentiality. A study in the 2019 Trevor Project found that people who identified as L.G.B.T.Q.I.A.+ were 40% less likely to attempt suicide if they had at least one supporting adult in their lives.

Age. Although MCC's student body is primarily made up of younger students, 11% of the student body is older than 25 years of age. These students are sometimes referred to as "non-traditional students," because they are married, have children, or are working full time while attending college. Unlike the younger Generation Z students, these students were introduced to computers and technological advances in their early adolescence or as adults. It is important when working with this population, that educators first identify what level of computer literacy older students demonstrate.

Technical assistance may be needed more with this population of students. To assist online students struggling with computer use, it's recommended that instructors provide step-by-step instructions on how to: navigate student portals, how to access email, how to upload assignments and more. Instructors should connect these students to their college's IT.

In addition to schoolwork, non-traditional students will most likely be working full time or have their families to attend to. Albaugh (2001) found that consistent faculty contact is a vital element for successful courses with this age group. This study recommends instructors to be more flexible and willing to make changes to help support these student's success. Tools such as Panopto can be beneficial for these students. Lectures can be recorded and stored in Panopto for later viewing. This provides the flexibility non-traditional students may need to revisit lectures.

According to a 2016 report by NACE, the top skill sought by employers was the ability to work well in a team setting. By exposing students to diversity and embracing it we teach our students to work well with others, making them top candidates to employers. Students will not only be able to work well with diverse groups, but also build empathy for others.

Diversity			
Strength	Weakness	Opportunities	Threats
<ul style="list-style-type: none"> • Learning to work well with diverse groups will make you a competitive applicant • Generation z students are the most racially diverse generation we have seen in the U.S • Society is becoming more accepting of L.G.B.T.Q.I.A.+ community 	<ul style="list-style-type: none"> • Students who prefer a non-western philosophy of teaching may struggle with the western practices 	<ul style="list-style-type: none"> • Use of tools such as Zoom to communicate • Educreations for virtual face-to-face communication • Campus is ethnically diverse providing students opportunity for growth • Panopto for recorded lectures 	<ul style="list-style-type: none"> • Language barrier • Written miscommunication • Non-traditional students may have no experience with computers

Economically disadvantaged/lack of resources

Access to education is set by the learner's environment and position (Hugues, 2004). Disproportionately low-income students are more likely to attend community college instead of a university (Adelman, 2005). Cost and location play major roles in these students' decisions to attend community colleges. A study by the National Center for Educational Statistics found that young adults from economically disadvantaged households are the fastest growing group of 18 to 24-year-old students taking classes virtually in the United States. Online courses can increase access to students living in economically disadvantaged households. Therefore, it is crucial that instructors at MCC learn effective practices for working with students from low-income households.

Economically disadvantaged students who take online courses in an early semester of starting college and do poorly in the course are at a higher rate of dropping out of school and not returning in comparison to students taking face-to-face instruction

(Jaggars, 2011). Research literature suggests three reasons why students from an economically disadvantaged background have lower online completion rates than their counterparts. The three reasons are technical difficulties, a lack of sense of belonging and a lack of structure on online courses. (Ferguson & Tryjankowski, 2009; Boston et al., 2009).

Students from disadvantaged backgrounds struggle with unpreventable system problems caused by the student's unfamiliarity with programs. (Bambara, Harbour et al, 2009; Mupinga, Nora & Yaw, 2006). A study by Ferguson & Tryjankowski (2009) found that students taking online classes were more likely to use the excuse of handing in late assignments due to technical difficulties. Therefore, technical support should be a forefront concern of online instructors teaching economically disadvantaged students. Technical support should be readily available for students taking online classes. All students should know who to contact and how to contact them for technical support. Another suggestion is for the college to make a computer literacy course mandatory before taking any online class on campus. Mini lectures describing how to run programs or how to upload assignments can also help and be created using Educreations.

Another reason economically disadvantaged students are at a higher risk of dropping out of an online class is the lack of a sense of belonging and commitment to the college, class, or instructors. In a qualitative study conducted by Debra Austin (2017) students perceptions of connection with their online instructors were explored. The two most common perceptions contributing to connection were availability of the instructor and consistent and personalized communication. Students in the study voiced a desire to form connections with their instructor and indicated that this connection

ultimately led to greater perceived care from their instructor. Recommendations to form connections include having high availability to answer questions within a day so students can progress, providing assignment feedback that is specific and individualized, and sending check-in emails with students. An innovative way to provide feedback was suggested in form of video grading. Tools such as Jing or Snagit were recommended for video grading where instructors can upload a screen recording to walk students through their grading. Another simpler way to create a connection with students is for instructors to use humor or other elements in the classroom that portray instructor personality.

The third reason students drop out of online classes is lack of structure in the course. Many online classes are structured so students have a large range of time to complete assignments, however this leads to students procrastinating or falling behind on assignments. A study done by Mentzer (2007) found that online students are less likely to complete their homework than those enrolled in face-to-face classes. Students do better overall when instructors provide clear instructions for assignments, communicate their expectations such as requirements, due dates, and course activity. (Bocchi et al., 2004, Sheridan & Kelly, 2010). This will keep students on track. Tools such as myHomework Student Planner can help students track classes, homework, tests, and project deadlines.

There are additional barriers that can prevent students from economically disadvantaged backgrounds to succeed in online courses. In addition to the financial burden of tuition and fees, many students taking online classes need to cover mandatory technological fees and essential supplies such as books, laptops and

internet access. Furthermore, some online classes require eBook access codes for assignments that can cause an additional financial burden on students. Students from low-income families are more likely to work a part time job while in school to cover these expenses. Therefore, many of these students may not always make school their first priority when they are trying to cover college costs or basic human needs (e.g. shelter, food, clothing) for themselves and their family. It is crucial that instructors be flexible with their students in order for them to succeed at MCC.

Economically disadvantaged			
Strength	Weakness	Opportunities	Threats
<ul style="list-style-type: none"> • 18-24 yo from economically disadvantaged populations are among the fastest growing group of students taking classes virtually in the United States • Online classes give students opportunity to attend college • Flexibility to have a part time job while in school • low-income students are more likely to attend community college versus a university 	<ul style="list-style-type: none"> • more likely to work part time while in school to cover household expenses • Adding additional costs to our students with e-book codes 	<ul style="list-style-type: none"> • Economically disadvantaged students are more likely to attend community colleges • Technical difficulties • Student-Instructor relationship • Course structure 	<ul style="list-style-type: none"> • More likely to drop out of college (and not return) if take online course early on and don't do well in the course

Discussion

Although this paper focuses on efforts to design online classrooms, insight from these strategies is very much applicable and generalizable to face-to-face instruction as well. The strategies provided in this project are a set of recommendations based on

evidence in the literature that can be used as a tool to help guide first year instructors (or those who want to make changes to their classroom) at MCC in course development. I do not expect instructors to follow all the suggestions provided, but instead select those that they find most fitting for their classroom design.

The unique aspect of this project is that it examined closely and took into account the specific setting of MCC and its student body. Before researching recommendations on how to teach the students at MCC, I took a closer look at who the college was serving and the students' needs. In order to provide better services for the MCC students I provided several tools in various domains that instructors, advisors, administrators, and others working in higher education can use to improve traditional teaching styles and ideologies. Such examples included: utilizing technology (apps and programs) in the classroom to optimize educational outcomes, providing guidance in the structure of classroom design (keeping in mind students' needs), giving recommendations on how to enhance inclusivity of people of different cultures and abilities as part of the institute's mission of diversity, promoting safe space to meet the needs of L.G.B.T.Q.I.A.+ people, engaging in outreach to include students from economically disadvantaged populations, and promoting student-instructor relationships to increase student retention, to name a few.

Of importance, is the fact that this project is raising awareness of the importance of knowing the students we are serving to help guide us in efficient course design that goes beyond the traditional teaching styles. Specifically, it suggests the need for instructors and others to play a more proactive role to meet the needs of students in a digital world. The overall purpose of this paper is to provide "best practices" for MCC

faculty and other educators to proactively apply the evidence-based practices and tools provided in this paper and creatively incorporating them into their new or existing course designs to provide a more effective “how-to” approach to achieve the ultimate goal of student success.

Conclusion

Although this paper was written with the focus on the MCC campus many of the recommendations provided can be useful to mainstream teaching. We must also be aware that there is diversity within the classroom where students may identify as more than one of the core identities listed in this paper (young, diverse, economically disadvantaged). The intent of this paper was to provide tools to help accommodate to these core identities to personalize online teaching; therefore, the use of more than one strategies in this paper is recommended.

Online teaching has now become an integral part of the educational landscape in a high technological world. With this demand, more and more online courses are being designed and taught to students. However, little training is being given to instructors in creating courses that best fit the needs of the students being taught. Lack of time or training in course design may be the reason for this problem. In a study by Zhai & Liu (2005), instructors seemed unsure of how audio or video could be integrated in the classroom as effective tools for student collaboration. With the COVID-19 pandemic the demand has only heightened. Schools shut down all across the world and shifted direction to virtual learning. With this sudden shift away from face-to-face instruction, many people have speculations that online learning could replace traditional learning in the future. In the past, major world events have often been an inflection point for lasting

changes. Therefore, it is an ideal time to identify what “best practices” we can provide in our individual campuses and how we can integrate them into our course designs in order to help our students succeed in the digital era.

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Appendix A

Apps and Tools to integrate in course design

App/Tool	Description	Website
Blackboard Collaborate	You can meet virtually online with faculty or classmates. You can engage and interact as if you were in a traditional classroom. Includes two way audio, interactive white board, desktop sharing, breakout rooms and session recordings. Great tool to host club meeting or create collaborative workspace for members in a community.	https://www.niu.edu/blackboard/students/collaborate.shtml
Camtasia	Makes it simple to record and create professional-looking videos. Has built in cursor effects, call outs and engaging transitions.	https://www.techsmith.com/video-editor.html
Educreations	Is a unique interactive whiteboard and screen casting tool that's simple and powerful to use. You can annotate, animate, and narrate any content as you explain any concept. Can create short instructional videos for students.	https://www.educreations.com
Infographics	A collection of imagery, charts and minimal text that gives an easy-to-understand overview of a topic. Use striking engaging visuals to communicate info quickly and clearly.	See pinterest.com or google.com
Jing	Free. Used by instructor to provide verbal feedback on student writing or by students for allowing verbal reflection on their own or other's writing.	https://www.techsmith.com/jing-tool.html
Kahoot	Free. Game based learning platform that makes it easy to create, share and play games or	https://kahoot.com/what-is-kahoot/

	trivial quizzes. Engages students.	
Memes	Popular with youth. A humorous image, video or piece of text that is provides humor in the classroom. Keeps students engaged.	See pinterest.com or google.com
myHomework Student Planner	Free. Student planner application that is used to get students organized. Features include Calendar, Homework tracker, due dates reminder, teacher link for easy communication, access to announcements are instilled in the app.	https://myhomeworkapp.com
Panopto	A video platform to manage, stream or record videos securely. Live streaming is available.	https://www.panopto.com
Poll Everywhere	Free. Polls. Can use them to take attendance, give quizzes, and gauge understanding whether your students are near or far. Easy to use.	https://www.polleverywhere.com
Snagit	Lets you quickly capture screen shots of images or audio and add additional context or instructions. Lets instructors give quick and simple answers to students.	https://www.techsmith.com/screen-capture.html
Zoom	Free. A easy and reliable cloud platform for video, voice, content sharing and chat to help connect students with instructor. It is live allowing students to ask questions in person.	https://zoom.us/about

Appendix B

Recommended Education Technology Research Journals

Journal	Description
1. British Journal of Educational Technology	This journal, while published by British Educational Research Association, provides worldwide coverage of developments in educational technology for all levels of education.
2. Computers and Education	A journal aimed at showing how digital technology enhances education. The journal's well-researched articles are aimed at the education community.
3. Educational Technology and Society	Published by the International Forum of Educational Technology and Society since 1998, this is a peer-reviewed quarterly journal.
4. Educational Technology Research and Development	This journal published by the Association for Educational Communications & Technology bi-monthly focuses specifically on research and development in the field of educational technology.
5. International Journal of Educational Technology in Higher Ed	This journal, aimed at the higher education community, features articles about how to technology in higher ed, as well as technology to training and management.
6. ISTE: Journal of Digital Learning Teacher Education	Published quarterly in partnership with the ISTE Professional Learning Network for Teacher Educators, this journal provides articles about the use of digital technology in teacher education. This journal is only available to ISTE members.
7. ISTE: Journal of Research on Technology in Education	Produced by the International Society for Technology in Education (ISTE), this journal publishes research articles, project evaluations, and more. This journal is only available to ISTE members.
8. Journal of Computer Assisted Learning	With the aim of making experiences accessible, this journal covers all uses of information and communication technology used for education. It provides information for researchers and those seeking knowledge about advanced technology and distance learning.
9. Research in Learning Technology	This journal is published by the Association for Learning Technology. It aims to promote research in the field of learning technology covering everything from online learning to social media.

10. Tech Trends	Published since 1985 by Association for Educational Communications & Technology, Tech Trends covers a wide range of tech topics for educators and technology professionals with articles about how to manage technology and how to apply education technology in other fields.
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