

**Title:**

**Maximizing Online Readiness and Excellence: Improving Online Student Performance Using a Three-Pronged Intervention Approach**

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## **Abstract**

The Maximizing Online Readiness and Excellence (M.O.R.E.) program was developed at a two-year technical college in Columbia, SC, in response to national trends highlighting the underperformance of students enrolled in online courses compared to their in-person counterparts. Implementation of a three-pronged intervention approach focused on student preparation, faculty preparation and enhanced online student support. Results from the first full year of implementation show an overall increase in student success in four of the six courses targeted for analysis. Results also show an overall decrease in student withdrawal rates in five of the six targeted gateway courses. The report below outlines the work of the M.O.R.E. program and provides insight into the efficacy of the three main interventions developed as part of this project.

*Keywords:* Online instruction, student support, faculty support, student preparedness

## **Introduction**

Reports outlining trends in online learning have shown a consistent increase in the number of students who have decided to take online courses as part of their postsecondary degree over recent years. The National Center for Education Statistics noted that more than 6.5 million students enrolled in at least one online undergraduate course in 2018, compared to just over 3 million students only 10 years prior in 2008 (Digest of Education Statistics, 2019). This trend in online courses has permeated instruction not only in major four-year universities but in two-year institutions as well. Community college students have been reported to be more likely to have taken online courses as part of their studies than their four-year counterparts and to have preferred online courses nearly twice as much as students at four-year institutions (Gierdowski, 2019). This is likely due to the flexibility that online learning provides community college students which often have a vastly different demographic makeup than students attending four-year institutions. One report notes that 82% of community college students hold jobs while taking classes while 24% of these students are both enrolled full time and work full time (Gierdowski, 2019). Busy schedules such as this can make it difficult for students to organize the merits of an education while balancing their work life. Online courses can provide the opportunity for community college students to take classes that are more accommodating to their

schedules and can allow them to achieve both the goal of an education and a job at the same time (Magda et al., 2020). In addition to the traditional rationale behind a rise the rise in online courses, the recent outbreak of a global COVID-19 pandemic has pushed many traditionally face-to-face courses online and has led to increased virtual learning in both two and four year institutions alike (Rapanta et al., 2020). This outbreak forced the majority of all undergraduate classrooms to switch to some level on online instruction, even though many students and faculty members reported that they did not feel prepared for this sudden transition (Garris & Fleck, 2020).

With this recent rise in online education, it is imperative that educators focus on the quality of these courses and the success of students who choose to participate in them. Research has shown that students who participate in online courses show lower achievement levels than those that participate in courses that are conducted face-to-face (Francis et al., 2019). This outcome was even more pronounced when the learners in these online courses were adults, a demographic that is traditionally higher in community college settings (Francis et al., 2019; Ornelles et al., 2019). Likewise, community college students are not as successful in online courses as they are in face-to-face courses with community college students reporting a higher DWF percentage than their four-year counterparts (Xu & Jaggars, 2011, 2013, 2013). This has resulted in a negative correlation between students who participate in online courses and their ability to graduate (Huntington-Klein et al., 2017). This is especially true in community colleges when online courses occupy at least 40% of a student's total course load (Shea & Bidjerano, 2018). The underlying force behind the decreased achievement in students enrolled in online courses is not one that can be pinpointed to only one route cause. Results of the 2016 Instructional Technology Council (ITC) survey show the three major challenges reported in online learning student readiness, faculty training and online course design (Lokken & Slimp, 2017). As part of this research, we present aspects of online learning that aim to address each of these challenges.

### ***Online Student Readiness***

In regard to student readiness for online courses, what it means to actually be “ready” can differ widely based on both the setting and the context of the course. Broadly defined, this can include aspects of learning ranging from time management, motivation and familiarity with technology to self-efficacy and an overall level of preparedness to do college-level work (Doe et

al., 2017; Travers, 2016). Liu and Roberts-Kay (2016) sum up these factors in their definition describing online student readiness as a, “cognitive awareness and maturity that a student develops for successful learning in a Web-based environment.” (p. 3). Using a variety of assessment measures, recent research has correlated student readiness to both their success in and their overall satisfaction with online courses (Cigdem & Ozturk, 2016; Mosa et al., 2016; Wei & Chou, 2020; Yilmaz, 2017). As the implementation of online continues to grow in institutes of higher learning worldwide, findings such as these place an added emphasis on making sure that students are prepared both from a technological and a psychosocial perspective for their online courses.

To address this need for assuring that students are prepared for online courses, many institutions have begun implementing online student readiness orientation courses for students who are enrolled in online classes (Chan, 2017; Liu & Adams, 2017). Numerous reports on the implementation of these readiness courses have shown positive outcomes in both student achievement as well as many social aspects of the learning process (Abdous, 2019; Chan, 2017; Liu & Adams, 2017; Liu & Roberts-Kaye, 2016; White, 2018). One such study using the commonly used Student Readiness for Online learning (SROL) measure to evaluate the effect of an online learning orientation courses noted an significant improvement in nineteen of the possible twenty attributes of online learning following online student orientation, with only one item, “I feel comfortable with computers”, not improving significantly (Liu, 2019). While the design and implementation of these online readiness orientation courses can differ from institution to institution, it has been noted that the successful ones tend to present material in a scaffolded manner as to reach multiple levels of learners and to have a major emphasis on the technical competencies and time management skills needed to succeed in an online course (Liu & Adams, 2017; Martin et al., 2020). Moving forward, it will be important to continue to investigate the both the efficacy and the implementation of online student orientation courses in order to maximize the outcomes and success of the increasing numbers of students enrolling in online courses.

### ***Online Student Support***

While preparation and a solid understanding of what online learning entails is clearly advantageous in the quest for success in online coursework, it is definitely not the only aspect of the learning process that is necessary. Research has noted that student retention and progression

in both online and in-person courses is a complex array of many factors including institutional aspects such as advisement and tutoring as well as personal contributors such as economic and social dynamics (Baxter, 2012). With such a variety of correlating factors contributing to student success it is increasingly important to approach learning in a manner that not only meets their needs on a content level but holistically in a way that accommodates the needs of the entire student experience (Bailey & Brown, 2016; Sundy, 2020). Research on the individual contribution of tutoring (Arco-Tirado et al., 2020; Moore, 2017; Reinheimer & McKenzie, 2011), library access (Scoulas & Groote, 2019; Soria et al., 2013), academic advisement (Harris, 2018; Steele, 2018) and technical support systems (Angelino et al., 2007; Lieblein, 2000) to academic success has been noted throughout the literature in a variety of different settings. However, one key factor that cannot be overlooked in the formation of an effective support structure is the collaboration between each of the individual parts that make up the entirety of the system. To truly reach students on the holistic level needed to propagate their success, it is important that institutions avoid taking a patchwork approach and instead ensure that instructional support services be both intentional and carefully orchestrated (Brown et al., 2015)

Even with increased access to support systems, in a purely online environment it is often difficult to assure that students take full advantage of the opportunities that are provided for them. With online learning it can often become easier for students to become more disconnected from their peers and their institution and they can often adopt a “lone wolf” mentality where they operate with the very minimum of interaction with some of the core support systems (Brown et al., 2015; Sundy, 2020). To combat this, research has reported on the merits of an early warning system (EWS) that monitors the progress of students in order to assure that they are achieving at high enough levels to maintain their educational goals (Foster & Siddle, 2019; Jokhan et al., 2019). These systems work to steer students in the direction of support systems that they may not be aware of and can help to foster an improved learning experience (Foster & Siddle, 2019). In order to function efficiently, early warning systems will again rely greatly on the integration and correlation of each aspect of student support in order to ensure that students are getting exactly what they need and when they need it. This added guidance can be key in assuring that students are not only active in the learning process but in the college experience as a whole as well, forming more a more well-rounded and integrated student body.

### ***Online Faculty Support***

While both online student readiness and support are both clearly vital key in student success in online courses, proper training and support of online faculty cannot be overlooked. As the growth of online learning has blossomed, the role of the instruction has increasingly evolved from solely teaching the material to assuming much more involved role with attributes of multimedia production, instructional innovation and technical expertise (Tanis, 2020). This change requires proper training and professional development in order for instructors to not only navigate the technical aspects of online learning but to ensure that their students succeed in the course content. In the community college environment, this kind of training has been considerably lacking due to a push to increase online courses in an attempt to meet the needs of their non-traditional students (Lokken & Slimp, 2017). Many online faculty today express that they prefer face-to-face instruction compared to online courses and cite that online teaching requires an disproportionate increase in their work load as well as a disconnect between themselves and their students (Luongo, 2018; Wingo et al., 2017). Likewise, many online faculty also express difficulties in understanding the technology associated with online learning and often struggle with maximizing the usage of their learning management system (Rhode et al., 2017; Wingo et al., 2017). To combat this, many institutions have begun to focus on in depth training and professional development for their online faculty. One method of professional development delivery that has become increasingly popular is the formation of faculty learning communities that are specifically geared towards online instructors. These communities typically include guidance in technology, online engagement, online learning pedagogy and can often serve as a place for discussion on issues that may arise in the online classroom. Research on these communities have reported an overall increase in course satisfaction, a better understanding of online technology and have noted that participants are more likely prefer to stay with online instruction (Corrales et al., 2020; Dancy et al., 2019; Mohr & Shelton, 2017). With reports on such successes, there is added emphasis that is added to ensure that faculty feel adequately trained and supported in their online course.

### ***The M.O.R.E Program***

The Maximizing Online Readiness and Excellence (M.O.R.E) program was developed and launched by Midlands Technical College in Columbia, South Carolina in an effort to improve online student success. Prior to its implementation, online students at Midlands Technical College showed success rates (defined as achieving a C or higher in their online

course) that were thirteen percent lower than students who attended the same course in a face-to-face setting. This was at the same time as online student enrollment was growing at the college. To combat this, Midlands Technical College targeted six online courses, deemed “gateway courses” that previously maintained high enrollment but historically low student success rates and high student withdrawal rates. Additionally, some of these courses were key introductory courses in the student matriculation process. The six gateway courses selected were: Medical Terminology, Art History and Appreciation, Introduction to Business, English Composition, Beginning Algebra, and General Psychology (*table 1*). The overall goal of the M.O.R.E program was to integrate three main interventions across each of these courses with the goal of obtaining four main outcomes over the five-year life of the project: increasing student success rate by 8% above the baseline level, decrease the withdrawal rate by 5% from the baseline level, increase students’ perceived readiness to participate in online courses and increase faculty’s perceived readiness to teach students in an online course. The three interventions devised to achieve each of these goals were based on the recent literature and focused to approach student success by addressing online student readiness, online student support and online faculty support (*fig. 1*).

- **To address online student readiness**, the M.O.R.E. program created a short non-credit mandatory online readiness course called the Virtual Backpack. Students enrolled in any of the six gateway courses were required to complete this course prior to registration for their online course. The Virtual Backpack consists of a series of online modules that address concepts such as learning management system navigation, access to online student support, online course protocol including how to interact with the class via many of the options provided in the online course shell and tips on time management and college skills. Upon module completion students were required to pass a series of four summative assessments with a score of at least 85% before they would be given credit for course completion.
- **To address online faculty support**, the M.O.R.E. program created a mandatory Online Faculty Learning Community (OFLC) geared at providing online instructors with professional development targeted specifically at online instruction. This course was required of instructors teaching in the online gateway courses and met once a week

throughout the semester. In this OFLC, instructors were provided information on cutting edge online pedagogical strategies, technical support on methods to make use of specific aspects of the learning management system and acted as a space where instructors could ask questions and share ideas on how to improve online learning in each of their courses.

- **To address online student support**, the M.O.R.E. program enhanced existing support services to include virtual advising through the central advising center at the College, online tutoring that was available for free to all students in all subjects on a 24/7 basis, online access to library services and the creation of electronic “lib guides” that could be focused on any topic needed within each of the gateway classes, extensive technical support provided by an easy access help desk system and the introduction of intrusive advisement early warning system (called Early Alerts) that could target students that may be falling behind in their online course. Each of these support systems were designed to be collaborative and work as a cohesive unit in the provision student support.

Table 1

*Six targeted gateway courses selected for M.O.R.E. interventions*

<b>Course Number</b>	<b>Course Description</b>
AHS 102	Medical Terminology
ART 101	Art History and Appreciation
BUS 101	Introduction to Business
ENG 101	English Composition 1
MAT 101	Beginning Algebra
PSY 201	General Psychology



Figure 1 – Outline of the three interventions developed as part of the M.O.R.E. program.



The research presented as part of this manuscript investigates the outcomes after year one of the M.O.R.E. program and provides insight into the efficacy of the three interventions presented as part of this project. Here we present data on student success as well as provide qualitative reports from both students and faculty on how they perceive each of the three interventions. The results of this research show the promise of such a regimented and holistic approach to student success in an online learning environment.

## Results

In order to successfully track student progress over the period of the M.O.R.E program, baseline data was collected in the Fall of 2018 detailing student success (measured as a score of C or better) and student withdrawal rate for each of the six targeted gateway courses. Targeted improvement rates were set as an increase in student success by 2% per year and a decrease in student withdrawal rates by 1.25% per year of the four-year program analysis period. The M.O.R.E. program began rollout of each of the three interventions in the Fall semester of 2019 and data was collected both quantitatively and qualitatively after one full year to reflect the effect of the overall implementation.

### *Quantitative Outcomes on Student Success*

Results from the first year of implementation show an overall increase in student success of at least 10%, much higher than the 2% increase goal, in three of the six targeted gateway courses: Medical Terminology (+17%), Art History (+27%), and Introduction to Business (+12%). Likewise, students in General Psychology also met the targeted improvement goal with an increase of 2% in their student success measures. Two of the targeted gateway courses did not meet the targeted success rate over the first year's analysis period with English Composition and Beginning Algebra showing a 1% and 2% decrease in student success respectively (*table 2*).

Table 2  
*Quantitative outcomes on student success*

<b>Course Number</b>	<b>Fall 2018 Baseline</b>	<b>Target</b>	<b>Fall 2020 Data</b>	<b>Change</b>
AHS 102	47%	Increase by 2% per year	64%	+17%
ART 101	54%	Increase by 2% per year	81%	+27%
BUS 101	58%	Increase by 2% per year	70%	+12%
ENG 101	56%	Increase by 2% per year	55%	-1%
MAT 101	39%	Increase by 2% per year	37%	-2%
PSY 201	46%	Increase by 2% per year	48%	+2%

***Quantitative Outcomes on Student Withdrawal Rate***

Of the six targeted gateway courses analyzed, five exceeded the goal of a 1.25% decrease in student withdrawals over the first year. Four of these, Medical Terminology (-8%), Art History (-18%), Introduction to Business (-9%), and English Composition (-3%), at least doubled the -1.25% goal. Beginning Algebra still exceeded the goal but at a slightly lower rate, -2%. Only one of the courses, General Psychology (+5%), showed an overall increase in student withdrawal rate over the first year (*table 3*)

Table 3

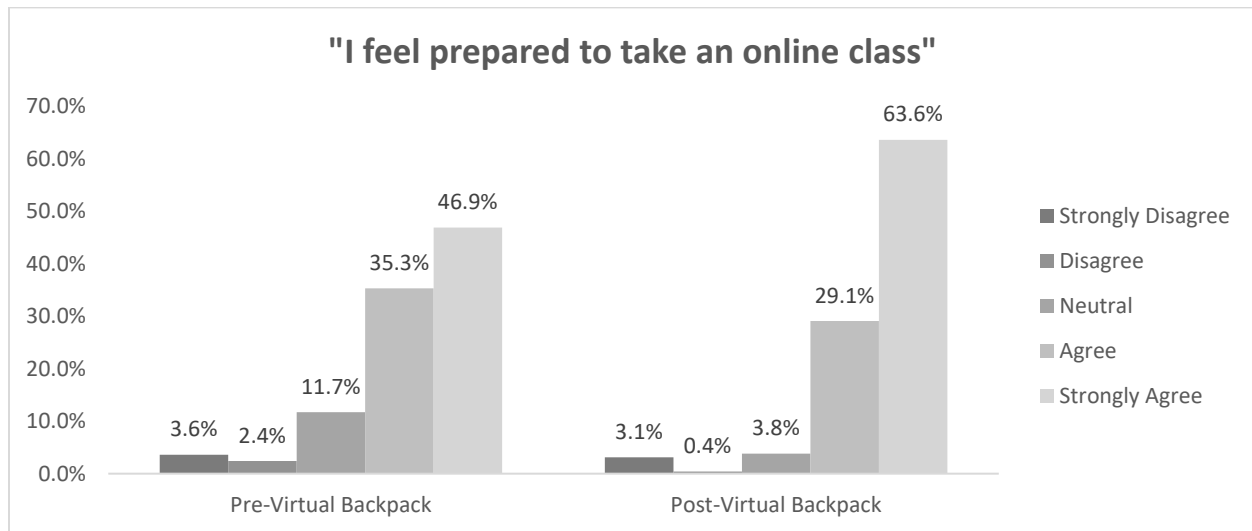
*Quantitative outcomes on student withdrawal rate*

<b>Course Number</b>	<b>Fall 2018 Baseline</b>	<b>Target</b>	<b>Fall 2020 Data</b>	<b>Change</b>
AHS 102	38%	Decrease by 1.25% per year	30%	-8%
ART 101	34%	Decrease by 1.25% per year	16%	-18%
BUS 101	22%	Decrease by 1.25% per year	13%	-9%
ENG 101	35%	Decrease by 1.25% per year	32%	-3%
MAT 101	41%	Decrease by 1.25% per year	39%	-2%
PSY 201	39%	Decrease by 1.25% per year	44%	+5%

***Qualitative Outcomes from Student Participation with The Virtual Backpack***

As part of the completion requirements for the Virtual Backpack, students were asked to complete both a pre and post-course survey outlining their reported preparedness for online coursework. Results show that when students were asked on a five-point Likert scale if they agree with the statement “I feel prepared to take an online class”, there was a 16.7% increase in students who selected “Strongly Agree” on the post-course survey (63.6%) compared to those in the pre-course survey (46.9%) (*fig. 2*). Additionally, students who posted to the Virtual Backpack message board often times had positive feedback regarding their experience. One example of this was, “Thank you for this orientation. It was a huge help to someone 47 and restarting college.”. Another student stated, “This course really helps you navigate your way through your online courses and helps you to have a better understanding beforehand.”.

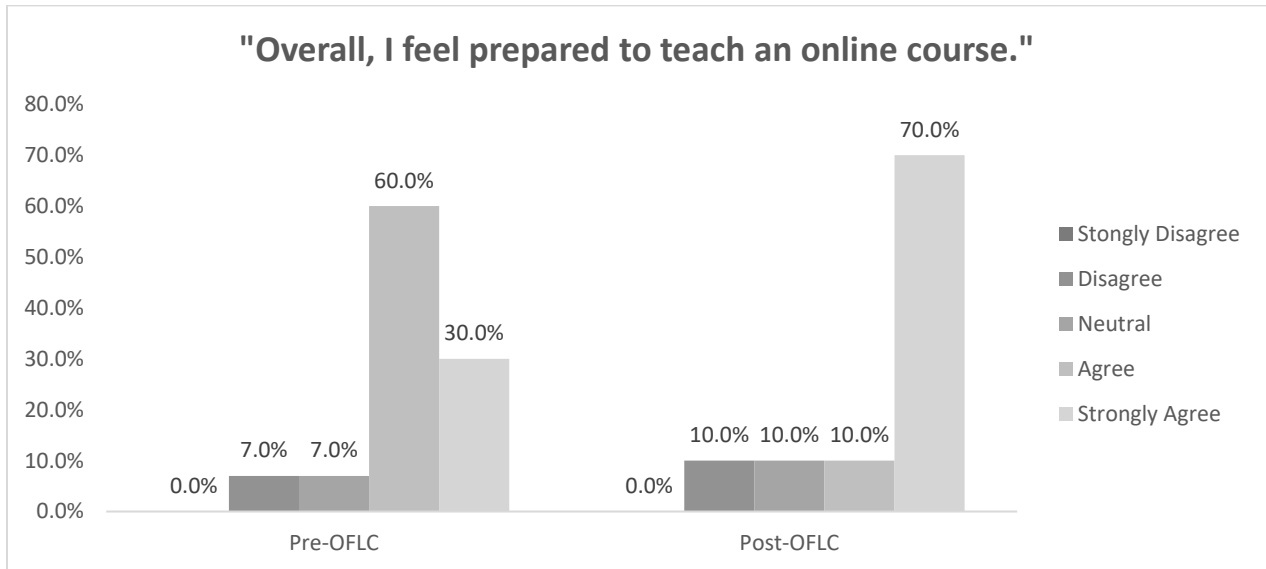
Figure 2 – Qualitative outcomes from student participation with The Virtual Backpack



### ***Qualitative Outcomes from Faculty Participation in the OFLC***

Faculty members who participated in the Online Faculty Learning Community were asked to complete a both a pre- and post-semester survey reflecting on their reported preparedness for teaching an online course. Results show that when faculty members were asked on a five-point Likert scale if they agree with the statement “Overall, I feel prepared to teach an online course.” there was a 40% increase in members who selected “Strongly Agree” on the post-semester survey (70%) compared to those in the pre-semester survey (30%) (*fig. 3*). Of note however, faculty members selected “Agree” at a higher rate (60%) on the pre-semester survey than they did on the post-semester survey (10%). Faculty members also expressed an overall positive experience from participation in the OFLC with one participant stating, “I feel as though this course has opened my eyes to a new way of online teaching.”.

Figure 3 – Qualitative outcomes from faculty participation in the OFLC



### ***Outcomes of Enhanced Online Student Support***

Data outlining student interaction with the online support efforts of the M.O.R.E. program show overall positive outcomes. All students who registered for online courses were required to participate in online advisement through the centralized advisement center. Post-advisement surveys noted that 89.8% of students felt that their advisor was prepared for their advisement session, 90.1% of students felt that their advisor was knowledgeable about their degree, and 86.6% of students felt that their advisor helped plan to stay on track academically. Reports on interaction with the online tutoring portal showed a total of 3023 overall tutoring session over the first year of implementation. Likewise, students gave their tutoring sessions a 4.67 rating out of 5 and gave a 97.5% recommendation rate for other students to use the tutoring services. Expansion of online library resources over the first year of the M.O.R.E. program has also led to the creation of ninety “lib guides” for use in the departments of the six targeted gateway courses. While some of these guides were more general and may have not been specific to any one course, they were made available for all students who may need them.

### **Conclusions**

The Maximizing Online Readiness and Excellence program was created to combat student success discrepancies in online courses compared to their in-person counterparts. Results from the first year of implementation have shown an overall positive influence of the three-pronged intervention approach set forth by the M.O.R.E. team. Quantitative outcomes from the

first year of implementation have shown an overall increase in student success and an overall decrease in student withdrawal rates that exceeded the initial goals of the program for the majority of the six targeted courses outlined in this report. From a student success perspective, four of the six courses either met or greatly exceed the target improvement rate. Of note were English Composition and Beginning Algebra which both showed decreases in student success. While these decreases were minimal, -1% and -2% respectively, it raises the question as to why these two courses may have been more resistant to change than the other four. Previous reports have noted difficulties in learning Math in an online environment due to the array of problem solving skills that are not easily conveyed without personal interaction with an instructor (Ashby et al., 2011; Wilson & Allen, 2011). This could suggest that more is needed in the design of online introductory Math courses to accommodate the understanding of these subject specific skills. While English Composition does not require the same problem solving abilities noted in the learning of introductory Mathematics, similar learning difficulties have been noted with student enrolled in online English Composition courses (Bourdeau et al., 2018). Further investigation into online instruction English Composition will be needed to help the M.O.R.E. team pinpoint any aspects of interest. In regard to student withdrawal rates, five of the six target classes exceeded the targeted rate of decrease set forth at the beginning of the program. However, General Psychology presented itself as an outlier with an overall increase of 5% in student withdrawal. This trend is interesting not only in the fact that it was opposite in what was seen in the other course but also in the relatively high level of increase. One study notes that student success rates vary slightly in Psychology courses when administered online compared to in-person however attrition rates are reported as similar between the two (Waschull, 2001). As a result, this course will be closely monitored moving forward to note anything that may reflect this outcome.

Qualitative analysis was overwhelmingly positive from students in regard to both participation in the Virtual Backpack course as well as to the implementation of enhanced online student support services. Students reported an overall increase in their reported preparedness for online course after completing the Virtual Backpack and rated their interactions with the components of the online student support systems highly. These positive reports were also mirrored in the online faculty after participation in the online faculty learning community. Faculty reported an increase in their reported preparedness to teach online courses and expressed

positive feedback on the learning community and the curriculum which in entailed. Cumulatively, this qualitative data points to an overall positive view of the interventions involved in the M.O.R.E. program. This suggest buy-in from both the students and the online faculty which can be pivotal in the success of the online learning process (Mahoney, 2009; Palloff & Pratt, 2007). Likewise, the candid responses of both students and faculty will allow the M.O.R.E. development team to potentially modify the Virtual Backpack and the OFLC to further meet the needs of students to come. One example of this is adding a more robust section on time management to the Virtual Backpack course. Some students noted that they did not feel that the original content relating to time management was a helpful as some of the other modules. As a result, the M.O.R.E. team is currently looking to redevelop this section in a way that will be more beneficial to learners.

The positive outcomes outlined as part of this report on the efforts of the M.O.R.E. program is noted as the result of the cumulative effect of the three interventions presented. While each individual aspect has had encouraging results from their targeted audience, the quantitative projected success is due to the culmination of each branch of the M.O.R.E. approach. The results presented here outline the first full year of implementation and provide promise for the future. The M.O.R.E. team will continue to monitor and report on their efforts over the next four years. As new recommendations present themselves, each of the three main interventions will be modified to accommodate the needs of both students and faculty involved in the online learning environment.

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## **References**

- Abdous, M. (2019). Well Begun is Half Done: Using Online Orientation to Foster Online Students' Academic Self-Efficacy. *Online Learning*, 23(3).  
<https://doi.org/10.24059/olj.v23i3.1437>
- Angelino, L. M., Williams, F. K., & Natvig, D. (2007). Strategies to Engage Online Students and Reduce Attrition Rates. *Journal of Educators Online*, 4(2).  
<https://eric.ed.gov/?id=EJ907749>

- Arco-Tirado, J. L., Fernández-Martín, F. D., & Hervás-Torres, M. (2020). Evidence-based peer-tutoring program to improve students' performance at the university. *Studies in Higher Education, 45*(11), 2190–2202. <https://doi.org/10.1080/03075079.2019.1597038>
- Ashby, J., Sadera, W. A., & McNary, S. W. (2011). Comparing Student Success between Developmental Math Courses Offered Online, Blended, and Face-to-Face. *Journal of Interactive Online Learning, 10*(3), 128–140.
- Bailey, T. L., & Brown, A. (2016). Online Student Services: Current Practices and Recommendations for Implementation. *Journal of Educational Technology Systems, 44*(4), 450–462.
- Baxter, J. (2012). Who am I and What Keeps Me Going? Profiling the Distance Learning Student in Higher Education. *International Review of Research in Open and Distributed Learning, 13*(4), 107–129. <https://doi.org/10.19173/irrodl.v13i4.1283>
- Bourdeau, D. T., Griffith, K. V., Griffith, J. C., & Griffith, J. R. (2018). An Investigation of the Relationship between Grades and Learning Mode in an English Composition Course. *Journal of University Teaching and Learning Practice, 15*(2). <https://eric.ed.gov/?id=EJ1182694>
- Brown, M., Hughes, H., Keppell, M., Hard, N., & Smith, L. (2015). Stories from Students in Their First Semester of Distance Learning. *International Review of Research in Open and Distributed Learning, 16*(4), 1–17. <https://doi.org/10.19173/irrodl.v16i4.1647>
- Chan, M. (2017). Have You Been Oriented? An Analysis of New Student Orientation and E-Orientation Programs at U.S. Community Colleges. *College and University, 92*(2), 12–25.
- Cigdem, H., & Ozturk, M. (2016). CRITICAL COMPONENTS OF ONLINE LEARNING READINESS AND THEIR RELATIONSHIPS WITH LEARNER ACHIEVEMENT. *Turkish Online Journal of Distance Education, 17*(2), 0–0. <https://doi.org/10.17718/tojde.09105>
- Corrales, A., Goldberg, F., Price, E., & Turpen, C. (2020). Faculty persistence with research-based instructional strategies: A case study of participation in a faculty online learning community. *International Journal of STEM Education, 7*(1), NA-NA.
- Dancy, M., Lau, A. C., Rundquist, A., & Henderson, C. (2019). Faculty online learning communities: A model for sustained teaching transformation. *Physical Review Physics Education Research, 15*(2), 020147. <https://doi.org/10.1103/PhysRevPhysEducRes.15.020147>
- Digest of Education Statistics, 2019*. (n.d.). National Center for Education Statistics. Retrieved November 11, 2020, from [https://nces.ed.gov/programs/digest/d19/tables/dt19\\_311.15.asp](https://nces.ed.gov/programs/digest/d19/tables/dt19_311.15.asp)
- Doe, R., Castillo, M. S., & Musyoka, M. M. (2017). Assessing Online Readiness of Students. *Online Journal of Distance Learning Administration, 20*(1).
- Foster, E., & Siddle, R. (2019). The effectiveness of learning analytics for identifying at-risk students in higher education. *Assessment & Evaluation in Higher Education*. <https://srhe.tandfonline.com/doi/abs/10.1080/02602938.2019.1682118>
- Francis, M. K., Wormington, S. V., & Hulleman, C. (2019). The Costs of Online Learning: Examining Differences in Motivation and Academic Outcomes in Online and Face-to-Face Community College Developmental Mathematics Courses. *Frontiers in Psychology, 10*. <https://doi.org/10.3389/fpsyg.2019.02054>



- Garris, C. P., & Fleck, B. (2020). Student evaluations of transitioned-online courses during the COVID-19 pandemic. *Scholarship of Teaching and Learning in Psychology*, No Pagination Specified-No Pagination Specified. <https://doi.org/10.1037/stl0000229>
- Gierdowski, D. (2019). *ECAR Study of Community College Students and Information Technology*, (Vol. 75). Educause.
- Harris, T. A. (2018). Prescriptive vs. Developmental: Academic Advising at a Historically Black University in South Carolina. *NACADA Journal*, 38(1), 36–46. <https://doi.org/10.12930/NACADA-15-010>
- Huntington-Klein, N., Cowan, J., & Goldhaber, D. (2017). Selection into Online Community College Courses and Their Effects on Persistence. *Research in Higher Education*, 58(3), 244–269. <https://doi.org/10.1007/s11162-016-9425-z>
- Jokhan, A., Sharma, B., & Singh, S. (2019). Early warning system as a predictor for student performance in higher education blended courses. *Studies in Higher Education*, 44(11), 1900–1911. <https://doi.org/10.1080/03075079.2018.1466872>
- Lieblein, E. (2000). Critical factors for successful delivery of online programs. *The Internet and Higher Education*, 3(3), 161–174. [https://doi.org/10.1016/S1096-7516\(01\)00036-7](https://doi.org/10.1016/S1096-7516(01)00036-7)
- Liu, J. C. (2019). Evaluating Online Learning Orientation Design with a Readiness Scale. *Online Learning*, 23(4), 42–61.
- Liu, J. C., & Adams, A. (2017). Design of Online Student Orientation with Conceptual and Procedural Scaffolding. In F.-Q. Lai & J. D. Lehman (Eds.), *Learning and Knowledge Analytics in Open Education: Selected Readings from the AECT-LKAOE 2015 Summer International Research Symposium* (pp. 41–68). Springer International Publishing. [https://doi.org/10.1007/978-3-319-38956-1\\_5](https://doi.org/10.1007/978-3-319-38956-1_5)
- Liu, J. C., & Roberts-Kaye, E. (2016). Preparing online learning readiness with learner-content interaction: Design for scaffolding self-regulated learning. *Handbook of Research on Strategic Management of Interaction, Presence, and Participation in Online Courses*, 216–243.
- Lokken, F., & Slimp, M. (2017). Evolving Strategies and Lessons Learned from the Instructional Technology Council Annual eLearning National Survey. *Community College Enterprise*, 23(2), 73.
- Luongo, N. (2018). An Examination of Distance Learning Faculty Satisfaction Levels and Self-Perceived Barriers. *Journal of Educators Online*, 15(2). <https://eric.ed.gov/?id=EJ1186012>
- Magda, A., Capranos, D., & Aslanian, C. (2020). *Online college students 2020: Comprehensive data on demands and preferences*. Wiley Education Services.
- Mahoney, S. (2009). Mindset Change: Influences on Student Buy-In to Online Classes. *Quarterly Review of Distance Education*, 10(1), 75–83.
- Martin, F., Stamper, B., & Flowers, C. (2020). Examining Student Perception of Readiness for Online Learning: Importance and Confidence. *Online Learning*, 24(2), 38–58.
- Mohr, S. C., & Shelton, K. (2017). Best Practices Framework for Online Faculty Professional Development: A Delphi Study. *Online Learning Journal*, 21(4). <https://www.learntechlib.org/p/183780/>
- Moore, K. (2017). The Relationship Between Tutoring and Academic Success of Students Enrolled in Remedial Mathematics. *Theses and Dissertations*. [https://nsuworks.nova.edu/fse\\_etd/151](https://nsuworks.nova.edu/fse_etd/151)

- Mosa, A., Mahrin, M. N. bin, & Ibrahrahim, R. (2016). Technological aspects of e-learning readiness in higher education: A review of the literature. *Computer and Information Science*, 9(1), 116.
- Ornelles, C., Ray, A. B., & Wells, J. C. (2019). Designing Online Courses in Teacher Education to Enhance Adult Learner Engagement. *International Journal of Teaching and Learning in Higher Education*, 31(3), 547–557.
- Palloff, R., & Pratt, K. (2007). Building Online Learning Communities: Effective Strategies for the Virtual Classroom. *Centers for Teaching and Technology - Book Library*. <https://digitalcommons.georgiasouthern.edu/ct2-library/185>
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity. *Postdigital Science and Education*, 2(3), 923–945. <https://doi.org/10.1007/s42438-020-00155-y>
- Reinheimer, D., & McKenzie, K. (2011). The Impact of Tutoring on the Academic Success of Undeclared Students. *Journal of College Reading and Learning*, 41(2), 22–36. <https://doi.org/10.1080/10790195.2011.10850340>
- Rhode, J., Richter, S., Gowen, P., Miller, T., & Wills, C. (2017). Understanding Faculty Use of the Learning Management System. *Online Learning*, 21(3), 68–86.
- Scoulas, J. M., & Groote, S. L. D. (2019). The Library's Impact on University Students' Academic Success and Learning. *Evidence Based Library and Information Practice*, 14(3), 2–27. <https://doi.org/10.18438/eblip29547>
- Shea, P., & Bidjerano, T. (2018). Online Course Enrollment in Community College and Degree Completion: The Tipping Point. *International Review of Research in Open and Distributed Learning*, 19(2). <https://doi.org/10.19173/irrodl.v19i2.3460>
- Soria, K. M., Fransen, J., & Nackerud, S. (2013). Library Use and Undergraduate Student Outcomes: New Evidence for Students' Retention and Academic Success. *Portal: Libraries and the Academy*, 13(2), 147–164. <https://doi.org/10.1353/pla.2013.0010>
- Steele, G. E. (2018). Student Success: Academic Advising, Student Learning Data, and Technology. *New Directions for Higher Education*, 2018(184), 59–68. <https://doi.org/10.1002/he.20303>
- Sundy, C. (2020). *The Impact of the Student Support Services Program on the Retention of Students at Southeast Kentucky Community and Technical College*. <https://ir.library.msstate.edu/handle/11668/17539>
- Tanis, C. J. (2020). The seven principles of online learning: Feedback from faculty and alumni on its importance for teaching and learning. *Research in Learning Technology*, 28. <https://doi.org/10.25304/rlt.v28.2319>
- Travers, S. (2016). Supporting online student retention in community colleges: What data is most relevant? *Quarterly Review of Distance Education*, 17(4), 49–62.
- Waschull, S. B. (2001). The Online Delivery of Psychology Courses: Attrition, Performance, and Evaluation. *Teaching of Psychology*, 28(2), 143–147. [https://doi.org/10.1207/S15328023TOP2802\\_15](https://doi.org/10.1207/S15328023TOP2802_15)
- Wei, H.-C., & Chou, C. (2020). Online learning performance and satisfaction: Do perceptions and readiness matter? *Distance Education*, 41(1), 48–69. <https://doi.org/10.1080/01587919.2020.1724768>

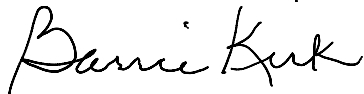
- White, K. (2018). Examining Online Delivered Orientation To Online Learning Association With Community College Student Success. *All Theses And Dissertations*.  
<https://dune.une.edu/theses/165>
- Wilson, D., & Allen, D. (2011). Success Rates of Online versus Traditional College Students. *Research in Higher Education Journal*, 14. <https://eric.ed.gov/?id=EJ1068796>
- Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017). Faculty Perceptions about Teaching Online: Exploring the Literature Using the Technology Acceptance Model as an Organizing Framework. *Online Learning*, 21(1), 15–35.
- Xu, D., & Jaggars, S. (2011). *Online and Hybrid Course Enrollment and Performance in Washington State Community and Technical Colleges*. <https://doi.org/10.7916/D8862QJ6>
- Xu, D., & Jaggars, S. S. (2013). The impact of online learning on students' course outcomes: Evidence from a large community and technical college system. *Economics of Education Review*, 37, 46–57. <https://doi.org/10.1016/j.econedurev.2013.08.001>
- Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior*, 70, 251–260.  
<https://doi.org/10.1016/j.chb.2016.12.085>

**To:** Devin Henson and Eric Goff  
**From:** Barrie Kirk, Provost  
**Subject:** The Journal of The Instructional Technology Council IRB approval  
**Date:** October 26, 2020

As you know, Midlands Technical College (MTC) does not have a formal Institutional Review Board. However, Dr. Ron Rhames, President of MTC and I have reviewed your proposal to share preliminary results on student success from the implementation of our Quality Enhancement Plan. We approve the access and integration of the requested MTC data into your journal submission. We understand that the data will include student grades, student feedback surveys, and faculty feedback surveys. We also understand that all identifiable information for students and faculty will be kept confidential. Please report any necessary changes to the proposal to my office.

Your research and findings are of special interest to our college and our students, and we look forward to reading your manuscript.

Sincerely,

A handwritten signature in black ink that reads "Barrie Kirk". The signature is written in a cursive, flowing style.

Barrie Kirk, Ed.D.  
Provost  
Midlands Technical College