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Not So Suddenly Online: Preparing UMGC's Students and Faculty for Online Success

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The COVID–19 pandemic has forced institutions of higher education to replace face-to-face classes with online and hybrid offerings. Faculty and students find themselves suddenly online and isolated in remote learning environments; further, many practices successful in classrooms fail to translate to online. Relying on its deep experience with student-centered online education, educators at the University of Maryland Global Campus (UMGC) built a course to prepare students for online success. The Professional and Career Exploration (PACE) course is based on learning and persistence theory and high-engagement practices; the seven effective principles for enhancing learning and retention in higher education (summarized by Cuseo, 2018) are incorporated in the design of PACE 111. Faculty members are supported by two faculty support courses (FACDEV 411 and FACDEV 111). As a result, qualitative and quantitative data indicates that students' completion and re-enrollment rates are higher than comparable early term courses. Students also report high degrees of satisfaction and confidence in their academic direction after the PACE course. As a result, this paper may inform educators in other institutions as they seek to make successful transitions to online learning environments.

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The COVID–19 pandemic has forced U.S. institutions of higher education to replace face-to-face classes with online and hybrid offerings. Faculty and students have found themselves suddenly online, and many feel disconnected and isolated in remote learning environments; further, many practices that are successful in face-to-face classrooms fail to translate to the medium. Students who are new to higher education may face the double challenge of adapting to a new way of learning as well as a new learning environment.

What are the suddenly online to do? What can their institutions do to help? All may look to the experiences of online universities for guidance since each online student and facilitator has had to make a shift from face-to-face instruction to the online learning environment. They found themselves *suddenly online*.

The University of Maryland Global Campus (UMGC) has a long and innovative record of preparing and graduating online learners. UMGC was recently renamed from the University of Maryland University College (UMUC) and has a history dating back to 1947 of delivering distance education to working adults. While the tools and approaches to learning have evolved significantly since 1947, the common thread has been non-traditional learners with many outside obligations. A student-focused culture, and in particular, a military-student-focused culture, evolved alongside the tools and approaches and is a part of that thread.

The latest innovation by UMGC to help students adapt to online learning is the development of the course *Program and Career Exploration 111, PACE 111*. The university required PACE 111 for all undergraduate students new to UMGC and launched it in August 2019. Rather than reading about the mechanics of online learning, students learn to navigate the online environment as they engage with learning resources and complete their discussions and assignments. PACE 111 focuses on engaging students and easing their transition to higher education and potentially a new career.

College Success Preparation

UMGC designated PACE 111 as an undergraduate General Education course. Each of its eight weeks includes an interactive discussion and an assignment based on the interests of students. The topics include setting goals, evaluating one's own learning skills and strengths, exploring one's degree program, creating a schedule, dealing with distractions (team project), identifying three trends in one's career field, networking, completing an informational interview, and creating a college success plan. As explained in the section, *Rationale for the Design of PACE 111 and FACDEV 111,* the courses are designed to apply the research findings in an integrated way to achieve a higher level of learning and persistence in their online degree programs.

To help faculty facilitate well in the online environment, UMGC offers two required preparation courses, taken in order, Faculty Development 411 New Faculty Academic Orientation (FACDEV 111) and Faculty Development 111 Coaching and Providing Feedback That Matters (FACDEV 111). All faculty members must complete FACDEV 411; faculty members designated to teach PACE must also complete FACDEV 111. FACDEV 411 prepares faculty for online learning at UMGC by welcoming them and providing information about UMGC's unique history, mission, values, and non-traditional students, while

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preparing them to teach effectively in the student-facing learning management system. FACDEV 111 facilitates faculty coaching skills to create an active and motivating presence in the classroom. In the course, faculty members to first establish trust and build supportive relationships with each student to improve persistence and academic success. Faculty who may be accustomed to asynchronous-only online courses come to appreciate the power of video conferencing. In FACDEV 111 they create a welcome video to use in their PACE 111 class. They also conduct periodic check-ins with students by video, phone, or, if necessary, email.

Seven Learning Principles

Research over the last three decades has shown seven effective principles for enhancing learning and retention in higher education (summarized by Cuseo, 2018) that are incorporated in the design of PACE 111. These principles were largely researched in face-to-face courses, and extend, with adaptation to the technology, to online learning. The seven principles are reviewed in the following subsections.

Personal Validation

Numerous studies found personal validation improved students' learning and persistence (see e.g. Rendón, 1994; Schlossberg, Lynch & Chickering, 1989; Terenzini et al., 1996). Students feel validated when they are recognized as individuals, shown to matter to the college, and find personal significance in their experiences. These feelings are enhanced when members of the college community care about their success.

Self-Efficacy, Growth Mindset, & Grit

These three concepts are closely tied, from a practical viewpoint, and support improved learning and persistence (see, e.g., Aronson, Fried, & Good, 2002; Bandura, 1977; Chemers, Hu, & Garcia, 2001; Dweck, 2000, 2006; Duckworth, 2016; Elias & Loomis, 2002; Multon, Brown, & Lent, 1991; Paunesku et al., 2015; Rendón & Garza, 1996; Solberg et al., 1993; Weiner, 1986, 2000). Student learning and persistence is maximized when students possess self-efficacy, the belief that they can influence or control their educational fate and succeed in any situation. Students with a growth mindset believe that mistakes are learning opportunities; that they aren't stuck with their in-born talents; and that their knowledge can be "grown." Grit, as defined by Duckworth (2016), combines a passion for an outcome with the belief that tenacity and endurance will overcome any obstacles to the goal. Growth mindset pairs with grit which results, for those who have it, in positive academic outcomes achieved through personal effort, perseverance, and resilience.

Meaning and Purpose

Students are more likely to persist and have enthusiasm for learning when they find meaning and purpose in their undergraduate experience, and when they appreciate the significance of a college education and connect their academic learning, current life, and future goals together (see e.g. AAHE, ACPA, & NASPA, 1998; Ausubel, 1978; Fink, 2013; Kuh & O'Donnell, 2013; Parks, 2000: Ryan & Deci, 2000; Winkelmes, 2013; Wlodkowski, 1998).

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Active Involvement (Engagement)

Student learning and persistence increase proportionately to the amount of time and energy students invest in their college experience—both inside and outside the classroom (see e.g. Astin, 1984, 1999; Chickering & Gamson, 1987; Kuh et al., 2005; Kuh & O'Donnell, 2013; McKeachie et al, 1986; Pace, 1990).

Reflection

Learning and persistence improve when students take time to reflect on, think deeply about, and connect their learning experiences to what they already know. Students may also reflect on how they learned to improve their learning skills (see, e.g., Baxter Magolda, 2004; Belenky et al., 1986; Dewey, 1933; Rogers, Kuiper, & Kirker, 1977; Symons & Johnson, 1997).

Social Integration

Student learning and retention are facilitated by interacting, collaborating, and forming relationships with other students and members of the college community, including peers, faculty, staff, administrators, and alumni (Astin, 1993, Berger & Luckman, 1967; Bruffee, 1993; Ewell, 1997; Feldman & Newcomb, 1969; Johnson, Johnson, & Smith, 1998; Pascarella & Terenzini, 1991, 2005; Ryan & Deci, 2000; Slavin, 1996; Tinto, 1993, 2012).

Self-Awareness (Self-Knowledge)

Students' learning persistence increases when they gain self-insight into, and remain mindful of, their (a) learning strategies and habits, (b) ways of thinking, and (c) personal talents, interests, and values (AAHE, ACPA, & NASPA, 1998; Buckingham & Clifton, 2001; Hart, 2004; Langer, 1997; Pintrich, 1995; Schön, 1987;

Smith, 2011; Weinstein & Underwood, 1985; Willis, 2006; Zimmerman, 1990).

In Student Learning

The learning goals of PACE 111 draw on the seven principles discussed above. The course, which addresses student readiness, motivation, and mindset with a focus on academic and career goals, seeks to provide personal validation for individual students through instructor connections and assignments that encourage self-reflection. Upon completion of PACE 111, students should:

- Have improved academic readiness

- Have developed a growth mindset

- Be able to practice self-reflection to set and maintain personal, academic, and career goals

- Feel confident they belong at the university and can succeed

- Feel connected and significant to the university, faculty, and other students

- Understand the requirements of their chosen degree programs and connect with the career paths they hope to pursue.

PACE 111's Performance Goals

The goals of PACE 111 follow:

1. Improve completion rates compared with other courses that students take early in their programs

2. Achieve higher persistence, as shown by a higher continuation rate to the next term

3. Raise the average student satisfaction scores

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4. Enhance faculty satisfaction with teaching the course

5. Prepare students for continuing success in other courses by

   o Enhancing self-efficacy and confidence

   o Elevating engagement in the course over typical courses

   o Connecting with faculty and other students

The course quality principles include the following. The first three principles are adopted from Merrill's e^3 principles of course quality (2012) and the fourth, empowering, is contributed by UMGC:

1. Effective—do the students achieve the learning goals?

2. Engaging—do the students find the course interesting and motivating?

3. Efficient—do the activities of the course make good use of the students' time in achieving their results?

4. Empowering—do the activities in the course support the growth of the students' personal and professional capabilities?

Rationale for the Design of PACE 111 and FACDEV 111

Each of the seven learning and persistence principles are mapped in the following sections to the elements of PACE 111 and FACDEV 111 that implement them.

Personal Validation

PACE 111 encourages personal validation by beginning with a focus on the power of inspirational stories, with an opportunity for students to share their personal stories and to reflect on their goals, motivations, and values and what drives

them to accomplish milestones. Videos of university alumni and a student commencement speaker offer advice from graduates and share the obstacles they overcame as new students on the way to accomplishing their goals. The one-on-one communication with the instructor is also introduced as an opportunity for students as a resource to answer any questions and help guide them on their way. The sense of community is established at multiple levels—peer to peer as well as with the instructor and the university.

FACDEV 111 instructors coach faculty to validate students by showing genuine interest in their biographical posts. Validation continues through coaching on any aspect leading to student success. Faculty members are coached to validate students' performance in several critical ways, to include providing feedback that emphasizes students' strengths in the performance and opportunities for improvement rather than corrections. Faculty members validate students' potential for success with feedback because they believe that their students can improve and learn. The coaching scenario models providing and receiving feedback through a dialogue exercise that reinforces concepts as both an instructor and a learner.

Self-Efficacy, Growth Mindset & Grit

The adult learner may have a variety of contexts to reflect on their problem solving and learning experiences in a professional or nonacademic setting yet still lack confidence in their academic abilities. PACE 111 emphasizes less the habits of mind of being a good student and more of how to learn, and how adopting a growth mindset can enhance personal agency. The course instructor presents research on the brain's proven ability to adapt and grow and

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offers strategies for improving learning. In a discussion topic, students are asked to share some examples of how they can apply growth mindset in daily interactions in either a professional or an academic setting. Students consider a learning experience that was successful and what they were able to learn and what did they did that helped them succeed, and how they would apply those strategies to their classwork. Growth mindset and grit are explicitly taught and reinforced through coaching, and projects are designed with a "low floor but high ceiling" (Boaler, 2019) that do not require deep prior knowledge but are challenging for all students so they become proud of the result.

In FACDEV 111, faculty model the growth mindset through communication and coaching on interactions. Trainers encourage faculty to rethink their practice and beliefs in student engagement and classroom management.

Meaning and Purpose

The course content and activities of PACE 111 all focus on establishing and reinforcing connections to a student's individual goals and purpose in attending the university. Early in the course they develop goals, values, and motivations and link them to the course. The final week asks students to prepare a motivational speech that they would give to someone close to them who questioned their decision to enroll in the university right now. To prepare the speech, they are asked to review their Goals, Values, and Motivations assignment from week 1 and to reflect on how their perspective may have changed since the first week and what they learned about themselves in the process. The Learning Management System (LMS) has a "Locker" feature and students

are encouraged to save all their work to revisit and review for up to four months.

Faculty have experience in the disciplines (i.e., business, cyber security, military) and can offer feedback generally and broadly on careers and degree paths. In FACDEV 111, trainers instruct faculty who will be teaching online classes. The trainers model coaching in their feedback to faculty members' diverse responses to scenarios. The training encourages faculty trainees to reflect and modify practice.

Active Involvement (Engagement)

The PACE 111 course encourages students' involvement in their learning by incorporating activities that ask students to evaluate how they have learned successfully in the past and consider how they would apply those concepts to their academic work. They also create a four-week schedule that lays out all events competing for their time, to include work, family, and leisure activities. This schedule recommends that students get commitments from partners and other family members to support their educational goals.

Students also create a reflective success plan that includes their short- and long-term goals, the most efficient path to a bachelor's degree, and support systems to sustain students in their learning journeys. Six distinct models of PACE 111 enable students to become more immersed in their field from the start, thus increasing relevance of the course to their goals in the curriculum. The six models are focused on the disciplines of Business, Communication and Humanities, Multidisciplinary Studies, Public Safety, Healthcare and Sciences, and Technology programs.

In FACDEV 111, the faculty coach responds to all introductions and offers feedback to all scenarios and discussions,

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modeling desired behavior and feedback principles.

Reflection

Throughout the PACE 111 course there are multiple opportunities for students to reflect on their prior experiences and how to improve their learning skills. Early in the course, students reflect on their experiences and dreams to develop their goals, values, and purpose statement. The final week *Reflection: Putting It All Together* asks students to reflect on what they've learned about themselves, their strengths, and their support needs. The goal is not "busy work" but a personally meaningful plan for their educational and professional goals that asks them to specifically reflect on their professional and academic progress during the course.

Social Integration

Course activities promote students' social integration in weekly discussions, moderated by the faculty member but mostly between student peers, enabling students to form collegial relationships and exchange ideas. The two one-on-one instructor connections forge student-to-mentor relationships, building trust and a shared commitment to students' goals and well-being. Students also learn about the breadth of career services that promote connections, networking opportunities, along with the other foundational support resources, to include student advising, the student services portal, and program planning. Finally, students work on a team project to produce a short presentation on distractions and how they can be avoided. This assignment creates a shared experience and comradery.

FACDEV 111 teaches faculty how to use Zoom Pro to create ADA-compliant introductory videos which enable them to strengthen their social presence in PACE 111. These videos are required of all PACE 111 faculty. Students can see and hear their professor prior to their one-on-one instructor connection, thus putting them more at ease during their first interaction.

Self-Awareness (Self-Knowledge)

The course activities invite students to reflect on their personal attributes, learning strategies, and how they are motivated to learn by asking them to explore their own goals, motivations, and values to understand what drives them in their personal and professional lives. They also learn how to apply a growth-mindset way of thinking to their everyday lives, and to step out of their comfort zones to schedule and conduct a short interview with a professional in their field. This assignment builds students' confidence as they overcome their natural reticence to engage with successful people.

In FACDEV 111, faculty are prompted to examine their own approach to feedback and improvement coaching through a series of questions about building trust, removing judgmental language, emphasizing strengths, and providing opportunities for growth. The coaching, mentoring, and teaching roles are explored; faculty complete an activity to identify behaviors and attitudes associated with each role.

Methodology

The sample consists of students who took the PACE 111 course in the first and second terms in which the course was offered. The success, reenrollment, and student satisfaction rates are compared to

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those of students in other courses that students take in their first terms at UMGC.

In addition to these standard metrics, to determine whether students in the PACE 111 group felt more confident and prepared for college than they might have felt without the course, PACE 111 students and a comparison group of similar students who did not take the course were surveyed about these issues in Fall 2019. Survey results are shown in Figure 4 below. Because the course was made available to all students, we could not conduct a true randomized test of the efficacy. However, the design used approximates that approach as well as possible under the circumstances.

Almost four thousand students took PACE 111 in the first term (Fall 2019); 5,280 students took the course in the next term (Spring 2020), and 3,524 students took the course in the third term (Summer 2020), which is cyclically lower. The UMGC population is diverse and spans a broad age range. The PACE students in Fall 2019 were 53% female, with an average age of 31 (min: 17; max: 74). Students self-reported their races to be 36% White, 34% Black or African American, and 12% Hispanic or Latino. The Spring 2020 group was similar, with 47% female students and an average age of 32 (min: 16; max: 76). Students enrolled in Spring 2020 self-reported their races to be 37% White, 31% Black or African American, and 12% Hispanic or Latino.

We also report data on faculty who taught the PACE 111 course. Faculty were surveyed after completing the training for PACE 111, which focused on mentoring students in an online environment.

The three survey instruments used for the evaluation were the student end of course evaluation questionnaire, the student survey on growth mindset, and the faculty satisfaction survey. The end of course survey included textual responses to be analyzed qualitatively.

Findings

Students enrolled in PACE 111 in Fall 2019 were asked which components of the course they found most useful. The survey produced 627 textual responses that have been analyzed qualitatively. Students' responses to the question of what they found most useful were coded into 27 concepts, totaling 898 encodings. Each concept was analyzed for its relevance to the research and mapped to one of 10 categories, the learning and persistence principles, the *supportive environment*, the *method of delivery*, or *knowledge of their program.*

The following comments provide representative samples of the responses that were coded and the recorder's rationale for assigning a category:

> "The informational interview was the most challenging assignment for me. I'm not very outgoing, so contacting people and conducting an interview pushed me out of my comfort zone, but it was a good assignment and gave me insight into the industry."
> [this statement was coded as *interview* and categorized as *meaning & purpose.*]

> "I found the support services very interesting. My last college didn't have anything remotely similar. I found some of the assignments challenging, such as creating a success plan and the list of my goals and values. It caused me to reflect a lot which is rare for me to

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do." [the statement was coded with *supportive environment, learning challenge, preparation for success in program & life,* and *self-assessments & reflection*; it was categorized as *supportive environment, meaning & purpose,* and *self-knowledge.*]

The distribution and categorization of the encoding of all statements are shown in Table 1.

Table 1

The Relative Frequency of the Coding Categories and the Combined 7 Principles of Learning and Persistence

Category	Number of Encodings	% by Category, n=898
Supportive environment	225	25%
Delivery method	13	1%
Learn about program	10	1%
One or more of the 7 principles	650	72%

If it were a principle, the category *supportive environment* would have been the most encoded with 225 or 25% of all encodings. The students included *helpful faculty* (46) and *supportive resources* (179) in that category. The *delivery method* refers to the interface, organization, and navigation of the course. It registered at 1% of the mentions and was often the only mention by the student, which suggests that course navigation could have been a significant barrier for them. The *learn about program* category represents the responses showing students valued knowing their program

better and/or learned how to accelerate their program completion either through the scheduling module in the course or through awareness of alternate forms of credit.

Beyond these relevant encodings and not included in the 898 encodings in Tables 1 and 2, were 11 responses that indicated that the course was redundant to the students' prior learning, and 12 responses that strongly recommended the course for all students. Table 2 presents the relative frequency of the encoded 7 principles.

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Table 2

The Relative Frequency of the Encodings for Each of the Seven Principles of Learning and Persistence

Principle	Number of Encodings	% of Encoded Principles, $n=650$
Engagement	145	22%
Meaning & purpose	151	23%
Mindset & learning skills	70	11%
Self-knowledge	34	5%
Reflection	40	6%
Social integration	136	21%
Personal validation	74	11%

Of the seven principles, we see what students value the most from the course, in particular, *meaning and purpose, engagement*, and *social integration*. Within *meaning and purpose*, career goals outweighed life goals 14% to 9%. Within engagement, the interview of someone in their field garnered 8% of the encodings, followed by interesting curriculum at 7% and learning & challenge at 6%. From the students' view, the interview assignment can be seen as one of the most important assignments in the course, since it contributes to *engagement* in the course and is also connected to *meaning & purpose* as a career-oriented activity. It is also connected to *social integration* for the networking that it initiated. *Social integration* includes counts of references to networking, discussion boards, and other mentions of connecting with students and faculty, and comprises 21% of the encoded principles.

Other interesting findings from the data were mentioned less frequently but demonstrate the impact the course had on some of the students. The use of video for one-on-one meetings between faculty and students was noted 28 times. Many of the 34 students who mentioned something in the *self-knowledge* principle expressed welcome surprise at considering their emotions, goals, and life purpose for the first time.

The principles form a large part of what students mentioned as being *most useful* in the course at 72% of the total mentions. Since these principles are validated in the literature as leading to learning and progression, we can argue that the course has succeeded in its design objectives. Longer-term analysis of student learning and their progression term-to-term and to graduation will give support to the validation of PACE 111's purpose.

Success Rates (Fall 2019 and Spring 2020)

Three courses were selected for the comparison group to determine whether PACE 111 was performing well. The Introduction to Writing (WRTG111), Concepts and Applications of Information Technology (IFSM201), and Introduction to Psychology (PSYC100) courses are all high enrollment courses that students generally take in their first few terms at UMGC. While not a comparison to all undergraduate courses, Figure 1 shows that PACE 111

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performed as well as or better than its comparison courses in the Fall 2019 and Spring 2020 terms. In both terms, PACE 111 had significantly higher success rates than two out of three of the comparison courses ($p<.01$).

Figure 1

Comparative Course Success Rates, Fall 2019 & Spring 2020
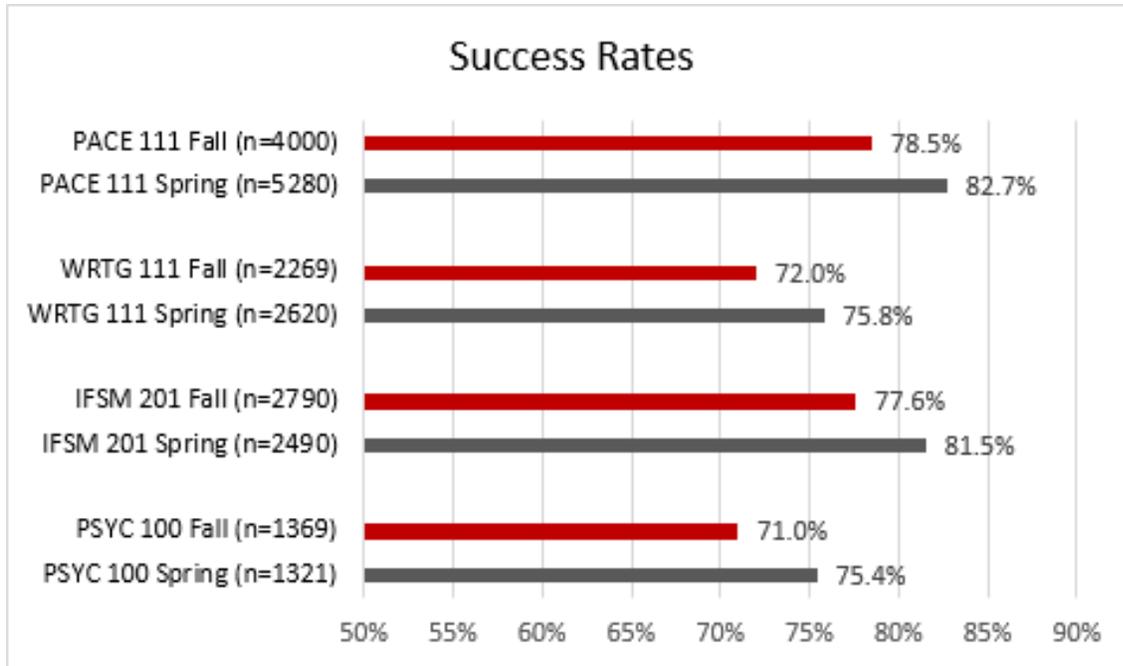
Re-enrollment Rates

Table 3 shows the percentage of students in each course who enrolled in the subsequent term. While Summer enrollment is lower across the board (even non-traditional students enjoy some time off in the Summer), PACE 111 outperformed each of the other three courses in both terms ($p<.05$, two-tailed).

Table 3

Reenrollment Rates

	IFSM 201	PSYC 100	WRTG 111	PACE 111
Fall to Spring	70%	58%	59%	74%
Spring to Summer	58%	49%	52%	63%

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Evaluation Ratings

The quantitative responses for the end of course student evaluations were extremely positive. Because these data are collected anonymously, it is not possible to break the data down by demographics of interest. Responses are coded as 1 if the student agrees or strongly agrees with the statement.

As shown in Figure 2, Fall 2019 PACE 111 scores are higher than the comparison courses for every category. Perhaps most importantly, the differences between PACE 111 and the other courses are statistically significant, tested using a z-score for two population proportions ($p<.05$, two-tailed test): students rated the PACE 111 instructors significantly higher than instructors in the comparison courses.

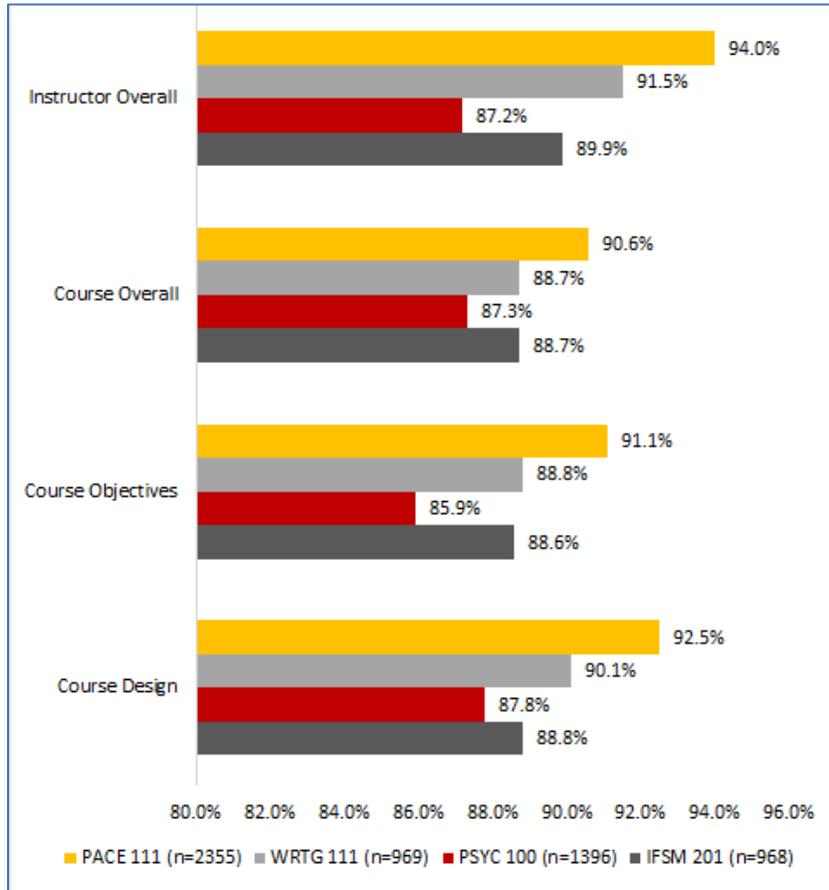**Figure 2**

Fall 2019 Average Course Evaluation Scores
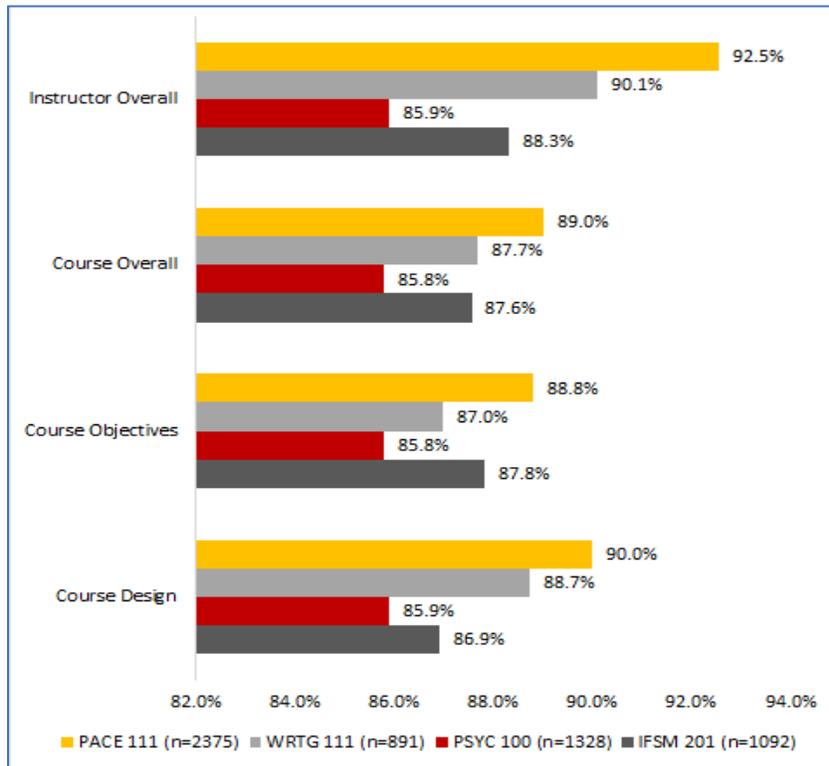
For Spring 2020, Figure 3 shows the results to be similarly positive for PACE 111. For this term, not only are the results for instructors significantly higher than for other courses ($p<.05$, two-tailed), but the results for the other categories are also statistically significant (except for course overall, where the differences between PACE 111 and IFSM 201 and WRTG 111 are not significant).

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Figure 3

Spring 2020 Average Course Evaluation Scores

Students' qualitative responses to the end-of-course evaluation showed an overwhelmingly positive experience for the PACE 111 course. When asked to discuss the topics they found most interesting, the most common student responses included getting to know more resources at UMGC, getting the opportunity to think more deeply about their goals and the academic plan that would help them to reach the goals, as well as interactions with their fellow students and faculty members through the discussion boards and instructor connections.

Preparedness Survey (Fall 2019)

As part of the PACE 111 course, students were asked to participate in a post-course survey (separate from the course evaluation survey). This survey asked eight questions related to confidence, preparedness, knowledge of resources, community, and growth mindset. A separate survey of non-PACE students in their first term at UMGC was also completed to allow comparison of the results of the PACE 111 group to a control group. The results (Figure 4) show that the PACE 111 respondents have higher scores in every category about which we asked.

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Six hundred and thirty-one PACE 111 students completed the survey in the first session of the Fall 2019 semester (OL1), and 159 non-PACE students participated in the control group (a response rate of 5.3%). Responses are coded as 1 for strongly agree and somewhat agree, and 0 otherwise.

As shown in Figure 4, the responses are higher for PACE 111 for every question. The difference is also statistically significant for every question. As such, compared to non-PACE students, PACE 111 students are significantly more likely to:
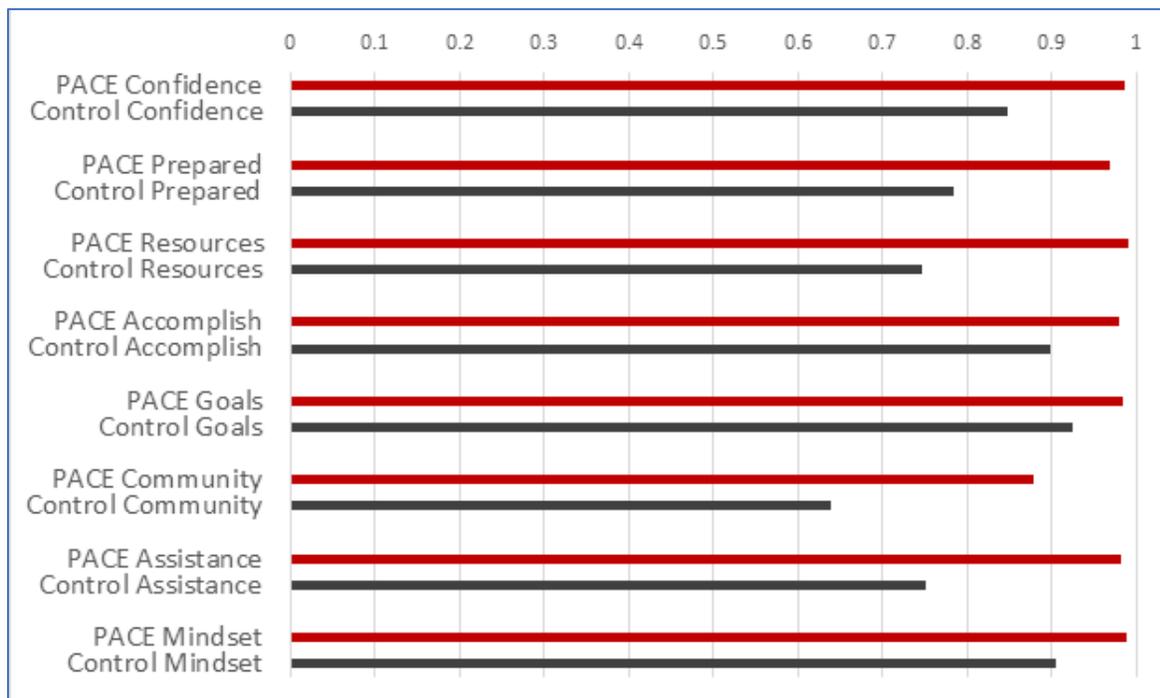
- Feel confident they will be able to complete the work they need in order to graduate

- Feel prepared for future courses at UMGC

- Know where to find resources for student support at UMGC

- Know what they want to accomplish during their time at UMGC

- Have set goals to work towards

- Feel like a part of the UMGC community

- Know where to turn for assistance if they run into academic hurdles

- Feel their abilities can be improved through hard work and a commitment to learning (growth mindset)

Several of these measures have been shown in the literature to correspond with academic success and add further evidence to the impact of PACE on retention and graduation.

Figure 4

Fall 2019 Post-Course Preparedness Survey

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Faculty Satisfaction with the FACDEV 111 Course

A survey was sent to faculty who taught PACE 111 in the first term to follow up on the FACDEV 111 training course and determine how it could be improved in the future. Thirty-two of the 52 instructors who were invited chose to participate, for a response rate of 62%.

Three-quarters of respondents (75%) indicated that the FACDEV faculty training course prepared them to teach PACE 111. Of the respondents who did not believe it prepared them, respondents cited uncertainty around the instructor connection and uncertainty or lack of familiarity with the course content. Respondents also indicated that they felt the FACDEV 111 course was designed to help faculty mentor/coach students, rather than being a specific PACE 111 training course.

Throughout the duration of the first term of the course, faculty feedback was gathered through a Google Form that allowed faculty to raise issues with the course administrators and suggest areas of improvement. Most of the issues raised in the faculty feedback form were minor. These included confusion around the grading of group work, frustration around the technology used to schedule instructor connections, and small mistakes or typos in assignment instructions. Many instructors also took the time to report they encountered no issues.

Discussion

Learning Goals

Direct evaluation of the students' assignments demonstrate that the learning goals have been met, since course completion depends on meeting these goals.

This is shown in Figure 1, *Comparative Course Success Rates,* where PACE 111 exceeds other course completions.

Design Goals

PACE 111's design goals have been met, as discussed in the section *Rationale for the Design of PACE 111 and FACDEV 111.*

Quality Goals.

Figures 2 and 3 demonstrate sufficient evidence that the quality goals for PACE 111 have been met, particularly the questions on overall course quality, course objectives, and course design. The efficiency goal is indirectly demonstrated by overall satisfaction as well as high completion and re-enrollment rates.

Performance Goals

PACE 111's performance goals are discussed in the following list:

1. *Improve completion over other first term courses.*
   As shown in Figure 1, the success rate of PACE 111 on a term-wise basis has exceeded other first term courses by 5 or more percentage points, in all but one case, where it exceeded IFSM 201 by an average of 1 percentage point.

2. *Achieve higher persistence, as shown by a higher next-term continuation rate.*
   Table 1 shows that PACE 111, term-wise, exceeded the next term re-enrollment rate of other first term courses by 4 to 16 percentage points.

3. *Raise the student satisfaction scores average over other first-term courses.*
   Figure 2 demonstrates that PACE satisfaction in Fall 2019 exceeds the other courses' scores in all four

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satisfaction categories of overall instructor, overall course, course objectives, and course design. Figure 3 demonstrates an even higher satisfaction level and generally wider gap with other courses' results.

4. *Enhance faculty satisfaction with teaching the course.*
Survey results discussed in the section, *Faculty Satisfaction,* show that 75% of faculty felt prepared. Satisfaction results and qualitative comments by students reporting greater connection with faculty and other students reinforce this report. Future work could involve adding topics directly related to the teaching of PACE 111.

5. *Prepare students for continuing success in other courses.*

No data has been collected on subsequent course success; however, as shown in the survey results reported in Figure 4, students report they feel more prepared than students in other first-term courses. Additional analysis will follow as students complete subsequent terms.

Conclusions and Future Research

The research outcomes have a number of limitations that deserve noting. The first is the dissimilarity of the comparison courses to PACE 111. Reasons the student ratings of the PACE 111 may exceed those of the comparison group are that they have a traditional cognitive focus, are taught by general faculty, are likely more challenging in workload and complexity of knowledge to be learned. As elements of the approach begin to be implemented in other courses, they could also improve. A second possible limitation is the higher instructional burden of the PACE 111 course. Faculty communicate more frequently with students and invest more of themselves in student relationships. These emotional and time burdens

need to be measured and reviewed for reduction of activity not essential to the success of students. A third limitation on the general applicability of the outcomes is the short time of the study of outcomes. Ideally, progression and graduation rates would be available to show degree of shift in the progression curve (how much credit students earn before stopping). Differential learning success between the treatment and control groups in subsequent courses should also be analyzed in a longer study. Finally, there is some concern that students may have expectations for high engagement and support in subsequent courses that may not be met. The incorporation of various positive elements, such as but not limited to synchronous video, self and goal reflection, and coaching could mitigate gaps between expectations and the reality of general courses. More widespread faculty development in the areas of strategies for learning and progression could narrow the gap, as well.

Students reported being better prepared than before for future academic work and re-enrolled at higher rates. Significantly, a re-enrollment rate that is between 4 and 16 percentage points higher represents 40 to 160 more continuing students per 1000 students. Students also reported that the design goals of the course were met, and these goals are derived from principles of student learning and persistence from the research. Longer term research is needed to demonstrate the impact.

Creating and tracking performance objectives goes beyond the typical learning objectives of a course yet are critical to achieving overall objectives of the university to support its mission of graduating students prepared to thrive in their careers. Since meeting the performance scores can be partially attributed to the course design and faculty preparedness, PACE 111's success is attributed to the

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mapping of the course onto the seven
principles of learning and persistence and
the use of faculty development courses.

Due to the transparency of the design
described herein, other institutions may
follow the design principles presented in this
paper to create a similar course to ease the
transition and enhance the success of their
"suddenly online" students.

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