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Expanding the Learning Assistant (LA) Model across the Curriculum to Transform Teaching through Student-Centered Collaborative Learning

Authors:	***Brittanney Adelmann***, Director-Math Learning Center, Adjunct Faculty-Mathematical Sciences
	Jennifer Bebergal, Associate Dean for Retention & Academic Support-Center for Learning and Student Success
	Jason Mireles-James, Associate Professor-Mathematical Sciences

Contributing and Supporting Faculty:

Mathematical Sciences	*Stephen Locke*, Professor and Chair
	Lee Klingler, Professor and former Chair
	Erik Lundberg, Associate Professor
	Necibe Tuncer, Associate Professor
	Zvi Rosen, Assistant Professor
	Kasia Winkowska-Nowak, Instructor
Chemistry & Biochemistry	*Predrag Cudic*, Professor and Chair
	Daniel Huchital, Professor
	Maré Cudic, Associate Professor & Director-Honors in Chemistry
	Tito Sempertegui, Senior Instructor
Biological Sciences	*Sarah Milton*, Professor and Chair
	Marianne Porter, Assistant Professor
	Matthew Lovelace, Instructor
Physics	*Christopher Beetle*, Associate Professor
Exercise Science & Health Promotion	*Michelle Papania*, Instructor
Business (Information Tech. & Operations Mgmt.)	*Mary Schindlbeck*, Senior Instructor
	Jonathan Sweet, Instructor
Business (Executive Programs)	N*ancy Shehadeh*, Adjunct Professor and Online Program Coordinator
Engineering & Computer Science	*Nancy Romance*, Director-FAU STEM Collaborative
	Tami Sorgente, Senior Instructor
	Sareh Taebi, Instructor
Education (Educational Leadership)	*Jenny Bloom*, Professor
Education (Curriculum, Culture & Ed. Inquiry)	*Bianca Nightengale-Lee*, Assistant Professor and AACTE Diversified Teacher Workforce Chair
Arts & Letters (Music)	*Kevin Wilt*, Associate Professor and Chair
Arts & Letters (Languages/Linguistics)	*Justin White*, Associate Professor-Spanish & Linguistics
	Geraldine Blattner, Associate Professor-French & Linguistics
Honor's College	*Terje Hill*, Professor and Associate Dean
	Warren McGovern, Professor-Mathematics
	Laura Vernon, Professor-Psychology & Provost Fellow-Student Mental Health
Center for Online & Continuing Education	*Julie Golden-Botti*, Executive Director
Student Affairs & Enrollment Management	*Andrea Guzman*, Associate Vice President-Student Outreach & Diversity and Diversity Platform Chair
	Debbi Johnson-Rais, Director-Scholars Program

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FOCUS OF THE QEP PROPOSAL

The Learning Assistant (LA) Program has improved student learning outcomes, satisfaction with teaching, and course completion in Calculus and Chemistry at Florida Atlantic University. This Quality Enhancement Plan (QEP) proposes to extend this successful, evidence-based program in classrooms spanning general education, gateway, and discipline-specific courses across all colleges and campuses. It is anticipated that courses redesigned with the LA model will support and create a cultural shift in how courses are taught, improving student learning outcomes, retention, and graduation rates.

Boldness, a core goal in FAU's Strategic Plan[19], includes initiatives to "develop an academic support structure for timely student graduation" by "evaluat[ing] and update[ing] curricula to be aligned with evidence-based practices, as established by learning sciences" and "assist faculty to develop innovative instructional methodologies and designs across the curriculum." An additional goal is to "provide meaningful employment on campus to provide work experience and relieve financial burden for students." The expansion of the LA program across the University also aligns with many of FAU's Strategic Values by encouraging *excellence* in teaching, providing *accountability* for redesigned courses through a solid assessment and continual improvement plan, promoting *teamwork* among faculty designing the course and students within the course, and solidifying *student success* through a commitment to provide student-centered, equitable, inclusive, and collaborative learning spaces.

The LA model: Teaching quality, curriculum design and assessment, and heightened student engagement are at the core of student success. The LA Program fosters these core activities by supporting faculty, students, and Learning Assistants (LAs). Particularly noteworthy is the positive impact of LA programs on critically important gateway courses often taught in a traditional lecture format (*Fig. 1*). Failure to pass these gateway courses precludes students, disproportionally members of underrepresented groups, from pursuing certain majors. In the LA model, faculty are supported in the redesign of courses to embed trained LAs who facilitate active learning and collaborative group work for all students in the classroom (*Fig. 2*). The LA model is adaptable and can evolve to meet the vision of faculty and needs of students in any classroom environment, online or in person. LAs are undergraduate students who, through the guidance of course instructors and a pedagogy course, facilitate discussions among students as part of a learning team. Students become responsible for their own learning as they are engaged with peers to apply course content.

Figure 1: Instructor-centered traditional lecture
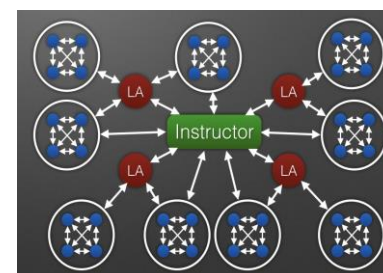
Figure 2: Student-centered redesigned collaborative lecture

There are three essential elements of the LA model (*Fig. 3*): *Practice, Preparation,* and *Pedagogy*. Each of these elements work in concert to deliver a successful LA experience for faculty and students. *Practice* is the course redesign, incorporating in-class, small group active learning strategies facilitated by trained peers. *Preparation* (weekly prep) is a meeting between faculty and their LAs in which they discuss upcoming content, reflect on past content students are struggling to grasp, and discuss how to best facilitate learning. LAs act as student advocates by sharing the student perspective on learning.

Figure 3: The LA Experience

Pedagogy is a weekly seminar for first semester LAs where they discover how students learn, reflect on their own teaching strategies, and share experiences and challenges with other LAs.
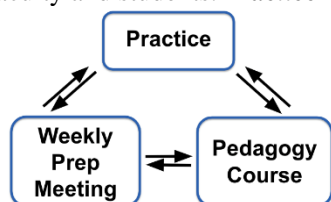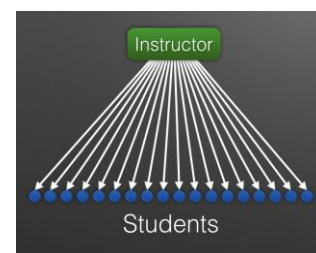
GOALS AND ASSESSMENT

Through the expansion of the LA program and development of an LA Office (see Scope of Plan and Timeline), we expect to achieve the goals and outcomes listed below. The method(s) of assessment and link(s) to Performance Metrics (PM), Key Performance Indicators (KPIs), and Career Competencies (CC) are given for each outcome (Appendix A).

Goal 1: Transform the culture of teaching and learning through course redesign to incorporate collaborative learning, enhance student engagement, and create more equitable and inclusive learning environments	
Student Learning Outcomes	**Measurements**
A Heightened ability in students to think critically and apply material learned (*CC1*)	In class assessments, NSSE
B Improved content-based student learning gains (*KPI5*)	Content area pre- and post-tests; DFW reports
C Demonstrated increases in NACE career competencies for students and LAs (*PM1-2, CC1-8, KPI6,14-15*)	Alumni/employer surveys, NSSE, LA course student evaluation/ surveys, pedagogy reflections, pre/post competency assessments
Student Success Outcomes	**Measurements**
D Strengthened student satisfaction with instruction	SPOT, LA surveys, NSSE, student satisfaction/alumni surveys
E Increased sense of belonging and thriving for students and LAs	Healthy minds survey, NSSE, attitudinal pre/post surveys
F Increased sense of community, engagement, and student satisfaction in distance learning courses	SPOT, course surveys

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G	Participation in more equitable learning environments as LAs close the gap for students from historically disadvantaged backgrounds (*PM4-6, PMnew1-2, KPI1-5*)	IEA dashboards and reports, DFW reports by race, gender, ethnicity, first-generation status
H	Enhanced student feelings of inclusivity fostered by LAs	LA surveys, attitudinal pre/post-surveys, NSSE diversity module

Goal 2: Enhance student performance with redesigned courses, yielding positive impacts on KPIs and performance metrics

Student Success Outcomes		**Measurements**
A	Decreased DFW rates and time to degree; increased graduation rates, especially for students and LAs from historically underrepresented groups (*PM4-6,9, PMnew1-2, KPI1-5,8,11*)	IEA data reports
B	Increased retention of high achieving students/LAs	IEA data reports
C	Increased retention within major, progression to degree, completion of gateway courses for students/LAs (*PM4-6,9, PMnew1-2, KPI1-5,8,11*)	IEA data reports

Goal 3: Design opportunities for faculty development inclusive of LA Communities to Reimagine Learning (LA-CRLs), new LA faculty canvas course, LA faculty mentoring roles, and LA program showcases to provide cross-departmental discussion and sharing of ideas and best practices

Faculty Outcomes		**Measurements**
A	Increased faculty knowledge of effective pedagogies and active collaborative learning strategies for use in the design and implementation of transformed courses (*KPI5*)	LA-CRL pre/post surveys, LA faculty canvas course assessments, syllabus, and course material analysis
B	Strengthened faculty feelings of satisfaction, engagement, and support as a result of teaching LA courses	Faculty surveys
C	Enhanced faculty development activities and LA teaching experiences on non-LA courses that faculty members teach	Faculty surveys
D	Guided faculty development of an assessment plan for redesigned courses	Faculty submission of course assessment plan and supporting materials through LA Campus
E	Heightened sense of awareness about challenges students face, both academic and non-academic, and strategies for addressing these	LA-CRL pre/post surveys, LA faculty canvas course assessments, syllabus, and course material analysis
F	Increased opportunities for faculty to showcase publications, best practices, and impacts across disciplines; promotion of LA model to non-LA faculty	Showcase participant survey, self-report of publications and presentations on the LA model through FAIR Reporting and to the LA Office

Goal 4: Build 0-credit LA Pedagogy and 1-credit Advanced LA Pedagogy courses

Student Learning Outcomes		**Measurements**
A	Heightened ability for LAs to think critically and apply effective pedagogical techniques (*PM1-2, KPI14-15, CC1-8*)	LA Pedagogy course reflections, assignments, presentations, and assessments
B	Advanced understanding for LAs of the elements of a research project and ability to develop presentations and/or publications with faculty in the LA model (*CC1-3,6-8*)	Assessments in advanced pedagogy course

Student Success Outcomes		**Measurements**
C	Increased undergraduate research opportunities for LAs (*CC1-3,6-8*)	Self-report, publications, and presentations

Goal 5: Increase undergraduate student employment opportunities

Student Success Outcomes		**Measurements**
A	Greater retention and graduation for LAs, especially those from historically disadvantaged populations (*PM4-6, PMnew1-2, KPI1-5*)	IEA dashboards and reports, DFW reports by race, gender, ethnicity, first-generation status

Goal 6: Recruit and prepare future teachers

Student Learning Outcomes		**Measurements**
A	Expanded interest in/desire to investigate teaching as a career for LAs	LA surveys; observations of authentic classroom experiences

Student Success Outcomes		**Measurements**
B	Greater completion by LAs of teacher certification programs and/or enrollment in graduate programs with the intent of collegiate teaching (*PM1,6, KPI11,14-15*)	LA exit survey, state certification records, graduate school enrollment

Goal 7: Conduct LA program evaluation

Program Outcomes		**Measurements**
A	Increased number and breadth of courses/sections redesigned, number of students enrolled in LA courses, and number of LAs employed over the next ten years	LA Campus, IEA data reports
B	Increased progression of students in gateway courses and persistence in major for students enrolled in LA courses	IEA data reports
C	Expanded number of faculty involved in faculty development activities	LA Campus, Canvas, Annual Fall retreat and Showcase attendance, FAIR reports
D	Correlated outcomes between the number of LA courses a student participates in and any increase in persistence and graduation (both generally and within the major).	IEA data reports and research studies

In addition to the assessment activities outlined above, continual reflection, assessment, and improvement of newly transformed courses are vital for ensuring the redesigns are leading to the expected outcomes. An assessment plan for each course is created by faculty during the course proposal process and enhanced during the LA-CRL. Data related to the plan is collected, analyzed, and reported on by faculty to the LA Office each semester for the first three years. Improvement plans are developed based on this analysis. After years three and five, a full course assessment will be done by the LA director in collaboration with the faculty. Courses not meeting expected outcomes will be supported in developing corrective action before going forward.

EVIDENCE OF EFFECTIVENESS

The theoretical framework behind the LA model builds on Schreiner's concept of thriving. A student who thrives has a psychological sense of community, meaning, purpose, major certainty, and degree aspirations. While academic performance and graduation are important, there is more to the student experience to help them thrive. Schreiner's view of student success considers how students "are engaged in the learning process, invest effort… connect in healthy ways to other people, are optimistic about their future and positive about their present choices, and are committed to making a meaningful difference in the world around them.[41]" In turn, these factors lead to enhanced sense of belonging and fit, increased satisfaction, and greater academic achievement, retention, and persistence to degree.

Beginning in 2000 at University of Colorado, Boulder, over 100 LA Programs have now been implemented worldwide. National research studies have shown the wide impact of these LA programs. One such study showed that students in LA classes had learning gains 1.6 times greater than in traditional courses.[27] A recent meta-analysis of 39 programs published in the International Journal of STEM Education[5] found DFW rates improved for all students,[1,2] with larger decreases in DFW rates for students of color.[45] Teaching without LAs is associated with a steady decline in concept learning for students as compared to instructors teaching with Las;[6] being an LA promotes a stronger identity for the student to their major;[8] coupling LA support with collaborative learning is correlated with higher learning gains than collaborative learning alone;[27] improved learning gains are observed in LA-supported courses;[30] the LA program engages students and faculty in teaching as a practice and career and improves student learning gains;[34,35,36] students in LA-supported courses performed better on exam questions requiring higher order cognitive skills, and this difference was greater among underrepresented minority students;[42] and LA usage is associated with improved concept inventory scores.[46]

Researchers also found benefits for the student LAs: the knowledge and leadership skills needed to excel at the LA position leads to the development of stronger professional identities;[31] LAs have significantly higher learning gains than students who taught or conducted research in other environments;[37] LAs are more attentive to student thinking and recognize the importance of responsiveness;[38] and LA-faculty partnerships range from mentorship to collaborative as faculty and LAs learn from each other.[39]

LA ties to improved mental health and socio-emotional benefits: The most basic concern in higher education is finding ways to more fully involve students in learning.[40] Research shows that the greater "the amount of physical and psychological energy that the student devotes to the academic experience," the better the outcome.[4] Faculty course design impacts this experience, but students need the support of the community of learners in the LA model to socio-emotionally cope and adapt to challenges.[25] As the LA program creates a community of learners, it guides students through new ways to interact with peers, course materials, and tasks in a small group fostering community membership.[8] Schlossberg[40] describes the concept of marginality versus mattering, and the belief that one mattering to others acts as a motivator. Group membership affiliated with the LA program gives students a sense of mattering, helping develop strong socio-emotional skills and decreasing depression. When compared to interventions with no active or collaborative learning, programs with supervised skills practice (as in the LA model) have shown heightened benefits in socio-emotional learning.[9] The LA program improves sense of belonging,[42] which is needed more than ever before. When dealing with COVID-19 ramifications and remote/online and HyFlex learning, belonging, and mattering are essential to allow students to not only persist, but thrive. Opportunities for students to collectively learn from each other must not be foregone in a time when needed most.[20]

LA ties to retention and graduation: Research has also shown that the LA program has a positive impact on retention. Studies associating lower DFW rates with LA programs indicate these programs may have "long term positive impacts on institutions' finances through increased retention."[29] Large lecture courses, often utilized to teach gateway courses, appear to be cost-effective. However, high student to faculty ratio leads to high failure rates which can lead to students switching majors or leaving the institution. This ultimately results in lost revenue to the school.[10] LA courses increase the ratio of course support and can negate this trend. A recent study showed students enrolled in an LA course in year one, have a 3% increase in retention to year two over students not exposed to the LA program in their first year. This increase grows to 4% for students one standard deviation below the average high school GPA.[3] The LA program even correlates with graduation rates. At the Rochester Institute of Technology, an analysis was conducted showing that "a student earning a DFW in an introductory STEM course reduced their six-year graduation by 7%" which can be limited by offering LAs in those courses (S. Franklin, personal

communication, March 12, 2021). Finally, in a study from 2004 to 2014 at University of Colorado (CU)-Boulder, they found LAs graduated at a 97.1% rate compared to only 88.3% of students in a matched sample.[36]

LA ties to equity: Studies have shown a greater decrease in course failure among nonwhite and first-generation students as compared with majority groups when the LA program is implemented.[2] While historically, white males comprise the majority of physics majors, models indicate that the LA mitigates disparities in gender and ethnic achievement leading to increases in equity.[44] Not only do DFW rates for students of color improve in LA courses more than for majority students, but research shows that LA support correlates with a reversal of traditional learning gaps between race and gender.[43,44] A study of over 32,000 students at CU-Boulder enrolled in Physics I & II courses between 2001-2016 showed that students who took the course with LA support (N=23,074) had significantly lower DFW rates for all demographics than students

Figure 4: DFW rates at CU-Boulder Physics by demographic

who took the same courses without LA support *(Fig. 4)*. Compared to the same group in non-LA sections, the average difference for students in LA sections was an eight percentage point decrease in DFW. When looking at first-generation college students, that decrease was 10 points, 11 points for non-white first-generation female students, and a 16 percentage point drop in DFW rates for non-white first-generation female students who were one standard deviation below the average high school GPA.[2] The LA program has been shown to impact creation of equitable learning environments. It can reduce barriers to individual advancement in their degree program and provide students of all backgrounds with equal opportunities.

FAU outcomes tied to the LA Program: Similar outcomes are evident at FAU. The LA program in Calculus has led to significant decreases in DFW rates, with the average DFW rate in Calculus I cut in half over the past four years. Prior to implementation of the LA model, the DFW rate averaged 48-56% each semester. In 2018-2019, the DFW rate ranged from 21-28%. In a study by the Office of Academic Success Initiatives,[15] findings showed that students in LA courses (Calculus I and II) earn higher grades across all levels of high school preparation with the effect most pronounced for students entering with lower high school GPAs. The DFW rates in Calculus I declined while the number of students earning an A increased (*Fig.5*). The analysis also showed that students completing Calculus I with the LA model are more likely to enroll in Calculus II than peers who completed the

Figure 5: Grade distribution trends in calculus since course redesign

original Calculus course pre-LA. This can lead to increased persistence in majors with high employment prospects such as Engineering, Computer Science and Physics. IEA analysis on students enrolled in Calculus I (2016-2019) shows positive impacts on equity as female students (N=391) have 5.3% higher pass rates than female students in non-LA Calculus sections (N=437) and Black students, irrespective of gender, have a 4.7% higher pass rate in the LA sections (N=235) than Black students in non-LA sections of the course (N=192).

LAs were piloted in one of the two sections of Dr. Tito Sempertegui's Chemistry II course during the spring 2020 semester with promising initial outcomes. While a global pandemic impacted the original plan, results for the first two in-person exams showed statistically significant increases in test scores for students in the LA section as compared to the non-LA section. With the move to online synchronous learning, student attendance at Chemistry LA sessions is consistently over 90%, while the instructor indicates that by mid-semester in this large lecture course (N=295 per section) attendance typically drops below 50%
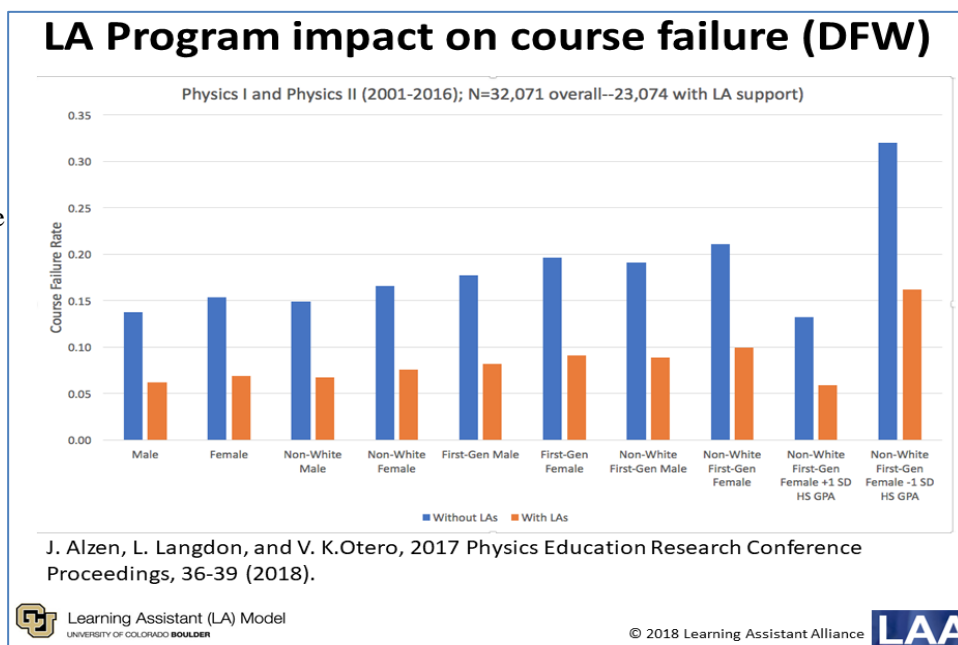
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(T. Sempertegui, personal communication, March 12, 2021). Attendance is equally high in LA courses in mathematics. This result appears due to a combination of clear instructor expectations and students feeling that attendance has value and provides a personal connection. To view an inspirational example of collaborative group work with LAs in Chemistry II, click here.

LA ties to career competencies and workforce development: LA programs allow both LAs and students within LA courses to develop the career competencies that employers seek. These outcomes are currently demonstrated at FAU through the reflections shared by students. During the pedagogy course, LAs reflect on their experience and draw concrete examples of how they demonstrated each of the eight NACE career readiness competencies (www.naceweb.org) through their LA role (Appendix A). They develop stories to share during employer or graduate school interviews to clearly articulate how the LA position helped them develop workforce competencies in areas ranging from leadership to professionalism. Further, according to the NACE website, for the third year in a row, "critical thinking and problem solving" was ranked as the top skill employers seek. "Teamwork" was a close second with 98% of employers ranking these two competencies as the most essential skills in new hires. The LA program gives students across the curriculum the opportunity to develop these important skills and much more!

> As a student in the LA Program, I have acquired critical thinking and problem-solving skills because the questions that the LA's would ask our group...would allow us to brainstorm together and figure out a solution rather than blatantly give out an answer."
> – Leila, Calculus LA

Students regularly describe their positive impressions of LA supported learning.

> "Sometimes I felt that I had a stupid question where I was completely embarrassed to ask the professor... I would go into the breakout room with some of my classmates and finally felt comfortable asking our LA, since they are also a student... If I hadn't asked those questions, I can't say with confidence that I would have passed that course, and actually not only calculus, it goes for all my courses where we were provided a[n] LA. The LA's provide awesome ways to study for tough courses, give one on one attention to your concerns (sometimes even personal)... they provided a sense of normalcy and connectivity in a time where everything feels disconnected and lonely... Looking at my college career, the one thing I wish FAU would have offered were more courses with LA's."
> – Olivia, LA student

Click here for more stories from FAU students about how the LA program has impacted them.

DATA TO SUPPORT LEARNING REIMAGINED AT FAU

The evaluation of a variety of data sources has identified areas for growth in student learning and student outcomes, which directly or indirectly would be impacted by expansion of the LA model across the curriculum at FAU.

Data related to student outcomes on Performance Metrics (PM), course DFW rates, Key Performance Indicators (KPIs), and equity are of utmost importance to consider. While FAU has made tremendous progress on state PMs, new metrics related to graduation of AA transfer (PMnew1) and Pell students (PMnew2) as well as existing metrics on 4-year graduation rates (PM4) and Academic Progress Rates (APR, PM5) are metrics that this QEP is expected to impact. With a focus on first-year, large enrollment and gateway courses, the LA model could have the greatest potential to increase APR, the metric with the most room for improvement and where FAU most struggles. In 2020-21, FAU scored only 1 point on APR (excellence). With students entering FAU following more than a year of fractured learning during the pandemic, it will be a challenge to maintain points in this area without significant interventions to enhance student learning and support students where they are. Through a commitment to supporting FTIC courses, the LA program can significantly impact APR (PM5). Further, we expect outcomes beyond simply retaining students. FAU scored 7 points on PM4 based on a 3.5% increase in graduation rate over the prior year. While it is difficult to maintain such a high level of improvement, expansion of the LA model can launch FAU into the excellence category for this and other graduation related metrics. (Goals 1A-B,D-H,2A-C,3A-C,E,7A-D)

Perhaps the most important KPI that is not a direct PM is KPI5, percent of undergraduate courses with above 20% DFW rate. In fall 2019, 96 courses fit that criteria with a total enrollment of 15,100 students, an average of 157 students per course. Seventeen courses had over 300 students (average 583 students) and 34 courses had fewer than 50 students. Through this QEP, nearly any course that is above 20% DFW could apply for course redesign. Courses with high rates of students earning grades of D, F or withdrawing run the gamut from lower-division gateway courses in math, science, and engineering to upper-division major-based courses in nursing, business, social sciences and humanities. With clear evidence that the LA model improves pass rates, this proposal directly targets this measure. Indirectly,
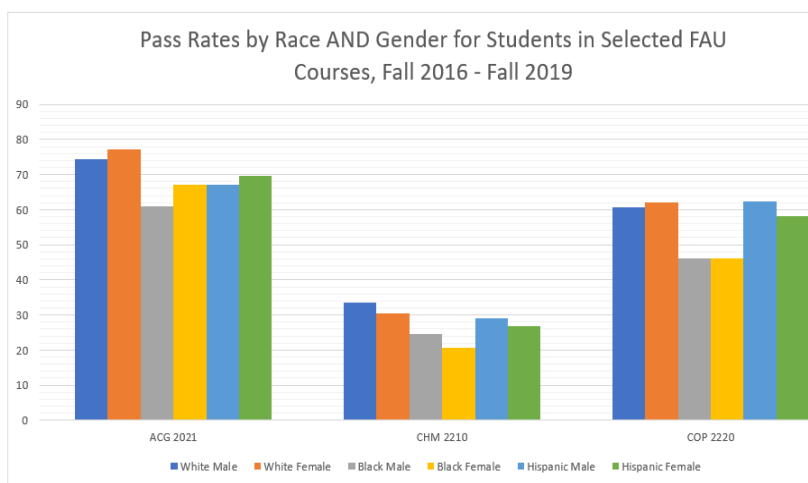

Figure 6: Course disparities based on race and gender

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students passing these courses will lead to improved retention and graduation rates. (Goals 2A-C,7A-D)

Evidence clearly shows that our students are performing differently, based on factors often beyond their control. An analysis of data provided by IEA which examines course pass rates in select FAU courses by race, gender, and first-generation status shows that white students outperform Hispanic students who outperform Black students across a wide range of courses. Add the intersection of gender to race and we see these outcomes even further exacerbated.

Figure 6 outlines a sampling of course disparities based on race and gender from fall 2016 to fall 2019. For Financial Accounting (ACG 2021), a required business prerequisite for all Business majors, Black, Hispanic and first-generation students are passing at significantly lower rates than their white classmates.

ACG2021 6,103 students *(overall 4,332 pass; 70.98%)*	Black male pass rate: 61.18% (N=353)	white male pass rate: 74.4% (N=1107)	-13.22%
	Black female pass rate: 67% (N=520)	white female pass rate: 77% (N=812)	-10%
	Hispanic male pass rate: 67.08% (N=544)	white male pass rate: 74.4% (N=1107)	-7.32%
	Hispanic female pass rate: 69.59% (N=492)	white female pass rate: 77% (N=812)	-7.41%
	first-generation pass rate: 66.86% (N=821)	non-first-generation pass rate: 71.99% (N=3493)	-5.13%

In Organic Chemistry (CHM2210), the pass rates are some of the lowest of any course at FAU. This is a necessary course for students pursuing a wide range of STEM majors, and inequities in pass rates lead to inequities in completion of degrees in these key disciplines. Again, students of color underperform white students in each category.

CHM2210 7,760 students *(overall 2,166 pass; 27.91%)*	Black female pass rate: 20.5% (N=286)	white female pass rate: 30.6% (N=485)	-10.1%
	Black male pass rate: 24.67% (N=131)	white male pass rate: 33.59% (N=265)	-8.92%
	Hispanic student pass rate: 27.53% (N=642)	white student pass rate: 31.58% (N=751)	-4.05%
	first-generation pass rate: 24.66% (N=472)	non-first-generation pass rate: 29% (N=1658)	-4.34%

Introduction to Programming in C (COP2220) is a required prerequisite course for students to earn a degree in Computer Science or Computer Engineering. As course sizes increased over the past several years, so did DFW rates. Gender does not seem to play a large factor in student outcomes in this course, however race does.

| COP2220 2,939 students *(overall 1,729 pass; 58.83%)* | Black student pass rate: 46% (N=296) | white/Hispanic student pass rate: 61% (N=1101) | -15.02% |
| | first-generation pass rate: 55.12% (N=334) | non-first-generation pass rate: 59.4% (N=1371) | -4.28% |

The same result holds for other key courses across the curriculum. Consider Food, Nutrition, and Health (NUR3183), a required course for Nursing majors. Disparate outcomes for students of color can impact diversity in the Nursing profession.

NUR3183 899 students *(overall 715 pass; 79.53%)*	Black female pass rate: 68.28% (N=155)	white female pass rate: 86.01% (N=252)	-17.73%
	Hispanic male pass rate: 69.57% (N=16)	white male pass rate: 75% (N=36)	-5.43%
	first-generation pass rate: 74.18% (N=158)	non-first-generation pass rate: 80.86% (N=545)	-6.68%

These equity failures hold beyond gateway and major courses. Consider BSC1005, Life Science, a high enrollment IFP course, where gender plays a large difference in outcomes. Males pass at a far lower rate than female students, leading to low engagement and attrition of male students.

| BSC1005 12,344 students *(overall 10,233 pass; 82.9%)* | male pass rate: 80.1% (N=4,777) | female pass rate: 85.51% (N=5452) | -5.41% |
| | Black male pass rate: 75% (N=933) | Black female pass rate: 82.26% (N=1099) | -7.26% |

Civitas, a predictive analytic software using big data, shows that students in the IFP course Sociological Perspectives (SYG1000) who earn a "C" (passing grade) are 82.3% likely to persist, but only 45.9% likely to graduate. With fewer than 13% of students earning a D, F or W in this course, it is often not on the institutional radar, yet careful investigation reveals the discrepancies for Black males. As a Civitas "yellow flag signal course," this inequity in student outcomes will lead to inequities in graduation for these Black males.

| SYG1000 7,478 students *(overall 6547 pass; 87.55%)* | Black Males earning A/B: 50.81% (N=347) | white females earning A/B: 73.63% (N=1,321) | -22.82% |

This is the part of the analysis that most disturbed the proposal authors, but at the same time provides the greatest hope. ***There are few interventions that so clearly can impact student course outcomes for students in underrepresented groups.*** The *LA Ties to Equity* section above clearly demonstrates how the LA model significantly impacts outcomes for all students, with an even greater impact on students from the backgrounds that we most need to help. The selection of this QEP will lead to the provision of equitable learning environments and the opportunity for all students to successfully engage in and complete challenging courses at FAU.

Additional data supporting LeArning Reimagined as the QEP for FAU can be seen in a series of surveys recently conducted and offering insight into the abilities and attributes of FAU students. According to these Employer, Alumni, and Faculty surveys, the FAU experience, while positive for some, failed to provide others with the skills necessary to be successful in key areas.

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In the **_2020 Employer Survey Report_**, nearly 100 employers rated the most important attributes and competencies for new hires. When ranking FAU graduates on these skills, there was a drop in actual performance as compared to employer expectation. The top four attributes in rankings of importance are all skills that the LAs and students in LA courses gain. (Goals 1A,C)

Fall 2020 QEP Employer Survey - Attributes and Competencies Sought	Mean Score for IMPORTANCE	Mean Score for FAU Graduate ABILITY
Ability to manage time and priorities	1.00	1.73
Ability to act in a professional manner (personal accountability, effective work habits, etc.)	1.02	1.56
Ability to work effectively as part of a group or team	1.05	1.47
Ability to demonstrate critical thinking skills	1.06	1.70

The **_2020 Alumni Survey_** asked former FAU students to rate the contribution of their FAU education to the development of abilities and attributes. Considering their FAU experience, only 51% of students felt it led to a great deal of their ability to problem solve, 55% felt it helped them develop a great deal of time management skills, and 56% felt it contributed to their ability to work effectively as part of a group or team. Three main themes emerged from alumni comments: the university could do more to prepare students for careers, more to improve equity and mental health, and more to improve instruction. Alumni shared the following: allow "students... the opportunity to think critically and engage with others on an academic platform," "coursework was not conducive to learning and retaining," "incorporate more practical training into theoretical courses. Consider our needs as future employees," "because I was an online student, I felt disconnected from the school community," "take better care of your…black students," "diversify voices and professors throughout every major as well as staff members," "I felt that my college experience was very monocultural," "more female professors in all STEM departments," do more "to improve social/racial disparities," and "I hope...as we put a spotlight on mental health issues...for professors or advisors to notice at risk students more." Non-traditional, neuro-divergent, and veteran students also commented about feeling disconnected. Other alumni simply encouraged FAU to focus on enhancing professors' pedagogical knowledge. A comprehensive LA model would address many of these issues by forming communities of learners in small groups in the classroom. The addition of LAs, who tend to look like our students, will help students feel more included, supported, and satisfied with their FAU experience. Goals (1A-E, 3A,C,E)

The **_2020 Faculty Survey_** also indicated that some faculty are dissatisfied with the experience in their classrooms. Comments from faculty include: "modify the way instructors present...material...[and] enhance meaningful academic engagement with students," include "teamwork in classes and labs," and "students currently struggle with abstract thought. Students, in general, want to know the 'right' answer…to pass a test [which] does not encourage…deeper understanding of a given subject," we should be "teaching critical thinking skills and how to...evaluate arguments," and "reinforc[ing]...good study habits." The proposed LeArning Reimagined QEP addresses each of these faculty concerns. (Goals 1A-B,3A-C,E)

Mental Health: It is well understood that issues centered on mental health remains a top concern at colleges and universities today. College student depression, anxiety, stress, self-harm, and suicidality are rising across the nation and at FAU. According to Dr. Kathryn Kominars, Director of FAU Counseling and Psychological Services, the **_National College Health Assessment in 2020_** identified that "Procrastination" was a problem for more than 45% of students who were surveyed. "It would seem that the structured learning groups would be likely to have a positive impact on procrastination. This has been a clinical issue for clients forever and it is connected to anxiety, which has steadily increased for students over the past 10 years" (K. Kominars, personal communication, February 9, 2021). And increase, it has. On the **_2020 Healthy Minds Survey_** in January 2020 (pre-pandemic), 75% of FAU students reported serious anxiety and 36% reported depression. This leads to poor academic performance, withdrawals, and dropouts (L. Vernon, personal communication, February 22, 2021). Half of participants on the survey reported classroom experiences as the most important element in shaping climate perceptions (n=187; 52.5%) with one-fifth (n=99, 19.5%) of students reporting they have considered leaving FAU due to feeling isolated or unwelcome. The LA model will not only break that feeling of isolation but will provide the training for LA faculty and LAs to identify, assist, and refer students struggling with issues related to mental health.

The **_2017 Ruffalo Noel-Levitz Student Satisfaction Survey_** measured student satisfaction at FAU versus other 4-year public institutions. While this survey is five years old, the results are still important to consider (Appendix B).

The **_National Survey on Student Engagement_** (NSSE, 2017) provided additional insight into the student experience at FAU. Students expressed higher feelings of isolation and loneliness, lower satisfaction with instruction, and fewer opportunities for collaborative learning and interaction with peers than students at other southeastern universities. Only 42% of first-year students felt they were challenged to do their best work. FAU scored 12 points below the average of other southeast public institutions for student ranking of quality of interactions with faculty. Both first year and senior students ranked their overall experience at FAU 9% below rankings of students at other institutions. Additionally, FAU students under-performed students from other southeast public universities in a variety of factors related to both Academic Challenge and Collaborative Learning. These Collaborative Learning factors included: asking another student to help you understand course material, explaining course

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material to other students, and questions related to working through course material and projects or assignments with other students. For Academic Challenge, students indicated they do not feel that coursework emphasizes application of facts and theories to solve practical problems, there is little connection of ideas to prior experiences and knowledge, and higher-order learning and reflective & integrative thinking is limited. With the implementation of the LA model across all levels and colleges at FAU, it is anticipated that the student experience in each of these areas will be significantly improved. (Goals 1A-B,D,3A,C)

SCOPE OF PLAN AND TIMELINE
To achieve the goals outlined above, a central LA Office will be created. Staffed by a director, coordinator, and Graduate Research Assistant (GRA), the LA Office will begin developing and implementing all aspects of the program.

- Planning year, 2021-2022: hire QEP director and coordinator to establish LA Office and guide creation and implementation of written QEP; purchase and train on elements of LA Campus software; develop and launch course proposal process for faculty (fall); committee selection for determining initial LA courses for transformation (fall); develop and implement all aspects of faculty development (launch in spring); hiring, training, and evaluation of LAs; redesign classrooms for active learning; develop all required assessment components.
- Year One, 2022-2023: ongoing activities from planning year; formation of LeArning Reimagined Advisory Board to consist of FAU faculty, deans, students and administrators to broaden engagement by our stakeholders; hire GRA to help with assessment and reporting activities; develop and teach pedagogy courses; develop and lead fall retreat and spring showcase; annual review and reporting of faculty submitted course outcomes in tandem with other assessment activities.
- Year Two through Ten (ongoing), 2023-2032: continue to manage course redesign proposals, organize and lead faculty development activities, hire and supervise LAs, instruct pedagogy courses, manage budget, submit grant proposals, and develop and maintain a repository of LA course materials. In year two, begin reviewing faculty assessment of transformed courses completing the third year of funding and work together to report on successes and develop a continual improvement plan in areas not reaching expected outcomes. In year four, begin process of reevaluation and assessment of courses completing year five of funding.

Course selection process: Any course can be submitted for redesign; however, justification will be important and may be defined by a variety of factors: number and breadth of students impacted (lower division or transfer; general education/IFP, major gateway course, or required major course; campus location, etc.), overall DFW and DFW for specific populations, impact on additional metrics (retention, APR, graduation rates), impact on equity, and more. To ensure specific goals of the QEP are met, the following are the criteria to be utilized for the selection of courses: ⅓ will be in traditional FTIC courses; ⅔ will be at the lower-division level (includes FTIC courses); and a minimum of 2 courses annually will come from non-STEM areas. Special consideration will be given for courses from a department or campus not previously included as well as for online courses or courses targeting transfer students. All course proposals must address the impact of redesign on equity and inclusivity. An annual process will be developed for course submission, review, and implementation. Course proposals will be reviewed by a committee, led by the LA director and with a non-voting faculty representative from the course discipline who can talk about the content and how the pedagogy proposed fits with the course content.

Below is a graphic representation of the scope of the program. Based on the annual request in new funds to support LAs ($200,000 years 1-5; $100,000 years 6-8; $50,000 years 9-10) and an average ratio of one LA per 30 enrolled students, we have the following estimates:

	YR0	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	Totals
LAs hired	50	102	154	206	250	290	305	326	347	357	367	2754
Courses Redesigned* (cumulative)	5	12	19	26	33	40	47	51	55	59	63	63
Students Enrolled in LA Courses	3000	6120	9240	12,360	15,000	17,400	18,300	19,560	20,820	21,420	22,020	165,240

*The number of courses redesigned will depend on class size, number of sections, student to LA ratio, and funding from other resources

FACULTY DEVELOPMENT – "RISING TIDES LIFT ALL BOATS"
The implementation of *Practice*, one of the essential elements of the LA model, requires the transformation of courses from passive, instructor-centered learning environments to active, student-centered learning spaces.

The Faculty Development Cycle: To uphold the key pillars of the LA model, the ongoing process of faculty development will be a primary element in this proposal (*Fig. 7*). The elements of the Faculty Development Cycle are described below.

Course Proposal: To begin, faculty will submit proposals to redesign courses through LA Campus, a software system built for managing LA programs. Experienced LA faculty will
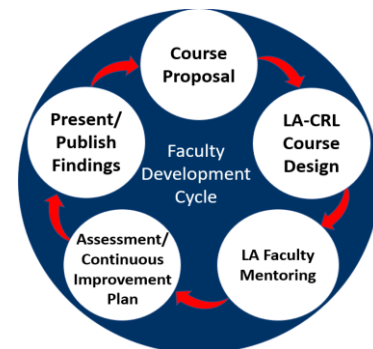

Figure 7: The Faculty Development Cycle

assist colleagues through the proposal process, helping to outline the crucial elements including course information, requested student to LA ratio and LA use rationale, course components (integrated lab or lecture, recitation, synchronous/ asynchronous), LA weekly *prep* plan, and an initial plan for assessment.

LA-CRL Course Design: Following course proposal review, faculty selected will participate in six-month LA Communities to Reimagine LeArning (LA-CRLs), created and managed by the LA Office. Experienced LA faculty from various colleges/ disciplines will have the chance to apply to be an LA faculty mentor to assist in the LA-CRLs, providing expertise and guidance. The LA-CRL purpose is: to provide space for conversation about transforming the way we teach, including examples of transformed teaching and supporting data; to assist faculty with course redesign and assessment; to provide new LA faculty with experienced LA faculty mentors; to focus on key factors that influence effective pedagogy and student outcomes, including recognizing mental health issues, creating equitable learning environments, and fostering a sense of inclusivity; to develop an LA repository for documents created for courses; to discuss ways to impact non-LA courses that the faculty member teaches through pedagogical enhancements learned through the LA-CRL; and to encourage LA faculty to discuss/promote/share pedagogy with colleagues within their department and across the institution. Culmination of the LA-CRL will be defined by completion of all CRL modules, surveys and assessments, and submission of a transformed course syllabus and assessment plan. Faculty will receive $2,000 (maximum $4,000 per course if multiple faculty).

LA Faculty Mentoring: As faculty teach the redesigned course with LAs, LA faculty mentors will be available to offer guidance. While some faculty will informally mentor, others may apply to mentor in a formalized capacity through the LA Office. This mentorship may be acknowledged by listing it in FAIR assignments for faculty as part of their service, pending department approval. These LA faculty mentors will receive $500 annual compensation for participating in the following: assisting other faculty who are proposing new courses for transformation; involvement in selected LA-CRLs to share best practices and help new faculty through the development and transformation process; mentoring individuals teaching in the model for the first time; and presenting at workshops, conferences, and/or publishing (optional).

Assessment and Continuous Improvement: Through the LA-CRL, faculty will learn about a variety of assessment options related to the LA model, further develop their assessment plan, and implement and review it following each semester of teaching LA courses. LA Office staff and LA faculty mentors will be available to assist with the assessment and improvement process. Upon submission of the first semester assessment and improvement plan, faculty will receive an additional $500 per instructor ($1,000 maximum if multiple faculty in the same course). As the new pedagogy often takes a few iterations to fit the course and reach optimal outcomes, all redesigned courses will go through a review after three years and continuous improvement plans will be developed.

Present/Publish Findings: Rounding out the cycle, the LA Office will host an annual showcase for faculty and LAs to highlight best practices and outcomes. All faculty teaching within the LA model, as well as those interested in this pedagogy, will be invited to attend. In addition, numerous journals, both in the discipline and in the fields of college student development and teaching and learning, are open to publications on outcomes related to the model. Faculty will be encouraged to work with their LAs to develop and submit articles for publication and for presentation at various conferences.

As the faculty development cycle is an ongoing process, faculty will have chances to re-engage in a variety of roles. This includes serving as an experienced LA faculty mentor to assist new LA faculty while continuing to build on new ideas and improve their own teaching experience.

Once a course has been redesigned, new instructors who have not taught the course in the model may be assigned to teach. New instructors for previously redesigned courses will be required to complete training in order to have LAs approved for that section of the course. An LA canvas course will be designed to provide asynchronous training modules for these new instructors. Upon completion of the Canvas course, and verification of teaching in the upcoming term, $250 compensation will be awarded. It is likely that of these instructors, a number will be graduate teaching assistants (GTAs). For these GTAs, the pedagogical learning through the Canvas course and LA teaching experience makes them highly marketable over other candidates entering the workforce.

Over the next ten years, we anticipate a minimum of 85 faculty members will have participated in extensive faculty development and course redesign through this model. An additional 100 faculty members/instructors will have participated in the Canvas "Reimagined LeArning" modules. Even more faculty will have the opportunity to attend annual showcases and learn about innovative ways to teach. This will create a cultural shift in how we deliver our curriculum at Florida Atlantic University. While faculty members may redesign one of several courses they teach, the influence of a successful implementation of the model will spill over into other courses they teach. Based on the concept of "rising tides lift all boats," we will have a far broader impact than just the courses that we will transform.

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RESOURCES NEEDED

The QEP budget plan is attached to this proposal outlining funds and other resources needed in the planning year (2021-22) and the 10 years of the QEP (2022-2032). A multi-year budget totaling $11.1 million would be required to fully implement all aspects of the program at the breadth and scope required to achieve the expected outcomes. Grant writing, donor funding, and the Center for Online and Continuing Education (COCE) may provide additional support. Any savings of QEP budgeted funding as a result of external funding will be reinvested in student and faculty support.

The greatest cost in this budget (71% of the QEP) is directly tied to a key campus initiative: increasing student on-campus employment opportunities. By hiring undergraduate LAs, $8 million will go directly to funding approximately 2,754 students through on-campus employment. In years 1-5, $200,000 in new funding will be allocated for LAs in newly redesigned courses with that number scaling down to $100,000 in years 6-8 and $50,000 in years 9-10.

An equally important initiative, faculty development, is a key activity of this QEP. Ongoing faculty development will lead to over $290,000 in direct payments to faculty.

Upon completion of the LA-CRL, the LA program will be implemented in 1-2 sections of the course for the first year. After adjustments to improve outcomes, the LA Office will fund additional sections, scaling up over the next three years. Departments may choose to fund LAs in additional sections (above the level of the LA Office funding) following outcome data from a pilot. Departments implementing the LA model will be responsible for a portion of the LA funding for all LA sections (25%) after three years with a full cost-share (50%) after year five. This is expected to total $2.5 million over the ten years of the QEP. Funding from external sources can be used to supplement these costs. Departments will also be responsible for funding LAs in summer if they elect to use them.

While the average $1 million annual budget for this program may initially appear high, the expected Return on Investment (ROI) will be significant. The University will retain and graduate more students as a result of this QEP. For each student we keep enrolled for an additional year, the University can save $3,994.80 in tuition (excluding fees). These retention gains will come from both LAs who thrive and feel a greater connection to the institution as well as students in LA courses who feel that same connection coupled with feelings of confidence, inclusiveness, and success as they too thrive at FAU.

Performance Metric Impact: National studies have shown a 3-4% increase in retention for students who participate in LA courses as compared to their peers[3]. Assuming an average of ⅓ of LA course enrollments are in traditional first-year courses and an average increase in retention by 3% for students who participate in LA courses, we anticipate gains in retention rates/APR which will earn us additional excellence points on the Florida BOG performance metrics (PM5). This is the category where we currently perform the lowest.

	YR0	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
Students Enrolled in LA Courses	3000	6120	9240	12,360	1,5000	17,400	18,300	19,560	20,820	21,420	22,020
⅓ FTIC	1000	2040	3080	4120	5000	5800	6100	6520	6940	7140	7340
NEW students retained (3% increase in retention APR - LA courses)	30	61	92	124	150	174	183	196	208	214	220
Possible points gained over 2020-21 on metrics (*earned 79.1% for 1 point*)	1	2	2	3	4	5	5	6	6	6	7

By selecting LeArning Reimagined as FAU's next QEP and making this investment in our faculty and students, FAU would make great improvements as an institution where students of all races, backgrounds, and cultures *feel* welcomed, are *excited* to participate, and *engaged* in their own learning. There is not just one "silver bullet" about the LA program that makes it successful. Rather, its success is based on the incorporation of all the best practices in teaching and education, deliberately organized in the right way.

> *"I know the value of individual achievement. But team achievement is so much more meaningful. When you have a group who works collaboratively and uses their diverse skillsets to do something better than any one of them could hope to do alone, that's extremely rewarding." Dr. John Kelly, President of FAU[24]*

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Appendix A

Performance Metrics (PMs)
PM1: Percent of Bachelor's Graduates Employed and/or Continuing their Education Further 1 Year after Graduation
PM2: Median Average Wages of Undergraduates Employed 1 Year after Graduation
PM3: Net Tuition & Fees per 120 Credit Hours
PM4: Four Year Graduation Rates (Full-time FTIC)
PM5: Academic Progress Rate (2nd Year Retention with GPA above 2.0)
PM6: Bachelor's Degrees Awarded in Areas of Strategic Emphasis (includes STEM)
PM7: University Access Rate (Percent of Undergraduates with a Pell Grant)
PM8a: Graduate Degrees Awarded in Areas of Strategic Emphasis (includes STEM)
PM9: Board of Governors' Choice (Percentage of Bachelor's Degrees Awarded Without Excess Hours)
PMnew1: 2-Year Graduation Rate for Associate in Arts Transfer Students
PMnew2: 6-Year Graduation Rate for Students Awarded a Pell Grant in Their First Year

Key Performance Indicators Common to all Colleges (KPIs)
KPI1: 4-Year FTIC Graduation Rate
KPI2: 6-Year FTIC Graduation Rate
KPI3: Academic Progress Rate
KPI4: Bachelor's Degrees Awarded to Minorities (Black and Hispanic Students)
KPI5: DFW Rates (Percent of Undergraduate Courses with above 20% DFW Rate)
KPI6: Median Wages of Bachelor's Graduates Employed Full-Time 1-Year After Graduation
KPI7: Net Tuition & Fees per 120 Credit Hours
KPI8: Percentage of Degrees Awarded without Excess Hours
KPI9: Percentage of Graduate Degrees in Areas of Strategic Emphasis
KPI10: Proposals Presented (Minimum of $100K Plus)
KPI11: Percentage of Undergraduate Degrees in Areas of Strategic Emphasis
KPI12: Total Dollars Raised
KPI13: University Access Rate
KPI14: Percent of Bachelor's Employed ($25,000+) in the US 1 Year After Graduation
KPI15: Percent of Bachelor's Enrolled in the US 1 Year After Graduation

Career Competencies (CCs)
(see https://www.naceweb.org/career-readiness/competencies/career-readiness-defined/)
Career readiness is the attainment and demonstration of requisite competencies that broadly prepare college graduates for a successful transition into the workplace. These competencies are:
CC1: Critical Thinking/Problem Solving
CC2: Oral/Written Communications
CC3: Teamwork/Collaboration
CC4: Digital Technology
CC5: Leadership
CC6: Professionalism/Work Ethic
CC7: Career Management
CC8: Global/Intercultural Fluency

Strategic Plan Values
Excellence: in teaching, research and public service
Accountability: taking responsibility for actions and being outcome-based
Teamwork: seeking collaborative strategies to solve problems
Student Success: wholly committing ourselves to our students' futures

Strategic Plan Goals
Boldness: A uniquely competitive and globalized student body. Build a geographically-diverse population of students who excel in focused academic areas and engage in enriching activities that drive them to timely graduation and successful futures.

LeArning Reimagined QEP Proposal

Appendix B

The 2017 Ruffalo Noel-Levitz Student Satisfaction Survey (see Table) measured student satisfaction at FAU versus other 4-year public institutions. While this survey is five years old, the results are still important to consider.

In all but one area, FAU students were less satisfied than students at other 4-year public institutions. Sadly, many of our students seem unhappy with instruction or believe that faculty are not invested in them. We do not believe this is always the fault of faculty; rather, it is the result of the experience faculty are able to give students. This experience is especially limited in high student to teacher ratio classes where students are often not able to interact with their faculty. Faculty development activities, course transformation including collaborative group work, and the addition of LAs to the "learning team" provides opportunities for faculty to discuss ways to help students thrive, lowers the student to teacher ratio, and creates an environment in which students interact more often with faculty. (Goals 1A-B,D-F,3A,C,E)

2017 Ruffalo Noel-Levitz Student Satisfaction Survey	FAU % Satisfaction	National 4-Year Publics % Satisfaction	Difference
Faculty care about me as an individual	40%	49%	-9%
The instruction in my major field is excellent	51%	61%	-10%
The quality of instruction I receive in most of my classes is excellent	47%	57%	-10%
Academic support services adequately meet the needs of students	44%	54%	-10%
I am able to experience intellectual growth here	55%	64%	-9%
There is a commitment to academic excellence on this campus	51%	59%	-8%
Faculty take into consideration student differences as they teach a course	40%	46%	-6%
Tuition paid is a worthwhile investment	42%	53%	-11%

In addition to the items above, while FAU touts its diversity, only 54% of students indicated that they have opportunities to engage with individuals from diverse backgrounds. A key aspect of the LA model is this diversity of interaction. (Goals 1G-H)