Student Success Standard Process Lifecycle
Presentation to Fort Wayne Senate
September 12, 2022

Thank you, senators, for your consideration today. The EC has kindly given us 10 minutes, so the presentation is about 7 and then there will be a few minutes for questions.

Today, I am speaking on behalf of Dr. David Cochran, Professor of Systems Engineering and Director of the Center of Excellence in Systems Engineering, his staff, and myself. I will be speaking about what we have been doing at PFW for about two years. My goals are to open lines of communication with the senate, facilitate senate and faculty collaboration, and establish that David and I are committed to seeing that this project adheres to accepted standards of university shared governance.

<Slide 1>
The Student Success Standard Process Lifecycle responds to a problem: the university is struggling to set itself up for long-term sustainability.

<Slide 2>
It faces financial and demographic challenges. It is not achieving target measures of student success, such as retention and graduation rates. All of us here today share that we care about this institution and its students. We want PFW students to succeed. This concern has driven David and me and the entire team to engage in the work I describe here.

<Slide 3>
We are not the first ones to try to improve things at PFW. In recent years, the USAP task force and subsequent restructuring was an attempt to improve the institution. The Student Success Standard Lifecycle offers a different approach.

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What is different about us? We approach the university from the perspective of systems theory. We view the university as a complex system. That means its success depends on the ways the different parts work together. Success lies not in how fast or hard any one person or unit works. Success will not come from rewarding programs with the most majors or advisors who see the most students and getting rid of the rest. Success depends on the health of relationships among the people and units that work on this campus. When relationships are healthy, the result is good information flow, which nurture excellence, innovation, and agility. This is the basic philosophy of the systems approach to enterprise improvement.

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This approach is practiced in the manufacturing sector, but it is less widely applied in enterprises of the information economy. Part of our focus in the Lifecycle work has been to adapt these proven approaches to a university.

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The specific approach we are using is called Collective System Design, which David developed. CSD uses what David calls the Flame Model. There are four levels in the Flame Model. They build on each other.

The first level is tone. Tone is about how people feel about their work. Are they scared? Burned out? Do they feel blamed? Fear losing their job? Or do they feel valued and heard? Tone is established from the top. By establishing the correct tone, leaders facilitate collaboration and problem-solving. An important part of establishing the correct tone is communicating that when an institution is not meeting its goals, in the majority of instances, the problems lie in how the system is organized, not in the people working in the system.

Our work on tone has largely been confined to the small group of PFW employees who we have been working with most closely, but we feel our attention to tone has made a big difference in what we have been able to achieve.

<Slide 7>
The next level in the flame is thinking. This is when we determine what our institution's goals are. Once there is a positive tone, it is possible to have honest conversations about purpose. In conversations we had with numerous stakeholders about this work, we learned that many of us at PFW view our goal to be student success.

<Slide 8>
This is confirmed by the institution's Strategic Plan, which focuses on student success in its top three Priority Strategic Activities, listed on the Strategic Plan Action Planning page. In our smaller group, we refined this goal further. We decided student success means students move smoothly through their college career, from entering PFW to graduation, and then start a satisfying career.

<Slide 9>
After defining this high-level goal, we broke the goal into component parts, diagramming them in the form of a Student Lifecycle. In this diagram you can see the different states that students moved through as they progress toward graduation and career. We call these the seven Student Success States.

<Slide 10>
We also realized that students are able to move through these states insofar as they experience 4 types of wellness: academic, financial, career, and holistic/life.

<Slide 11>
The next level in the flame is structure. Structure is when we determine HOW we meet our goals: what do we actually do when we come to work? The actions (called "processes") we would want to take to accomplish a specific task related to student success are called "normal work."

<Slide 12>

In our group, we decided to talk about the processes we were using to move students from Student Success State 3, admitted and committed to PFW, to State 4.1, starting first semester. Defining the processes that get done as students move from S3 to S4.1 involved long and difficult conversations with people from different units. We wanted everyone involved in a process to understand their role and the roles of others involved in the process.

<Slide 13>
Here, we faced a challenge: how could we capture this information so that it was easily interpretable, even by people not working with us? We decided to use software called LUCID which allowed us to create an intuitive flow chart. Here is detail from the flow chart we created of processes used to move students from S3 to S4.1. The chart describes what each unit communicates to students and other units and how the students and other units should respond.

<Slide 14>
We discovered during this work that in many cases different people used different processes to accomplish the same goal. We also learned that this inconsistency frustrated students, often leading to what students call the "mastodon shuffle." One example is when a student has a hold and can't register. When they try to resolve the issue, they don't know which unit to approach. They go to one, but it is not the correct unit. That unit sends them to a different unit, but the second unit isn't correct either. This ambiguity is time-consuming and can be demoralizing for students. By standardizing what people do and making sure everyone knows what everyone else is doing, we can eliminate the mastodon shuffle and make students' lives better.

<Slide 15>
The final level is "working on the work." Once we have agreed on our goals and processes, we can then talk about making improvements.

<Slide 16>
Improvement is done systematically, following what is called in quality management, "the Deming Cycle." Which is the "plan/do/check (or study)/act" cycle. Defining our normal work (the actions we take to meet our goals) is "Plan." Doing those things is "Do." Measuring to check and study whether we are meeting our goals is "Check." Implementing improvements is "Act."

<Slide 17>
We hope through this Lifecycle approach to student success, to move from where PFW is now in terms of its processes—low repeatability (we don't use the same process every time) and low accuracy (we aren't maximizing student success)—to high repeatability (we ARE using the same process every time) and low accuracy (still not maximizing student success) and after several iterations of PDCA, high repeatability (everyone knows what everyone else is doing because we use processes consistently) and high accuracy (maximizing student success).

<Slide 18>
Thus far, we have been working with the following units: Admissions, Bursar, Financial Aid, SAAC, Student Information Systems, Registrar, college advisors.

<Slide 19>
This semester, we are expanding our work to 4.1 to 4.2, ready for second semester, and we are eager to involve a greater number of units, including faculty.

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If you would like more information, you can contact us or go to our Sharepoint site.

FAQs

1. How do we onboard other PFW units in this Lifecycle approach to student success?
2. Why is it important for our processes to be repeatable?

PURDUE UNIVERSITY
FORT WAYNE

Sustaining Student Success

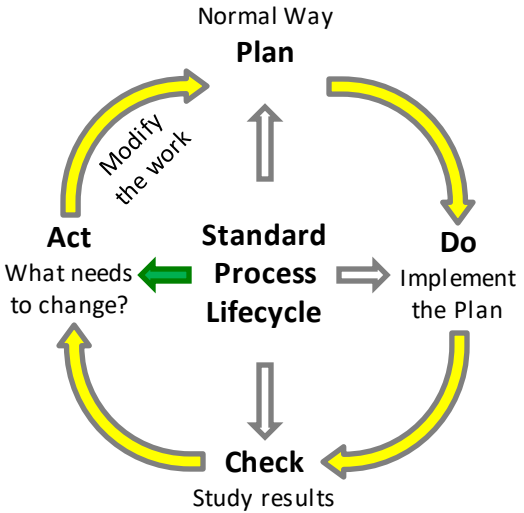
Student Success Standard Process Lifecycle and Improvement

September 12, 2022

PFW faces financial, demographic, and ideological challenges. What can we do to make sure PFW thrives long-term?

Long-Term Sustainability Requires Improving Retention

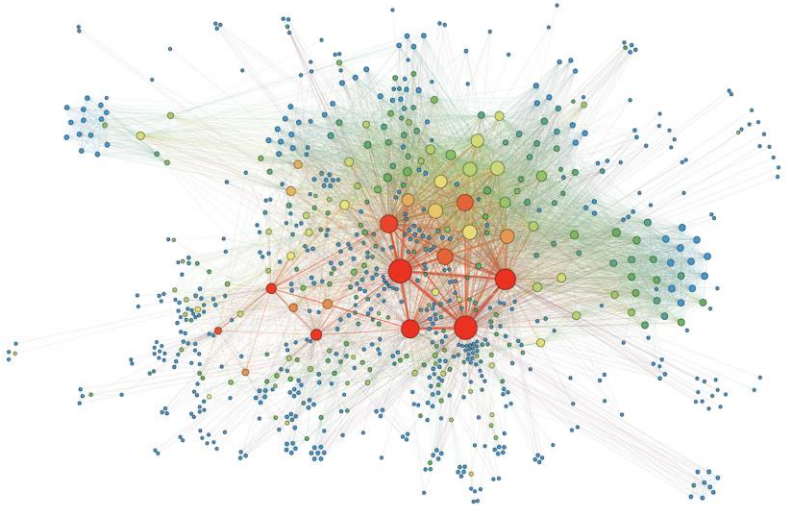
Define the Normal Way for students to progress through PFW so that we know when students need help.

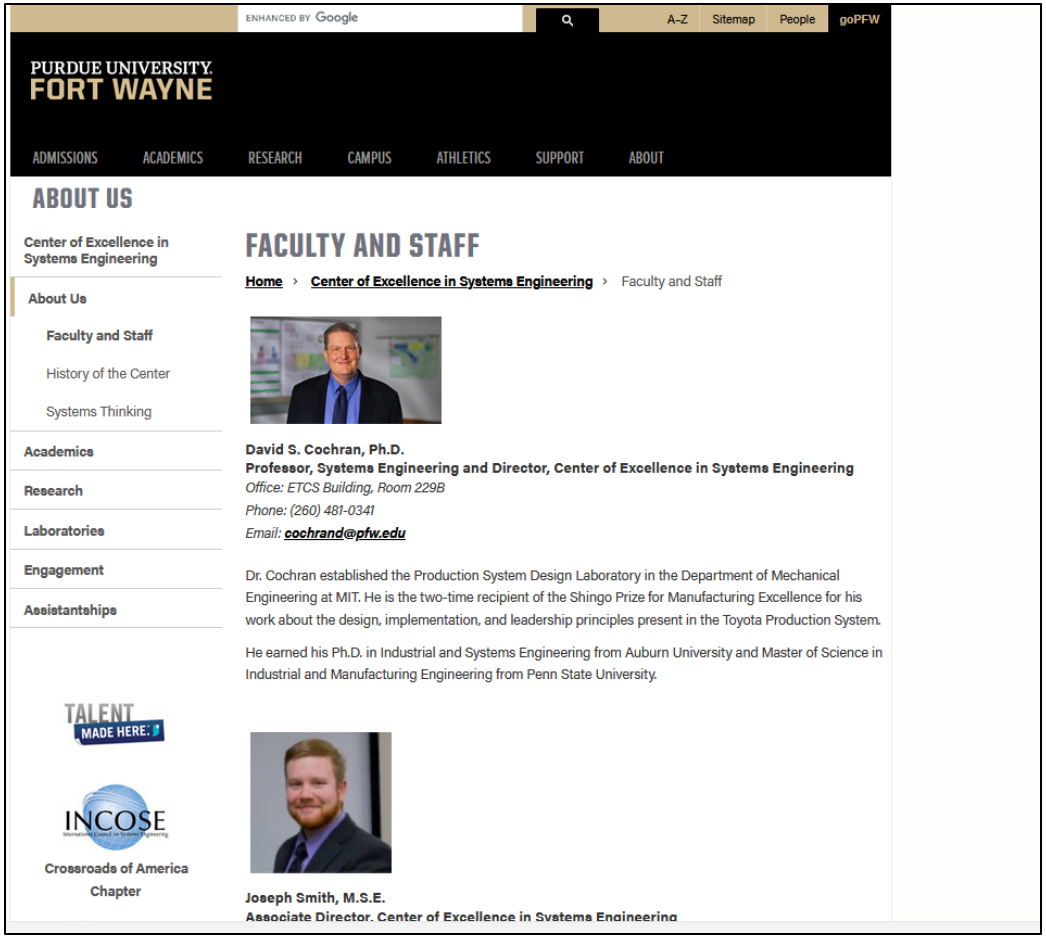


Continuous Improvement requires us to recognize abnormal conditions.

- **Call to action: Check out our SharePoint Site and consider joining a Standard Process Lifecycle team.**

How can we make sure the different parts of the university work together effectively to achieve our goals?

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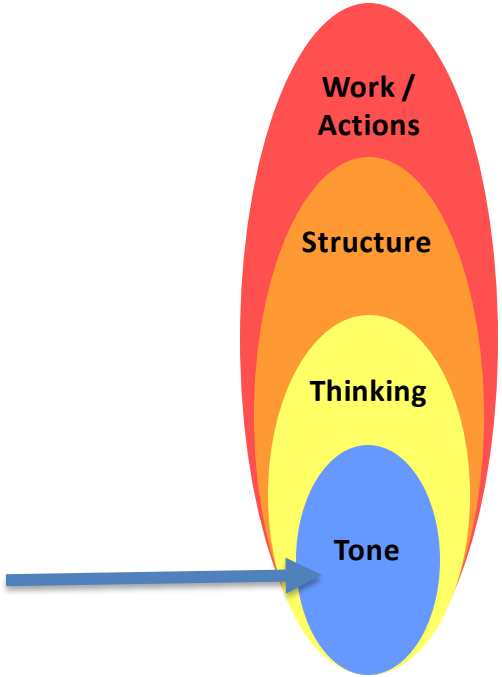
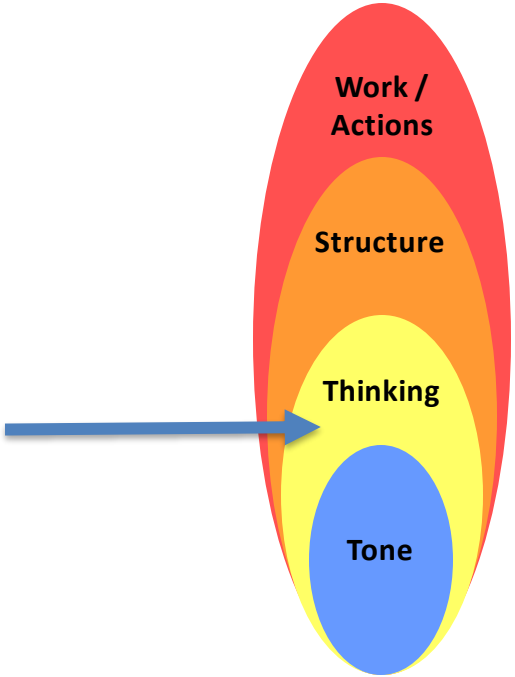
David S. Cochran, Ph.D.
Professor, Systems Engineering and Director, Center of Excellence in Systems Engineering
Office: ETCS Building, Room 229B
Phone: (260) 481-0341
Email: cochrand@pfw.edu
Dr. Cochran established the Production System Design Laboratory in the Department of Mechanical Engineering at MIT. He is the two-time recipient of the Shingo Prize for Manufacturing Excellence for his work about the design, implementation, and leadership principles present in the Toyota Production System.
He earned his Ph.D. in Industrial and Systems Engineering from Auburn University and Master of Science in Industrial and Manufacturing Engineering from Penn State University.
Joseph Smith, M.S.E.
Associate Director, Center of Excellence in Systems Engineering

Collective System Design



Cochran, D. S., and Smith, J. 2019. "How to Develop and Sustain a Lean Organization through the Use of Collective System Design." In *Emerging Frontiers in Industrial and Systems Engineering: Success Through Collaboration*. Ed., H. Nembhard, et al. CRC Press.

Collective System Design



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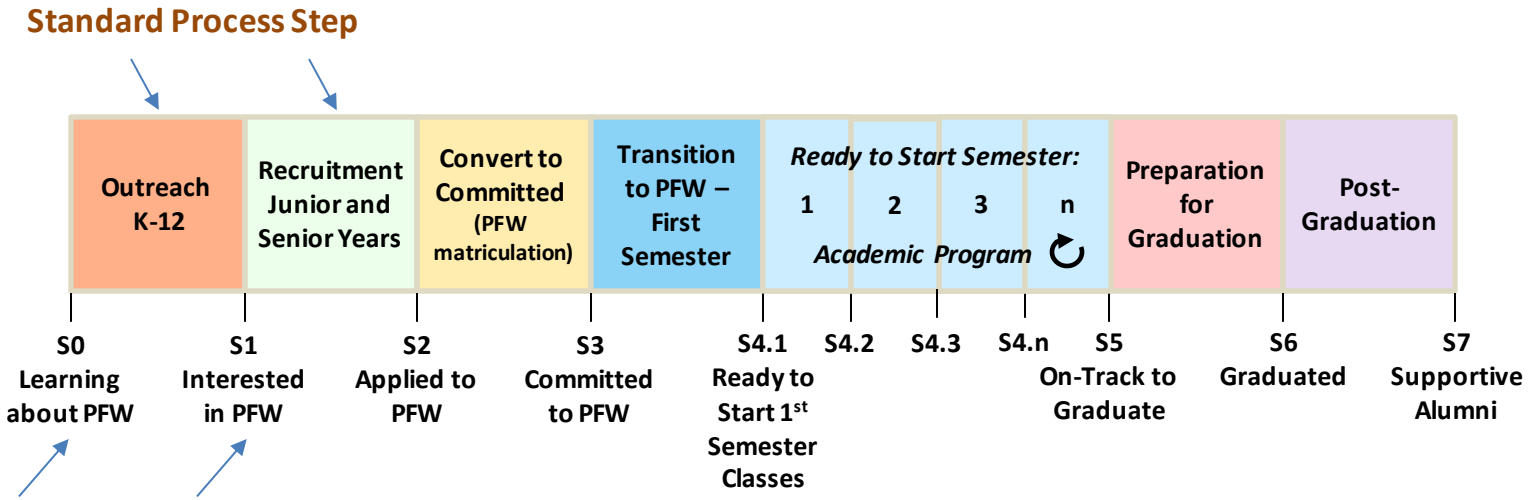
Strategic Plan Implementation
Action Planning
Reports and Updates
Be Engaged
Strategic Planning
Strategic Initiatives
Leadership and Committees

ACTION PLANNING

PRIORITY STRATEGIC ACTIVITIES

- **Student Success 1.1.** Increase the use of active learning strategies and high-impact practices in high-enrolling and gateway courses and in online and hybrid courses.
- **Student Success 2.2.** Develop financial aid and assistance programs that make attending full-time a financially viable option, emphasize need, and support students at all stages of their academic careers.
- **Student Success 3.1.** Develop a university advising model informed by the assessment of current advising practices, benchmarking of successful institutions, and advising best practices

The Student Success Lifecycle



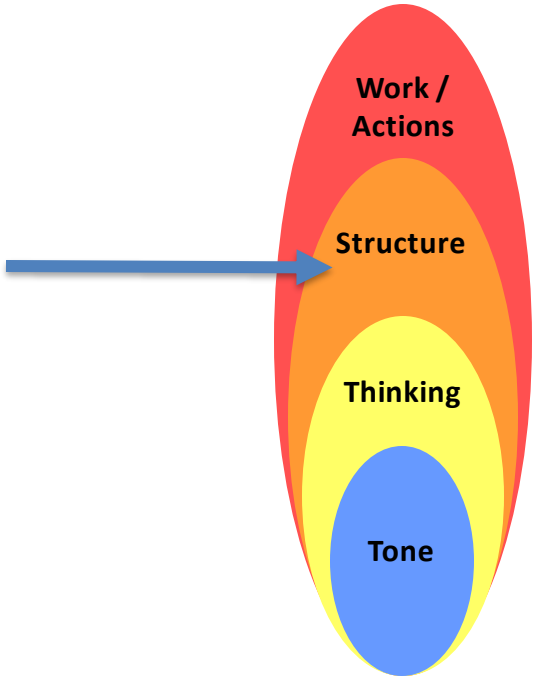
Student Success States (S0, S1 …) - Academic, Financial, Career/Professional, Living Wellness

Each Student Success State Achieves Wellness

The 4 Types of Wellness:

- **Academic Wellness**
- **Financial Wellness**
- **Career Wellness**
- **Living Wellness**

Collective System Design



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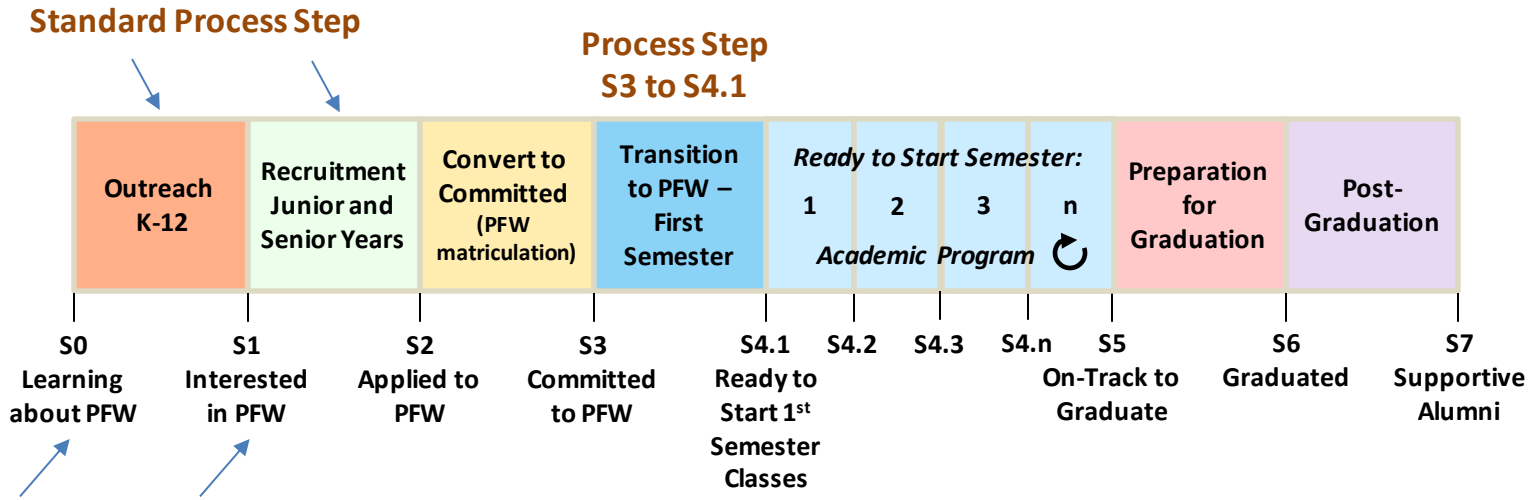
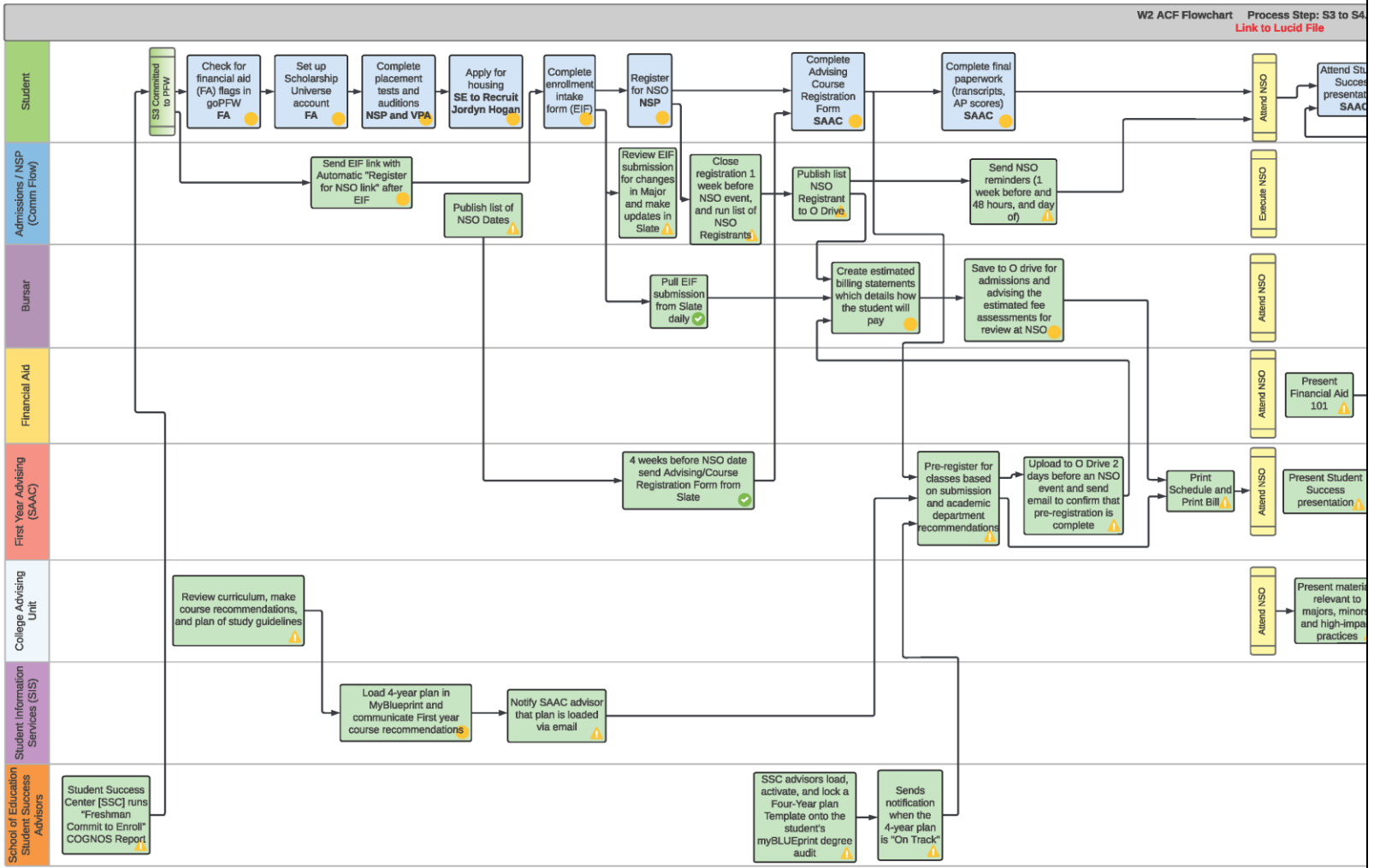
The Student Success Lifecycle

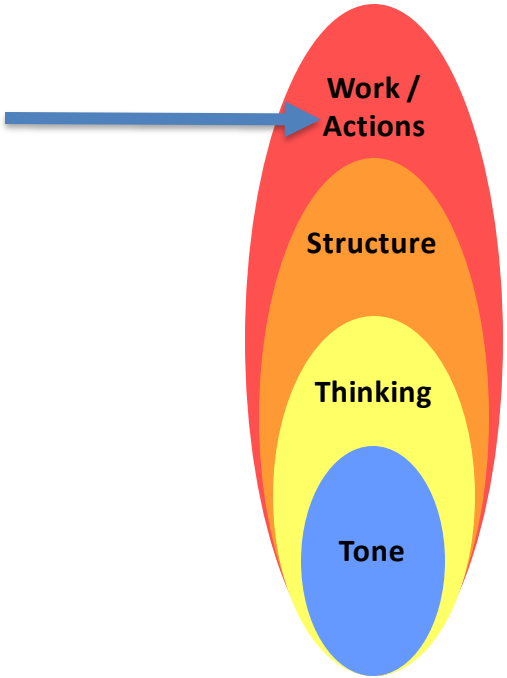


Student Success States (S0, S1 …) - Academic, Financial, Career/Professional, Living Wellness


W2 ACF Flowchart
Process Step: S3 to S4
Link to Lucid File
Student
Admissions / NSP (Comm Flow)
Bursar
Financial Aid
First Year Advising (SAAC)
College Advising Unit
Student Information Services (SIS)
School of Education Student Success Advisors
S3 Committed to PFW
Check for financial aid (FA) flags in goPFW FA
Set up Scholarship Universe account FA
Complete placement tests and auditions NSP and VPA
Apply for housing SE to Recruit Jordyn Hogan
Complete enrollment intake form (EIF)
Register for NSO NSP
Complete Advising Course Registration Form SAAC
Complete final paperwork (transcripts, AP scores) SAAC
Attend NSO
Attend Stu Succes presentat SAAC
Send EIF link with Automatic "Register for NSO link" after EIF
Publish list of NSO Dates
Review EIF submission for changes in Major and make updates in Slate
Close registration 1 week before NSO event, and run list of NSO Registrants
Publish list NSO Registrant to O Drive
Send NSO reminders (1 week before and 48 hours, and day of)
Execute NSO
Pull EIF submission from Slate daily
Create estimated billing statements which details how the student will pay
Save to O drive for admissions and advising the estimated fee assessments for review at NSO
Attend NSO
Attend NSO
Present Financial Aid 101
4 weeks before NSO date send Advising/Course Registration Form from Slate
Pre-register for classes based on submission and academic department recommendations
Upload to O Drive 2 days before an NSO event and send email to confirm that pre-registration is complete
Print Schedule and Print Bill
Attend NSO
Present Student Success presentation
Review curriculum, make course recommendations, and plan of study guidelines
Attend NSO
Present materi relevant to majors, minor and high-impa practices
Load 4-year plan in MyBlueprint and communicate First year course recommendations
Notify SAAC advisor that plan is loaded via email
Student Success Center [SSC] runs "Freshman Commit to Enroll" COGNOS Report
SSC advisors load, activate, and lock a Four-Year plan Template onto the student's myBLUEprint degree audit
Sends notification when the 4-year plan is "On Track"

The Mastodon Shuffle

Collective System Design



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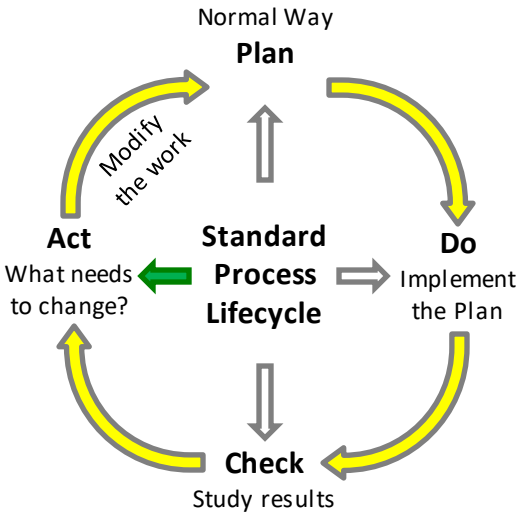
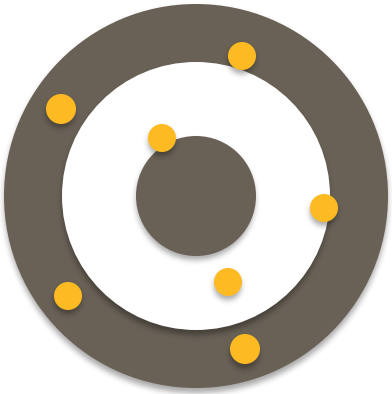
Cycle of Improvement



Continuous Improvement requires us to define the normal work.

Deming Cycle



Low repeatability, low accuracy.

Step 1.

Define Normal with PFW Standard Process Steps.

High repeatability, low accuracy.

Step 2.

Improve Normal with PDCA each semester.

High repeatability, high accuracy.

Kahneman, D. et al. 2021. *Noise: A Flaw in Human Judgment.* New York, Little, Brown Sparks.

Participating groups

Admissions

Bursar

College advising

Financial Aid

Registrar

SAAC

Student Information Systems

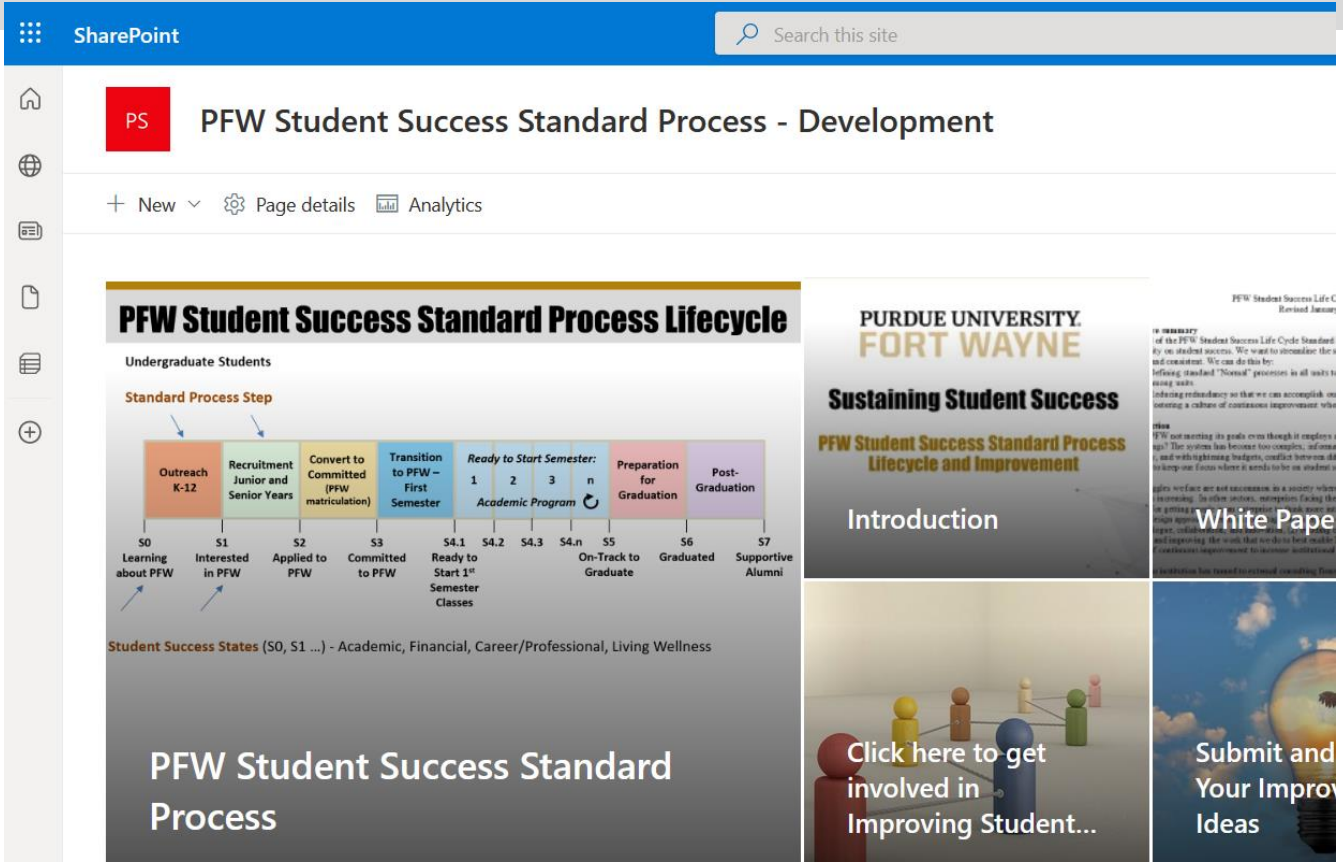
Tuesday meetings: Helmke 440

8:30 am to 10:00 am

S3.0 to S4.1 Admitted/committed to ready for first semester. Finish processes for high school admits; start processes for transfer students.

10:30 am to Noon

S4.1 to S4.2 Ready for first semester to ready for second semester.

Contact us

- SharePoint website
- Dr. Cochran: cochrand@pfw.edu
- Systems Engineering Center: secenter@pfw.edu
- Dr. Borbieva: borbievn@pfw.edu