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Gathering Nuanced Data for Understanding Student Withdrawals

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Background

The University's [Strategic Plan](#) (2023-2028) is composed by five pillars:

1. The Student Experience
2. Enrollment Management
3. Academic and Faculty Excellence
4. Research and Innovation
5. Philanthropy and Alumni Engagement

When a student withdraws from a course, there may be implications to one or more strategies in each of the first three pillars even if not immediately apparent in the metrics published with the Plan. For example, first-year retention and eight-year graduation rates (Metrics 2 and 6 of Goal 1) have deep roots in students successfully completing the courses they enroll in. Achieving the benchmark of increasing those retention and graduation rates by 1% every year could be influenced by course-level interventions if we could better pinpoint *why* students withdraw.

The first two authors of this paper have been seeking detailed information about the reasons students withdraw from Worldwide STEM courses for years. The best information available through the Worldwide Strategy and Innovation office came from the [Course Withdrawal form](#) submitted directly by students or through their advisors. The quality of that data is highly dependent on selection from a drop-down list of reasons and the (optional) open comment box.

In preparation for a proposal to NSF (award #2044302, 2021-24), our review of existing research literature on reasons students withdraw from online and/or STEM courses suggested meta-categories for withdrawal reasons including external/environmental, internal/personal, student expectations and satisfaction,

institutional characteristics, and learner characteristics. The prior literature further revealed nuanced withdrawal reasons within each category. The literature-derived framework that resulted is Figure 1 in the Appendix. However, a comparison of the institutional withdrawal form (Figure 2 in the Appendix) to the framework uncovered the inadequacy of the reasons that students and advisors have available to describe each withdrawal. Some of the form's categories are too aggregated for meaningful analysis that can inform interventions and supports that may prevent non-persistence. Furthermore, some evidence-based withdrawal categories are absent from the withdrawal form.

We worked with Advising to explain how our research could address difficulties that students have experienced as students who withdraw, thus, do not provide feedback through an End of Course survey. We expressed an interest in understanding the administrative process in editing the withdrawal form. At the time, we were informed that the far-reaching implications of adjusting the form made that a non-viable path. Therefore, the advisors agreed to the added effort of including clarifying text in the comment field of the withdrawal form. This effort resulted in improved data (AY 21-22), allowing for publication of an analysis of the withdrawal reasons in 4 general education and 4 degree-support undergraduate STEM courses taught asynchronously online (Faulconer et al., in press). However, the data for AY 22-23 returned to the previous state – likely influenced by the restructuring of advising tasks. This made it impossible for the grant-funded work to analyze persistence in the courses following curriculum changes in two high-volume, STEM-focused general education courses. Without a formal structure included in the process, gathering the research-informed nuances of withdrawal reasons will continue to be subject to fading memory and employee turnover.

Position

The authors propose that the Worldwide Faculty Senate form an ad hoc committee to address the quality of data on student course withdrawals. This is a complex issue involving multiple stakeholders with implementation domino effects that need to be carefully considered. The suggested approach is to address four key action items detailed below in AY 24-25.

Preliminary Action Item 1: Identify Stakeholders in the Withdrawal Form's Data

To enable substantive change in student persistence through ERAU courses, we need to collect and analyze information about student experiences and challenges. Students who withdraw from courses cannot report these challenges on end-of-course surveys. We suggest that the key stakeholders who can benefit from improved withdrawal data quality are:

- Course Developers who can adapt course templates to provide more support and/or avoid pitfalls to students based on course-level withdrawal reasons
- Department/Program Chairs/Course Coordinators who can identify gateway courses and target specific courses for the redevelopment schedule
- Academic Advisors who can better understand challenges student face in certain courses and fill out withdrawal forms on behalf of students
- Institutional Research who can collect and manage robust data for institutional evaluation and educational research efforts
- Campus Administrators (College Deans, Dean of Students, Vice Chancellor for Student Success) who serve as SIT representatives where multiple SITs are impacted by course withdrawals

Primary Action Item 2: Collaboratively Establish Withdrawal Documentation Process That Ensures Data Integrity While Minimizing Workload Impacts

An ad hoc committee of the Worldwide Faculty Senate would include or – at a minimum – consult with the above stakeholders to establish shared goals and processes for collecting actionable data regarding why students withdraw from courses. Existing processes should be reviewed for improvement or replacement to collect the nuance necessary to identify areas under institutional control (i.e., courses and instructors) or add support systems for mitigating factors outside institutional control (i.e., time management or technology skills).

Future Action Item 3: Perform Audits of Withdrawal Form Data Quality

The committee will suggest the protocol and responsible parties for performing regular audits of the withdrawal data quality and dissemination of aggregate data to appropriate stakeholders.

Future Action Item 4: Use Withdrawal Data with End-of-Course Data to enhance student persistence at the course level

Quality data on the reasons students withdraw from courses should be readily available to Program and Department Chairs who are responsible for course design. Departments can prioritize course redevelopments based on this data. The Rothwell Center for Teaching and Learning can identify instances of instructor-related reasons that can be addressed in professional development. Student Success initiatives might consider implementing supports for students, such as students long removed from pre-requisite coursework, lacking confidence in technical skills or expanded tutoring opportunities to keep students in courses.

Conclusion

While the current withdrawal form provides data, it lacks detail needed to effectively address student withdrawal and improve persistence through interventions and supports. A Worldwide Faculty Senate ad hoc committee can work collaboratively with stakeholders to establish a new process that will ensure data integrity while minimized workload for key personnel. Regular audits of the data quality and regular dissemination of the data will empower action at all levels of the University. These suggestions are aimed at enhancing student success to align with the pillars of Student Experience, Enrollment Management, and Academic and Faculty Excellence in the 2023-2028 ERAU Strategic Plan.

Appendix 1

Figure 1 is the model developed from the pre-proposal review of literature to be the theoretical framework in the NSF-funded (award #2044302, 2021-24) research that prompted this paper.

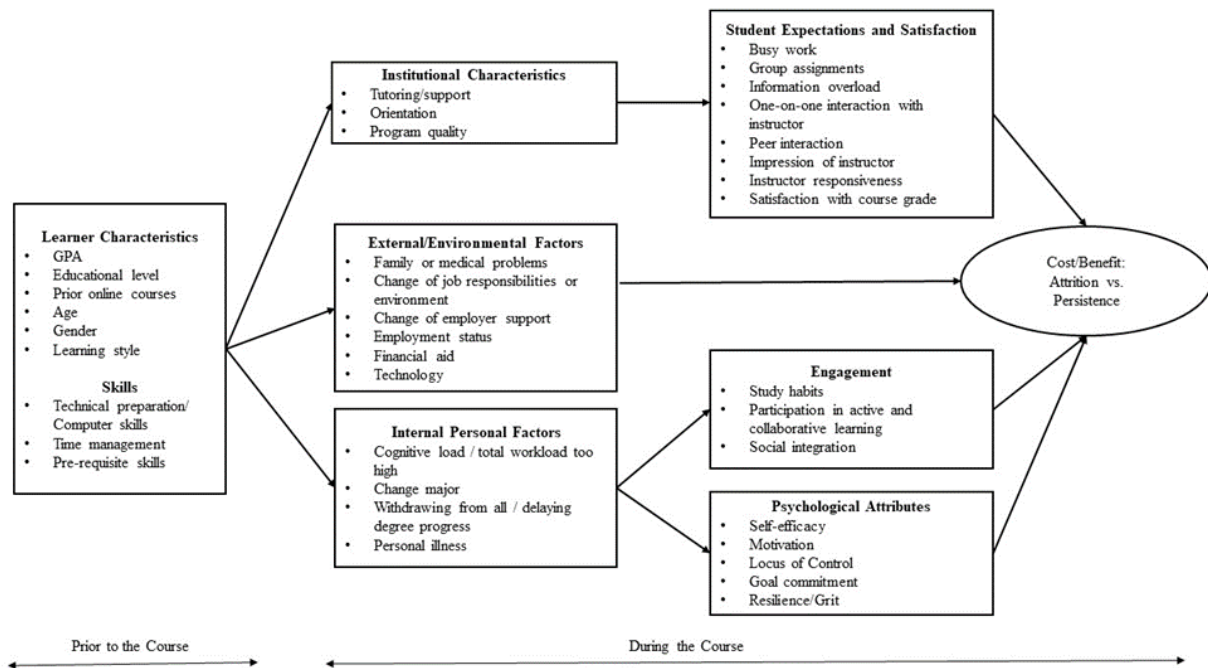


Figure 1

Conceptual framework for student online course withdrawal

Table 1 is the coding scheme used on the data provided by the Office of Student Success for subsequent analysis and publication (Faulconer et al., in press). It was also used to talk to Advising about the need for additional details on the Withdrawal Form. Thanks to all advisors for the improvement of codable data from AY 21-22: 68%, which was up from less than 50% for AY 20-21. Reviewers of our paper, however, questioned our data loss even at 68%.

Level 1	Code	Level 2	Code
Administrative Reasons	ADMN	Registered for incorrect course	INCOR
		Course not needed for degree	NOTND
		Materials not received in time	MATRL
External/ Environmental	EXTNL	Funding	FUND
		Deployment	DEPLY
		Personal conflicts (e.g., schedule, family obligations)	PERSC
		Professional conflicts (e.g., career change, work schedule)	PROFC
		Lack of internet access	TECH
Internal Personal	INTL	Personal illness	MDCL
		Workload - Cognitive Load	WORK
		Change major	CHANGE
		Delaying all progress	DELAY
		Engagement	ENGAGE
		Self-efficacy and motivation	MOTIV
		Goal commitment, resilience/grit	GOALS
Learner Characteristics/ Skills	LEARN	Pre-requisites and Prior Knowledge	PRIOR
		Insufficient technical or computer skills	COMPTR
		Time Management	TIME
Institutional Characteristics	ICHAR	Institutional Support	SUPPORT
		Program Quality	PROGRAM
		Negative impression of instructor	INSTR
		Lack of interaction with instructor	INTERACTION
		Lack of timely and/or constructive feedback	FEEDBK
		Topics	TOPIC
		Course Design & Assignment Types	DESIGN
		Modality Preference	MODE
		Peer Interactions	PEER
		Dissatisfaction with course grade	GRADE
Not Enough Information	NONE		

Table 1:

Codes for Qualitative Data

Figure 2 shows the list of options available to students and advisers filling out the Course Withdraw Form. There are some exact matches – such as financial aid (funding) and change major – but other options on the form are less nuanced than in the Conceptual Framework and the coding scheme being used in our research, derived from evidence-based research literature.

The screenshot displays a web form titled "Reason for Withdrawal". It features a section for "Primary Reason *" with a dropdown menu. The dropdown menu is open, showing a list of options: "-- Select --", "-- Select --", Funding, Course Content, Instructor, Schedule, Registered for Incorrect Course, Course not Needed for Degree, Personal Conflicts, Professional Conflicts, Technical Issues, Materials not Received in Time, Deployment, and Modality. Below the dropdown menu, there are labels for "Details", "Supporting Documentation", and "Campus Representatives:". The form is designed with a clean, professional layout, using a light gray background and blue accents for the dropdown menu.

Figure 2:

Current List of Reasons for Withdrawal Available

Course-level options on the form included “instructor” and “course content,” which could indicate a need for faculty development or course redesign. However, details regarding *why* the instructor of the course led to the withdrawal were missing. According to the framework, dissatisfaction with the instructor could include a lack of interaction, lack of feedback, or a negative impression of the instructor. Similarly, are course readings/assignments inappropriate for the level of the course, is the pre-requisite missing or inappropriate, or was the student unprepared in some other way?

