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A Path to Graduation: An Evaluation of Degree Planning Resources at Western Oregon University

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A Path to Graduation

An Evaluation of Degree Planning Resources at Western Oregon University

By
Natalie R. Legras

An Honors Thesis Submitted in Partial Fulfillment of the
Requirements for Graduation from the
Western Oregon University Honors Program

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Honors Program Director

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ABSTRACT

Evidence suggests that additional registration tools may improve graduation and retention rates in higher education institutions like Western Oregon University (WOU). The tools that WOU currently employs to support students and advisors could be enhanced to benefit students, advisors, departments, and consequently, the university as a whole.

With the guidance of the Student Success and Advising Office and the Office of the Registrar, I conducted research in order to better understand the degree pathway planning needs of students and advisors. Using formal software implementation techniques to elicit software requirements, I evaluated the potential benefits and challenges of available degree pathway planning tools to students, advisors, and administrators.

I hope that information generated from this project may be of use to the Office of the Registrar in the process of implementing new systems throughout the continuous improvement of the registration process at WOU. Furthermore, I hope that the recommendations from this research will be a valuable contribution to the university's mission and its strategic planning initiative, Forward Together. I hope that this project will inspire and inform a successful software implementation and be an asset to the university in its plan to promote student success.

BACKGROUND

Project Description

This project seeks to identify, evaluate, and recommend optimal implementation and configuration characteristics of degree pathway planning tools and resources available to WOU. Specifically, one tool that is available to WOU is a pathway planning tool called Student Educational Planner, which is part of the existing Degree Tracks tool within Ellucian's registration system. The primary purpose of this project is to provide recommendations for a strategic implementation and integration of this tool.

The project format is partially modelled from software requirements elicitation strategies commonly used in the software development and implementation industry. To understand and recommend an effective implementation and configuration of available tools, I conducted research to identify and evaluate existing and available tools and resources. The research consisted of analyzing existing literature regarding advising and degree planning best practices, surveying existing products and tools that may augment the resources WOU has, providing a comparative analysis of tools and resources used at other similarly positioned institutions, and conducting a study to interview students, professional advisors, and faculty advisors in order to identify needs that should be addressed when implementing additional tools.

To supplement the recommendation, I have also generated documentation relevant to the needs of the users of additional tools explored in this research. This documentation includes a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis in addition to User Stories which were generated as a result of software

requirements elicitation interviews (see Appendices). Combined with the discussion and recommendations, this documentation serves to inform key departments on important considerations in the implementation and configuration of new degree planning tools.

Project Stakeholders

This project is supported primarily by the Director of Student Success and Advising at WOU, Niki Weight. Working together with this office and the University Registrar, Amy Clark, I have gathered information in order to recommend an optimal implementation for all stakeholders. The stakeholders include WOU students, professional and faculty advisors, the Student Success and Advising Office, academic departments, the Office of the Registrar, and the institution as a whole.

This impacts students the most, in that each and every WOU student is responsible for understanding and completing their degree requirements. These requirements are evaluated using Degree Tracks, the university's degree audit system. Accurate planning and preparation are necessary components for students to successfully complete their degree. Students need reliable information and functional tools in order to plan effectively. Giving students as much information and transparency as possible lays the foundation for them to take greater ownership of their degree plans.

Aside from students, professional and faculty advisors are also directly involved in the degree planning process. It is important that they have tools that can aid them in advising and planning for students, especially when a single advisor may advise dozens

of students each term. Enhanced degree planning tools allow opportunities for advisors to engage in more intentional and holistic advising practices.

The Student Success and Advising Office is responsible for providing training and resources to students, faculty advisors, and departments in the use of new advising tools. It is important for this office to be part of the drive for user adoption and training if this implementation is to be successful.

Academic divisions and departments are also stakeholders in this project because of their role in course planning and forecasting. The course forecasting and degree planning processes are dependent upon each other and with the right information and analysis, can serve each other to further benefit students and the institution.

The Office of the Registrar is a major stakeholder, in that it is responsible for implementing, configuring, and maintaining degree planning tools in addition to awarding degrees based on the outcome of degree plans. It is important that any additional tools are configured in such a way that maintenance time and costs do not outweigh the benefits.

Western Oregon University, as a whole institution, is another essential stakeholder, as impacts of enrollment, retention, and graduation rates ultimately affect the university's funding. Funds come from student tuition directly, as well as from state appropriations based on graduation rates. Any tools that help students to graduate will positively affect the university financially, as well as contributing to the achievement of strategic goals such as student success.

Success Metrics

This project will be considered successful when it has presented accurate and informative discussion and recommendations to the Western Oregon University administration. These recommendations should reflect the degree planning needs of students, advisors, and other stakeholders, compared with best practices research and strategic impact in order to identify considerations for the implementation of additional degree planning tools. Using this information, the university administration can proceed in improvement efforts with a better understanding of the needs of their stakeholders, resulting in better outcomes for all.

STRATEGIC ALIGNMENT AND IMPACT

The WOU strategic plan is titled *Forward Together*. This plan serves as the primary guide for decisions regarding the future direction of the university (Western Oregon University, 2017). The plan focuses on five institutional priorities, (I) Student Success, (II) Academic Excellence, (III) Community Engagement, (IV) Accountability, and (V) Sustainability and Stewardship. This project is relevant to the WOU strategic plan, specifically to student success, accountability, and sustainability and stewardship. Any decisions about degree planning should be made in alignment with the strategic plan so that the university may continue to operate in accordance with its mission and purpose.

I. Student Success

The first institutional priority of the strategic plan is student success. This goal aims to “Promote student success, learning, and graduation through personalized support in a student-centered education community.” Providing a high level of personalized support is the key to better outcomes for students and the institution.

I.4. Streamline and improve university processes in support of student achievement.

Broken down further, this goal includes an effort to streamline and improve university processes in support of student achievement. Degree planning is relevant to two of the student success methods outlined in the strategic plan. The first method is to improve academic advising for all students and the second is to develop user-friendly catalog, scheduling, and registration systems.

1.4.1. Improve academic advising for all students.

A key factor in student success is high quality academic advising. Students need a mentor who knows them, understands their goals, and can guide them toward achieving those goals. A great relationship with an advisor is crucial to a student's educational success.

Improving academic advising is a broad goal but giving students agency and ownership over their degree plans puts their academic plans within their reach. Providing students with a higher level of information and control allows advisors to spend more time playing the role of a mentor, rather than a registration assistant. This allows for advising appointments to be used to discuss career, curricular, and educational goals. It may also help to facilitate the development of stronger connections between advisors and students, advising based on the whole student, and a deeper exploration of options available to them.

1.4.2. Develop user-friendly catalog, scheduling, and registration systems.

The term "user-friendly" can be difficult to evaluate but keeping some of the major components of usability in mind during implementation can lead to beneficial outcomes for users. Improving the usability of catalog, scheduling, and registration systems means that the processes involved with these tools are easy to learn and remember and the system is reliable, free from major errors, efficient, and accessible (Wieggers & Beatty, 2013).

Degree planning is part of a comprehensive and user-friendly registration system. Integrating degree planning solutions within the existing registration system

should give students the ability to easily see their degree pathway and the steps to degree completion. Transparency means that information is accessible to students and that comes with maintaining a high level of usability or user-friendliness. Putting usable degree pathway information directly into the hands of students lowers the barriers that many students face in navigating complex systems without in-depth training. Employing a user-friendly registration system will provide accessibility across campus to a broad user group, further equalizing opportunities for all WOU students.

WOU has recently implemented a user-friendly scheduling tool, Schedule Planner, with great success. This tool automates the process of generating potential schedule options, which greatly reduces the amount of time a student spends drafting schedules. By eliminating this manual process, Schedule Planner creates opportunities for students to fit more classes into their schedule and graduate on time. This is the first step in developing a user-friendly catalog, scheduling, and registration system.

IV. Accountability

The fourth institutional priority in the strategic plan is accountability. accountability is a goal which aims to “Promote teamwork and transparency in budgeting, decision-making and the stewardship of resources.” Transparency is important so that everyone is on the same page. University administration, departments, advisors, and students should all be made aware of decisions and updates regarding course forecasting so that students can have accurate degree plans which lead to their success.

IV.2. Operate in a manner that supports the university's values and continuous improvement.

This goal includes efforts to operate in a manner that supports the university's values and continuous improvement. One pertinent method of achieving this is to use institutional data to inform decisions, address program outcomes and meet strategic goals and accreditation standards.

IV.2.2. Use institutional data to inform decisions, address program outcomes and meet strategic goals and accreditation standards.

Data has become one of the most valuable ways to inform change. Introducing new ways to optimize course offerings and availability, based on enrollment data and course demands, can make the course forecasting process more effective. Students will benefit if courses are available in the term they need them and departments will benefit if their sections are filled. Using degree planning data to strengthen forecasting efforts can help to maximize credit hour enrollment for students as well as course enrollment for departments. Using enhanced data to drive decision-making will result in achieving strategic institutional goals.

V. Sustainability and Stewardship

The fifth and final goal of the strategic plan is Sustainability and Stewardship. This goal aims to "Promote effective university stewardship of educational, environmental, financial, human and technological resources." In order to operate sustainably, WOU must carefully administer its financial, human, and technological resources.

V.1. Enhance financial sustainability through enrollment and fiscal strategies.

One relevant component of this goal is an effort to enhance financial sustainability through enrollment and fiscal strategies, which can be achieved through two methods. The first is by meeting enrollment targets through effective recruitment and retention efforts, and the second is by increasing the role of long-term enrollment management planning in the budgeting processes.

V.1.1. Meet enrollment targets through effective recruitment and retention efforts.

WOU's detailed strategic enrollment management plan, created as a supporting document to the strategic plan, outlines strategies to bolster enrollment through retention and recruitment efforts. Because of recent changes to the State of Oregon's Higher Education Coordinating Commission funding model, state appropriations are now based on a university's graduation rates, rather than credit enrollment rates (Higher Education Coordinating Commission, 2019). This places a greater emphasis on retention, and less on simply recruiting new students to enroll.

In order to increase retention and graduation rates, it is imperative for students to be able to clearly visualize the pathway they are committing to. For students who face barriers to completion, transparency helps them to plan accordingly and overcome those barriers. Having a visual representation of the steps they will need to take to complete their degree may make completion seem more attainable, whereas facing a great deal of unknown factors can be discouraging. Knowing early on what is required of

them can encourage students to enroll in more credits each term, thereby decreasing their total time to graduation.

Additionally, transparency allows students to take more control and ownership of their degree plans. Giving students access to more complete information helps them and their advisors catch errors and issues before they become barriers to completion. These factors are a key part of enhancing retention efforts and consequently leading to financial sustainability.

V.1.4. Increase the role of long-term enrollment management planning in the budgeting processes.

Accurate projections of future budgetary circumstances and concerns require that long-term enrollment management planning be taken into consideration. In order to definitively project future enrollment, it is necessary to have data that can illuminate students' plans over time. As stated above regarding strategic goal IV.2.2 and decision making, enrollment data is also essential in the planning and budgeting process.

Looking at long-term and multi-year enrollment data, the interdependent relationship between long-term forecasting and long-term planning is apparent. When a department forecasts further into the future, students can more easily plan their future enrollment. As degree plan data becomes more stable and predictable, forecasting can be done with higher accuracy and effectiveness. Each improvement to one will help to inform the other, and vice-versa. Using data to inform enrollment management creates opportunities to optimize course offerings, which will inevitably enhance financial

sustainability. The fewer low-enrollment sections the university offers, the more financially sustainable it will be.

V.5. Provide effective technology solutions that support campus programs in alignment with the mission and goals of the university.

Another applicable element of sustainability and stewardship is to provide effective technology solutions that support campus programs in alignment with the mission and goals of the university. To do this, WOU can maintain IT solutions that incorporate best practices in higher education.

V.5.1. Maintain IT solutions that incorporate best practices in higher education.

Implementing effective IT solutions can be particularly challenging. The answer is not always to just add another shiny new tool. However, integrating new functionality into existing infrastructure can dramatically improve students' advising experience (Pasquini & Steele, 2016). One benefit of using existing infrastructure is a lower cost of implementation. Adding features to software currently in use means that the cost of purchasing software will likely be extremely low if anything. Furthermore, it will likely cost less in terms of hours spent configuring software, integrating with other systems, and loading or coding data to the product.

New tools may be exciting for some, but others may not be comfortable with a software that has a steep learning curve. Another benefit of enhancing existing software is usability. Users of the current system are already familiar with the layout, information, and style, and learning additional features is not as challenging as an entirely new product.

Along with a focus on user-friendly systems, it is imperative that new and existing tools are integrated smoothly for a streamlined user experience. It's not enough to augment an existing product with new features. In order for users to adopt new features, they must augment the process by integrating seamlessly within the entirety of the student registration system. Considering these best practices will help to sustainably implement technological resources that support students and align with the priorities of the university.

Using the strategic plan to guide decisions regarding degree planning tools is imperative because it ensures that solutions are relevant to the university's institutional priorities. It will help to fulfill initiatives including student success, accountability, and sustainability and stewardship, which further the university's overall mission and create a positive impact on students.

ANALYSIS OF DEGREE PLANNING RESOURCES AND NEEDS

Literature Review

Given the importance of student success in the WOU strategic plan, graduation and retention rates are a way to determine where additional support may be needed. Across the US, six-year completion rates for bachelor's degree seeking college first-year students are only 62% (National Center for Education Statistics, 2020). Similarly, in the 2017-18 academic year, 65% of first-time, full-time, degree seeking students who enrolled at public universities in Oregon in the fall of 2012 completed a bachelor's degree within six years (Higher Education Coordinating Commission, 2019). At WOU, the six-year completion rate for the 2012 cohort was only 47%. According to the Higher Education Coordinating Commission, the first-year retention rate for Oregon was 85% statewide but 76% at WOU (Higher Education Coordinating Commission, 2019). Upon review of the WOU Institutional Research data, 621 of the 860 first-time (or approximately 72%), of the full-time cohort that started at WOU in Fall 2016 came back for Fall 2017 (Western Oregon University, 2020). While these percentages vary slightly, it nonetheless demonstrates that WOU retention rates are lower when compared to statewide rates.

Given this information, the next step is to explore ways that WOU can close these gaps in persistence, which ultimately lead to gaps in graduation rates. Based on WOU's strategic initiatives, it is apparent that additional degree planning tools warrant exploration as part of a larger strategic effort. Intentional, consistent degree planning is a requisite to completing a degree and yet is not a universal or consistent experience for

students. As such, degree planning may be a barrier which impacts students to varying degrees. This prompts the question: how can WOU improve the degree planning process for students and advisors?

One way to make degree planning easier for students is to make relevant information accessible early on (Oblinger, 2002). Degree requirements can be complex, but if students can visualize them, they can make better informed decisions about their degree plan and anticipate potential issues from the beginning (Yarbrough, 2011). Implementing degree mapping tools would also support the university's strategic plan goals on improving access. For online and distance-learning students, having face-to-face advising meetings can be challenging. Providing students with tools they can use on their own to increase accessibility to degree information.

The introduction of degree maps is another method that has been observed to enhance the degree planning process. In a study involving a group of veteran students, degree maps were said to “clarify the majority of [students’] degree questions.” (Richardson, Ruckert, & Marion, 2015). Providing degree mapping tools is one way to give students more ownership over their degree plans. Without adequate tools that allow students to prepare ahead of degree planning meetings, they may rely solely on their advisor to write out static personalized degree maps and catch errors. For advisors with dozens of other advisees, this is a challenging and time-consuming effort. However, putting detailed information and robust tools in the hands of students allows them to create a plan ahead of time and work through it in partnership with their advisor. This

provides more opportunities to anticipate issues and make adequate plans to complete their degree.

One key aspect of WOU's strategic initiatives is personalized support. Retention and graduation rates could be improved by using degree planning tools as a means to provide more personalized support (Felson, 2015). Using tools to reduce the amount of time advisors spend drafting plans each term allows the student and advisor to be more collaboratively engaged in the degree planning process together. According to the study on veteran students, "self-service through degree maps allowed more time for higher level, personalized advising." (Richardson, Ruckert, & Marion, 2015). If students have more information available to them through a self-service tool, advisors can focus more time discussing overarching educational goals and higher order decisions (Steele, 2016).

While evidence suggests that there are benefits to using technology in degree mapping, just adding more apps is not sufficient (Gaines, 2014). Usability must be a high priority. Any solution WOU implements will be a waste if it is not widely adopted by students and advisors (Feghali, Zbib, & Hallal, 2011). Similarly, having too many different applications or tools leads to a more confusing, less usable system.

It is important to be intentional in the implementation of a new solution. A strategic and streamlined solution that actually improves the user experience is necessary to keep up with today's advising standards (Pasquini & Steele, 2016). One way to ensure a system doesn't become overly complex is to improve existing tools that are already being used by stakeholders. This familiarity can go a long way in making the transition to an upgraded process easier. In the next section, I will review what student

and advisor tools WOU currently has, what other competitor institutions use, and what additional information we need to know to best implement enhanced degree planning tools.

WOU Resources

Degree planning, course scheduling, and registration are interdependent parts of the entire student registration process. To have a better understanding of the role of degree planning in the overall system, it is necessary to explore registration as a whole.

At the time of writing, the registration and degree planning tools used by students at WOU currently consists of Wolf Web registration services, Degree Tracks, the WOU: Real Time Class Availability page, Course Lookup through Wolf Web, sample four-year plans on the institutional website, Schedule Planner, the Registrar's Catalog, and various departmental spreadsheets, paper worksheets, and materials for degree mapping.

Wolf Web, also known as Self-Service Banner by Ellucian, is the system that students use to register for their courses. Banner is a comprehensive Student Information, Financial Information, and Human Resources Information System.

Degree Tracks, also known as DegreeWorks by Ellucian, is a degree audit tool that integrates with the Banner Student Information System (SIS) and displays degree requirements to students, advisors, and administrators. It is the primary way to track a student's degree progress and includes checkboxes for each course they must complete within their major, minor, general education, and other degree requirements. Within

Degree Tracks, there is a Look Ahead tool, which allows students to project what their degree audit would look like if they took specific courses in the future. There is also a What If tool, which students can use to explore the requirements of different majors and minors.

WOU: Real Time Class Availability is a website which displays live course information including available and waitlist seats. The Course Lookup in WolfWeb is an additional search tool which students can use to find courses to add to their registration worksheet, based on specific criteria. The Schedule Planner, also known as College Scheduler by Civitas Learning, is another recent addition to WOU's registration system. Schedule Planner is an automated scheduling tool that allows students to explore and compare potential schedules. All of these are tools students and advisors may use to develop a plan of classes for future terms. Recently, WOU also began publishing year-long schedules allowing students and advisors to see what classes would be offered in the upcoming terms.

Sample four-year plans are another recent addition to WOU's institutional website. They outline the major requirements for the degree, as well as potential general education and minor requirements. The WOU catalog lists all courses offered by WOU, along with detailed descriptions of degrees/programs and degree requirements. Historically, the catalog was a printed resource published once a year. Recently, the catalog has been updated to an interactive digital website for ease of use and access.

In addition to these tools and resources, many departments design and provide their own degree planning materials, including sample degree maps, paper worksheets, and spreadsheets.

It is important to take all of the components of the registration, scheduling, and degree planning system into consideration to determine how to best enhance these tools. The focus of the research in this project is specifically on degree planning but addresses how new tools need to work within the existing framework of the registration system as a whole.

Alternatives on the Market

At the time of writing, there are several existing options for degree planning tools. In addition to College Scheduler, Civitas Learning has a tool called Degree Map, which displays degree requirements in a term-by-term grid. Degree Map also provides insights into career information. EduNav has a similar tool to Degree Map. Finally, DegreeWorks by Ellucian, which WOU currently utilizes, has a degree mapping component called Student Educational Planner. Student Educational Planner allows students and advisors to create four-year degree plans which can be used to project which courses a student will take in future terms to earn their degree.

Degree Map and other software provided by Civitas Learning can come at a high price, which makes it challenging to implement for a school like WOU, which prides itself in affordability. A newer company, EduNav promises huge improvements in enrollment, retention, and other metrics when an institution uses their degree planning

software, SmartPlan. However, it is also expensive and doesn't yet have enough time in the market to prove its effectiveness.

Although fancy software with exciting new features and promises sounds like it could solve all of WOU's challenges, sometimes it's best to look at improving existing resources that WOU is already paying for. Since Student Educational Planner is part of DegreeWorks, it is worth exploring as an improvement WOU can make without purchasing additional software. While it may not have the same functions or features as products from EduNav or Civitas Learning, it is also a system WOU students and advisors are familiar with, which increases the likelihood of widespread adoption.

Comparable Universities

The registration and degree mapping framework at Southern Oregon University (SOU) appears to be similar to what is offered at WOU. SOU also has Banner, DegreeWorks, and a course search feature comparable to WOU's Course Lookup combined with WOU: Real Time Course Availability.

Eastern Oregon University (EOU) has a combined Course Lookup function like the one used at SOU. EOU also has a Banner system which includes DegreeWorks. EOU is currently utilizing the Student Educational Planner tool within DegreeWorks. As we move forward with improving our degree planning tools, it may be beneficial to connect with our partners on best practices and strategies for using these tools.

Rationale for the Current Study

In reviewing research on practices that can enhance the degree planning process, there seemed to be little that gave specific insight into the needs of students and advisors regarding degree planning tools. Similarly, there were insufficient resources to determine which degree planning tools had the greatest impact on an institution like WOU. Educational software companies all provided their own information regarding the efficacy of their tools. However, throughout my research, the information I found did not adequately address WOU's unique degree planning challenges.

Understanding the specific challenges and concerns that we face will allow us to better implement effective degree planning tools. Evidence suggests advising staff and students have the most experience working with advising technology, so they may be the best source of information regarding needs and gaps (Pasquini & Steele, 2016). It may seem trivial or cumbersome to spend time developing tools, however, advisors are in a key position and can be agents for positive changes to advising tools and the degree planning process (Underwood & Anderson, 2018). Based on this information, I concluded that it was necessary to conduct my own research to understand the unique needs of WOU students and advisors.

STUDY

Requirements elicitation is the process through which software development or IT solutions teams decide how to best meet the needs of the users. One of the most important components of requirements elicitation is to gather information directly from users. It is considered best practice to consult the users of a new technology to find their needs. I felt the best way to accomplish this was through interviews with WOU students and advisors, who would be the primary users of a degree planning tool.

Because this research included interviews with WOU students and employees, it was considered best practice to submit the research to the WOU Institutional Review Board (IRB) for approval. The study was submitted to the WOU IRB under Exemption Category 2 for review by the IRB Chair. The study was determined exempt, and subsequently approved. IRB documentation including interview participation consent and interview questions can be located in Appendix C.

Interview Process

Professional and faculty advisors. As primary stakeholders, professional and faculty advisors are on the front lines of advising. They are the ones who students look to for help regarding registration and degree planning. Because of their experience and frequent use of these tools, I felt that their input would be invaluable to consider throughout the implementation of a new advising tool like Student Educational Planner.

Advisors and department representatives who offer advising support were offered the opportunity to participate in the study by email. The email was sent to all

professional and faculty advisors, division chairs, department heads, and program coordinators, asking for their voluntary participation in a one-on-one, in-person interview. Advisors opted in by responding to the email to schedule a meeting time. The advisor response rate was higher than expected, so interviews were restricted to the first 16 respondents due to time constraints.

Students. Since the outreach to advisors resulted in such a high response rate, I opted to send the invitation email to students in batches. I requested a list of degree-seeking undergraduate students who were enrolled in both the current and prior terms, which was approved by the Registrar. I split this list into batches, aiming for proportional representation from each department on campus. To do this, I randomly selected a percentage of students in each major equivalent to the major's percentage of the total number of students on campus. For example, if students majoring in Computer Science constitute eight percent of the campus population, eight percent of each batch consisted of students majoring in Computer Science.

After the first round of invitations, we did not have sufficient participation, so I continued sending invitations to additional randomly selected, proportional samples until all students had received the invitation and the desired amount of interview slots were filled. I interviewed a total of 15 student participants.

These interviews provided a clearer look at the challenges that WOU students and their faculty and professional advisors face. With a better understanding of specific issues, it is possible to evaluate a tool like Student Educational Planner against the needs of the users. The key takeaways from interviews will inform recommendations

regarding implementation, configuration, and support of the Student Educational Planner tool in Degree Tracks.

Interview Results and Key Findings

Professional and faculty advisors. Advisors have an important perspective in degree planning because they generally have the most experience with it. While a student plans only their own degree, advisors may guide dozens or hundreds of students through their degree plan each year. They see many challenges and exceptions students face and they are in a great position to anticipate issues that may arise. Interviewing advisors gave me a closer look into the degree planning process and the needs of both advisors and students.

In the interviews, I learned that the roles of professional and faculty advisors differ slightly. Professional advisors are staff members that provide a wide range of support to students, depending on which office or department they work in (e.g. major exploration, student success, etc.). As faculty advisors are also instructors, they are experts in their field regarding specific curricular and career details. Despite these differences, both groups described their roles as advisors similarly.

Most advisors agreed that their primary and ideal role is to connect with their advisees, learn about their intentions and big picture goals, and encourage them to achieve those goals. They also look at information using available tools and resources, interpret the best way to meet students' needs, and then teach students how to be self-

sufficient in using the tools themselves. Many advisors prefer that students eventually start coming prepared and taking the lead during meetings.

Nearly all advisors use Degree Tracks as their primary advising tool. Specifically, advisors use Degree Tracks as a degree checklist and a tool to look at course details regarding prerequisites, historical and future offerings; make substitutions, exceptions, or check for errors; explore degree options using the what-if feature; and keep notes from meeting discussions.

Aside from Degree Tracks, other tools and resources advisors commonly use for degree planning include the WOU: Real Time Class Availability page, the institutional website for department course offerings, and paper or digital degree maps. These are accompanied by several other catalog, scheduling, and registration tools which are unrelated to degree planning specifically.

Most advisors spend around 30 minutes to an hour with each of their advisees each term. Some of this time is spent getting to know the student, answering their concerns, discussing their educational goals, and exploring potential majors. Advisors evaluate the student's progress through their degree checklist and work together with students to create long-term plans.

Additionally, the degree planning process is already aligned with the strategic plan in many ways. For example, advisors and administrators make efforts to guide students in effective pathways to graduation; streamline requirements, pathways, and university processes; prepare students for life and careers after graduation; and promote access and equity, with consideration of life outside the classroom. Many

advisors were committed to serving students in effective degree planning long before the strategic plan was implemented but the strategic plan highlights the need for this to be an ongoing priority.

With few exceptions, advisors generally encourage students to create long-term plans. Depending on the student and their major, plans range from three terms to a full four-year plan. For majors that are highly flexible, degree plans tend to be shorter-term, sometimes only one or two terms in advance. As long as there is flexibility with course availability, this seems to be appropriate in those cases. The dilemma with long-term plans is a lack of consistent ways to save and maintain them. Each student and advisor have different methods of creating, capturing, and adjusting these plans. This lack of consistency leads to students losing, forgetting, or failing to follow their plan and results in additional work on the student and/or advisor to recreate the plan, thus mitigating any benefits gained from long term planning.

Professional and faculty advisors face challenges with regard to degree planning. Sometimes there are glitches or errors in Degree Tracks with substitutions. Students may come to the meeting unprepared, misplace or forget their degree plan, which results in having to recreate it. Some advisors have so many advisees that it can be difficult to get through more than just planning out the upcoming term.

Forecasting is interdependent with degree planning, in that doing it far in advance can help students and advisors to make longer-term degree plans. Conversely, knowing which courses students need informs the forecasting process. Forecasting decisions are generally made based on a combination of historical offerings and

enrollment data. Nearly all departments rely heavily on historical enrollment data to predict which courses they will need to offer in upcoming terms.

Students. Speaking with students about degree planning, I found several recurring themes that prompted questions on how to best address challenges students experience. Many of the degree planning barriers students face could be remedied with a few enhancements to the existing registration system. It is necessary to evaluate these issues in order to determine the best way to successfully implement and configure degree planning solutions.

First, most students already feel that they are the ones who are primarily responsible for their degree plan. Students seek the guidance of their advisor(s) for career, curricular, and degree planning advice, but are ultimately the ones responsible for committing to and following their degree plans. This is not necessarily a bad thing. It may be beneficial for students to take ownership over their plan and independently make decisions. Student interviews have highlighted a need for adequate tools and information to make decisions that are right for their circumstances.

Additionally, the advising experience is highly variable for students. Some students have advisors who are highly involved and motivated to see their advisees succeed. Other students have advisors with a more hands-off approach; some have a brief conversation about the upcoming term's classes, and some simply remove holds with no advising check-in whatsoever. Students who may not have as much guidance from an advisor need additional support that they can control, trust, and access themselves.

Third, students often use the tools and information they have access to in order to plan through graduation. Students are creating long-term plans with tools including Degree Tracks What-ifs, course information pages, and spreadsheets so that they can see historical and upcoming course offerings. This process requires a great deal of organization, time, and effort, which many students cannot afford to spare. That being so, students seem to be lacking a long-term planning solution that is clear, user friendly, and reliable.

Similarly, almost all students have their own degree map, created by either the department, their advisor, or themselves. For students who work with several departments and advisors or who change their major, the different processes and tools can be challenging to adjust to. This further reinforces the need for a single, consistent tool for degree mapping which students can use in place of or in addition to their own solutions.

Finally, not all students get adequate training or orientation on the tools available to them. Currently, it is up to advisors to teach students to use degree planning tools or for students to learn about them on their own. This method works for some students, but for others it creates unnecessary barriers. In order for a new tool to succeed, students need in-depth orientation resources. Accessible training and orientation would allow students to be self-sufficient in using these tools.

DISCUSSION

I have evaluated WOU's strategic goals, researched degree planning best practices, surveyed existing resources at WOU, on the market, and at comparable universities, interviewed WOU students and advisors, and evaluated their needs against the features of Student Educational Planner. As a result, I have developed several topic areas with questions for the administration to consider, along with my own recommendations based on my research and experience. These topic areas and recommendations are accompanied by examples of user requirements documentation in the form of User Stories, which can be located in Appendix B. I encourage the administration to explore these questions and recommendations further, in order to fully align with the strategic plan and to provide the best solutions to students. Furthermore, in order to summarize the primary takeaways from my research, I have conducted a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis which can be located in Appendix A.

Topic Area 1: Help students find answers, make decisions, and utilize advising

Question: How can WOU help students find answers to their questions, make informed degree planning decisions, and better utilize advising sessions with advisors?

This question is directly aligned with the student success priority, specifically I.4.1: Improving academic advising for all students. As stated in the strategic alignment section above, providing students and advisors with more opportunities for mentoring and exploring broader educational and professional goals is one way to improve academic advising.

This topic is also relevant to the student success priority I.4.2: Develop user-friendly catalog, scheduling, and registration systems. To promote student success, these systems must be widely used across all departments. In order to cultivate high rates of adoption and increase access for all students, the system must be user-friendly to departments, advisors, and students. A tool like Student Educational Planner will only provide opportunities for students to find answers and plan long term if it is user-friendly and accessible.

My recommendation is that WOU should provide students with as much information as possible, as early as possible, and deliver it in a simple and user-friendly way. This could be achieved through the use of Student Educational Planner or a similar degree planning tool. Although it may be difficult to predict faculty availability, course demand, and student enrollment into the future, giving students a way to visualize potential degree plans will go a long way in helping them to make informed decisions. Additionally, this allows students to explore degree options more easily, and evaluate the benefits and challenges of different degree pathways.

Students should not only have the ability to create and edit their own plans if they choose, but they should also have access templates or sample plans. Templates should be updated regularly to ensure that students understand their degree requirements. It is important that accurate templates are provided for both first-time and transfer students so that all students may have access to relevant degree plans.

Additionally, I recommend that plans include any non-course degree requirements, such as placement tests, GPA requirements, residency requirements, and

upper division requirements. These should be configured the same way that course requirements are to help students avoid misunderstandings and planning errors. Including these requirements in this way will make plans easier to use and view, and also provide students the ability to create accurate long-term plans early in their degree path.

As most students refer to their advisor for degree planning questions, a self-service tool like Student Educational Plans can directly provide them with answers to basic questions. If students have the ability to create and edit their own plans, they can come prepared for advising meetings. This allows advising sessions to focus on deeper conversations about the student's goals, promoting overall student success by improving academic advising.

In summary, my first recommendation is that WOU work to help students find answers to basic degree planning questions, make informed degree planning decisions, and better utilize advising time. The university can accomplish this by providing accurate information early in the degree path, creating customizable degree pathway templates, including non-course requirements in degree plans, and employing tools which allow students to come prepared to advising meetings with their own degree plans. Efforts to fulfill these needs will help WOU achieve its goals of improving academic advising and developing user-friendly registration systems.

Topic Area 2: Provide consistency across departments

Question: How can WOU make degree planning consistent?

This question is especially relevant to institutional priorities I: Student Success and V: Sustainability and Stewardship. Consistency falls under the scope of the student success priority I.4: Streamline and improve university processes in support of student achievement. Streamlining the degree planning process is key to ensuring that students have a consistent experience across campus regardless of their advisor, major, or department.

Part of streamlining is to maintain consistency by keeping the number of tools users need to learn and use to a minimum. Similarly, learning additional features can be less challenging than an entirely new system. The sustainability and stewardship priority includes V.5.1: Maintain IT solutions that incorporate best practices in higher education. Therefore, expanding the functionality of existing tools, such as Degree Tracks, as opposed to implementing an additional tool is one example of an IT best practice. Building on an existing software increases the likelihood that all students and advisors will use the same tool for degree planning.

First, I recommend that all departments be required to provide degree information in the same location and format. This enables students to explore various degree options easily, without needing to traverse several web pages etc. Furthermore, providing reliable and consistent information helps to reinforce students' confidence in the systems.

A consistent but customizable tool like Student Educational Planner is an ideal solution. This tool makes it possible for students and their advisor(s) to be on the same page regarding the student's degree plan. Additionally, a plan saved online allows

students and advisors to easily keep a record of previous conversations. This promotes accountability and helps ensure that students stay on track. For students whose plans may have changed since their previous advising meeting, the saved plan gives advisors the opportunity to “nudge” or follow up with students to discuss adjustments to their plan.

Although challenging, my second recommendation is that fostering a culture of open communication between divisions, colleges, and administrators be made a priority. One benefit of implementing a single degree planning tool is that all parties can reference the same information. Many students work with several advisors across campus (e.g. minor advisors, SEP, MSSP, Honors), so having a single degree planning tool also enhances the quality of information being shared with the student. A degree planning tool cannot force communication between departments, but it can serve as a common point of reference for all.

However, in order for this tool to be an effective method of improving communication, it is imperative that the information be maintained and updated regularly. Furthermore, WOU should make efforts to promote an open and communicative culture between departments. This will give advisors the ability to provide students with a cohesive message, leading to less confusion and misunderstandings as students navigate the complexities of their degree.

Consistency in degree planning should be a priority for WOU. I recommend that in order to promote consistency, departments be required to provide, update, and maintain accurate degree requirement information. Moreover, reinforcing the

significance of open communication is vital to the success of any efforts to streamline university processes. Additionally, best practices research confirms that updating existing systems is often the preferred method over implementing completely new ones. Overall, increasing consistency on multiple fronts will help WOU to streamline processes and adhere to IT best practices.

Topic Area 3: Develop and provide enhanced training

Question: How can WOU provide training and resources to students, advisors, and departments to effectively utilize the planning tools?

The topic of training is important to explore. This is a perfect opportunity for WOU to make strides toward the sustainability and stewardship priority, especially V.5: providing effective technology solutions. Technology solutions like Student Educational Planner are most effective when they are used and updated ubiquitously across campus. In order to achieve this, WOU can make it easy to utilize these tools by providing training to students, advisors, and departments.

My recommendation is that WOU provide students with several different training resources. For example, WOU can direct new students to a web resource at orientation which includes text and image-based tutorials as well as a video walkthrough. In addition, it would be valuable to provide in-person degree planning workshops with an instructor, advisor, or peer leader either during new student week or as part of First Year Seminar courses. Having several options available to students early on to learn these tools would benefit students and their advisors.

Not only are advisors an essential resource for teaching students how to use degree planning tools, they are also primary users themselves. Thus, offering and stressing the importance of ongoing training and resources for advisors is critical in ensuring an effective implementation. Again, training methods could include web tutorials, training videos, and workshops. An additional option is to identify Degree Tracks “super users” who act as mentors to other users, as well as to encourage ongoing communication between the administration and departments regarding ways to effectively use the system as new features and changes emerge.

Training is an essential factor in the success of any implementation project, especially one with such a wide user base. In order to strategically provide effective technology solutions, WOU must prioritize training for both advisors and students. Doing so will not only facilitate a successful implementation, but also enable lasting success of a tool like Student Educational Planner.

Topic Area 4: Create benefit for the institution

Question: How would WOU benefit from having a mechanism for long-term degree planning?

WOU may benefit in several ways from strategically implementing long-term degree planning tools like Student Educational Planner. The question can be partially answered by examining Institutional priority IV: Accountability. This goal strives for transparency in decision-making and continuous improvement, which may be achieved through priority IV.2.2: using institutional data to inform decisions and meet strategic goals. Tools like Student Educational Planner host a wealth of valuable data which can

be used by departments and the administration for more efficient course forecasting and informed decision-making.

Presently, forecasting efforts rely on historical enrollment data and past course offering strategies. However, to better prepare for an unpredictable future, WOU must begin to look ahead. This is where data and reporting tools are especially useful. When student plans for the coming year(s) are systematically recorded, departments can use this information to better predict the upcoming demand for courses. Long-term plans (e.g. a four-year plan) in a centralized system could allow departments and colleges to forecast the needs of classes and use that for scheduling out year-long course offerings. This could also be a method to determine whether changes to program requirements or prerequisites may impact students in future terms.

Again, consistency is key. For data to be a reliable determiner, everyone within a department and the larger organization should be using these tools in the same way. Because of this, my first recommendation is that Student Educational Planner be configured in such a way that only the active plan should be used for course forecasting. This plan should most closely reflect what courses the student realistically plans on taking in the future. Similarly, this plan should be approved by an advisor and locked. Any variations in this plan can be explored by the student using inactive or secondary plans, which may be made active and locked upon advisor approval. This configuration model would ensure that departments are using the most accurate data for course forecasting and increase the chances that advisors check in with students when their plans change.

While the university stands to benefit indirectly from pursuing strategic goals like improving student success and accountability, it may also see explicit financial benefits through the use of a tool like Student Educational Planner. Tools like this affect strategic priority V: Sustainability and Stewardship, especially section V.1: enhancing financial sustainability through enrollment strategies.

First, subsection V.1.1 deals with meeting enrollment targets through effective retention efforts. As stated above in the research and strategic alignment sections, strong degree planning plays a crucial role in retention rates, as students can better anticipate issues and plan ahead, improving their chances of persisting and completing their degree. As completion rates affect funding from the State of Oregon, implementing a new mechanism that facilitates effective degree planning can greatly benefit WOU's financial sustainability.

Similarly, degree planning tools also affect subsection V.1.4: increasing the role of long-term enrollment management planning in the budgeting process. When implemented effectively, data-driven degree planning tools can have a strong impact on enrollment management strategies and retention efforts. Not only does this impact state funding, but tuition funding from enrolled hours as well. This in turn directly impacts financial sustainability of departments.

My second recommendation is that WOU configure degree planning tools in such a way that enrollment management may be particularly impactful to the university's financial sustainability. A major component of enrollment management is the interdependent relationship between degree planning and course forecasting, thus,

increasing the strength of this relationship is of the utmost importance. This means using data to offer courses that are in high demand in student plans. Additionally, providing information about projected course offerings as far in advance as possible allows students to create accurate plans. The longer these practices are in place, the more precise enrollment data and projections will become.

To summarize, degree planning data has the power to dramatically impact WOU strategically and financially. Not only do tools like Student Educational Planner make it easier for departments to optimize course offerings, this optimization may greatly impact the financial sustainability of the university. By carefully configuring degree planning tools and creating policies to match, the university has the opportunity to benefit significantly.

Limitations to the Current Study

Interviews. Interviewees were self-selected, which may impact the results of the interviews, as respondents may have been more inclined to respond if they have had strong positive or negative experiences with degree planning. The number of interviews conducted by the PI was small due to constraints of time and resources, and thus may be a limiting factor. However, the interviews were intended only to provide the university with input from students and advisors, not to extrapolate data from.

Conducting comprehensive software requirements elicitation often includes user observations, focus groups, and testing in addition to interviews. However, due to

FERPA protections in place for students and the limited resources and access granted to student researchers, this kind of in-depth research was not feasible.

Registration system. Degree planning is but one part of the entire registration system, which includes tools, such as WolfWeb, Schedule Planner, Degree Tracks, and online resources; processes, such as registration, advising, schedule planning, and degree planning; departments, such as the Office of the Registrar, academic departments and divisions; and people, including administrators, professors, students, and advisors. All of these factors must be considered as an ecosystem, in which any new piece must fit.

Variability in advising. As stated above, another factor related to consistency in students' degree planning experience is the enthusiasm or engagement from their advisor. As most faculty advisors' primary role is teaching a highly specific field, some are not especially passionate about the additional responsibilities that come along with advising. Furthermore, the number of advisees per advisor varies dramatically, with some advisors assigned to less than ten students in a year, and others advising hundreds. This causes students to experience a wide range of involvement between advisors and departments. While faculty advisors undoubtedly care about their students' success, many are not explicitly trained to be academic advisors, which may affect the quality of advising. This is one area that merits a great deal of attention in the future, as it can directly and dramatically impact the student success priority.

Future Considerations

While not directly related to this project, the study revealed additional themes or ideas that should be explored further when implementing strategies for successful degree planning and completion. These could impact the effectiveness of launching any degree planning tools.

Professional advisor model. One common theme that came about throughout interviews and research was the idea of a professional advisor model. WOU currently has a faculty advisor model, in which professors double as academic advisors for their students. While this may provide students with valuable guidance from an expert in their field, it can also be challenging if an academic professional does not have in-depth advisor training or experience. In a professional advisor model, advisors' primary role is advising. Further exploration into the professional advisor model may be valuable, as this could be a successful method of advising students at WOU.

Faculty advisor incentives. Another option to enhance the degree planning and advising experience at WOU would be to explore new ways to incentivize faculty advisors to provide high-quality advising to all students. For example, faculty who choose to be advisors could receive compensation in the same way that they do for other administrative responsibilities within the department, such as a course release.

Transfer orientation. One theme that emerged from both advisor and student interviews was the importance of transfer orientation. Transfer students often face challenges throughout their pathways, one of which being their tendency toward taking longer to complete their degree due to credits not satisfying WOU degree requirements.

WOU should explore requiring that transfer students meet with advisors and transfer articulation specialists when they first arrive at WOU. This would provide them the opportunity to create an in-depth degree plan, including the articulation of all transfer credits, as well as to ask questions related to their specific circumstances as transfer students.

Conclusion

While WOU is continuously developing its student support services, one area that could benefit from additional attention is degree planning. After evaluating the university's strategic goals, exploring degree planning best practices and research, analyzing available resources, interviewing WOU students and advisors, and identifying needs, I have developed several areas of discussion along with recommendations which I believe will help to address those needs. Ideally, this research will provide a closer look at the unique challenges and strategic considerations that WOU may want to focus on as it progresses with degree planning improvements.

The use of enhanced degree planning tools as outlined in this paper could have positive impacts on university goals. Helping students find answers, make informed decisions, and utilize advising time can improve their chances of success at WOU. Additionally, standardizing degree information and maintaining it in a single location provides advisors and students with a reliable source of information consistent across all departments. Developing adequate training resources for students and advisors will ensure that new tools contribute to student success. Finally, implementing additional

tools may help to improve enrollment, persistence, and graduation rates, from which the university will see strategic advancement and financial benefit. Exploring these topic areas and taking into consideration the input from students and advisors will likely lead to the successful integration of Student Educational Planner or a similar tool. It is my hope that this research helps to advance degree planning outcomes for students, advisors, and the university as a whole.

APPENDIX A: SWOT ANALYSIS

An analysis of the degree planning Strengths, Weaknesses, Opportunities, and Threats (SWOT) at WOU highlights areas that are working, as well as those that may need improvement further exploration. It is important to understand the current state of the system before introducing anything new, so that strengths and opportunities may be highlighted, and weaknesses and threats addressed.

The interviews have raised important concerns for the university going forward, as well as praise for what the administration has already accomplished with the strategic plan in recent years. This SWOT Analysis is meant to provide an overview of some key areas that the university can focus its efforts on in the future.

Strengths
<ul style="list-style-type: none"> ● WOU advisors care deeply about the success of their students. ● Degree Tracks is a robust degree audit tool. ● New improvements in year-long forecasting help students and advisors. ● Advisors emphasize holistic advising, considering the “whole student” and their non-academic obligations. ● Schedule Planner has greatly reduced the time students and advisors spend on course scheduling.
Weaknesses
<ul style="list-style-type: none"> ● The advising experience is inconsistent for students. ● Training for degree planning tools is not required for advisors. ● Training for degree planning tools is not widely accessible to students. ● There is a lack of information provided to students early on, especially for transfer students. ● Degree Tracks sometimes has glitches which cause students to take classes they don't need. ● Internal communication between departments is lacking.

Opportunities
<ul style="list-style-type: none">• Increase retention and graduation rates, which will result in better funding outcomes from tuition and state funding.• Improve access to consistent and updated information across campus in one location.• Develop a method of communicating changes to degree requirements or course offerings between departments.• Integrate new features into existing systems.• Require that all departments provide accurate information about degree requirements and course offerings in the same location.
Threats
<ul style="list-style-type: none">• Competing institutions with more resources may appeal to students.• Students who face barriers may not persist due to challenges in degree planning.• Inconsistent or outdated information can prevent students from completing their degree on time.• Projected enrollment declines affect funding and the university's ability to invest in additional support for students.• Budget cuts can strain an already modest student support department.

APPENDIX B: USER STORIES

The following user stories reflect the themes identified as a result of the research, interviews, and analysis I conducted. These stories serve as recommendations and success criteria for the implementation and configuration of additional degree planning tools by the university administration. These are examples of relevant user stories and may be a helpful resource used to guide decision-making and identify new user stories. They are formatted in accordance with user story best practices from *Software Requirements* (Wiegers & Beatty, 2013), to fit the template: “As a <type of user>, I want <some goal>, so that <some reason>.” This format is designed to ensure that the description and intent of the story or feature are clear to the development or implementation team.

As a student...

- I want to visualize my long-term degree pathway so that I can make better informed decisions and anticipate potential issues from the beginning.
- I want to see my long-term plan so that I understand all of the steps I’ll need to take to graduate.
- I want to easily access degree requirements and course offerings information so that I can find answers to my questions and make informed decisions.
- I want to use a degree planning tool which is integrated with existing catalog, scheduling, and registration systems so that I can easily use all systems together in a streamlined process.
- I want to see personalized hypothetical scenarios for degree plans so that I can explore all of WOU’s degree options.
- I want to explore degree options for every degree WOU offers so that I can make the best decision for my degree plan.
- I want to see non-course requirements included in my degree plan so that I don’t miss something I need to graduate.

- I want to use a single degree planning tool between all advisors and departments so that my plan is understood and can be referenced by all involved.
- I want to create and edit degree plans independently so that I can be prepared for advising meetings.
- I want to manage my degree plan independently so that I can have an accurate plan regardless of my relationship with my advisor.
- I want to have access to training resources so that I understand how to use degree planning tools effectively.
- I want to use template plans so that I can explore degree options without having to enter all of the information multiple times.
- I want to see accurate and updated information so that I can make effective plans.
- I want to see course offerings as far in advance as possible so that I can adjust my plans, as necessary.
- I want to create multiple plans so that I can evaluate different pathways based on various scenarios due to academic, work, or other personal circumstances.

As an advisor...

- I want to spend time connecting with my advisees so that I can learn about their intentions and goals.
- I want to help train students to use degree planning tools so that they may come prepared to subsequent advising meetings.
- I want to use a degree planning tool which is integrated with existing catalog, scheduling, and registration systems so that I can easily use all systems together in a streamlined process.
- I want to see personalized hypothetical scenarios for degree plans so that I can explore degree options with my advisee.
- I want to see non-course requirements so that I can advise students on when to take certain steps in order to graduate.
- I want to use template plans so that I can create student plans without having to enter all of the information multiple times.
- I want to lock students' active plans so that the student and all their advising staff are on the same page.

- I want to see accurate and updated information so that I can give effective advice to students.

As a department administrator...

- I want to see which courses students plan on taking in future terms so that I can schedule course offerings accordingly.
- I want to report on active, locked student plans so that I can accurately predict future course demand.
- I want to create template plans for both first-time and transfer students so that advisors and students can quickly and easily create and explore accurate plans.
- I want to forecast long-term so that students' plans can accurately reflect which courses will be offered each term.

APPENDIX C: INSTITUTIONAL REVIEW BOARD DOCUMENTATION

Participation Consent

You are being invited to participate in a research study conducted by a WOU Student. This document contains information to help you decide whether to participate. Please read the form carefully and ask the PI for any needed clarification. Keep this document for your records.

Nature and Purpose of Project

The purpose of this interview is to gather information about the current state of degree planning practices and resources at WOU.

Participant Selection

You are being asked to participate because you are involved with WOU as a student, faculty advisor, department head or division chair, professional advisor, or staff member of the Registrar's Office.

Explanation of Procedures

Participants will meet with the Principle Investigator (PI) to discuss their experience with degree planning at WOU. The interview will have a conversational format and should take approximately 30 minutes.

Discomforts and Risks

A participant may experience discomfort if they have had a negative experience with degree planning in the past and feel distressed talking about it. All information will be treated confidentially and stored securely. In the case of a data breach, the PI will alert the participant and the IRB to the issue.

Benefits

This study is not designed to benefit participants directly. However, participation may help to increase institutional awareness of degree planning practices and resources at WOU.

Confidentiality

Your participation in this study is anonymous. Neither participation nor individual responses will be tracked in any way. All responses will be used only in aggregate with no identifying information included.

Refusal/Withdrawal

Your participation is strictly voluntary, and you are free to withdraw or stop participating at any time. You may skip any question that you do not wish to answer or end any conversation at any time.

Contact Information

Any questions about the procedures or conduct of this research should be brought to the attention of the PI, Natalie Legras (nlegras14@mail.wou.edu).

This project has been reviewed and approved by the Western Oregon University Institutional Review Board (IRB) for the Protection of Human Subjects. If you have any questions about your rights as a research participant, you should contact the WOU IRB at irb@mail.wou.edu.

Signing below indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in this study.

Professional Advisor Interview Questions

1. How long have you been an advisor, and approximately how many advisees do you have? (per term, year?)
2. Tell me about your experience advising students on their degree plans.
 - a. What role do you play in students' degree requirements planning process?
 - b. What role do you think faculty and professional advisors should play in students' degree requirement planning process?
 - c. How far into the future do you help or encourage students to plan their degree?
 - d. How much time do professional advisors spend helping students with degree planning, or working on degree plans in order to support students?
 - e. Are you aware of Degree Tracks? If so, how do you use Degree Tracks?
 - f. What tools and resources do professional advisors use for degree planning?
 - g. Which are most helpful?
 - h. Explain, in detail, your degree planning process.
3. How is the degree planning process (across campus and/or in your department) aligned with the strategic plan priorities for promoting student success?
4. How can WOU improve the degree planning process for students and professional advisors?
 - a. What makes degree planning difficult for professional advisors?
 - b. What would make degree planning easier for professional advisors?
5. Other notes:

Faculty Advisor Interview Questions

1. How long have you been an advisor, and approximately how many advisees do you have?
2. Tell me about your experience advising students on their degree requirements.
 - a. What role do you play in students' degree planning process?
 - b. What role do you think faculty and professional advisors should play in students' degree planning process?
 - c. How far into the future do you help or encourage students to plan their degree?
 - d. How much time do faculty advisors spend helping students with degree planning, or working on degree requirements in order to support students?
 - e. Are you aware of Degree Tracks? If so, how do you use Degree Tracks?
 - f. What tools and resources do faculty advisors use for degree planning?
 - g. Which are most helpful?
 - h. Explain, in detail, your degree planning process.
3. Are you involved in course planning or forecasting?
 - a. What does the course forecasting process look like for your department?
 - b. How does your department decide which courses to offer for the year or term?
 - c. How does your department decide how often courses are offered?
 - d. Is there a review process for course offerings?
 - e. What prompts changes, if any?
4. How are degree planning and course forecasting processes (across campus and/or in your department) aligned with the strategic plan priorities for promoting student success?
5. How can WOU improve the degree planning and course forecasting process for students, advisors, and departments?
 - a. What makes degree planning difficult for faculty advisors?
 - b. What would make degree planning easier for faculty advisors?
 - c. What would make course forecasting better for your department?
6. Other notes:

Student Interview Questions

1. What is your major/minor, year in school, and expected graduation term?
2. Tell me about your experience with the degree planning process.
 - a. How much time do you think you spend on degree planning in a term or academic year?
 - b. Do you plan your degree on your own or with the help of others? Who?
 - c. Do you feel that you are the person who is ultimately responsible for your degree plan? If not, who is?
 - d. Are you aware of Degree Tracks? If so, how do you use Degree Tracks?
 - e. What tools and resources do you use for degree planning?
 - f. Which are the most helpful?
 - g. Is your degree planning experience satisfactory? Why or why not?
 - h. Explain, in detail, your degree planning process.
3. Do you feel that completing your degree in four years is attainable? Why or why not?
4. How do you feel about course offerings and availability here at WOU?
5. What are some barriers you've had—or anticipate having—to completing your degree?
6. What support do you feel WOU provides or lacks in the degree planning process?
7. How can WOU improve the degree planning process for students?
8. Other notes:

Certification of Exemption



Western Oregon
UNIVERSITY

Institutional Review Board

Todd Hall 345 | 503-838-9200 | irb@wou.edu | wou.edu/irb

DATE: 12.02.2019

TO: Natalie Legras

RE: Certification of Exemption
Project Title: A Path to Graduation at Western Oregon University
IRB #: 1099
Date of Certification: 12.02.2019

Dear Natalie,

On 12.02.2019, the WOU Institutional Review Board (IRB) reviewed the above project protocol. It was the determination of the IRB that your study qualified for exemption based on the federal requirements for an exempt status based on exempt category #2. This category is restricted to research that includes only interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording), provided that these interactions are conducted in a manner consistent with those outlined in exempt category #2.

Please note that although your project is exempt from IRB oversight, it is your responsibility to report promptly to the WOU IRB any adverse events or unanticipated problems involving risks to participants or others as a result of your engagement in this project. Additionally, you must contact the WOU IRB prior to implementing any changes in your study which may have bearing on the rights and welfare of the participants, including change in design, population targeted, and/or consent process. Protocol modifications must be reviewed and approved by the WOU IRB prior to implementation. Any proposed modifications may disqualify the project from exempt status, and in these cases, an expedited or full board review may be initiated. Please contact the IRB chair to facilitate this process.

We appreciate your dedication to the ethical conduct of human subject research at Western Oregon University and your continued commitment to human subject research protections. If you have any questions, please feel free to contact myself or any other member of the WOU IRB.

Good luck in your research activities.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ethan McMahan'.

Ethan McMahan, Ph.D.
Chair, WOU Institutional Review Board

REFERENCES

- Feghali, T., Zbib, I., & Hallal, S. (2011). A Web-based Decision Support Tool for Academic Advising. *Educational Technology & Society, 14* (1), 82-94.
- Felson, J. (2015). The Low-Hanging Fruit of Technology in Academia. *Academe, 101*(5), pp. 35-37.
- Gaines, T. (2014). Technology and Academic Advising: Student Usage and Preferences. *NACADA Journal, 34* (1), 43-48.
- Higher Education Coordinating Commission. (2019, May). *Statewide Higher Education Snapshots*. Retrieved from State of Oregon: Research:
<https://www.oregon.gov/highered/research/Pages/snapshots.aspx>
- Higher Education Coordinating Commission. (2019, September). *Student Success and Completion Funding Model (SSCM)*. Retrieved from State of Oregon:
Postsecondary Finance and Capital:
<https://www.oregon.gov/highered/institutions-programs/postsecondary-finance-capital/Pages/university-funding-model.aspx>
- National Center for Education Statistics. (2020, April). *Undergraduate Retention and Graduation Rates*. Retrieved from The Condition of Education:
https://nces.ed.gov/programs/coe/indicator_ctr.asp
- Oblinger, D. G. (2002). From Connections to Community. In D. J. Burnett, & D. G. Oblinger, *Innovation in Student Services: Planning for Models Blending High Touch/High Tech* (pp. 251-261). Ann Arbor, MI: Society for College and University Planning.

Pasquini, L. A., & Steele, G. E. (2016). Technology in Academic Advising: Perceptions and Practices in Higher Education.

doi:<https://dx.doi.org/10.6084/m9.figshare.3053569.v1>

Richardson, T. M., Ruckert, J. M., & Marion, J. W. (2015). Planning for Veterans' Success: The Degree Map as an Advising Solution. *Online Learning, 19 (1)*. Retrieved from <https://commons.erau.edu/publication/62>

Steele, G. (2016, December 15). Creating a Flipped Advising Approach. *NACADA Clearinghouse*.

Underwood, Z. W., & Anderson, M. (2018, February 26). Technology and Academic Advising: A Case for Embracing Change in Academic Advising. *NACADA Academic Advising Today*.

Western Oregon University. (2017, February). *Institutional Priorities - Strategic Planning*. Retrieved from Western Oregon University: <https://wou.edu/planning/institutional-priorities/>

Western Oregon University. (2020, February 18). *Retention - Institutional Research*. Retrieved from Western Oregon University: <https://wou.edu/institutionalresearch/retention/>

Wieggers, K., & Beatty, J. (2013). *Software Requirements* (3rd ed.). Redmond, Washington: Microsoft Press.

Yarbrough, D. (2011). The Engagement Model for Effective Academic Advising With Undergraduate College Students and Student Organizations. *The Journal of Humanistic Counseling, Education and Development, 41(1)*, 61-68.