The Civitas at University of Washington Tacoma
Key Terms

**Civitas**
Originally a Roman term for the populous or citizens. Also the suite of software the University of Washington uses as its analytics engine (Civitas Learning).

**Persistence**
The likelihood that a student will remain at UW Tacoma until the next academic year.

**Historical Persistence Rates**
The cumulative average persistence rate for a population of students over the last several years.

**Persisters & Non-Persisters**
Students who have persisted (or who have not) to the next academic year.

**Predictors**
Factors that affect the likelihood of a student persisting.

**Unmapped**
A student who has not yet entered/been accepted into a major (lower division).

**Predictive Persistence Rates**
Based on the last few years, a prediction of how many and which (current) students will persist to the next academic year. To achieve data validity, the model takes into consideration only the last few years of historical data, numerous factors, and predictive logic fine-tuned to the institution.

**Illume**
Civitas tool used to generate predictive analytics.

**Inspire**
Civitas tool that looks more deeply at an individual student; piloted here at UW Tacoma by lower division advisors.

**Illume Impact**
The Civitas data tool that allows an analyst to tap into Civitas’ integrated data and predictive power when uploading a spreadsheet of variables not currently collected or stored in UW central data systems.
Introduction
The Office of Academic Innovation at the University of Washington Tacoma (UWT) is shepherding campus use and usefulness of UW’s new analytic software “Civitas Learning.” This suite of tools provides both historical and predictive looks at student retention through various demographic filters and predictors. In working with this system, UWT hopes to identify at-risk students, and in turn formulate solutions to help these students persist. We are also exploring ways this software can help us provide outreach through rapid, real-time, personalized email through any combination of filter or predictor populations of students.

Filters
The Civitas dashboard provides an extensive variety of parameters that the one can draw upon to examine specific student populations (seen on left side of Figure 1). Selected filters will appear in the “Active Filters” tab – and in turn affect the data that appears in a dynamic “Overview” of those students. For example, in Figure 1, we have selected the Undergraduate and Tacoma campus filters. Therefore, the dashboard shows that there are 4,082 students at this moment that meet these two requirements – and the combined predictive persistence rate of this group is 91%. This can be compared with the
number below the active students, which is always an overall count and persistence prediction for all students within the tri-campus system.

**Powerful Predictors**
The bottom section of the Civitas dashboard contains a table of ranked parameters known as “predictors.” The Civitas system ranks these parameters based on the data completeness of each predictor for each population examined – not on its retention prediction. Demographic filters can be applied to analyze a student group in regard a specific success predictor. The system will retrieve three years of historical data on that demographic filter group (exactly count is shown as “Sample Count” on top right), and display the group’s historical persistence and non-persistence rates along the X access of the predictor.

Figure 2. Screenshot of Civitas - Powerful Predictor [Age]

From this Powerful Predictor report, one can select a more specific range along the X axis, such as 17-25 year olds, as in Figure 2. Then, Civitas will display deeper data from the selected range including historical persistence rate, % of persisters vs non-persisters, and the actual number of historical students included.
Determining Powerful Predictors

In the following pages, we will display and briefly analyze a few powerful predictors that appear to be significant across UW Tacoma student groups. The red line on a report is non-persisters, and the blue represents persisters. When a change in behavior or effect (tipping point) is reached, the lines cross. It is analytics practice to study the areas before, after and between tipping points.

Powerful Predictor: Degree Alignment

As an example, this report shows similarity between cumulative courses taken and courses taken by prior graduates in the student’s major. A higher score represents a higher amount of similarity and suggests the ability to stay on track, taking courses needed within the major.

In our overall undergraduate population, 70% of non-persisters (those who will not persist to the next fall quarter) have a degree alignment score of fewer than 35%. This is in contrast to only 61% of persisters. Additionally, the filter population selected (declared major) has a historical persistence rate of 94%, which is relatively good and reflects their successful entrance into a major. Due to the diversity of the transfer experiences common at UW Tacoma, even our most successful students may have a lower alignment score than “traditional” college-going students.

Still, students who have a higher degree alignment score, exhibit a higher persistence than those with a lower score. The most aligned population accounts for 38% of persisters as opposed to only 29% of non-persisters. We can infer from the data that degree alignment does affect undergraduate persistence, but not as deeply as might be expected when students are taking courses not aligned with path to degree.

Once on our campus, students should be encouraged to stay on track, taking courses that lead to meeting requirements of their major.
Undergraduates [In Major] + [Part Time]

Our part time students appear to be more significantly affected by degree alignment than their full time counterparts. Part Time students with a low alignment score have a historical persistence rate of only 89%. Furthermore, 61% of this group’s non-persisters fall in lower ranges, whereas only 51% of persisters do the same. On the bright side, students who have a higher alignment score, also have a historical persistence rate of 93%. If we can get students to their majors, their persistence is high, even when they’ve deviated from degree alignment in course selection, but deviation is of higher risk if they are part time students.

This makes intuitive sense – if you are taking less credits per quarter and longer to graduate, it is important that you make all credits “count” (in that they are necessary for your major). Fortunately, a good amount of our part time undergraduates must realize this, as 48% of these students have a high degree alignment score, as compared to 39% of their full time cohorts. However, their retention difference is still high enough that the campus might consider a more guided pathway plan for students regularly taking less than 15 credits to keep them on track to degree.

Undergraduates [In Major] + [20-24 year olds]

While this group already has a high historical persistence rate (96%), it is important to note that students who have a high alignment score in this group (greater than 35%) have a persistence rate of 97% and rises with alignment score. This data suggests that full time students who are taking courses on track for their major tend to persist in high numbers.
Powerful Predictor: Age

Undergraduates
Historically, being a strong transfer campus for the local community colleges, the majority of our undergraduates are over 21 years. As we grow our lower division, it’s important to recognize the difference in needs and behaviors for age groups in undergraduate years. For example, while 18-23 year olds (as a group) have a historical persistence rate of 88%, **18-19 year olds have a historical persistence rate of only 80% to the next term.** UWT 20-23 year olds (in the majors now), have a relatively good historical persistence rate of 91%. Undergraduates above this age (23+, often parents, working full time, holding diverse responsibilities) dip a bit to a persistence rate of ~88%.

This data correlates with previous insights we have made. Our younger students (18-19) are lower division students (not yet in a major) and tend to have a lower persistence than students accepted into a major, regardless of age. This gap increases for younger students.

Looking at this same age range for this past Spring Quarter, we see that this young group (18 and 19 year olds) has a predictive persistence rate of about 88%, while students in the same age range that are **in their major** have a predictive persistence rate of 94%. This strongly implies that younger students will better persist if they can get in their major early. This ascertain is made from the fact that most students aged 18-19 are either in their first or second year of college. If they are already in their major, they brought credits from high school (Running Start, AP credits); were directly admitted to a program; or took a significant amount of credits here to be accepted sooner.

All of this culminates in the conclusion that **getting students into their major early helps in retention.** This is contrary to the discourse that premajor students should “experiment” with their classes and take their time to decide their major. UW Tacoma would better serve students if we could find ways to
balance exploration with student commitment to an interest and to a success of belonging within a discipline. It may be beneficial to look into nudging students towards identifying their major interests earlier and staying focused on courses that provide degree alignment.

It is interesting to note here the persistence struggle of older students not in a major. Overall, our 21+ undergraduate populations’ persistence score is a strong 92%, however, those who are still premajors have a persistence of only 63%. This is an at-risk population worthy of focused support.

Solutions could include attempting to get these students into their major (or identified with major) early in their experience at UWT. We can also help older, premajor students feel more welcome. Whether premajor or “near completers,” 21+ students are the majority of students on campus, yet our focus tends to lean toward traditional student services. Letting these older students know that they matter, and providing assistance catered to their needs, might impact the current persistence rate of undeclared, older students.
Powerful Predictor:
Average Number of Days Enrolled Before Start (Current Term)

Undergraduate
We’ve seen from previous research that the earlier a student enrolls, the better their successful path to graduation. The tipping point appears to be 20+ days before term start. Overall, undergraduates who register later than 20+ days before the start of the quarter have a historical persistence rate of only ~82%. Students who register more than 20+ days in advance have a historical persistence rate of 90% - an 8% increase. Intuitively, this makes sense, as late registrants are likely not getting classes that they need, at times they prefer. Especially in regard to the previously mentioned importance of degree alignment, this can be a heavy blow for a student attempting to stay on track.

An even more drastic tipping point appears for students registering less than 2 days in advance of quarter start. As you see in the imagine, the persistence rate of this group drops to 72%. Despite what we know regarding persistence and late registration, there are few outreach initiatives at UWT to inform the ¼ of our students registering later than 20+ days in advance of the consequences. We know that seats won’t be available; it is not clear students know and it is not clear why they are registering late.

Piloting an auto-notification system reminder when a student’s registration period is open, as well as greater promotion and signage across campus at registration time would be of value.

Powerful Predictor:
Difference from Average in Count of Discrete Days of Any LMS Activity
The amount of days, on average, a student is above or below average LMS Activity for the quarter, compared to peers in the same course.
Undergraduate [In Major and Pre-Major]
This predictor gives some interesting insights into the importance of participation. We see that for students who below average (meaning they miss more LMS activity than their peers) - the persistence rate drops pretty significantly – from 90% to 81%. The less the student participates, the more likely they will disengage and leave. A move in higher education, now that we can monitor engagement, is to recognize the value of intervening before the student leaves.

![Graph showing difference in persistence rate](image)

Conclusion
Analytics provides a powerful tool for knowing our students and supporting their successful path to graduation. In real time, it can help us do better diagnostics in who we are losing, where we are not providing services, support, or engagement (in and out of the classroom), and vulnerable populations for whom we should be reaching out. Analytics can tell us who, where and when; it cannot tell us why – or what actions we should take at UW Tacoma to improve our offerings, support, services and teaching. We will be wasting a powerful opportunity to know and support our students if we don’t leverage new tools now available. For the first time at the University of Washington, we are able to examine data previously locked in siloed systems and to observe and act upon the insights offered in predictive analytics.

Please feel free to contact Colleen Carmean (carmean@uw.edu) for more information on the University of Washington Tacoma’s efforts in leveraging analytics to support our students.