

What projects have you been following on the Collaboration Network? What have you learned from the experiences of other schools that is useful to your project?

As discussed in the next section, we now have Phase I of a data warehouse in place to support the predictive analytic framework. We have also completed a retention matrix to share results from the predictive analytic framework with those units that provide programs and services to specific subpopulations of students. The framing of our work in a wider context is important because in addition to making referrals for students who are at risk of not persisting, we want to provide information on best practices for appropriate planning and adaption to Western Illinois University.

Following the example set by the New Mexico Military Institute, we created and administered an online survey for alumni who completed two or more fully online courses. Alumni were asked to assess their satisfaction with our LMS, Western Online. Three hundred and fifty four students completed the online survey.

Similar to the Illinois Institute of Art (ILIA) our Macomb and Distance Learning teams have been benchmarking attendance policies and the use of the Noel Levitz College Student Inventory. Most recently, the teams have been examining how data on courses with high withdrawal rates might be useful.

Finally from The University of Michigan – Flint, we are learning how unionized campuses look at course-level data, without it being seen as an evaluation of faculty members.

Your team has reached the midpoint in the Academy. Summarize your team’s three most significant accomplishments thus far.

Accomplishment 1: Phase I of the data warehouse is finished, enabling completion of initial data analyses. To complement analytic work, we have completed a retention inventory of institutional programs and services available to Macomb, Quad Cities and Distance Learning students. The predictive analytic framework will allow us to identify *who* is at-risk, and the retention matrix will help us identify *where* results should be referred.

Currently, the data warehouse contains the following 69 attributes:

Academic History

- ACT Score at Entry
- Associates Degree Indicator
- High School Class Rank at Entry
- High School GPA at Entry
- Transfer GPA at Entry

Academic Program

- Academic Status after First Term
- Admissions Program at Entry
- College after Last Semester
- College at Entry
- Enrollment at Entry
- Major after Last Semester
- Major at Entry
- Program after last Semester
- Program at Entry

Demographic

Ethnicity
Gender
Veteran Status after Last Semester
Veteran Status

Enrollment Application

Admission Type at Entry
Application Submission Period
Campus
Class at Entry
Honors at Entry
Residence Hall at Entry
Resident Status at Entry

Graduating School

Graduating School Education Level
Graduating School Name
Graduating School State
Graduating School Type

Home Address

Home City at Entry
Home Country at Entry
Home County at Entry
Home Postal Code at Entry
Home State at Entry
State Code at Entry
State at Entry

Measures

Average ACT
Average Class Hours Earned
Average Financial Aid
Average High School GPA at Entry
Average Transfer GPA at Entry
Percent Graduated
Percent Graduated from WIU
Percent Graduated from WIU in 6 Years
Percent Graduated in 6 years
Percent Retained Second Year
Total Adjusted Cohort
Total Graduated
Total Graduated from WIU
Total Graduated from WIU in 6 Years
Total Retained Second Year
Total Students

Previous School

Previous School Education Level
Previous School Name
Previous School State
Previous School Type

Prospect Information

- FAFSA on File at Entry
- First Choice on FAFSA at Entry
- First Generation for College
- First Prospect Source
- On Campus Visit Period

Term

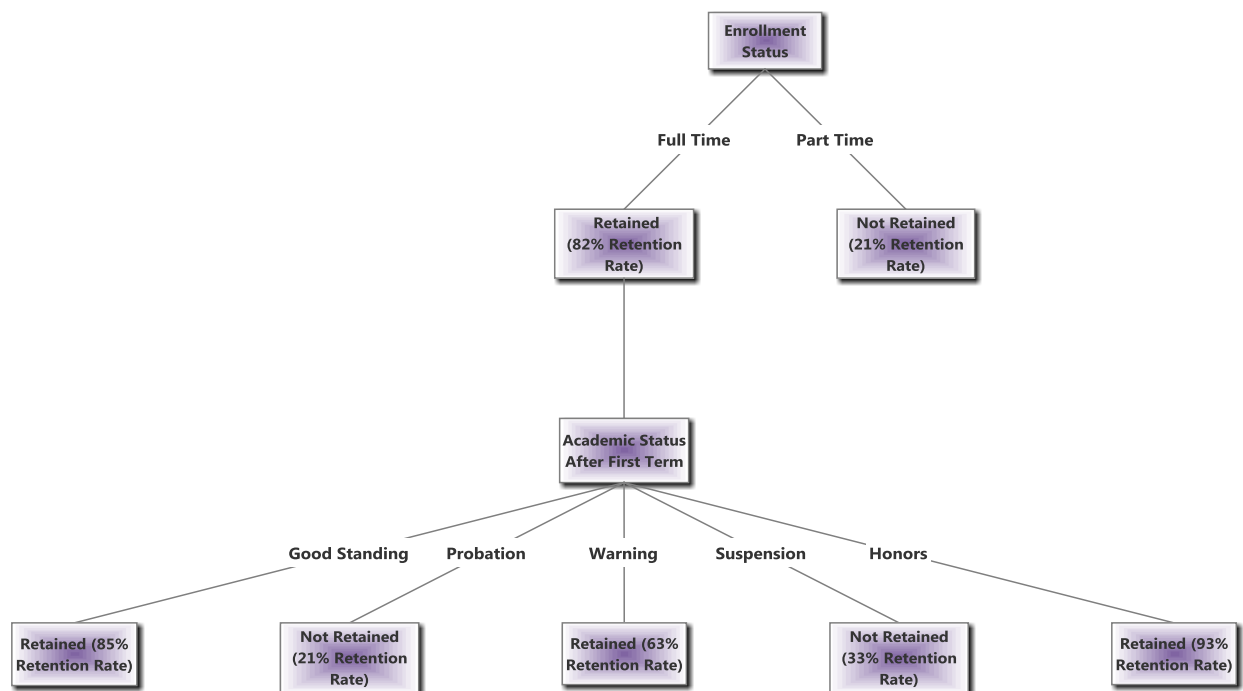
- Cohort Term
- Matric Term
- Semester Type

Transferring School

- Transferring School
- Education Level
- Transferring School Name
- Transferring School State
- Transferring School Type

Under this data structure, we have been able to generate data for preliminary analysis. Following feedback from our mentor and scholar after our last update, we used Weka decision trees to show us what is most important in the data rather than start with assumptions that we test for statistical significance. Decision trees are well suited to visualizing data, modeling target variables, and handling variable interactions.

Specifically, we used the data warehouse to generate a spreadsheet with information on undergraduate transfer cohorts at WIU – Quad Cities from 2011 to 2014 (N=947). WEKA was then used to analyze the data. When set to classify which attributes best predicted whether a student would retain to their second year at WIU, Weka correctly classified 82.7% instances in the training set, splitting first on enrollment status (whether a student was full time or part time) and then on academic status after the first term. We then used the attribute evaluator to cross-validate decision tree results. It, too, indicated that enrollment status and academic status were among the most significant attributes. This set of preliminary analysis is scheduled to be presented as a poster presentation at the Academy Poster Fair at the HLC Conference on April 18, 2016. The tree is shown below.



Data have been referred to Quad Cities Student Services who are designing/evaluating retention strategies for part time transfer students.

Accomplishment 2: Our Distance Learning team finished writing the Distance Learning Survey and had it sent out to all graduates who have completed two or more fully online courses at WIU. Responses were collected through the second week in February 2016. A total of 354 students completed the survey. Some findings that still need to be analyzed further but seem to contain valuable information are the fact that the average age of respondents was higher than was expected, 65% were female and 21% withdrew from an online course while at WIU. The majority of those who withdrew from an online course cited difficulty with the course content, homework or exams as a reason, but only 8% of the respondents reported using the available online tutoring. More analysis needs to be completed, especially of the qualitative comments but there are some possible pathways forward, such as increased marketing for online tutoring.

Accomplishment 3: The Table of Retention Activities is complete. In late summer 2015, the Steering Team embarked on a project to document all of the retention activities across the university. The goal was better understanding within the Academy Team of what retention programs were place already. We also intend to use this table as a reference for our findings. We accept that our data analysis might point towards the institution making changes in a certain area or program. We also understand that specific offices and committees work closely with specific students or programs. Rather than reinventing a committee or process, we intend to utilize current structures that are already in place and recommend changes to the relevant offices or committees.

The process to create the table took several weeks and initially contained hundreds of items that team members submitted as retention activities. Some were as large and complex as the First Year Experience while others were as simple as offering food services on the branch campus. We decided that almost everything a university does could be called a retention activity but what we really wanted were specific programs that either do or could have a large impact on student persistence. After several drafts, the

table has been reduced to 40 entries, but we agree that it is a living document and will be regularly updated by our team throughout the Academy process and beyond. The Steering Team has also discussed the possibility of assessing the entries in this table to measure and document the success of our current programs. We could then better direct our findings and recommendations to those with the potential for the greatest impact. We believe this would place the Academy process right at the middle of retention efforts across the university, similar to a small drive gear in the center of a machine having a large effect on large gears that surround it, as illustrated below.



Describe the significant challenges encountered thus far. How effectively have you been able to address these challenges?

The focus of our Academy work has dramatically changed since our Academy participation began. Where once we viewed the three teams (Macomb, Quad Cities and Distance Learning) as separate and distinct, we now have successfully implemented a data warehouse and consistent referral and analytic strategy that is scalable and transferable across Western Illinois University and our learning locations.

We have also successfully advanced a new paradigm of business intelligence. This endeavor began before institutional participation in the Persistence and Completion Academy, where we began testing distributed data with admissions and Pentaho software. We built upon the knowledge of Pentaho to build the student data warehouse. With the opportunities of increased data access that distributed data accords, we are continuing with security and data governance policies and procedures and adding more raw data to the warehouse.

The lessons that we are learning will have very valuable benefits for Western Illinois University. The University is currently evaluating transition to a new ERP system that is based on the principles of distributed data.

How have you incorporated the feedback from your Mentor and Scholar?

The feedback from the July HLC Update was critical, and for very good reasons. Our Scholar and Mentor expressed concern about WIU finances, including reduced state allocations and possible flat student enrollment, the lack of university-wide enthusiasm for and long-term sustainability of the Persistence and Completion Academy efforts, the three separate groups of students we are analyzing (Macomb students, online students, and Quad Cities students). While our ability to control external factors such as state funding is limited, we do have the ability to garner increased enthusiasm and support for our

project, plan for long-term sustainability and ensure that retention solutions for the three groups of students we are tracking offers “bang for our buck”.

In our last submission we noted that the website we created as part of our project was not being utilized. We have succeeded in driving more traffic to the website through several steps. First, we asked each of our sub-teams to provide content for the site like “retention tips.” Second, we have pushed out a newsletter about the Academy progress each semester, once in September and once in February, to the entire university community. Each newsletter contains four short stories about our progress and links to the website for further reading. Prior to publishing the newsletters we were averaging 38 page views per month on the website. Since the first newsletter was published, we have been averaging 113 page views per month. We plan to send a reminder about the most recent newsletter soon and hope to average over 150 page views per month by the end of the spring semester.

Finally, we have increased faculty representation on the sub-teams. The Quad Cities Team previously had two faculty and two assistant deans as part of their membership. They now have five faculty and two assistant deans. The Online Team has significantly increased attendance at its meetings and increased academic membership by adding an additional dean and the Registrar. The Macomb Team has added the Director of Study Abroad, Director of Disability Resources Center, Director of Institutional Research and Planning, a chairperson, and the Chair of the Faculty Senate.

The creation of both the data warehouse and the table of retention activities was intended to help secure the long term sustainability of the project. The eventual goal is to have each of the sub-teams function like the small drive gear in the center of a machine driving the retention programs related to each of the geographically distinct students – online, Macomb, and Quad Cities. For example, the Quad Cities Team, has begun talking about their continued existence as the QC retention committee after the Academy project is completed.

Describe your campus’s level of engagement in your project.

Since feedback from our Mentor and Scholar last July refocused our attention on this very issue. We are seeing increased traffic to our website, we have published two newsletters, and have increased faculty and dean representation on the sub-teams.

For additional evidence regarding engagement, we turned to website analytics. Our most recent analytics showed we average 113 unique views per month and that the average time each viewer now spends on our Persistence and Completion page is 4 minutes, compared to 1 minute 50 seconds six months ago. To see how this compares to other websites, we involved our marketing department, which is another form of engagement. They pointed us to research that shows that page views, or clicks, don’t necessarily mean those people are reading content, which we suspected. The research does show that 55% of people worldwide spend less than 15 seconds on any given webpage. (Tony Haile, “What You Think You Know about the Web is Wrong”, *Time*, March 9, 2014). Additionally, further research has shown that even when there is significant interest in content, web users spend 59 seconds or less on a page when it’s not user-friendly or the content is not engaging (Cody Miller, *Conversion Rate*

Optimization Made Easy, July 19, 2013). We see our small but growing web audience who are spending more than double the time on our website as evidence of increased engagement.

The Midpoint Roundtable will offer an opportunity to review, refocus, and recharge the Academy team's efforts. How will the midpoint round table function in the life-cycle of your project?

We are hoping to use the Midpoint Roundtable as a springboard into the second half of our project. We hope to increase the excitement for the project that we have seen grow over the past six months, and to share some of our preliminary results with other teams and try to understand theirs. We are most interested to understand how other teams are analyzing their data and also to see what changes they have or plan to implement based on their findings.