College Readiness of Secondary Education Institutions in Northwest Wisconsin and First Year Student Retention at the University of Wisconsin - Eau Claire

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Abstract

This poster aims at identifying the differing advantages and disadvantages to school districts in northwest Wisconsin in relation to secondary institutions and their associated college readiness. Additionally, it looks at retention variability of first year students at the University of Wisconsin - Eau Claire. Using data provided by the Wisconsin Department of Public Instruction and the University of Wisconsin - Eau Claire, the poster examines the different factors that influence college readiness and retention including secondary institution rating, percent economically disadvantaged, and enrollment size. Our assumption was to find a relationship between our selected variables and student success in their first year at UWEC.

Background

Retention at a university is often one of the most important ways to measure success of the institution. Today, identifying groups of disadvantage at the college level is essential to retaining more students. When these groups are identified, universities can then put in place support systems to ensure student success. This study explores factors that affect college success and examines changes at the district level over time after the passing of Act 10 in an attempt to link impacts on districts to first year retention. Per the National Center for Education Statistics, the national reterntion rate for first year undergrads was 81% from 2015 to 2016. At UW Eau Claire, the retetnion rate varries from year to year but remains within 82%-84%.

Figure 1 identifies the study area for school districts across northwestern WI. The data used for this study includes 1,881 first year students in this study area between 2015-2016, 2016-2017, and 2017-2018, accounting for 29.3% of all first year students tat UWEC. As Figure 1 clearly indicates, many of the school districts are classified as rural (less than 5,000 persons), with the remaining identified as town (between 5,000 and 15,000) and city (greater than 15,000). Due to the rural nature of the study area as well as the patterns for students attending UWEC, across this part of Wisconsin, the data allowed tightening the scope of the study. Many factors contribute to the success of a student, yet the variables chosen connect to the perceived impacts ACT 10 and reduced state funding had on mainly rural school districts and the success of first year students at UWEC. For these reasons, data provided by the WI Department of Public Instruction (DPI) provided accountability scores, percent economically disadvantaged, district on-track and postsecondary readiness score for all years during the 2010s allowing any changes to be tracked.

Another focus of this study was to compare these school districts over time to examine the effects of Act 10's passing in the Wisconsin State Legislature. Act 10 was a bill championed by WI Governor Scott Walker in 2011 that aimed at repairing an estimated $3.6 billion deficit in the budget. Included in this bill were changes to the public sector affecting public employees pay, collective bargaining rights, and benefits. After Act 10 went into effect, Wisconsin became a less attractive state to teach in and teachers left the state. It was the assumption of this study that changes to the public sector, including teachers, would have a negative effect to school districts in the state.

Methods

The district data was taken from the Wisconsin Department of Public Instruction (DPI) using their Report Card summaries of each district. The Report Card collects data on each district in the state and gathers a comprehensive list of attributes ranging from percent of racial diversity, to state testing scores. Based on this data, discussions from education professionals, and Media reports, three variables were chosen: Overall Accountability Score, Percent Economically Disadvantaged, and District On-Track and Postsecondary Readiness Score. The first-year data used with the DPI data was provided by the University of Wisconsin - Eau Claire Admissions Office. The admissions data included student first year GPA, retention status after their first year, and home address. Using SPSS software, a number of multiple regression analyses were conducted. Students addresses were geocoded using a Geographic Information System (GIS) to give the location and more specifically what school district they resided in. Students were spatially aggregated into school districts and subsequent DPI data was joined to these districts allowing for the multiple regression analyses to be completed.

DPI Classification for the Study Area School Districts

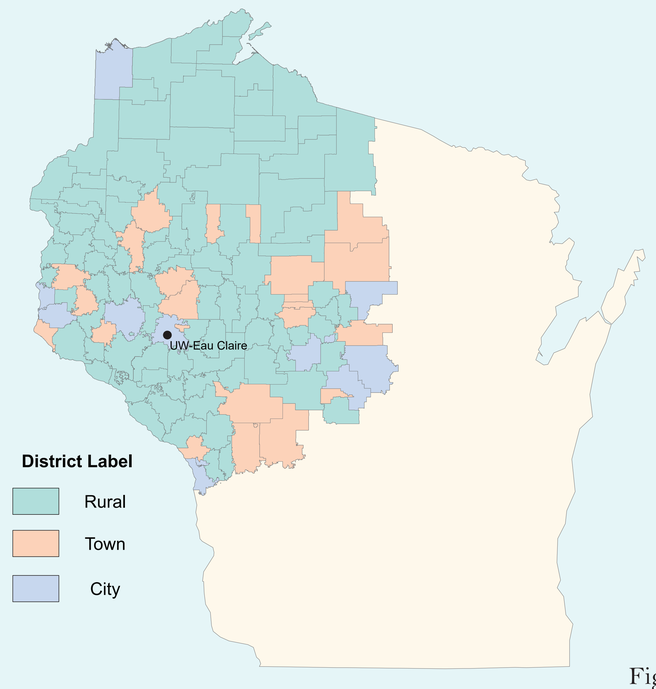

Figure 1

Change in DPI District Report Card Rating 2012/2013 - 2016/2017

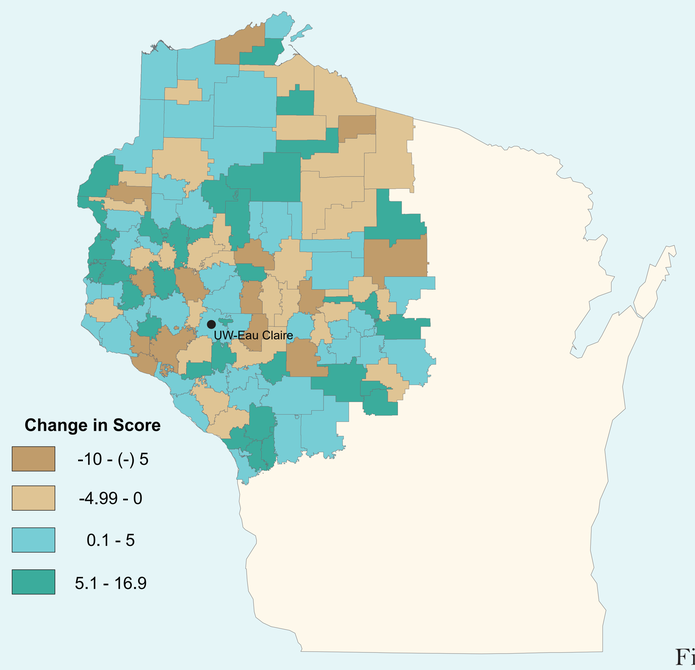

Figure 2

Acknowledgments

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Percent Change in College Readiness Scores 2012/13 - 2016/17

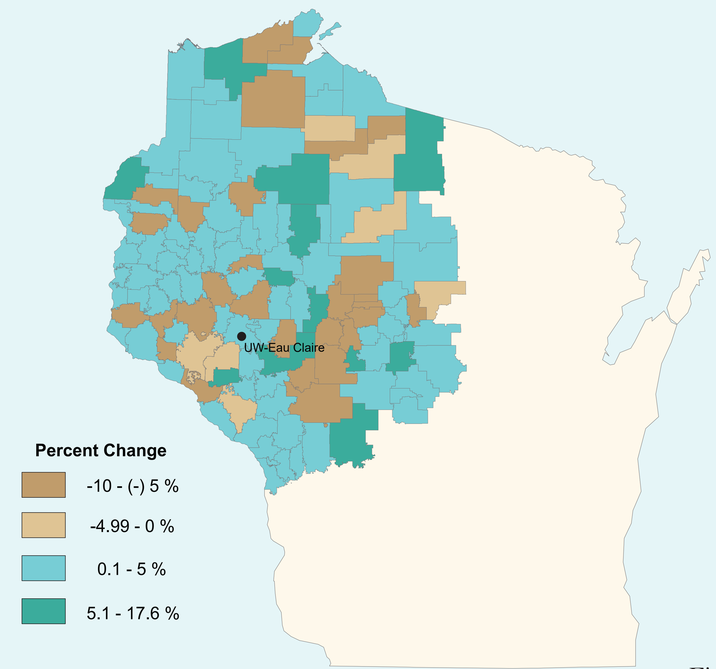

Figure 3

Results and Conclusions

The changes over time in the chosen categories proved to be most interesting. As shown in Figure 1, the makeup of northwestern Wisconsin is predominately rural. When compared to Figures 2 and 3 there is little to no visual patterns that coincide with the classification of each district. Figure 2 explores how each district rating had changed from 2012-13 to 2016-17. The changes presented do not suggest a strong movement in either direction. The same lack of direction is prominent in Figure 3 regarding college readiness scores, but interestingly, when districts had a negative change, they were more likely to be severe, in the -10 - (-) 5 % category. In fact, the ratio of the -10 – (-)5% category to the -4.99 – 0 % category was 4 to 1. Though, when identifying first year students performance from these districts, a statistical explanation could not be determined.

As the effects of Act 10 continued to come to light it was hypothesized that rural school districts, compared to districts classified as towns or cities, would be potentially impacted the greatest. These truths, combined with declines in funding for all school districts, could have a negative impacts on the college readiness of first year students attending the University of Wisconsin-Eau Claire. The results of this study do not offer a concrete answer either way.

After many iterations of multiple regression analyses, it was determined that none of the variables were statistically significant in explaining the performance of first year students at UWEC. Simply put, first year students from the study area yielded conflicting results. There were no concrete spatial patterns, nor explanatory variables providing statistical evidence as to the GPAs of both returning and non-returning students during their first year. While this was against the original assumptions, these results still offer an interesting conclusion the research. With the data used, it was found that a quantitative approach may not be the best to determine how retention in our study area is impacted. The results also offer little to no explanation into the student retention at the University of Wisconsin - Eau Claire. Perhaps the full impacts of Act 10 and declined state funding have not yet fully impacted school districts and graduating students?

While many questions remain unanswered as to why students are leaving UWEC, a geographic analysis of students still can provides valuable retention data. Though the statistical analysis of the above variables yielded no results, a qualitative approach may be necessary to answer more specific questions about why students either struggle their first year or decide to leave the university all together. Still, by identifying spatial patterns of all students, university officials become better informed about who their students are.