You Get What You Pay For:

The Effects of Administrative Spending and the Number of Faculty on Institutional Graduation Rates

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College Completion Agenda

- National Commission on Higher Education Attainment
- President Obama mandate to have the highest proportion of college graduates by 2020

**Issues:**
- Increasing accountability and need for institutional effectiveness
- Decreasing government appropriations
- Less public support of higher education
In January 2013 the National Commission on Higher Education released a report stating that college completion must be the priority of higher education (American Council on Education, 2013)
College Completion Agenda

- Decision makers in higher education need reliable data to make decisions in administrative spending.

- The effect of administrative and instructional spending to student graduation rates needs to be known.

- The effect of using more part-time, adjunct faculty and its relationship to student graduation rates is important for faculty planning.
College Completion Agenda

There is little data or literature on the effects of administrative spending and part-time faculty on graduation rates.

Decision makers need reliable data to make budgetary and hiring decisions.
What does the literature say?

- Performance-funding policies have not had significant impacts on state budgets, and limited impact on institutional spending. (Rabovsky, 2012)
- State appropriations have a positive impact on graduation rates. (Rabovsky, 2012)
- Administrative expenditures are negatively related to student engagement. (Ryan, 2005)
- Positive and significant relationship between instructional and academic support spending and graduation rates. (Ryan, 2004)
Student persistence is strongly tied to students’ experiences and active engagement in the classroom (Reason, 2009)

Persistence can be linked to faculty characteristics and behaviors that increase engagement within the classroom (Reason, 2009)

Relationship between institutional characteristics and effectiveness need more research (Calcagno, et al., 2006)

Greater instructional spending at community colleges per FTE increases graduation rates (Calcagno, et al., 2006)
Literature-PT Faculty

- Lack of literature comparing PT and FT faculty ratios to student outcomes at community colleges
- A few studies suggest schools having greater percentages of PT faculty have lower graduation rates (Seybert & Rossol, 2010)
- Jacoby (2006) found community college rates decrease as the proportion of PT faculty increase
Literature-PT Faculty

- Use of PT faculty is a cost saver, but effectiveness evidence is mixed.
- PT faculty make it difficult to create an student engagement model
- One study found for every 10% increase in PT faculty, graduation rates decreased 2.65% (Jacoby, 2006)
Characteristics PT Faculty May Demonstrate:
- Less challenging instructional methods
- Hinder social/academic integration
- Reduced instructional quality
- Lack of curricular cohesion
- Weak advising
- Freshmen in PT classes have less persistence

(Jacoby, 2006)
PT Faculty Characteristics

Characteristics PT Faculty May Demonstrate:

- Reduced office hours
- May use less technology or nontraditional exams; less access to professional development
- Lower writing expectations
- Half as likely to have a doctorate
- Lower compensation may impact motivation
- May be prohibited from planning/curricular meetings
- Less engagement with students out of class

(Jacoby, 2006)
Literature

1.) Characteristics influence persistence: control, residential, size, faculty, revenue source and expenditure patterns.

2.) Higher expenditure per FTE is linked to persistence

3.) Higher administrative spending tended to have lower persistence

(Calcagno, et al., 2008)
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Quantitative Study

• Using NCES 2011 IPEDS datasets

• Linear regression analysis

• Inferential statistics to determine if there is a relationship between administrative spending and the ratio of part-time faculty on student graduation rates
You Get What You Pay For!

- This study produced usable data for higher education in spending decisions and the effect of growing part-time faculty appropriations.
Population of the study

4,712  U.S. degree-granting institutions

3,962  Reported graduation rates of students graduating within 150% time

3,842  Analyzed after outliers were removed
Institutional Characteristics

The population report enrollments ranging from 10 - 307,871.

Outliers: University of Phoenix & institutions with less than 100 students

The average enrollment was 4,467.

The average FTE was 3,379.
Graduation rates

Average graduation rate = 43.31

Standard deviation = 22.724
Research questions

- What is the effect of part-time faculty ratios on graduation rates?
- What is the effect of administrative spending on graduation rates?
- What is the effect of instructional spending on graduation rates?

Dependent Variable = graduation rate (using IPEDS 150% of program time rate)
Independent Variables

Enrollment size (FTE)
Number of instructional employees
Number of part-time faculty
Total instructional spending
Total administrative spending
Administrative Spending

- Mean = $2740 per FTE   (Std. dev. = 3597)
- Pearson Correlation = $r = .224$
- $R^2 = 5$

The regression model explains the outcome variable significantly well.  $p < .01$

The amount of administrative spending has a small, positive association with graduation rates.
Instructional Spending

- Mean = $7259 per FTE (Std. dev. = 6130)
- Pearson Correlation = $r = .385$
- $R^2 = 14.9$

The regression model explains the outcome variable significantly well. $p < .01$

The amount of instructional spending has a stronger, positive association with graduation rates, as compared to administrative spending.
Part-time Faculty Instruction
Part-Time Faculty %

- Mean = 57.15%  (Std. dev. = 24.39)
- Pearson Correlation = $r = -0.316$
- $R^2 = 10$

The regression model explains the outcome variable significantly well. $p < .01$

The percentage of faculty that were part-time at the institution has a strong, negative association with graduation rates.
The amount of part-time faculty per FTE has a negative relationship with graduation rates and explains a small variance in graduation rates. The regression model explains the outcome variable significantly well. $p < .01$

The amount of part-time faculty per FTE has a negative relationship with graduation rates and explains a small variance in graduation rates.
Summary of results

Q1
The number of part-time faculty at an institution has a negative impact on graduation rates.
Summary of Results

Q2
Administrative spending, salaries and positions have a positive effect on graduation rates.

Q3
Instructional spending (FT+PT+Support) have a strong, positive effect with graduation rates.
Interpretation

- Institutions with more administrative spending may also have higher instructional and support budgets causing the positive effect. (Limitation-comparison was not made with other spending areas)

- Administrative spending has an indirect impact on the student: institutional effectiveness, assessment, brand satisfaction or presidential profile. **Direct causality is difficult to measure.**
Implications for Higher Ed
(Administrative Spending - Positive Effect on Graduation Rates)

- These institutions could possibly also have corresponding proportional budgets in student support and instructional that impact student graduation rates. (Privates)
- The relationship between administrative spending and graduation rates is positive, but unclear.
- What is the direct impact of president’s salary, marketing office, fundraising or planning office?
- Relationship between Institutional characteristics and effectiveness must be analyzed for understanding completion.
Implications for HE

There are complex relationships between expenditures and persistence/graduation rates.

More analysis between institutional control and type is needed. (Separate community colleges, privates, 2-year, 4-year, research tiers, etc.)
References


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References


