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# An Examination of the Relationship of a Tenure System to Enrollment Growth, Affordability, Retention Rates, and Graduation Rates in Texas Public Two-Year Colleges

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## Academic Leadership Journal

Austin (2006) and Chait (2002) indicate that most faculty prefer tenured to non-tenured positions. The presence of tenure track positions is often equated with institutional excellence and tenure designations are often associated with status. The promise of secure academic employment makes the tenured position the gold standard of the academy. This preference for tenure is not limited to university faculty. Jacoby (2005) found that most young, part-time community college faculty desire full-time tenure track positions. Older faculty members were not as enthusiastic in regard to tenure. The academic culture at community colleges appears to be evolving an employment desirability hierarchy where the ultimate perceived academic level is the full-time tenured position. Kater and Levin (2005) concur with Jacoby's findings and note that tenured community college faculty share traditional governance decisions, including tenure recommendations. While community college faculty members may desire tenure systems, the question arises as to the whether or not tenure systems are beneficial for community colleges.

Unfortunately colleges and universities are not consistent in defining tenure and establishing expectations for tenure track options. The Online Etymology Dictionary (2001) defines tenure as "The sense of 'condition or fact of holding a status, position, or occupation' ... meaning 'guaranteed tenure of office' (usually at a university or school)." This definition is similar to the commonly accepted current usage of the term. Olivas (2006) points out that many community colleges have De facto tenure based on the institution's custom. De facto tenure is tenure granted through practice or custom rather than official procedure. For purposes of this study, the definition of tenure is delimited only to those institutions having official tenure procedures. All others are classified as non-tenure institutions.

For professors and administrators in higher education, a commonly accepted use of the word, tenure, is that tenure gives extended and protected employment to a professor for a variety of reasons. The reasons or justifications for a professor to receive tenure at the university level traditionally include publication, years of service, works and accomplishments, community service, and various miscellaneous rationales.

Pool (2007) notes teaching as the primary responsibility of the two-year college faculty members. Other responsibilities include institutional and community service. Though academic curricular outcomes of two-year colleges are similar to those of four year universities, community colleges serve several areas not traditionally associated with universities: (1) technical/vocational education, (2) workforce continuing education, (3) contract training, and (4) developmental education. Faculty credentialing differences required by these varying purposes serve to complicate formal tenure requirements.

For example, Feintuch (2008) examines practices at Georgia Perimeter College to illustrate one college's tenure track procedures as related to traditional and online faculty. At Georgia Perimeter College, fulltime faculty must teach for five years at the rank of assistant professor or higher, before being eligible to apply for tenure. The teacher then is evaluated by a series of committees for teaching

effectiveness, service, and professional accomplishments. Georgia Perimeter College is one of the few colleges that actually offer tenure and a tenure track option for online only instructors in many disciplines: biology, chemistry, economics, English, history, Spanish, political science, arts appreciation, and philosophy and religion. Feintuch raises questions as to consistency of practice not only between colleges to universities but between community colleges to community colleges and universities to universities.

Limited research has been conducted to investigate the benefits, if any, of tenure systems at community colleges. Wolf-Wendel, Ward, and Twombly (2007) report the existence of no current and up-to-date data on the number of community colleges with tenure systems. Research is sorely needed to examine the relationship of community college tenure systems and institutional performance. Only in light of such research can community college faculty and administration legitimately scrutinize the viability and/or desirability of tenure systems within their institutions.

This study explored the relationship of tenure systems to enrollment growth, affordability, retention and graduation rates in Texas public two-year colleges for the purpose of guiding both faculty and administrative concerns and policies. The study addressed the following research questions.

1. What differences, if any, exist in enrollment growths from Fall 2000 to Fall 2005 between Texas public two-year colleges with tenure systems and Texas public two-year colleges without tenure systems?
2. What differences, if any, exist in Fall 2005 college affordability indexes between Texas public two-year colleges with tenure systems and Texas public two-year colleges without tenure systems?
3. What differences, if any, exist in Fall 2005 retention rates for full-time and part-time students between Texas public two-year colleges with tenure systems and Texas public two-year colleges without tenure systems?
4. What differences, if any, exist in Fall 2005 graduation rates between Texas public two-year colleges with tenure systems and Texas public two-year colleges without tenure systems?

#### Research Methodology

This study utilized the Integrated Post-Secondary Education Data System (IPEDS) maintained by the National Center for Educational Statistics to segment Texas public community colleges into two groups: (1) those with formal tenure systems and (2) those without formal tenure systems. The most current IPEDS data were for the year 2005. Enrollment size was also extracted for the year 2000 to determine percentage of enrollment growth within each respective institution. IPEDS data are self-reported and contain all limitations traditionally associated with self-reported information. For purposes of this study federal IPEDS definitions are utilized throughout the study.

For this investigation, 62 of the 64 public two-year colleges in Texas were considered. Of the 62 public two-year colleges in Texas utilized in the study, 26 institutions had some type of tenure system and 36 institutions had no official tenure systems. Two institutions did not indicate tenure status and were removed from the analysis.

Statistical Packages for the Social Sciences (SPSS) was utilized to obtain descriptive statistics and to examine differences between the two classifications. Examination of differences did not assume homogeneity of variance for percentage growth from Fall 2000 to Fall 2005, retention rates, and graduation rates and employed a two-sided Mann-Whitney U-test. A t-test was utilized to examine

differences in affordability indexes after establishing homogeneity of variances. The study utilized a significance level of 0.05 for all tests.

### Research Findings

Prior to examination of the identified research questions, descriptive statistics were formulated for each of the major areas of interest. These descriptive statistics are reported in Table 1. These findings are utilized to address the four research questions posed by this study.

**Table 1**  
**Descriptive Statistics for Texas Public Two-Year Colleges with and without Tenure Systems**

Texas Public Two-Year Colleges	N	Percentage Enrollment Growth 2000 to 2005 Mean (SD)	College Affordability Index Mean (SD)	Full-Time Retention Rate Mean (SD)	Part-Time Retention Rate Mean (SD)	Graduation Rate Total Cohort Mean (SD)	Graduation Rate Men Mean (SD)	Graduation Rate Women Mean (SD)
With Tenure Systems	26	38.1%*	1.65	53.3%	39.7%	12.1%	10.2%	13.4%
Without Tenure Systems	36	26.9%	2.51	56.6%	38.9%	19.0%	17.0%	20.7%

\* Computed using N=25 because of one non-reporting institution.

Research question 1 examined differences in the percentage of enrollment growth from Fall 2000 to Fall 2005. The IPEDS variable TENURSYS was reported in 2005 data but was not reported for 2000 data. For purposes of analysis the researchers assumed that the tenure status of the institutions did not change from 2000 to 2005. Non-reporting institutions were removed from the study. Enrollment growth between 2000 and 2005 was computed for each institution in the study as a percentage change from 2000 and 2005 Full-time Equivalent (FTE) Enrollment using the following formula:

$$\text{Percentage Enrollment Growth} = (2005 \text{ FTE} - 2000 \text{ FTE}) / 2000 \text{ FTE} * 100.$$

A Shapiro-Wilk test showed the percentage enrollment growth as not normally distributed. Nonparametric Mann-Whitney U analysis was utilized to compare differences in percentage enrollment growth between the two groups. Findings are provided in Table 2.

Table 2

Mann-Whitney U Analysis Results and Effect Sizes for FTE Percentage Growth at Texas Public Two-Year Colleges with and without Tenure Systems

Classification	p-Value	d
Percentage Enrollment Growth 2000 to 2005	0.567	0.22

No statistically significant differences were found in percentage enrollment growth at Texas public two-year colleges with or without tenure systems. Effect sizes were assessed using Cohen's d. A small effect size of 0.22 was found for percentage enrollment growth.

Research question 2 examined differences in college affordability indexes between Texas public two-year colleges with and without tenure systems. The college affordability index is defined as the percentage change in the tuition and fees charged for a full-time, first-time undergraduate student between academic year 2003-04 and academic year 2005-06 divided by the percentage change in the Consumer Price Index-All Urban Consumers (Current Series) from July 2003 to July 2005. Normality was tested using the Shapiro-Wilk test. Both groups were normally distributed; SW(26)=.972, p=.683 for institutions with tenure systems, SW(36)=.956, p=.156 for institutions without tenure systems. Variances were homogeneous, F(1,60)=.347, p=.558. A t-test was conducted to explore differences in college affordability indexes between the two groups. Findings are provided in Table 3.

Table 3

College Affordability Index T-test Results, p-value, and Effect Sizes for Texas Public Two-Year Colleges with and without Tenure Systems

Classification	t	p-Value	d
College Affordability Index	1.682	0.098	0.43

No statistically significant differences were found in the college affordability indexes between institutions with and without tenure systems. Practical significance was accessed using Cohen's d statistic. A small to moderate effect size of 0.43 was identified. Power was found not to be sufficient for this study,  $1 - \beta = 0.38$ . Given the sample sizes reported in Table 1, for sufficient power of  $1 - \beta = 0.80$ , statistical significance would only be found for moderate to large effect size with  $d > 0.73$ .

Research question 3 examined differences in full-time and part-time student retention rates between Texas public two-year colleges with and without tenure systems. All retention rates failed normality tests. Nonparametric Mann-Whitney U analysis was used to compare differences in retention rates between the two groups. Results are provided in Table 4.

Table 4

Mann-Whitney U Analysis Results and Effect Sizes for Full-Time and Part-Time Student Retention Rates at Texas Public Two-Year Colleges with and without Tenure Systems

Category	p-Value	d
Full-time Retention Rate	0.33	0.32
Part-time Retention Rate	0.86	0.08

No statistically significant differences were found in either full-time or part-time retention rates at Texas public two-year colleges with or without tenure systems. Effect sizes were assessed using Cohen’s d. A small to moderate effect size of 0.32 was found for the full-time retention rate, while a small effect size of 0.08 was found for the part-time retention rate.

Research question 4 examined graduation rates globally and by gender. Findings are provided in Table 5. All graduation rates failed normality tests. Nonparametric Mann-Whitney U analysis was utilized to examine differences. Statistically significant differences between institutions with and without tenure systems were found in graduation rates for total cohort, men, and women. Effect sizes were assessed using Cohen’s d. Moderate to large effect sizes were found for all graduation rates. Effect sizes were 0.68 globally with 0.70 for males and 0.63 for females.

Table 5

Mann-Whitney U Analysis Results and Effect Sizes for Graduation Rates at Texas Public Two-Year Colleges with and without Tenure Systems

Category	p-Value	d
Graduation Rate Total Cohort	0.007	0.68
Graduation Rate Men	0.008	0.70
Graduation Rate Women	0.008	0.63

Conclusions and Recommendations

The research findings do not indicate that the presence or non-presence of an institutional tenure system in Texas public two-year colleges affects enrollment growth, affordability indexes, or retention rates. However, those colleges without tenure systems had significantly higher graduation rates than those colleges with tenure systems. Differences in graduation spanned across males and females.

As previously noted, tenure systems at two-year colleges are not equivalent. Given that a wide diversity of tenure definitions exist among Texas public two-year institutions, further investigation into how institutions self-report tenure status may be necessary for establishing any institutional advantages or disadvantages that tenure might have to offer two-year colleges.

An interesting question arises in regard to graduation rates. Why would a two-year college without a tenure system have a higher graduation rate than a two-year college with a tenure system? Unlike universities that can use graduation rates synonymously with student success rates and retention, community colleges cannot use this same formula. Many community college students do not desire an Associate's degree which is the primary degree awarded by community colleges for graduation. Many students come to the community college to take as many of their core transfer courses as possible before moving to a four year university to complete a Bachelor's degree. Therefore, community colleges cannot necessarily use graduation rates as an accurate and primary measurement for student success, nor the effectiveness of their faculty. Differences in graduation rates may, however, indicate differences in the mission and constituencies of institutions with tenure systems as compared to counterparts having no tenure systems. Further investigation into these potential differences is warranted.

Bailey, et al. (2006) used IPEDS data in an attempt to model community college graduation rates at a national level. The variables the study considered included enrollment size, percentages of minority students, percentages of part-time students, percentages of female students, and institutional expenditures. The presence of an institutional tenure system was not considered as part of the model. Further investigation may reveal a linkage between tenure systems and the variables considered in the model of Bailey, et al. This indirect influence or the presence of other latent variables may be at work creating the difference in graduation rates. Future research across multiple years may be helpful in explaining some of the observed differences.

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