The Impact of Part-Time Faculty on Student Retention

(A Case Study in Community College Education)

Curtis V. Smith, Ph.D.
Professor of Biological Sciences

Abstract

The core impetus of this research is to highlight results of a quantitative analysis on the impact of part-time faculty on student retention at Kansas City Kansas Community College. Relations between part-time faculty and student retention were analyzed while controlling for student demographics such as gender, ethnicity, academic levels, and intention to obtain a degree.

Biography

Curtis V. Smith, Ph.D, is in his eighteenth year as Professor of Biological Sciences at Kansas City Kansas Community College. This essay marks his eighth publication in the *KCKCC Ejournal* and his second about the College. This paper is derived from the results of his dissertation in partial fulfillment of a Ph.D. in Urban Leadership and Policy Studies in Higher Education from the University of Missouri at Kansas City completed in December 2010. His other publication regarding KCKCC is an investigation into the origin of the school mascot, "Legend: The Blue Devils."

Introduction

The information presented here is not meant to be negative about part-time faculty or criticize any employees at Kansas City Kansas Community College. It is designed to help understand the reality of working conditions for the vast majority of part-time faculty in the United States. The purpose is to review and assimilate ways for administration, full-time faculty, and the public alike to move toward improving the quality of higher education based on improved retention. Obviously students cannot be learning at college if they are not being retained.

Although caution must be taken when generalizing the results of this study to any other community college, KCKCC is similar to many other community colleges:

1. According to a KCKCC executive summary of the National Community College Benchmark Project, the percentage of credit hours being taught by part-time faculty at KCKCC was 53.76% in 2007. This percentage of part time faculty credit hours places KCKCC higher than 73% of the 176 participating community colleges in the benchmark analysis (KCKCC-Center for Research and Community Development Report, 2007). Like many community colleges KCKCC has gradually increased the number of credit hours taught by part-time faculty: in 1980-81 it was 24%, in 1990-91 it was

40.49%, in 2000-01 it was 44.87%; in 2004-05 it was 49.86%, demonstrating increased reliance on part-time faculty (KCKCC-CRCD Report, 2008).

2. KCKCC data from 2007 indicates that entry level students have improved slightly in writing, reading, and math Accuplacer tests since 2001-02 while exit exam scores in writing, reading, and math have remained roughly the same (KCKCC College Fact Book 2004-2009). The Accuplacer is a standardized commonly used assessment tool operationally designed for analyzing entry level reading, writing, and math skills. Almost half of all first-time full-time students are required to take developmental reading or writing classes providing a convenient split between developmental and non-developmental for statistical purposes.
3. Part-time faculty at KCKCC are seldom included in traditional faculty governance activities: determining appropriate curriculum, textbook selection, course competencies, learning outcomes, class offerings and scheduling, setting departmental budget priorities, conducting student advising, participation in new faculty hiring committees, or salary negotiations, benefits and working condition discussions. There is a non-mandatory part-time faculty orientation prior to the start of the semester where part-timers are informed about syllabi preparedness. Part-time faculty teaching specifically in certain career programs are provided textbooks, room keys, and shown their shared office, desk, file cabinets, and shared computer. In so-called “general education” courses, which comprise the vast majority of part-time teaching at KCKCC, assigned full-time faculty are sometimes given reassign time to help provide the aforementioned teaching provisions to part-timers. All part-time faculty at KCKCC are provided an electronic version of the Part-Time Faculty Handbook developed by Faculty and Staff Development. Part-time faculty is not paid mileage to drive to the satellite campus in Leavenworth and funded only 50% for enrollment in the college Wellness program as compared to full-time who receive these in full benefit form.
4. KCKCC is well funded by a solid local tax base with 8 million dollars in reserves as part of a 41 million dollar budget at the start of this study in 2008 (KCKCC Fact Book 2004-2009).
5. KCKCC is an average size urban community college with roughly 6,000 students and an overall 33.79% minority population in 2007 (KCKCC College Fact Book 2009).
6. The KCKCC strategic plan includes a commitment to improve student retention.

7. A 2008 Employee Survey called for “improving the working conditions of adjunct faculty by providing more space and resources on campus for this important constituency” (KCKCC-CRCD Report, 2008)

The History of Increased Reliance on Part-Time Faculty

Perhaps as revealing as anything about part-time faculty is the list of terms that have grown up as euphemisms: “Roads Scholars,” “the academic underclass,” “freeway flyers,” “a corps of unregulated personnel,” “hopeful part-timers,” “the have nots,” “disposable faculty,” “anchorless street-corner men,” MIAs,” “moonlighters,” “gypsy scholars,” “necessary evils,” and “invisible and expendables” (Banachowski, 1996). Community college contracts refer to part-time faculty as non-tenure track, interim employee, and adjunct professor (Baldwin & Chronister, 2001, p. 17). Two terms for part-time faculty that perhaps should be used are “Associate Faculty” or “Community Faculty” (Lyons, 2007, p.2).

In keeping with a preponderance of community college literature, “part-time faculty” is used here to describe community college faculty who do not teach sufficient credit hours at any one single institution on a continuous basis in order to receive health and life insurance benefits, to be considered part of the bargaining unit, or fall under the compensatory privileges of those deemed full-time faculty. By most accounts there were roughly 600,000 part-time instructors employed regularly in North American colleges and universities (Almanac of Higher Education, 2006). Not only have the faculty split into virtually independent groups of full-time and part-time faculty, the part time professorate has expanded considerably and is the most diverse because of its motivations, commitments and qualifications.

Biles and Tuckman (1986) found that part-time faculty policies are often based on a previous era (pre-1960s) of fewer part-time instructors. For this reason the author’s predicted a high potential for problems and the need for administrators and faculty alike to ensure that equitable adjunct policies address changing concerns.

Judith Gappa and David Leslie published a seminal work, “The Invisible Faculty,” in 1993. Their findings included a typology of part-time instructors based interviews where they asked questions about lifestyles and motivation to teach. The author’s found the extent of teaching involvement for part-time faculty ranges from no more than incidental, to a career that is at least as time-consuming as full-time faculty: 1.) Career Enders; are generally a group of baby-boomer retirees or semi-retirees grounded in the civil rights, antiwar, and women’s movements; 2.) Professionals/experts/specialists; are faculty employed full-time outside the academy who choose to teach mainly for their own edification; 3.) Aspiring

academics; are “hopeful full timers” including recent graduate students and 4.) Freelancers; who concurrently work more than one part-time job, thrive on variety and unique psychological rewards, and include artists of many types (Gappa & Leslie, 1993; Leslie & Conley, 2002).

According to national data provided by Schuster and Finkelstein (2006), community colleges by far employ mostly freelancers (41.6%); Aspiring Academics (28.5%); Community Experts (15%), and Professionals (14.5). It is significant to note that the percentages of these four groups are inverted when compared to their frequency in four-year colleges and universities.

According to Gappa and Leslie, employment of part-time faculty has been a constant in college and university staffing since the end of World War II (1993). Three different rationales were used between 1960 and 1991 by colleges for hiring part-time faculty. The initial impetus was, “The multiplying, ever-narrowing areas of specialization in most fields created widespread need for part-time faculty with expertise in a special area” (p. 2). By the end of the 1960s emphasis on “community experts” was set aside with increasing numbers of available doctoral graduates were offered teaching positions. Employment data for the period exhibits a general decline in the percentages of part-time faculty in higher education from estimates of about 35 percent in 1960 to 22 percent in 1969 (p. 3).

During the 1970s, however, a second rationale for using part-time faculty gained ascendance that subjugated favoring rare or special curriculum needs. The 1972 Carnegie Commission on Higher Education Report forecast a period of retrenchment for colleges and universities based on anticipated declines in enrollment to be accompanied by 20 percent reductions in education budgets (Gappa & Leslie, 1993). To meet the new austerity, the Carnegie Commission recommended utilizing more part-time faculty. The rationale for the decision was purely one of economic flexibility. The colleges that began to hire more part-time faculty in the early 1970s considered the measure temporary “everyone involved assumed that that part-timers would soon be phased out” (Franklin, 1988, p.15).

The employment of part-timers in the entire U.S. higher education system reached 30 percent of total faculty by 1977 and 40 percent by 1980. At community colleges, the numbers were significantly higher as part-timers grew from almost 40 percent in 1972 to 55 percent in 1975, just three years after the Carnegie Report of 1972 (Gappa & Leslie, 1993). They main reason for this dramatic shift in the use of part-time faculty was due to a key flaw in the Carnegie Report. While predictions were correct about cuts in state and local funding for higher education, due to a lack of accepted definitions there were grossly erroneous estimations about drops in enrollment during the late 1970s, and 1980s.

As late as 1987, the Department of Education highlighted how the forecasted decline in enrollment had yet to materialize, and instead was continuing to increase (Gappa & Leslie, 1993). Four-year schools and community colleges adopted different strategies to deal with the influx of students during a time of budget constraint. Colleges and universities to some extent returned to their previous policies of maximizing employment of full-time faculty although they began to use graduate assistants for undergraduate courses. According to Leslie, Kellams, and Gunn, community colleges transformed their rationale for employing part-time faculty "from one of temporary adjustment to one of vital and necessary measures to meet increased enrollment" (1982, p. 29).

Economic flexibility created by part-timers became the main reason to employ them in a period of increasing enrollment. By the 1990s the economic flexibility rationale became so pervasive that the possibility of eliminating part-time faculty no longer seemed plausible since institutional, local, and state budget makers were fully conditioned to the huge cost savings of using part-time employees to teach slightly less than half of all courses being offered (Lustig, 2002).

State budget cuts have signaled the retraining of faculty and changes in curricula in order to better fit or boost local economy. According to William Zumeta, in the *NEA Almana*c, over the last 30 years, the average reduction in state budgets for postsecondary education has reached 34 percent (2006). The direct effect of these cuts has been to increase the number of poorly compensated part-time faculty. Cuts in budget have also meant an increase in class size, increased course load, wider and broader responsibilities for college operations, and more hours of work per week for full-time faculty.

What began with the rationale to strengthen curriculum with a group of "community experts" in the 1960s was switched to a need for economic flexibility in the 1970s and 1980s (Gappa & Leslie, 1993). The escalating use of part-time faculty since the 1990s, on the other hand, strains the notion of economic flexibility in community colleges. Due to the fact that community college funding is principally based on local taxes, and not state funding like K-12 and four-year colleges and universities, community colleges have often been in stronger financial positions in counties or towns where the economy has been strong. Since the 1990s the overuse of part-time faculty at community colleges has evolved into a way to cover rising health benefit costs, to aid in full-time faculty and administrative salary increases, for use in pet building projects, and make cuts in local mill levies (Levin, Kater, & Wagoner, 2006).

The ratio of full-time to part-time faculty, which was roughly a 60-40 percent ratio before 1970, has reversed, with some community colleges now reporting closer to

80 percent part-timers. Institutions of higher education have discovered that employment of part-time faculty provides much more than the flexibility needed to cope with variable student enrollment, the ebb and flow of state revenues, and the swiftly changing trends of the job market. The employment of part-time faculty, moreover, has evolved into a means of profitability and entrepreneurship for community college financial officers and trustees (Lustig, 2006).

Comparing Part-Time with Full-Time Faculty

Even with the cost benefits of hiring part-time faculty, leaders in the community college movement started to rethink the rapidly increasing use of part-time faculty. In 1988, the Commission on the Future of Community Colleges reported, “The increasing numbers of part-time faculty at many colleges [is] a disturbing trend” and urged, “The unrestrained expansion of part-time faculty should be avoided” (p. 1). The Future’s Commission recommended that, “A majority of credits awarded by a community college should be earned in classes taught by full-time faculty” (p. 1). Also in 1988, The Carnegie Foundation for the Advancement of Teaching recommended, “That no more than 25% of the faculty be made up of part timers” and “That no more than 50% of total credit hours be taught by part-time faculty” (p. 1). Finally, a 1988 California law mandated staffing ratios of no less than 70% full time and 30% part-time faculty at community colleges throughout the state (p. 1).

The words of the Future’s Commission went unheeded as rates of part-time faculty employment continued to escalate as shown in National Center for Educational Statistics from 2001 and 2008 (Table 1 below).

Table 1

Numbers of Full-Time and Part-Time Faculty in Two-Year Colleges, 1968-2003.

Year	Total	Full-Time		Part-Time	
		Number	Percentage	Number	Percentage
1968	97,443	63,864	66	33,579	34
1973	151,947	89,958	59	61,989	41
1978	213,712	95,461	45	118,251	55
1983	254,449	106,868	43	142,170	57
1988	254,449	108,868	42	147,580	58
1993	276,661	110,111	40	166,550	60
1998	301,000	113,760	38	187,824	62
2003	344,700	114.700	33	230,100	67

(NCES, 2001, 2008)

In a performance-based study by Burgess and Samuel (1999), the authors compared the academic performance and retention of students enrolled in sequential English and mathematics courses, with either part-time or full-time professors. The results confirmed their hypothesis that in both developmental and regular classes, community college students taking their first course from a part-time instructor, and who take the second course in the sequence from a full-time instructor, were under-prepared for the second course (p. 2). Students experiencing a full-time combination were statistically more likely to be retained and achieve "C" grades or better in the second course. The authors were critical of the fact that only 27 percent of 19,326 students who took both English 101, and 102, had full-time faculty for both courses (p. 6). Burgess and Samuel hypothesized lower retention and academic achievement was due to poor conditions of employment among part-time faculty: lower pay, less security, no benefits, and disparaging facilities.

David Leslie and Valerie Conley (2002) were among the first to shed light on what academic areas most overuse part-time faculty. Utilizing data from the 1993 National Survey of Postsecondary Faculty, the researchers found, "a higher proportion of part-time humanities and social science faculty were employed in community colleges than in any other academic area except education" (p. vii). This was viewed as a considerable deviation from the original intent and purpose of hiring part-timers in business, technology, or vocational subject areas, where real-life experience was needed in order to enhance program quality. Leslie and Conley also found that 47% of part-time faculty in higher education stated the lack of full-time employment was the principle reason for working part-time and the largest portion of these were in the humanities and social sciences.

Enough national data has been acquired by 2000 for Pam Schuetz to elucidate the findings from Center for the Study of Community Colleges survey of more than 1,500 faculty respondents from over one-hundred community colleges nationwide. Schuetz rejects the hypothesis that the teaching methods and extracurricular involvement with students, colleagues, and institutions are statistically indistinguishable from full-time faculty. Her conclusion from the data is as follows,

> Although part-time faculty are generally well-qualified to perform their duties, and although many colleges are working to orient and integrate them more fully into the college infrastructure, it can be argued that part-timers are more weakly linked to their students, colleagues, and responding institutions than full-timers. This analysis confirmed that part-time tend to have less total

> teaching experience, teach fewer hours per week than corresponding institutions, use less innovative or collaborative teaching methods, and interact less with their students, peers, and institutions. Part-timers tend to be less familiar with availability of campus services such as tutoring and counseling and express less knowledge of students' need for or use of support services. Part-timers are also are less likely to sustain the kind of extracurricular student faculty interaction that has been linked to enhance student learning. Ultimately it seems that students are unlikely to receive the same quality of instruction than more tenuously linked faculty (Schuetz, p. 44).

There is little argument about the fact that student engagement has an important impact on student development and learning. Critics of any difference between part-timers and full-timers on faculty interaction with students have, over the years, argued there is little interaction between full-time faculty and their students. This argument is no longer tenable in any general sense, as "the Schuetz Report" makes clear in the first large national study, that part-timers are severely limited in their capacity to meet with students when compared to permanent faculty because they are generally much less likely to have either an office on campus, have a phone or computer on campus, be present in the week(s) before the semester begins and ends, or have office hours on campus.

In the 2007, a seminal study was completed titled the Community College Faculty Survey of Student Engagement (CCFSSE). This study involved 223 participating community colleges. Forty-percent of all faculty respondents in this study reported as part-time. This under-reporting was likely due to the inability of many colleges to provide valid email addresses for part-time faculty since 67% of all faculty' at community colleges are part-time. The 2007 CCFSSE study is especially pertinent to this investigation since Kansas City Kansas Community College is a participatory institution. The most relevant data includes the following list of significant statistical differences between part-time and full-time faculty at the 223 participating community colleges (CCFSSE, 2007):

- 33% of FTF had been teaching 10-19 years compared to 21% for PTF.
- 18% of FTF had PhDs while 11% of PTF held the highest qualification.
- 43% of FTF were tenured while only 3% of PTF had this same protection.
- 64% of FTF spent 1-4 hours per week participating on college committees compared to 17% of PTF.
- 58% of FTF spent 1-4 hours per week mentoring other faculty compared to 13% of PTF.

- 61% of FTF spent time advising students during the academic year compared to 9% of PTF.
- 15% of FTF incorporated service learning into their courses compared to 4% of part time faculty.
- 12% of FTF participated in a learning community course compared to 7% of PTF.
- 40% of FTF spent 1-4 hours working with students on activities other than course work compared to 14% of PTF.

These statistical differences between part-time and full-time faculty underscore the concerns of many in higher education who have long argued that hiring part-time faculty at community colleges is excessive and generally undermines the total learning environment.

Also in 2007, Paul Umbach completed a large analysis on teaching methods being used by part-timers versus full-timers derived from a 2001 survey gathered by the Higher Education Research Institute of the University of California and Los Angeles. Based on data from 21,000 faculty members at 148 two-and four-year colleges, he found that part-timers advised students less frequently, used less amounts of active-teaching techniques, spent less time preparing for class, and were less likely to participate in institutional and nationally based teaching workshops. Umbach stated in his conclusion, “contingent faculty tend to be less effective than their tenured and tenure-track peers in how they work with undergraduates…this finding seems particularly important given the rapid increases in contingent appointments” (p. 15).

Dan Jacoby (2005) published the first case study on whether part-timers wanted a full-time position at their community college. His study found that a majority of part-timers were not satisfied with their terms of their employment, particularly regarding their employment security. The author determined that most part-time faculty was seeking full-time teaching work. Jacoby (2006) followed with a study on the relationship between the use of part-time faculty at community colleges and graduation rates. One of the most common goals in strategic planning across the country is to increase retention and completion rates at community colleges. Jacoby found that graduation rates at community colleges nationwide “decrease as the proportion of part-time faculty employed increases” (p. 1084). Jacoby suggested that the correlation between graduation rates and the number of part-time faculty has more to do with low wages than degree status of the instructor.

Eagan and Jaeger (Fall, 2008) looked at the impact part-time faculty had on students transfer rates to four-year colleges. The researchers analyzed data from 25,000 California community college systems’ first-time students whose course

programs suggested that they intended to transfer to four-year institutions. The authors found the likelihood of students continuing on to four-year institutions dropped by 2 percent for every increase of 10 percentage points in their credits earned with part-time faculty members. This result remained consistent after accounting for differences in the community colleges and in students' backgrounds. The trend translated into an 8 percent drop in likelihood of transferring for average students.

Compensation and Legal Rulings Involving Part-Time Faculty

Based on this critical report by Friedlander (1980) that part-time faculty are underpaid, many community college administrators argued that, for the work-performed, part-time are paid the same as full-time faculty per hour (Archer, 1974). However, according to Adamowicz (2007),

> The average part time faculty salary was $9,782 about one-fifth the average full-time salary of $45,636. But those figures are based on part-time faculty classroom teaching 7.3 hours per week for every 11 hours per-week that full-time faculty teach. For about two-thirds of the teaching load of full-time faculty, part-timers earn about one-fifth the pay (p. 3).

The National Education Association found that part-time community college faculty spent 91% of their time delivering instruction compared with 61% for full-time faculty (NEA, 2000). Across all institutions of higher education, "part-time faculty generally spend six to nine hours per week teaching credit classes and are paid just over a fourth as much, per course, as their full-time counterparts" (Schmidt, 2008, p.3). Full-time faculty reported working an average 48.9 hours per week at community colleges across America. For part-time faculty it was 35.4 hours (NCES Supplemental Table Update, 2006, Table 18).

The salary for part-time faculty not only undermines appropriate compensatory arrangements, it undervalues the entire profession. Even under these ascetic conditions part-timers are expected to provide the same quality of education as full-time and hold the same education credentials as their full-time counterparts. In two separate national studies part-time faculty had less experience, fewer doctoral degrees, spent less time grading and preparing for class, gave higher grades, and rarely participated in professional development opportunities like full-time faculty (NCES, 2006; CCFSSE, 2007).

Providing pro-rata benefits and full recognition for the work of part-time faculty could defuse the potential litigious situations created when unable to rely on the protections of collegiality (Lyons, 2007). Given that part-time faculty numbers often

match or exceed full-time faculty, their opinions should be valued with supplemental pay and welcomed in reference to the governance of the institution. Part-time faculty should have voting status on faculty senates and receive pro-rata compensation. Offering part-time faculty members opportunities for professional development would improve self-esteem and benefit the institution in the long run. In this way the trend of hiring part-time faculty can be reversed and the total campus learning environment improved.

The Political Economy of Community Colleges

David Harris (1980) was among the first to highlight, “the mythical benefits of the hiring part-time faculty emphasizing the burden among management for recruitment, evaluation, and retention of active part time faculty” (p. 15). The result is that academic deans and full-time faculty are unable to maintain the institution and also conduct the education process effectively when the number of credit hours taught by part time faculty reaches a certain percentage. There are many variables that must be taken into consideration, but according to Harris, “it is hard to provide effective management when the total number of credit hours taught by part-time faculty at any given college exceeds 30%” (p. 15).

The dramatic increase in use of part-time faculty has created what Gappa and Leslie refer to as a “false economy.” Community colleges are failing “to account for the burdens that accrue to full-time faculty as more part-timers take on teaching assignments” (1993, p. 13).

The service sector economy, featuring market globalization, is often referred to as the “post-industrialist age” or the “new economy.” For Stanley Aronowitz (1994), the new economy holds benefits in terms of corporate profits, is defined by the amplified practice of business process outsourcing, and heightened reliance on the use of part time workers (pp. 303-304). At community colleges part-time workers have become like “building trades workers”, who labor for a month or year at one construction site, only without ever being organized by unions (pp. 75, 111).

According to Levin and his colleagues, “the push toward academia becoming more bureaucratic is correlative with the increased use of part-time faculty” (2006, p. 47). The interplay between the increased use of part-time faculty, the culture and prerogatives of faculty, and the role of deans in administration represents a key nexus in determining organizational culture. Shared governance, and where practiced, unionization, make up a key part of faculty professionalization at community colleges. Both would require faculty to develop responses to changes in fiscal status, requirements for accountability, and to changes in the organization.

Hutcheson (2000) finds that bureaucratization has increased throughout the Twentieth Century in higher education and faculty governance and unionization

have contributed to the bureaucratic nature of academic organizations. The inexorable shift towards the commodification of higher education represents a distinct external pressure steeped in a capitalist system that systematically reinforces bureaucratization (Barrow, 1990). Little has been written that considers part-time faculty in overall scheme of organizational culture.

Three studies by the Center of Study for Community Colleges as early as the 1970's recommended part-time faculty be included in the fabric of the institution for the benefit of students (Friedlander, 1980). Since teaching and learning form the core mission of community colleges, and part-timers comprise the majority of teachers on campus, it is detrimental to student learning if administration and full-time faculty fail to solicit part-timers for participation in all aspects of the teaching-learning cycle (Burnstad, 2002). The crux of the argument is that part-time faculty as a whole could be offering students the same quality of education as full-time faculty if they received comparable remuneration when volunteering for opportunities such as attending conferences, teaching and learning in-services, and assisting with redesign and design of new courses or programs.

It is a paradox for administration to advocate the importance of faculty commitment to professional development, community service, assisting with student advising, or working toward optimizing student learning, while continuing to hire part-time faculty at excessive levels. The administration of community colleges, that traditionally managed college facilities, and financial aid, have in some cases tended to control decisions surrounding course curriculum and academic policies in no small measure based on the number and manner in which they control the hiring of part-time faculty. Faculty governance is in a pinch flanked by an administration on one side moving toward a more bureaucratic form of domination over faculty and the increasing presence of part-timers unfamiliar or blocked from the process of shared governance. This leaves fewer and fewer full-time faculty to keep the pace of faculty responsibilities.

The Impact of Part-Time Faculty on Student Retention

A statistical model for institutions that includes the impact of part-time faculty on student retention has not been established. The impact of part-time faculty on student retention falls under the heading of institutional experiences of the student: academic integration and social interaction as found in previous studies on retention at community colleges (Pascarella & Chapman 1983, Bean and Metzner 1985, and Stahl and Pavel, 1992). National data provides information about how the student interprets their experience with the college in terms of their satisfaction with the faculty ability to teach, campus diversity, advising, how often attending, remediation, group study, social interaction with faculty, and frequency of attending lectures. The

literature reveals differences between part-time and full-time faculty that could weigh on these observations by students. Traditional national studies on student success or retention unfortunately do not customarily incorporate differences in exposure by students to part-time and full-time faculty.

The introduction of Tinto's theoretical model to explain student attrition from the university prior to graduation involved creation of the first comprehensive set of demographic, cognitive, psycho-social, and institutional factors drawn from previous social science and persistence research (1975, 1993). The most well-known set of variables designed for studying retention in community colleges were developed by Pascarella and Chapman (1983), Bean and Metzner (1985), and Stahl and Pavel (1992). These studies compared student social and academic integration in community colleges with first–time degree seeking students using regression analysis but did not include part-time and full-time faculty as a variable.

One argument playing out in the literature is that increasing levels of first semester exposure to part-time faculty decreases the chance for retention in later semesters of college. Charles Harrington and Timothy Schibik (2001) were the first to examine student retention in the context of faculty status at a comprehensive Mid-Western university. In order to determine the degree to which 7,174 first- time full-time freshman were exposed to part-time faculty, the authors created six part-time exposure groups based on the percentage number of courses first time full-time students were exposed to during the first semester. These exposure groups were then used to make Pearson correlations with retention. The authors found that when academic preparation and gender variables were held constant, students who took 76-100% of their courses from part time faculty were 1.47 times more likely not to be retained than the 0-25% part time faculty exposure group. The authors concluded that exposure to part-time faculty at levels above 50% held "a direct and significant negative impact on student retention into the second semester." While one to one comparisons were made with gender, ethnicity, age, credit hours enrolled, student residency status, and several different high school skill measures scores, modern methods of statistical analysis between and within categorical variables using logistic regression analysis were not employed.

Sharron Ronco and John Cahill (2004) similarly studied the linkage between faculty status and retention at a public research-intensive university. Their study examined 3,787 students at a public research-intensive university. Ronco and Cahill utilized all degree-seeking first-time students which includes part time students. The authors found a 14% point drop in retention in the second-year Fall semester for students with more than 75% of their credit hours from adjuncts or graduate teaching assistants. They found that including part-time student exposure

to credit hours created a statistical artifact in the six percentage exposure part-time faculty groups.

These studies by Harrington and Schibik, and Ronco and Cahill, recommended monitoring and limiting the number of courses taken with part-time faculty in order to ensure adequate exposure to full-time faculty members.

The American Association of Community Colleges completed a study in 2000 indicating that over 65% of faculty teaching developmental courses were part-time (Shults, 2000). Boylan and Saxon (1998) found that in institutions where 70% or more of the developmental courses were taught by adjunct faculty, unacceptably low pass rates in developmental courses were commonly exhibited. They also discovered that institutions with the highest percentages of adjuncts teaching developmental courses had the lowest post developmental education pass rates on the state mandated outcomes test. The authors showed that the best programs in the state for developmental education resisted over-reliance on adjuncts and that colleges' having fewer than 50% teaching developmental courses had the highest pass rates on the state mandated outcomes test. These same institutions employed best practice programs for adjuncts. The key to best practices for adjuncts was complete immersion and integration into the department and with other faculty teaching developmental courses (Boylan, 2002).

This study makes every attempt to look at some of the key variables suited to the students being investigated and employ logistic regression analysis to determine effects between and within all independent variables in relation to student exposure to part-time faculty.

Methodology

The individual percentage exposure to part-time faculty for all full-time first-time students (FTFTS) in all starting Fall semesters of 2003, 2004, 2005, and 2006 was determined. A total of 1,831 FTFTS were examined for retention to the Spring and next Fall semesters in all four academic years and all years combined. The goal of this study was to find a parsimonious method for calculating specifically the impact of part-time teachers on student retention. Most colleges only look at the number of part-time faculty compared to full-time faculty and the number of credit hours taught by these two groups. It is important to examine the mean exposure of students to part-time faculty in each academic year, and over a period of years and correlate with retention. An ideal group of students to study retention is FTFTS. Ronco and Cahill used this group in their retention studies because they are a homogenous group of students with apparent motivation for returning to complete based on enrolling in at least 12 credit hours. The first faculty to whom a student is exposed has a formative impact on student perceptions about higher education.

The Statistical Package for Social Science (SPSS-17) was used to conduct all the statistical analysis of this study. The first step for model building consisted of a univariable analysis of six independent variables for first-time full-time students: (a) exposure to part-time faculty, (b) ethnicity, (c) gender, (d) degree seeking status, (e) developmental or non-developmental learner status, and (f) number of credit hours enrolled during the first semester. In this step, descriptive data were obtained using *t*-tests and analysis of variance tests (ANOVA) to obtain means, standard deviations, and significance statistics for each independent variable.

The next step in the process of model building used binary logistic regression of each academic year in order to assess the six independent variables with the dichotomous dependent variable, retention, to the respective Spring, and next Fall semester. Four models, one for each academic year, were used to determine retention. The final model involved checking for interactions and assessing the fit of four models for each year. Model 5 utilized two logistic regressions in order to determine what independent variables predicted the likelihood of student retention to the Spring and next Fall semester for all FTFTS in all academic years combined.

Raw data were gathered in cooperation with the Dean of Institutional Services at the Center for Research and Community Development at KCKCC and the University of Missouri at Kansas City Office for Human Research Protections. The initial database held 2,030 student records based on Fall enrollment from 2003-2006 on Microsoft Excel spreadsheets. Next to the non-decipherable coded student number were the courses and semester in which the student was enrolled, whether the course was developmental or not, the total credit hours for that semester, whether the student was seeking a degree, ethnicity, gender, retention in the Spring, retention to the next Fall, and whether the instructor was part-time or full-time.

A total of 56 students were eliminated from the initial total 2,030 FTFTS sample available in the college records, leaving 1,974 students. In this “data cleaning step,” it was observed that 24 students did not list their gender, 31 students were listed as “professor undetermined” for at least one of their classes, and one student somehow managed to enroll in 30 credit hours in violation of college policy.

With SPSS-17, oversampling can lead to distortion without proper consideration of sample design in terms of underestimating standard error. Therefore, 143 more statistical outliers were next removed from this 1,974 FTFTS sample by virtue of being more than two standard deviations away from the mean for logistic regression models. The statistical outliers consisted of odd mixtures of statistical deviations located in each of the six independent variables. In this way, noise was reduced

from the regressions and measures of effect size were optimized (Nagelkerke R^2). The final sample was 1,831 FTFTS to be used all steps of model building.

Results

A working definition of who is to be defined as part-time and full-time faculty is central to any retention study. Part-time faculty includes all adjuncts, all staff, all administration, and all teachers designated as "interim employees," who are teaching ten or less credit hours per semester, and otherwise not governed in any way by the full-time faculty Master Contract. Across the range of community colleges in the United States the definition of faculty status is uniquely interpreted depending on each institution's own set of employment criteria. For this reason making use of National Center for Educational Statistics incorporating the impact of part-time faculty on retention can be misleading. The results of this study are most applicable to average-sized urban community colleges using similar definitions involving faculty status. The definition of a first-time full-time student is accepted as enrollment in at least 12 credit hours.

Logistic regression analysis led to a prediction about the likelihood of part-time faculty decreasing, increasing, or having no impact on retention. Results show how all the independent variables interact in each academic year and all years combined. The hypothesis of this study was that there would not be a decrease in the likelihood of FTFTS retention with increasing exposure to part-time faculty. Results disproved this hypothesis with respect to the next Fall semester in all years combined, and the next Fall semester for academic year 2004. For this reason only this data is shown in Tables 4 and 5.

Descriptive Statistics

In Table 2, the total 1,831 FTFTS represents 7.94% of the total head count of 23,043 students at KCKCC from 2003-2006. The remaining 92.06% of students were either not enrolled in at least 12 credit hours, or had been previously enrolled. This study is entirely based on the characteristics and retention rates of full-time students enrolling for the first time in Fall semesters of 2003, 2004, 2005, or 2006.

Table 2

Academic Year: Frequency and Percentage of FTFTS versus Total Head Count at KCKCC

Academic Year	FTFTS Frequency	Percent	Total Head Count*

2003	448	24.4	5,838
2004	474	25.8	5,800
2005	426	23.2	5,648
2006	483	26.3	5,757
Totals	1,831	25.0	23,043

*(KCKCC College Fact Book 2004-2009)

Table 3 shows the demographics of all 1,831 FTFTS frequency and percentage in relation to the six independent variables. The majority of the 1,831 students are in the 26-50% exposure to part-time faculty group (n = 561). A total of 231 FTFTS failed to experience at least one class with full-time faculty. On the other end of the spectrum, only 118 had none of their classes from part-time faculty. These data suggest that full-time faculty tend to proportionally teach second semester freshman, sophomore, or upper level courses. A majority of FTFTS enrolling at KCKCC are classified as developmental students by virtue of enrolling in at least one reading or writing course that is preparatory for college credit classes in English composition (54.3%).

Table 3

Frequency and Percentage of Demographic Variables for All FTFTS

(N = 1,831)		Frequency	Percent
Percentage Exposure Groups to Part-Time Faculty			
	0%	118	6.4
	1-25%	310	16.9
	26- 50%	561	30.6
	51-75%	452	24.7
	76-99%	159	8.7
	100%	231	12.6
Race/Ethnicity	White	1026	56.0
	African-American	438	23.9
	Hispanic	152	8.3
	Unknown	60	3.3
	Multiracial	58	3.3
	Asian/Pacific Islander	46	2.5
	International	30	1.6
	American	21	1.1

	Indian/Alaska		
Gender	Male	831	45.3
	Female	1,000	54.7
Degree Seeking	No	263	14.4
	Yes	1,568	85.6
Credit Hours Enrolled			
	12	768	41.9
	13	244	13.3
	14	336	18.4
	15	215	11.7
	16	132	7.2
	17	78	4.3
	18	38	2.1
	19	11	6
	20	4	.2
	21	3	.2
	22	1	.1
	23	1	.1
Developmental Learning Status			
	No	837	45.7
	Yes	994	54.3

Summary results of logistic regression analyses

1. Model 1 log regressions among FTFTS in AY 2003 demonstrate that none of the variables predicted failure to be retained to the Spring or next Fall. The greater the number of credit hours a student was enrolled in, female gender, and being a developmental student increased the likelihood of retention to the Spring. The more credit hours favorably predicted retention to the next Fall (Smith, C., 2010, pgs. 99-100).

2. Model 2 log regressions for FTFTS in AY 2004 predicted that two variables decreased the likelihood of retention to the next fall: increasing percentage exposure to part-time faculty (see Table 4 below), and African-American students. Total credit hours enrolled and International students increased the likelihood of retention to the next Fall semester. The more credit hours enrolled and female gender predicted increased likelihood of retention in the Spring. (Smith, C.

2010, p. 101). The negative *β* value in Step 2 of Table 4 for part-time faculty (-.1.049) indicates a decrease in the likelihood of retention compared to all FTFTS enrollment with full-time faculty over the four years ($p < .01$). The odds ratio value (OR), for percentage exposure to part-time faculty, means that first-time students were .35 times less likely to be retained than if they had enrolled with full-time faculty in their first semester of 2004 at KCKCC.

Table 4

Independent Variables Predicting AY 2004 Next Fall Retention Using Logistic Regression Model 2

Step	Predictor	*β*	Standard Error	OR	CI (95%) Lower-Upper
1	Total Credit Hours	.211	.058	1.235***	1.102-1.385
	Constant	-2.392	.786	.091	
2	Part-Time Faculty	-1.067	.327	.344**	.181-.654
	Total Credit Hours	.202	.059	1.224**	1.091-1.374
	Constant	-1.701	.819	.182	
3	American Indian/Alaskan (1)	-1.362	.761	.256	.058-1.138
	Asian/Pacific Islander (2)	.476	.717	1.610	.395-6.560
	African/American (3)	-.648	.236	.523**(-)	.330-.830
	Hispanic (4)	-.064	.352	.938	.471-1.868
	International (5)	2.089	1.046	8.073*	1.038-62.759
	Multiracial (6)	-.344	.669	.709	.191-2.629
	Unknown (7)	1.023	.661	2.783	.762-10.162
	Part-Time Faculty	-1.049	.338	.350**	.180-.680
	Total Credit Hours	.208	.061	1.232**	1.093-1.387
	Constant	-	.869	.218	

1.525

3. (N = 474)
4. -2 Log Likelihood583.528
5. Cox & Snell R^2 .099
6. Step 1. Nagelkerke R^2 = .040, Step 1 X^2 (1) = 14,321, p <.001
7. Step 2. Nagelkerke R^2 = .070, Step 2 X^2 (2) = 25,201, p <.001
8. Step 3. Nagelkerke R^2 = .135, Step 3 X^2 (9) = 49,670, p <.001
9. * p < .05; **p<.01;***p < .001

3. Model 3 log regressions for FTFTS in AY 2005 demonstrated that developmental students decreased the likelihood of being retained to the next Fall semester. Total credit hours enrolled increased the likelihood of retention to the Spring and next Fall semesters. Females were more likely to be retained to the Spring semester (Smith, C., 2010, pgs. 103-104).

4. Model 4 regressions found for FTFTS in AY 2006 predicted that Hispanic students decreased the likelihood of retention to the Spring semester. Total Credit hours enrolled increased the likelihood of retention to the Spring semester. Females were more likely to be retained to the next Fall semester (Smith, C., 2010, pgs. 105-106).

5. Model 5 regressions for FTFTS in All Academic Years found that increasing exposure to part-time faculty decreased the likelihood of retention to the next Fall semester (Table 5 below). Total credit hours enrolled, female, and International were the best predictors favoring retention to the next Fall semester based on the relative size of the odds ratios (OR) with larger being better. Hispanic and Multiracial students decreased the likelihood of retention to the Spring. Total credit hours and female were significant parameters increasing the likelihood of retention to the Spring. (Smith, C., 2010, p. 108). The negative β value in Step 5 of Table 5 for part-time faculty (-.451) indicates a decrease in the likelihood of retention compared to all FTFTS enrollment with full-time faculty over the four years (p < .01). The odds ratio value, for percentage exposure to part-time faculty, means that first-time students were .63 times less likely to be retained than if they had enrolled with full-time faculty in their first semester at KCKCC.

Table 5

Independent Variables Predicting Next Fall Retention for All AY's Combined Model 5

N= 1,831	Standard	CI (95%)

Step	Predictor	β	Error	OR	Lower-Upper
1	Total Credit Hours	.173	.029	1.188***	1.123-1.258
	Constant	-1.959	.391	.141	
2	American Indian/Alaskan	-.783	.451	.457	.189-1.106
	Asian/Pacific Islander	.282	.319	1.325	.709-2.478
	African/American	-.190	.116	.827	.658-1.039
	Hispanic	.098	.179	1.103	.776-1.568
	International	1.795	.615	6.018**	1.804-20.073
	Multiracial	.067	.278	1.063	.620-1.844
	Unknown	.408	.287	1.504	.856-2.641
	Total Credit Hours	.175	.029	1.191***	1.125-1.261
	Constant	-1.779	.408	.169	
3	American Indian/Alaskan	-.814	.453	.443	.183-1.076
	Asian/Pacific Islander	.337	.321	1.401	.747-2.627
	African/American	-.208	.117	.813	.646-1.022
	Hispanic	.099	.180	1.105	.777-1.561
	International	1.818	.616	6.160**	1.842-20.073
	Multiracial	.018	.280	1.018	.589-1.761
	Unknown	.390	.288	1.477	.840-2.598
	Gender (1)	.276	.098	1.318**	1.088-1.597
	Total Credit Hours	.179	.029	1.196***	1.129-1.267
	Constant	-1.978	.416	.138	
4	American Indian/Alaskan	-.845	.453	.429	.177-1.044
	Asian/Pacific Islander	.331	.321	1.311	.741-2.613
	African/American	-.205	.117	.815	.648-1.025
	Hispanic	.064	.180	1.066	.748-1.518

	International	1.838	.616	6.285**	1.880-21.010
	Multiracial	.028	.280	1.029	.594-1.782
	Unknown	.394	.289	1.483	.841-2.615
	Gender	.296	.098	1.345**	1.109-1.631
	Part-Time Faculty	-.451	.170	.637**(-)	.456-.889
	Total Credit Hours	.172	.029	1.188***	1.121-1.258
5	Constant	-1.661	.433	.190	

-2 Log Likelihood2399.157
Cox & Snell R^2 .041
Step 1. Nagelkerke R^2 = .028, Step 1 X^2 (1) = 37,997, p <.001
Step 2. Nagelkerke R^2 = .245, Step 2 X^2 (8) = 61,734, p <.001
Step 3. Nagelkerke R^2 = .050, Step 3 X^2 (9) = 69,719, p <.001
Step 4. Nagelkerke R^2 = .055, Step 4 X^2 (10) = 76,767, p <.001
p<.01;*p < .001

Conclusion

This study shows that even after controlling for variables such as ethnicity, gender, developmental status, degree seeking status, and number of credit hours enrolled, FTFTS from 2003-2006 were .62 times less likely to be retained for one year if they enrolled in courses taught by part-time faculty. The significance of this information cannot be easily extrapolated into raw numbers of students not retained, or for the thousands of other students not included in this analysis, but the point is clear. KCKCC should either reduce the number of part-time faculty by hiring more full-time faculty, or ramp up best practices for handling part-time faculty. Moreover, this type of data analysis should become a routine annual project in order to isolate areas of weakness in terms of student retention. Hiring too many part-time faculty and not employing best practices speaks to a core contradiction in the mission, purpose, and values of teaching and learning.

While it is not precisely clear from this study what the reason is for a decreased likelihood for retention, there is enough evidence in the 2007 CCFSSE study to correlate the fact that part-time faculty, through no fault of their own, are simply not as engaged with students as full-time faculty. Some departments of the college are hiring more than their share of part-time faculty due to a resolved “hiring freeze.” Each department of the college should closely examine where there are

disproportionate numbers of part-time faculty and couple this to implementation of best practices for part-time faculty. The lack of support for part-time faculty, and diminished hiring of full-time faculty in cornerstone institutions like community colleges, slows the drive for minorities and women to reach socio-economic parity in economics, health education, social justice, and civic engagement. Not replacing full-time faculty has a detrimental effect on the professoriate and future of the public employee retirement systems in Kansas that includes firefighters, police, and primary and secondary teachers. If it is true, as this study and others have indicated, that the key disadvantage of hiring part-time faculty is the potential for eroding the teaching profession, then hiring too many part-time faculty subverts financial resources by reducing enrollment numbers. Optimizing student retention in community college is an imperative when it comes to economic opportunity for disadvantaged students. Most community college students plan to obtain a certificate, associate degree, or complete a vocational career program. For many students, the community college is the last stop on the way to earning a decent wage enabling a reasonable standard of living for themselves and their families.

Helen Burnstad (2002) has spotlighted the value of a comprehensive professional development program for part-time faculty. The best way to integrate part-time faculty starts with a hiring process involving the dean and full-time faculty members in the interview process. Part-time faculty should be provided the same amenities as full-time faculty including office space, office materials, books on teaching techniques, and business cards. Most important is providing extra pay for attending orientations, student enrollment advising, department meetings, and serving on committees. As with community colleges in Florida and Washington, part-timers at Johnson County Community College in Kansas are assigned to a full-time faculty mentor or adjunct facilitator that provides a valuable system of performance review and feedback.

In Richard E. Lyons (2007), *Best Practices for Supporting Adjunct Faculty*, an effective orientation instrument is offered and ways to systematize the process for integrating part-time instructors more efficiently and effectively into the institutional culture. This book offers authoritative recommendations for the changes that need to be made at community colleges regarding the employment of part-time faculty.

REFERENCES

Adamowicz, C. (2007). On adjunct labor and community colleges. *Academe,* 93(5), 24-27.

Almanac of Higher Education 2006-2007. (2006, August 25). *The Chronicle of Higher*
Education, 53(1).

Archer, A. J. (1974). Quantifying faculty work loads. *Virginia Western Community College. (ERIC No. ED103078).*

Aronowitz, S. (2000). *The knowledge factory, dismantling the corporate university and creating true higher education.* Boston: Beacon Press.

Baldwin, R. G., & Chronister J.L. (2001). *Teaching without tenure: policies and practices for a new era*. Baltimore, MD: Johns Hopkins.

Banachowski, G.. (Fall 1996). Review of part-time faculty in the community college, *Community College Review*, 24(2), 49-62.

Banachowski, G. (Dec. 2000). Perceptions of chief academic officers at community colleges regarding employment and utilization of part-time faculty. *Community College Review*, 254.

Barrow, C. W. (1990). *Universities and the capitalist state: corporate liberalism and the reconstruction of American higher education 1894-1928.* Madison, WI: University of Wisconsin Press.

Bean, J.P., & Metzner, B.S. (1985). Interaction effects based on class level in an explanatory model of college student dropout syndrome. *American Education Research Journal,* 22, 35-64.

Biles, G.E., & Tuckman, H.P. (1986). *Part-time faculty personnel management policies*.
New York: American Council on Education, Macmillan Publishing Company.

Boylan, H. R. (2002). *What work: Research based best practice in developmental*

Education. Continuous Quality Improvement Network with the National Center for Developmental Education. Appalachian State University, North Carolina.

Boylan, H., & Saxon, D.P. (1998). *An evaluation of developmental education in Texas colleges and universities.* Austin, TX: Texas Higher Education Coordinating Board.

Burgess, L. A. & Samuel, C. (1999). Impact of full-time versus part-time instructor status on college student retention and academic performance in sequential courses. *Community College Journal of Research and Practice*, 23(5), 487-498.

Burnstad, H. M. (2002). Part-time faculty development at Johnson County Community College. *New Directions for Community Colleges*, 120, 17-25.

Chancellors Office of California Community Colleges. (1987). Study of part time instruction. Sacramento, CA: *California Community Colleges*, *Office of the Chancellor. (Eric No. ED 278449).*

Commission on the Future of Community Colleges. (1988). *Building community: A vision for a new century*. Washington D.C.: American Association of Community and Junior Colleges. (Eric No. ED 293578).

Community College Survey of Student Engagement, (2007). *Institutional Report, Overview of National 2007 CCFSSE Cohort Survey Results*.

Eagan, K., & and Jaeger, A. (Fall 2008). Closing the gate: part-time faculty instruction in gatekeeper courses and first year persistence*. New Directions for Teaching and Learning,* 115, 39-53.

Eagan, K., & Jaeger, A, (December 2008). Effects of part-time faculty on first year freshman retention: A predictive model using logistic regression. *Research in Higher Education*, 48(8), 993-1020.

Friedlander, J. (1980). Instructional practices of part-time faculty. In: M.H. Parsons,

(Ed.) Using part-time faculty effectively*, New Directions for Community Colleges*, 3027, 36.

Gappa, J.M., & Leslie, D.W. (1993). *The invisible faculty: Improving the status of part-timers in higher education.* San Francisco, CA: Jossey-Bass.

Harrington, C., & Schibik, T. (2001). Caveat emptor: is there a relationship between part time faculty utilization and student learning outcomes and retention? Evansville, IN: University of Southern Indiana. (*ERIC No. ED 456785)*

Harris, D. (1980). Part time faculty in community colleges. In M.H. Parsons (Ed.) Using part-time faculty effectively*, New Directions for Community Colleges*, 30.

Hutcheson, P. A. (2000). *A professional professorate: unionization, bureaucratization and the AAUP.* Nashville, TN: Vanderbilt University Press.

Jacoby, D. (2005). Part-time community college faculty and the desire for full-time tenure track positions: results of a single institution case study. *Community College Journal of Research and Practice*, 29(2), 136-152.

Jacoby, D. (2006). Effects of part-time faculty employment on community college graduation rates. *Journal of Higher Education*, 77(6), 1081-1103.

Kansas City Kansas Community College. (July 2009). *College fact book 2004-2009*, Center for Research and Community Development. Available <http://mail3.kckcc.edu/administration/research/college-fact-book-02-07.pdf>

Kansas City Kansas Community College. (Nov. 2007). *Center for Research and Community Development Executive Report*.

Kansas City Kansas Community College. (Oct. 2008). *Center for Research and Community Development Faculty Report*.

Leslie, D., Kellams, S., & Gunne, M. (1982). *Part-time faculty in American higher education,* New York: Praeger.

Leslie, D. & Conley, V. (2002). Part-time instructional faculty and staff, who they are,
what they do, what they think. *Education Statistics Quarterly*, 4(2), 97-103.

Levin, J.S., Kater, S., & Wagoner, R.L. (2006). *Community college faculty: At work in*
the new economy, New York: Palgrave-MacMillan.

Lustig, J. (Fall 2006). From art to alienated labor: The degradation of academic work. *The NEA Higher Education Journal*, 22, 143-159.

Lustig, J. (Fall 2002). Treadmill to oblivion: The coming conflict over academic workload. *The NEA Higher Education Journal,* 17, 115-128.

Lyons, R. E. (2007). *Best practices for supporting adjunct faculty,* Bolton, MA., Amber Pub.

National Education Association Higher Education Research Center, (2000). *Part Time*
Faculty, Washington D.C, NEA.

National Center for Education Statistics. (2001). *Institutional policies and practices: results for the 1999 national study of postsecondary faculty, institution survey*. NCES (2001-200). Washington D.C., U.S. Department of Education.

National Center for Education Statistics. (2004). *Table 206* Washington D.C., U.S. Department of Education.

National Center for Education Statistics. (May, 2005). National Study of Postsecondary
Faculty (NSOPF:04) *Report on faculty and instructional staff in fall 2003,* Washington D.C., U.S. Department of Education. Available http://nces.ed.gov.pubs2005/2005172.pdf

National Center for Education Statistics. (April, 2006). *Supplemental Table Update April*
2006. Based on the 1999 National Study of Postsecondary Faculty report: *Background Characteristics, Work Activities, and Compensation of Faculty and*

Instructional Staff in Postsecondary Institutions: NCES (2001-152). Washington D.C., U.S. Department of Education.

National Center for Education Statistics. (2008). *Table 54* Washington D.C: Department of Education. Available: http://nces.ed.gov/programs/digest/d08/tables/dt08_250.asp

National Education Association Higher Education Research Center (Dec. 2007) *Academic Freedom and Higher Education Employees*, Washington D.C: NEA, 11(4), 1-8.

Pascarella, E.T., & Chapman, D.W. (1983a). A multi-institutional, path analytical validation of Tinto's model of college withdrawal. *American Educational Research Journal*, 20(1), 87-102.

Ronco, S. L., & Cahill, J. (May, 2004). Does it matter who's in the classroom? Effect of instructor type on student retention, Achievement, and Satisfaction. *44th Annual Forum of the Association for Institutional Research,* Boston, MA.

Schuetz, P. (2002). Instructional practices of part-time and full-time faculty. In C. L. Outcalt (Ed.). Community college faculty: Characteristics, practices, and challenges. *New Directions for Community Colleges*, 118.

Shults, C. (2000). *Institutional policies and practices in remedial education: A national study of community colleges*. Washington, D.C: AAUP.

Schmidt, Peter (Nov. 18, 2008) Studies link use of part-time instructors to lower student success. pp. viii. *The Chronicle of Higher Education*.

Smith, Curtis, (2010) The Impact of Part-Time Faculty on Student Retention (dissertation) https://mospce.umsystem.edu/xmlui/bitstream/handle/10355/8939/SmithImpPartTimFac.pdf?sequence=1

Smith, Vicki. (2001). *Crossing the great divide: worker risk and opportunity in the new economy.* New York, NY. Cornell University Press.

Stahl, V.V., & Pavel, D. M. (1992). *Assessing the Bean and Metzner model with community college student data.* Paper presented at the AERA Annual Meeting, San Francisco, CA.

Tinto, V. (1993). Leaving college" Rethinking the causes and cures of student attrition (2nd ed.). Chicago: University of Chicago Press.

Umbach, P.D. (2007). How effective are they? Exploring the impact of contingent faculty on undergraduate education. *Review of Higher Education*, 30(2), 91-124.

Zumeta, William, (2006). The new finance of public higher education*, NEA Almanac of Higher Education*, Washington D.C.