

POLICY AND PERSISTENCE: AN EXPLORATORY MIXED METHODS CASE
STUDY OF “LAST MILE” STUDENTS AT PORTLAND STATE UNIVERSITY

by

JOSEPH MARK WUBBOLD

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DISSERTATION APPROVAL PAGE

Student: Joseph Mark Wubbold

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This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Education degree in the Department of Educational Methodology, Policy, and Leadership by:

Kathleen Scalise	Chairperson
David Conley	Member
Keith Zvoch	Member
Patricia Gwartney	Outside Member

and

Kimberly Andrews Espy	Vice President for Research & Innovation/Dean of the Graduate School
-----------------------	--

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded June 2012

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DISSERTATION ABSTRACT

Joseph Mark Wubbold

Doctor of Education

Department of Educational Methodology, Policy, and Leadership

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Title: Policy and Persistence: An Exploratory Mixed Methods Case Study of "Last Mile" Students at Portland State University

In an extension of educational attainment research, this exploratory mixed-methods case study examines the influence of institutional policies on the behavior of five cohorts ($n=925$) of traditional first time, full time (FTFT) freshmen – called “Last Mile” students – at one urban research university located in the Pacific Northwest. Last Milers are defined as FTFT students who persist to the fifth year of enrollment but do not graduate by the end of their sixth year; the cut point for federal graduation rates.

Punctuated Equilibrium Theory (PET) was chosen as the theoretical framework for this study as the case subject is undergoing a period of internal change brought on by external forces beyond its control. In a classic PET response, the university has overcome its institutional inertia and is working to improve an area of perceived weakness – graduation rates – before resetting itself.

Both quantitative and qualitative data were collected for this study. Extant student and institutional characteristic data were provided by the case subject. Additional data were collected from Last Mile students via a researcher created online survey. This study supports four findings: 1) Formative interviews, contextual institutional data and student success expenditures data affirm the use of PET as the study’s theoretical framework; 2) Student survey data confirm that most of PSU’s planned interventions are

supported and likely to yield the desired results of improved graduation rates, over time;

3) Difficulty obtaining complete student data supports the need for a more systematic approach to centralized data collection, particularly as PSU begins a transition to strategic enrollment management; and 4) As PSU enters the era of managing to metrics, it would be wise to consider the cautionary principle of PET; that organizations treat the time following a change as a *trial* rather than a *reset* period. While a trial-period does not guarantee the success of the organizational change, it does provide the necessary conditions for an organization to *enact* change when it is in the midst of punctuation. These findings have practical application to internal PSU policy and may have theoretical implications for college graduation rate research as well.

CURRICULUM VITAE

NAME OF AUTHOR: Joseph Mark Wubbold

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
Portland State University, Portland
Clackamas Community College, Oregon City

DEGREES AWARDED:

Doctor of Education, 2012, University of Oregon
Master of Public Administration, 2002, Portland State University
Bachelor of Science, 1996, Portland State University
Associate of Arts, 1992, Clackamas Community College

AREAS OF SPECIAL INTEREST:

Strategic Enrollment Management in Higher Education
The Role of Universities in Economic Development

PROFESSIONAL EXPERIENCE:

Special Assistant to the Vice President for Finance and Administration, Portland State University, Portland, OR. 2003- Current.

Technical Consultant - Grant Funded Projects, Portland State University, Portland, OR. 2000- Current.

Technical Director and Faculty, Theater Arts Department, Mt. Hood Community College, Gresham, OR. 1998-2000.

Technical Coordinator for Traveling Exhibits, Oregon Museum of Science and Industry (OMSI), Portland OR. 1996-1998.

Technical Director and Faculty, Theater Arts Department, Clackamas Community College, Oregon City, OR. 1990-1996.

Technical Director and Designer, Cinnabar Arts Corporation, Petaluma, CA. 1980- 1990.

GRANTS, AWARDS, AND HONORS:

Paul B. Jacobson Memorial Scholarship – College of Education, University of Oregon, Eugene, OR. 2009- 2010, \$3,000.

U.S. Department of Education – *Online Interpretation/Translation Skill-Building Modules for Japanese and Arabic*, Co-developer with Pat Wetzel Ph.D. and Masami Nishishiba Ph.D. College of Liberal Arts and Sciences and College of Urban and Public Affairs, Portland State University, Portland, OR. 2008- Current, \$750,000.

Speaker's Bureau Grant – Lincoln Bicentennial lecture series, Portland State University, Portland, OR. 2008- 2009, \$1,500.

Portland Public Schools Grant – ARTSsplash training series, Portland State University, Portland, OR. 2002- 2007, \$30,000.

Northwest Academic Computing Consortium – Adaptation of the ARTSsplash database, with Lori Hager Ph.D. University of Oregon, Eugene, OR. 2007, 10,000.

U.S. Department of Education – *ARTSsplash*, Co-developer with Carol Egan, Portland Public Schools and Portland State University, Portland, OR. 2002- 2007, \$750,000.

Diversity Action Committee Grant – Mobile Consulate with the Guatemalan Government, Portland State University, Portland, OR. 2006- 2007, \$1,200.

Internationalization Mini Grant – Mobile Consulate with the Guatemalan Government, Portland State University, Portland, OR. 2006- 2007, \$1,200.

Internationalization Mini Grant – Partial reimbursement for travel to Iquitos Peru to initiate a new International Capstone, Portland State University, Portland, OR. 2005- 2006, \$1,200.

Internationalization Mini Grant – Partial reimbursement for video equipment used for filming in Mayan communities, Portland State University, Portland, OR. 2004- 2005, \$1,500.

Departmental Engagement Grant – Development of the Spanish Curriculum Archives, Portland State University, Portland, OR. 2004- 2005, \$1,500.

Civic Engagement Award – For Connecting Educational Community's partnership with Jabel Tinamit, Portland, OR. 2007.

Teaching with Technology Award – with Micki M. Caskey Ph.D. and Teresa Rapida Ph.D., for *The Iroquois Confederacy and the U. S. Constitution*, Portland, OR. 2002.

Teaching with Technology Award – with Delys Ostlund Ph.D., for the *Spanish Curriculum Archive*, Portland, OR. 2003.

Civic Engagement Award – Team member Foreign Languages and Literatures, Portland, OR. 2007.

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I also benefited greatly from the generosity of my colleagues at Portland State University. Their willingness to share data, answer my interminable questions and sit for interviews gave me the necessary insights and raw materials with which to build this study. As a working practitioner, from the beginning of my doctoral studies I viewed the dissertation as an opportunity to explore an issue that has confounded my employer for decades. While this issue was a natural topic, considering my employment situation, it was not always a comfortable one for my employer. That said, by choosing a topic with a work-related purpose I was able to tap the university's human resources in a way that made it possible for me to pursue the doctorate while working full time. Without the help and guidance of my colleagues, this dissertation would not have been possible.

For M...mi mejor amiga, mi amor, mi musa.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION AND LITERATURE REVIEW	1
Literature Review.....	7
Graduation Rates on the Policy Stage.....	8
Impact Theory and Graduation Rates	13
University Policy and Graduation Rates.....	18
Punctuated Equilibrium Theory.....	23
PET and the Graduation Rates of “Last Mile” Students.....	30
Graduation Rates and Policy at Portland State University	34
The Chief Executive as a Policy Trigger	38
Accountability and Allocations at PSU	39
The Last Mile Cohorts at Portland State University.....	41
Research Questions for the Study.....	42
II. METHODS.....	44
Research Design.....	44
Research Setting.....	46
Participants.....	47
Administrative Interviewees	47
Student Cohorts.....	50
Study Design.....	51
Measures Used in This Study	51
The Survey Instrument.....	52

Chapter	Page
Variables	55
Procedures	58
Survey Procedures	58
Data Collection	63
PSU Peer Selection	63
Extant Student Data	66
Survey Data.....	67
Data Analysis	69
Limitations	71
III. RESULTS	73
Pre-analysis Consultation.....	74
Contextual Institutional Statistics	74
Student Demographics Extant Data	77
Demographics	78
Academics.....	81
Last Mile Majors.....	83
Finances	85
Inferential Statistics	86
Demographics	86
Academics.....	87
Finances	87
Dependency on Parents and Accumulated Debt.....	88

Chapter	Page
Researcher Created Student Survey.....	89
Survey Questions Visual Snapshot.....	95
Survey Questions Cross Case Analysis	105
Financial Holds Data.....	116
Student Success Expenditures Data	118
IV. DISCUSSION, CONCLUSIONS AND IMPLICATIONS.....	121
Summary of the Study	122
Discussion.....	123
Research Question 1	123
Research Question 2	129
Research Question 3	132
Conclusions and Recommendations	135
Recommendation One: Definitions, Committees and Innovations.....	140
Recommendation Two: Timing, Advising and Degree Audits	143
Recommendation Three: Special Grants in Aid	144
Recommendation Four: Policy Development and Maintenance	145
Recommendation Five: Holds Policy	147
Implications for Future Research.....	148
APPENDICES	152
A. SURVEY INSTRUMENT.....	152
B. OUS RETENTION GRID.....	158
C. PSU RETENTION MATRIX	159

Chapter

Page

REFERENCES CITED..... 168

LIST OF FIGURES

Figure	Page
1.1. Conceptual Diagram for the study	6
1.2. The Conceptual Framework for the literature review	8
1.3. The median annual earnings of full-time, full-year wage and salary workers ages 25 and older, by sex, race/ethnicity, and educational attainment, 2007	12
1.4. The decline in state support for education related expenses versus the increase in tuition (excluding fees) per full time equivalent student at PSU, in inflation adjusted dollars	24
1.5. The decline of State funding at PSU	38
2.1. Informational Interview Format.....	49
2.2. Click-through informed consent form and survey gateway.....	62
2.3. Initial Peer Selection Variables.....	64
3.1. OUS Comparison of Peer Graduation Rate Data.....	76
3.2. Potential Yield If All Last Milers Graduated.....	77
3.3. Answers to Survey Question 1.....	99
3.4. Answers to Survey Question 2.....	99
3.5. Answers to Survey Question 3.....	100
3.6. Answers to Survey Question 4.....	100
3.7. Answers to Survey Question 5.....	101
3.8. Answers to Survey Question 6.....	101
3.9. Answers to Survey Question 7.....	102

3.10. Answers to Survey Question 8.....	102
3.11. Answers to Survey Question 9.....	103
3.12. Answers to Survey Question 10.....	103
3.13. Answers to Survey Question 11.....	104
3.14. Answers to Survey Question 12.....	104
3.15. Answers to Survey Question 13.....	105
3.16. Trend Line Chart of Student Success Expenditures	120

LIST OF TABLES

Table	Page
2.1. List of Interviews with Key Administrative Personnel.....	48
2.2. Attrition Rates of Last Mile Cohorts	51
3.1. Potential Graduation Rates Yields of Last Milers	77
3.2. Demographic Statistics for Last Milers	80
3.3. Academic Statistics for Last Milers.....	84
3.4. Financial Statistics for Last Milers	85
3.5. Demographic Correlations	86
3.6. Academic Correlations.....	87
3.7. Financial Correlations.....	88
3.8. Chi-Squares.....	89
3.9. OUS Retention Best Practices	91
3.10. Open ended survey question 14	106
3.11. Open ended survey question 15	111
3.12. Open ended survey question 16	115
3.13. Student Success Expenditures.....	119

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Graduation rates are of considerable importance to universities because they may be considered a proxy for student success and because they are one of a limited number of performance indicators used by accrediting agencies, Federal, and State Governments to measure the overall quality and performance of these valuable community assets. In fact, because degree attainment is so important to universities and the students they serve, among public universities – defined here as those institutions participating in the Title IV federal student aid program¹ – the accountability measure that has received the most attention is graduation rates (Burke, 2005; Bowen et al., 2009, Cook & Pullaro, 2010).

Formal tracking and gathering of graduation rate data is a relatively recent phenomenon. It was only with the enactment of the Student Right to Know (SRK) and Campus Security Act (Public Law 101-542), in 1990 that the federal government began gathering these data from universities (Gold & Albert, 2006) and it wasn't until 1996 that the data sets were first made public by the Department of Education. The federal regulations guiding SRK require institutions to follow cohorts of first-time, full-time, (FTFT) degree or certificate-seeking students who enter in the fall of a given academic year and graduate within six years of their initial date of matriculation (Cook & Pullaro, 2010). In the United States, the national six-year graduation rate for FTFT students pursuing a Baccalaureate degree was 56% for the 2010 academic year and has hovered around 50% for decades (NCHEMS, 2010).

¹ For additional information on the Title IV federal student aid program:
http://federalstudentaid.ed.gov/about/title4_programs.html

Because students have a finite time within which to complete their studies and have degree attainment count towards an institution's graduation rate, of particular concern to university policy makers are those students, generally known as "extenders" (Volkwein & Lorang 1996; Ma 2010) but identified in this exploratory case study as "Last Milers," who stay in college beyond the fourth and fifth year. While these students invest considerable time and effort accumulating credits toward a degree, they *do not finish* within six years. This study will use a definition of Last Milers similar to Volkwein and Lorang's (1996) definition of "extenders" but differing from their population in two important ways: whereas extenders are students who stay in college or graduate after four years, Last Milers are students who stay beyond five years and do not graduate before the end of their sixth year.

Students who stay in college beyond four years have received limited consideration from scholars, although college administrators, state legislatures, and other policy making groups have been paying close attention to this population for several decades now (Adelman, 2006). Volkwein and Lorang's (1996) study is one of the few peer-reviewed articles in the graduation rate literature that has focused on extenders. Nonetheless, extenders and Last Milers warrant closer scrutiny by scholars, as well as policy makers, as suggested by a 2003 study that reported 6.8% of all the students in the NCES 1995-1996 BPS longitudinal study who began at a four-year institutions seeking a bachelor's degree were still enrolled at that same institution - without having completed their degree - by the end of their sixth year (Berkner et al., 2003). With national graduation rates in the 50% range, this study suggests Last Milers may represent the "low hanging fruit" in our national effort to increase graduation rates.

While the degree attainment literature is replete with studies that consider the effects of student and institutional characteristics as independent variables on the outcome variable of graduation (Tinto, 1975, 1993, 2005; Bean & Metzner, 2005; Bean & Vesper, 1990; Pascarella, Duby, & Iverson, 1983) little attention has been paid to the effect of institutional *policies* on graduation (Asmussen, 2010).

The policy studies on graduation rates that do exist tend to focus on the effect of policies on the early years of the student experience. This is reasonable, since students must be retained before they can be graduated. However, with so little time left to impact student behavior, the fifth and six years of a student's university experience have proven less interesting to scholars, thus studies done on policies that may impact student progress towards graduation at the federal cut point for graduation rates (the sixth year) are few.

Scholarly interest in the early years of the college experience may also reflect certain assumptions: first, the more mature theoretical constructs have shown that students who can successfully navigate the first few years of their university experience are more likely to graduate within six years (Tinto, 1993); second, additional research has shown that those institutions which invest in retaining students beyond the first year are likely to realize higher graduation rates (Bean & Vesper, 1990); and third, the theoretical constructs that apply to early career students may not pertain to the experience of later career students because each passing school year adds more complexity to life. In other words, the longer a student stays in college, the more individualized their experience may become. Consequently, the more individualized nature of the late career student experience may discourage scholars from pursuing this line of research because it is more

difficult to produce findings that are generalizable into the general student population (Asmussen, 2010).

In the public university setting, these assumptions may influence an institution's efforts to retain and graduate the greatest number of students within the desirable six-year period (Ma, 2010) and universities may adjust their policies accordingly. If increasing the potential yield of successful students is a motivating factor in the application of policy interventions, then theoretical scholarship which is thought to help increase that yield – similar to scholarship focused on the early years of the student experience – may be considered more useful by university policy makers. Yet, each university setting is somewhat unique and so the policies that impact retention and degree attainment on a given campus are likely to be unique as well (Sastry, 1997). However, it is reasonable to hypothesize that if the goal of the public institution is to have the highest degree of student success, as manifested by higher graduation rates, then studying the entire six years of the student experience from a policy perspective, while paying special attention to those policies most likely to impact the yield of graduates in the later years, may be warranted.

At Portland State University (PSU), the site of this exploratory case study, the six year graduation rate is low and has been since its founding; the six year graduation rate for the 2004 cohort was 34% (PSU Office of Institutional Research and Planning - OIRP, 2009) as compared to a national average of approximately 56% (NCHEMS, 2010). Although PSU has made much progress in elevating the graduation rates of transfer students, who are the majority at PSU, when it comes to traditional FTFT freshmen – the group that determine national graduation rates – they have not.

Elevating PSU's graduation rate is a top priority of the institution (Wiewel convocation remarks, 2010). Doing so would serve several purposes: 1) it would be evidence of the university's improved effectiveness and programmatic quality; 2) it would improve PSU's national reputation for student support and scholarly excellence; and 3) it would connote an increase in the supply of degreed Oregonians. Such an increase is being demanded by state policymakers who view higher public university graduation rates as empirical evidence of the return on the state's investment in higher education (Oregon Senate Bill 242, 2011) as well as a contribution to the Oregon economy, because degree production is known to correlate with increased income tax revenues (OECD, 2009).

Because this single case study is limited geographically – but includes several cohorts of PSU students sharing the Last Mile experience – understanding the policy setting is critical. In this particular case, a notable condition of the university is that it is in the midst of an episode of rapid change, referred to in the organizational development literature as “punctuation.” This matters greatly to the study since punctuation, or rapid change, may destabilize an organization and disrupt its natural inertia, requiring it to *take corrective policy action* to solve a specific problem before it can reestablish a natural state of equilibrium. Baumgartner and Jones (1991) have developed a theoretical construct that explains this phenomenon and call it Punctuated Equilibrium Theory, or PET. By definition, PET emphasizes the influence of external environmental factors on the ability of the institution to recognize weaknesses or imbalances that may only be remedied by taking steps to either alter external perception or overcome internal inertia to change performance (Sastry, 1997).

When external pressures cause a university to become concerned with an area of great weakness, in this case low graduation rates, while simultaneously experiencing a period of punctuation, as could be the subject of this case, a policy study with the following characteristics may be warranted. First, it investigates whether relationships exist between the graduation rates of Last Milers and factors associated with individual student circumstances. Next, it explores how external expectations may influence the institution in the midst of a period of rapid organizational change – a period of punctuated equilibrium – while measuring the possible effects of new administrative policies targeted at overcoming the organization’s internal inertia and improving an area of great weakness; in this case graduation rates. Finally, it investigates whether there is evidence to suggest these internal policies may or may not have a positive effect on graduation rates when implemented. Figure 1.1 below provides the reader with a conceptual diagram for this exploratory case study.

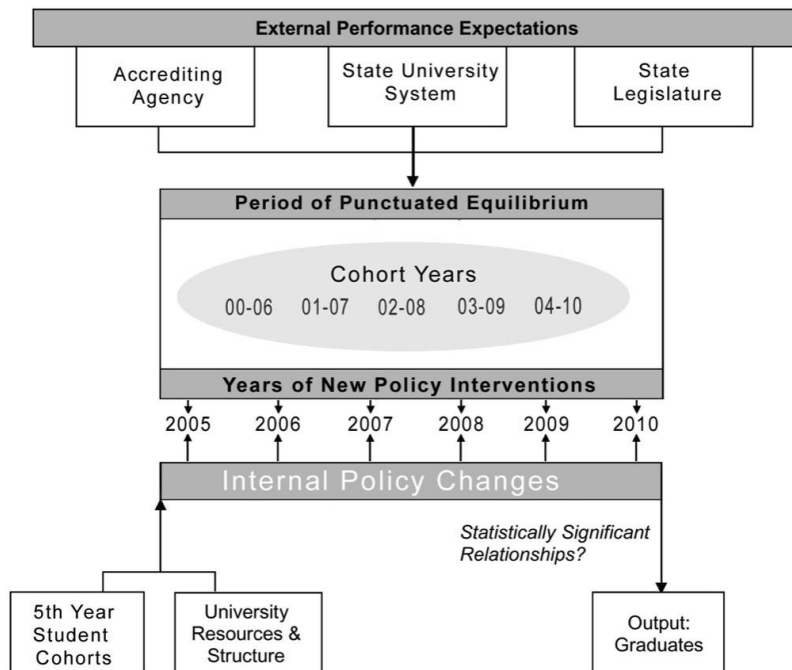


Figure 1.1. *Conceptual Diagram for the study.*

Literature Review

This section of Chapter I begins with a review and synthesis of the extant research addressing university graduation rates as a policy issue. It continues by exploring the literature that applies Punctuated Equilibrium Theory (PET) to university policy making. It then synthesizes the limited literature on “extenders” and “Last Milers” before concluding with a review of the external and internal policy documents related to efforts to improve graduation rates at Portland State University (PSU).

Figure 1.2 displays the logic of this literature review. Initially, the significance of institutional completion/graduation rates is introduced as a policy issue, both at the national and state level, and for society as well as individuals. Since how institutional policy choices may influence the degree attainment of individuals is the overarching focus of this study, both the institution and individual students have been treated as units of analysis. For the purposes of this study, contextual data were collected at the institutional level and characteristic data at the student level. They were then aggregated for the single institution under review.

Following graduation rate literature, the literature on PET is explored. Next, PET is tied to higher education and to the limited research on “extenders” and “Last Mile” students. Chapter I concludes with a review of the internal literature related to improving graduation rates at the case site and an explanation of the overarching claims that underlie the study’s three research questions.

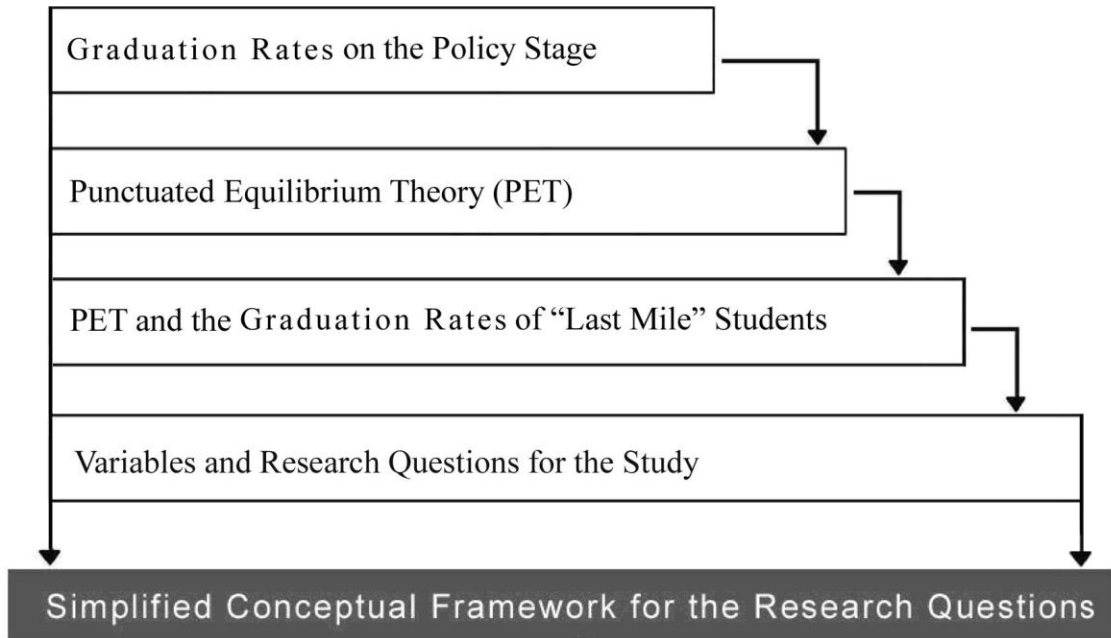


Figure 1.2. *The Conceptual Framework for the Literature Review.*

Graduation Rates on the Policy Stage

Biennially since 2000, the National Center for Public Policy and Higher Education has compiled post-secondary performance data and produced a “report card” showing how well the United States (U.S.) is educating its adults. The most recent report released, *Measuring up – the National Report Card on Higher Education* (2004), affirmed the U.S. was continuing a roughly ten-year drop from its former position as the world leader in college access. On the metric of college completion, the U.S. also lost ground and now ranks 15th among the 29 countries compared in the study.

Although Americans over the age of 35 are still among the world leaders in the percentage who have college degrees, “amongst 25 to 34 year-olds, the U.S. slipped to 10th in the percentage of adults who hold an associate’s degree or higher” (Measuring Up, 2004; p.5). This negative trend is likely to continue since the proportion of younger

Americans entering college, relative to the general population, is also declining and international data from the Organization for Economic Cooperation and Development (OECD) shows the United States is now ranked seventh among nations in the proportion of adults 18 to 34 enrolled in college (OECD, 2009).

U.S. policy makers are justifiably concerned. In his February 2009 address to a joint session of Congress, President Barack Obama (2009) warned, “In a global economy where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity - it is a prerequisite” (as cited in the Congressional Record, 2009). In a different speech, President Obama offered empirical evidence for this claim; “Of the 30 fastest growing occupations in America, half require a Bachelor’s degree or more. By 2016, four out of every 10 jobs will require at least some advanced education or training” (as cited in the Congressional Record, 2009).

The President contextualized this claim by using it to illustrate a future where the *lack* of American college graduates prepared for global economy jobs would be tantamount to a national “prescription for economic decline” because “the countries that out-teach us today, will out-compete us tomorrow” (as cited in the Congressional Record, 2010). As evidence of the significance the federal government places on graduate rates and higher education policy, these speeches were notable for the forcefulness with which the President correlated college completion with national competitive advantage.

In the research literature, there is ample evidence for this policy perspective. For example, in *Crossing the Finish Line: Completing College at America’s Public University*, Bowen et al. (2009) used national datasets to illustrate how critical educational attainment is to the health of American society. While acknowledging the

perception that American colleges and universities are generally known for providing a high quality education, the authors concluded that President Obama's call for "good education" may really be a euphemism for addressing the "crisis of completion" happening in higher education today. In fact, they went further to argue for a causal link between quality education, college degree completions, the formation of human capital, and national "productivity" (Bowen et al., 2009).

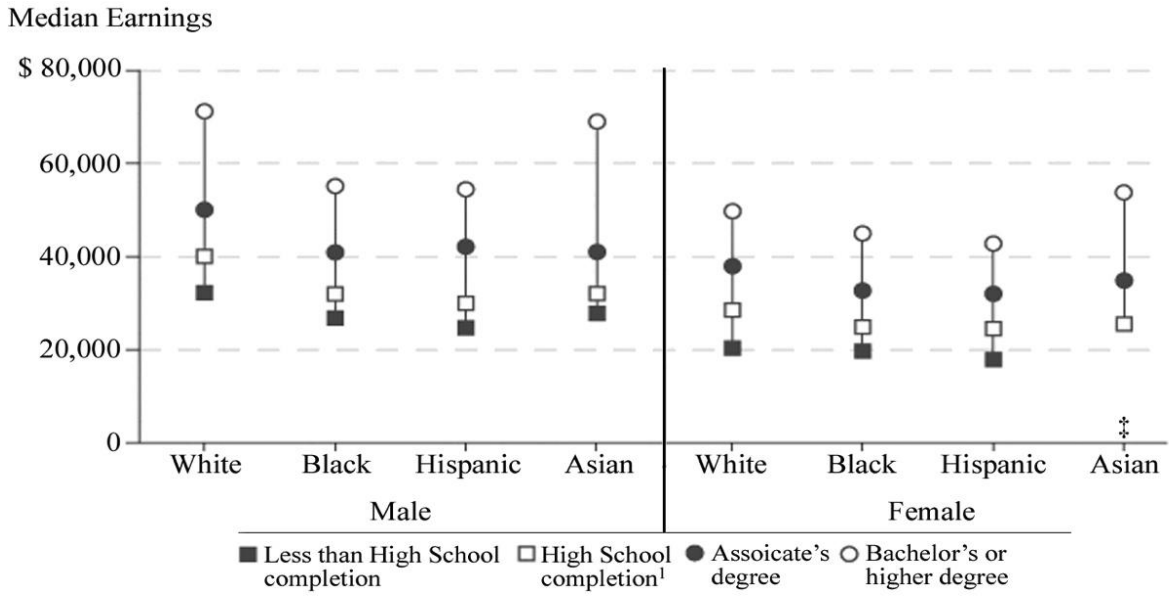
A focus on graduation rates is also evidence of *evolving* federal policy. In 2006-07, the Bush administration's Secretary of Education, Margaret Spellings, established a national commission to examine the costs and quality of postsecondary education. Two themes among the many identified in the final report have bridged the Bush and Obama agendas to become standing policy issues: 1) student persistence; and 2) degree attainment in post secondary education. In an unprecedented use of federal power, Secretary Spellings attempted to draw attention to these two areas by applying the findings of the commission to an effort to coordinate disparate accreditation processes used around the country. She argued that standardization of the accreditation process was a necessary step towards improving the overall quality of public higher education, while making it more accountable to tax payers. Ultimately, Secretary Spellings was unable to standardize the accreditation process; nevertheless she did succeed in publicizing her concerns about postsecondary education quality in general and graduation rates in particular (Bontrager, 2008).

Picking up where the Bush administration left off, President Obama (2010) has set new targets for American higher education; namely, to ensure an additional 5 million Americans complete degrees and certificates in the next decade. Couched in the rhetoric

of economic development and national security, Obama's American Graduation Initiative, if successful, will ostensibly return the United States to its former position as the country with the "highest proportion of college graduates in the world" (as quoted in the Congressional Record, 2010). To meet this goal, students participating in the American Graduation Initiative must do more than simply enroll and be retained by colleges and universities; they must also complete a degree. This emphasis on degree completion suggests the trend toward tracking graduation rates may be the operational outcome of a major new national value statement; a value statement that has assumed a prominent place on the federal policy stage.

A recent study by the Organization for Economic Cooperation and Development, *Education at a Glance*, places the President's initiative in an even broader context. This annual report is useful to American education policy-makers because it enables them to use internationally agreed upon indicators to compare the performance of the U.S. higher education system to that of other OECD member countries. *Education at a Glance* provides evidence for the necessity of degree attainment by "examining the quality of learning outcomes, the policy levers and contextual factors that shape these outcomes and the broader private and social returns that accrue to investments in education" (OECD, 2009; p. 2).

These "broader private and social returns" are important success indicators that accrue to the individual as well as to society. For example, as Figure 1.3 shows, the financial returns of a degree can be substantial, regardless of race, ethnicity, or gender.



SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2008.

Figure 1.3. *The median annual earnings of full-time, full-year wage and salary workers ages 25 and older, by sex, race/ethnicity, and educational attainment, 2007.*

While a degree confers financial benefits on the individual, society in general is a beneficiary of degree attainment as well. For example, on average across all OECD member countries, the net return on public expenditures for providing a university education to a male student is in excess of \$50,000. This is almost twice what it costs the public to educate a male student in the U.S. higher education system. In Oregon, the site of this exploratory case study, University of Oregon President Emeritus Dave Frohnmayer recently added his own regional perspective on the social/financial benefits of educational attainment when he opined that “significantly increasing Oregon’s educational attainment levels is indispensable to the state’s economic and cultural health” (Frohnmayer, 2009; p. 28).

Because increasing the number of students who graduate from public universities is an important national and state policy objective, a tremendous amount of scholarly

attention has been paid to this topic. In order to better understand this work, I turn now to a review of the theoretical literature associating student and institutional factors with graduation rates.

Impact Theory and Graduation Rates

Student retention and graduation rates are linked phenomena that have been studied extensively in higher education literature. For example, beginning in 1975 with the publication of *Dropout from Higher Education: A review and theoretical synthesis of recent research* and a book on the topic: *Leaving College*, Vincent Tinto (1993) has labored to elevate student retention research to the prominence it now enjoys. His Student Integration Model (1975, 1993) was one of the first attempts to develop a cohesive theoretical framework that adequately explained the relationship between background variables, in particular psychological variables, and student persistence behavior. Tinto's aim was to "lay out a detailed longitudinal model that made explicit connections between the environment, in this case the academic and social systems of the institution and the individuals who shaped those systems, and student retention over different periods of time" (Tinto, 2005; p. 2).

The Tinto model has been the most widely researched among persistence frameworks. Studies at a variety of institutions using diverse populations of subjects have developed measures for the concepts in Tinto's student integration model and found support for his underlying theory (Pascarella and Terenzini, 1980, 1983; Pascarella and Chapman, 1983; Pascarella, Duby, and Iverson, 1983; Terenzini et al., 1985; Volkwein, King, and Terenzini, 1986; Nora, 1987). But Tinto has not been working in a vacuum

and the basis for his theoretical model owes much to the efforts of Durkheim (1897) and Spady (1971).

Émile Durkheim, (1897) a French philosopher and sociologist is best known for his social integration work on the topic of suicide. His research led him to theorize that some people took their own lives because they did not share the values of the social group with whom they identified, and thus went through life unsupported by a network of family, friends and acquaintances. Building on this work, Spady (1971) adopted and adapted Durkheim's theory to describe student behavior as it related to university persistence. Responding to Spady (1971), Tinto went even further, linking the concepts of academic and social integration and applying them to the university student experience. The model he created helped reveal the degree to which a "best fit" between a student's characteristics and an educational institution's environment affected persistence and/or withdrawal.

The student data Tinto gathered supported an integrated theory and a predictive model of student dropout behavior based on a set of background traits. His theory posited that students enter university with a range of previous school and family experiences which help establish their level of commitment towards persistence and graduation. While at university, a student's decision to stay or leave is determined by the degree to which they are able to integrate academically and socially to meet educational goals and institutional commitments. With all other factors being equal, the greater the student's level of social and academic integration, the greater their commitment to the institution and to the goal of college graduation will be. These commitments, when

combined with the level of integration a student experiences while in the institution, have proven to positively influence persistence (Tinto, 1975).

Tinto (1993) continued to improve this integration model and in his book, *Leaving College: Rethinking the Causes and Cures of Student Attrition*, he drew on the work of the Dutch anthropologist, Arnold Van Gennep (1960) to offer an additional explanation for the dropout process: failure to manage university “rites of passage.” In this refinement of his original theory, students stay in school if they are able to disassociate themselves psychologically from their family and high school friends and involve themselves in the activities of the university. To do this successfully, they must conform to the norms of their student peers and faculty, thereby committing themselves to adopting values and behaviors that may increase their likelihood of academic success and graduation (Tinto, 1993).

An alternative to Tinto’s model is one developed by John Bean and Barbara Metzner (1985). Their Student Attrition Model hypothesizes that student beliefs about their college experiences affect their intention to stay and their subsequent persistence to graduation. This model recognizes the influence on retention of factors external to the institution, something many researchers found missing in the Tinto model (Bean & Metzner, 1985). In an early paper, Bean and Metzner studied the older, part-time, and commuter students that comprise an increasingly larger proportion of college student bodies; the group most like today’s urban university student. Unlike the more traditional students in the early Tinto studies, the reasons these students dropped out of school were not well understood.

Bean and Metzner (1985) defined the non-traditional undergraduate student, described the rise in non-traditional enrollments, and developed a conceptual model for the attrition process of these students. In a departure from Tinto, they concluded that the chief difference between the attrition process for traditional and non-traditional students is that non-traditional students are more susceptible to the influences of external environmental factors than they are social integration factors. Hence variables such as jobs, children, transportation, and housing are much more likely to play a role in the academic success and degree attainment of non-traditional, than traditional, students.

More recently, Bean and Vesper (1990) also found a limited number of environmental, personal and organizational factors influenced dropout decisions and that family approval, an environmental factor, exerted both direct and indirect effects on student persistence (Bean 1980; Bean & Metzner, 1985; Bean & Vesper, 1990; Metzner and Bean, 1987).

Two other theories that have had a significant influence on the field of graduation rate studies are Pascarella's (1985) assessment model and Astin's (1993) I-E-O model. Pascarella (1985) developed an approach to assessing the differential effects of institutional environments on student learning and cognitive development. Pascarella and Terenzini (2005) refined this model and suggested it might also be used for other student outcomes, such as degree attainment. The Pascarella model was singular in the way it organized clusters of variables that affect graduation rates. It differentiated institutional characteristics from the internal environment and hypothesized that this environment had a direct and indirect effect, influenced by interactions with student peers and faculty, on a

student's effort; however, they defined the concept of institutional environment more narrowly than Astin's (1993) I-E-O model.

Astin's (1993) model explained how institutions with the same inputs (I), such as similar student characteristics, were environmentally (E) influenced, such that they produced different outputs (O) like graduation rates. This model helped scholars derive statistical models that could help predict the effect of the internal environment on graduation rates, by controlling for the effects of inputs.

Because the I-E-O model limits its definition of inputs to student characteristics, the model is not able to allow for the potential influence of external factors such as state funding and legislative mandates on outputs such as graduation rates. By comparison, this is the strength of the work of another research team, Berger and Milem (2000) who theorized the structural and demographic characteristics of institutions may influence student persistence and degree attainment. The model they eventually constructed considered the effects of institutional size, selectivity, location (rural vs. urban), control (private vs. public), and institution type. Furthermore, it stressed the importance of measuring the student experience in three functional areas: the academic, the social and the administrative.

The particular utility of the Berger and Milem (2000) model is that it combines the social integration of Tinto (1975, 1993) with the student involvement of Astin (1993) and adds the influence of interactions with administrative units and campus policies, rules and regulations. The Berger and Milem model may be the first integrated model with such an emphasis on policy. Since policies, rules and regulations, along with the

allocation of resources, are an expression of institutional resolve, or essentially the “how to” of improving graduation rates, I consider this literature next.

University Policy and Graduation Rates

Policy as defined here is “a set of ideas or a plan of what to do in particular situations that has been agreed upon officially by a group of people, a business organization, a government or a political party” (Cambridge University Press, 2012). Since policies are plans and plans embody the will of the institution, as they relate to the aims of this study it is important to understand their purpose in the university context and their potential for improving graduation rates. Policies are best found in the archives of university systems and the individual institutions they serve. Given the desire for improved graduation rates and the necessity for tracking them, both at the system and the institutional level, many degree attainment scholars have looked at policy interventions.

According to Titus (2006) the place to begin when exploring the efficacy of using university policies to improve graduation rates is to investigate expenditures from a resource dependency perspective. For example, in a 2006 study of students with low socioeconomic status, he found that graduation rates correlate with education and general expenditures per FTE (full time equivalent) student. In addition, the effect of resource allocations on graduation rates can be found in the work of Scott (1995), who also used a resource dependency lens to view how external financial inputs (such as legislative funding, university system funding) influence internal resource allocation policies directed at improving graduation rates.

Other studies have found inconsistent, though statistically significant, relationships between expenditures and graduation rates (Astin, 1993; Kuh, et al., 2001;

Ryan, 2004; Smart et al., 2002). Astin (1993) found that expenditures for *student services* were positively correlated with graduation; however Ryan (2004) was unable to replicate these findings. Instead, he found that expenditures on *academic support* and *instruction* were positively correlated with graduation rates. Kuh, et al. (2001) on the other hand, combined data from the College Student Experiences Questionnaire (CSEQ), the U.S. News and World Report and the Integrated Postsecondary Education Data System (IPEDS) to demonstrate a positive correlation between graduation rates and expenditures on *academic support*, *instruction*, and *research*. While tracking internal expenditures may be a fruitful method for understanding the relationship between institutional allocation policies and graduation rates, studying financial aid distribution, which is both an external and an internal factor, may prove even more efficacious.

Financial aid is probably the most common policy instrument universities use to recruit and retain students. However, it is only recently that studies have shown a correlation between financial aid and the likelihood of graduation (e.g., DesJardins, Ahlburg, & McCall, 1999; Singell & Stater, 2004). In an older, but still interesting, study St. John (1990) used a representative sample of households in the 1980 High School and Beyond (HSB) survey and found that loans, work study and grants all increase enrollment, retention and graduation for low income students but that financial aid, in the form of grants, had the largest effects.

When I look at internal university documents related to improving graduation rates, I find a rich body of policy literature. For example, at the University of Minnesota, improving graduation rates has long been an institutional goal, so much so that a

Retention Subcommittee of the Council of Undergraduate Deans formed in 2001 to study the issue. Some of the policy recommendations that emerged from this committee were:

- A new student communication policy intended to maintain more constant contact with students.
- A time to degree audit policy for each major.
- New financial incentives/sanction policies meant to force colleges to examine their graduation rates and develop college-specific strategies that could improve these rates while remaining consistent with the culture of the college.

This retention subcommittee also recommended the university implement new policies that would add additional costs for students who reduced their credit loads below a certain threshold or conversely, charged students less per credit if they registered for more than a full load (Xie, et al., 2005).

Still other universities have chosen to manipulate student persistence behavior through the use of progress policies. For example, the University of California at Berkeley has a strict academic progress policy that requires students to complete 30 semester credits per year. Students who stay enrolled beyond eight semesters may not continue to attend classes beyond the semester in which they complete their 130th credit. Conversely, students who wish to register for less than 13.5 credits in any semester can only do so with the permission of their dean. While clearly not appropriate for all public universities, such tight academic progress policies have certainly worked well for U.C. Berkeley; the six year graduation rate for their fall 2004 cohort (graduating in 2010) was 91% (University of California Berkeley - Common Data Set, 2010-11).

Additional support for academic progress policies comes from Adelman (1999) whose research showed that policies which permit unwarranted “no-penalty” course withdrawals and “no-credit” course repeats may promote extender behavior and squander limited financial aid resources without helping a student progress towards graduation. Conversely, Adelman (1999) also found that universities which limit “no-penalty” course withdrawals and “no-credit” course repeats may actually encourage greater selectivity on the part of students and strengthen their commitment to doing their best in the courses in which they do enroll.

In regard to Last Mile populations, some universities are beginning to pay more attention to policies that affect retention in the latter years of the student experience. In some cases, this may be a response to students leaving late in their academic programs (Xie, et al., 2005) or students choosing to extend their programs (Voklwein, 1993). At the University of Minnesota, administrators have enacted policies that help address issues for juniors and seniors, such as requiring special seminars and providing more scholarships and other aid programs for students who have completed at least two years of classes. This program also requires a special transcript review to ensure a student is on track for graduation before their sixth year (Xie, et al., 2005).

As universities strive to develop and apply new programs and policies to improve their graduation rates, they may find the exemplars listed above helpful, however as this review of the literature has demonstrated, graduation rates are affected by a variety of factors, as evidenced in the theoretical frameworks described previously. Considering policy approaches in the light of such frameworks is examined next.

While Tinto's Social Integration (1975, 1993), Bean and Metzner's Student Attrition (1990), Pascarella's Assessment (1985), and Astin's I-E-O Models (1993) have proven their value as theoretical frameworks for considering the effects of student and institutional characteristics on retention and graduation rates, Berger and Milem's (2000) model of student interaction with functional units, campus policies, rules and regulations suggests an alternative approach for policy studies in these areas. Moreover, because these theoretical constructs have been applied to "steady state" institutions, it may prove useful to combine the functional approach of Berger and Milem (2000) with organizational policy theory in order to explore how student persistence and graduation rates are effected in institutions experiencing "punctuations" in their natural state of equilibrium.

In just such a case, this study hypothesizes that a public urban university undergoing a period of punctuated equilibrium may respond by creating new policies intended to address their greatest vulnerabilities. At Portland State University, this is the case (Wiewel, 2010). Since Last Milers are the beneficiaries of large state investments and are so close to achieving graduation - which represents the state's return on this investment - it may make sense for PSU to consider the unique needs of Last Milers and possible policy interventions specifically targeted at this group. The rationale for doing so is that integration and attrition theories that consider the effects of student and institutional factors on graduation rates may help explain the institutional context and behavior of students who leave post secondary institutions in the early years, (Tinto, 2005; Bean & Metzner, 1985) but theory more directly involving policy (Berger &

Milem, 2000; Sastry, 1997; Ma, 2010) may provide more helpful insights for exploring the institutional context and behavior of Last Mile students.

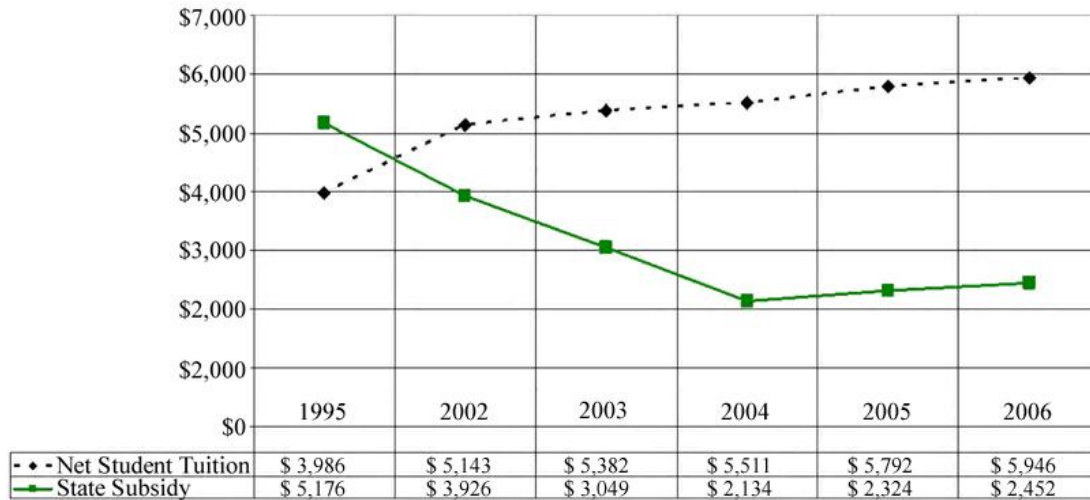
Punctuated Equilibrium Theory

Today's public urban universities are suffering through a period of retrenchment necessitated by a series of external changes to forces that direct their operations, including: adjustments to how they are funded; increased demand for their services; and increased competition from other public services that are paid for from the same state tax base (Lariviere, 2010). As a result, most public universities are trapped in a state-driven economic model that is resulting in a slow downward spiral of disinvestment in their core instructional capacity. Hence, public higher education has "grown less public and more private" (Mortens, 2010, p. 13). According to the Delta Project (2011), a national effort to improve college affordability by controlling costs and improving productivity, these are the new norms for public universities:

- there has been a shift away from public funding and most of the new money in higher education is coming from increased tuition and fees, private gifts, and grants and contracts;
- students are paying an ever-increasing share of the educational costs in public universities, up from 33% in 2002 to nearly 50% in 2008; and
- nearly all of the revenue generated by student tuition increases has been used to offset revenue losses from other sources; primarily state appropriations.

When state support crosses the less than 50 percent threshold and student tuition and other income sources become the dominant funding streams, then the question of whether an institution is still a public university serving public purposes becomes significant

(Mortens, 2010). As Figure 1.4 illustrates, Portland State University crossed the less than 50 percent threshold ten years ago and has thus been impacted by a change in the external environment beyond its control.



Source: The Delta Project on Postsecondary Education Costs, Productivity, and Accountability:
www.deltaproject.org

Figure 1.4. *The decline in state support for education related expenses versus the increase in tuition (excluding fees) per full time equivalent student at PSU; in inflation adjusted dollars.*

According to Eldredge and Gould (1972) such changes may trigger internal responses that overwhelm the equilibrium which is the natural state of the institution. Such events and the reaction they engender may act upon the “deep structure” of the organization (Tushman & Romanelli, 1985) and represent evidence of an organizational punctuation. The sequence is:

- Step one: profound external change;
- Step two: acting on the deep structure of the organization;
- Step three: overcoming the institution’s internal equilibrium;
- Step four: necessitating an institutional response.

This sequence is consistent with the tenets of Punctuated Equilibrium Theory (PET) (Baumgartner & Jones, 1991), since it shows how an event can trigger rapid change.

At its root, PET is an adaptation of Charles Darwin's (1859) theory of evolution which hypothesized most species change little over geological time, tending to remain in a stable condition; a steady state of equilibrium. However, this steady state can occasionally be "punctuated" by brief periods of intense activity that trigger a change in speciation. This contrasts with evolutionary theory, which theorizes that species change gradually over time (Eldredge & Gould, 1972). As an organizational development theory, PET can help explain two tendencies in the public policy sphere: (1) the tendency for large institutions to exist in a stable and steady state – conditioned by their deep structure – changing only periodically and gradually; and (2) the occasional tendency for these steady state institutions to experience "punctuations" brought on by rapid, sudden, and dramatic change (Baumgartner & Jones, 1991).

Action upon the deep structure of an organization is a key condition of PET. According to Tushman and Romanelli (1985), organizational deep structure is comprised of five elements: (1) core values and beliefs; (2) the strategies that engender basic organizational priorities; (3) the distribution of power; (4) organizational structure; and (5) control systems. Gersick (1991) described deep structure "as a system of interrelated organizational parts that is maintained by mutual dependencies among the parts and with competitive, regulatory, and technological systems outside the organization that reinforce the legitimacy of managerial choices that produced the parts" (Romanelli & Tushman, 1994, p.1144).

After deep structure, the second key condition of PET is equilibrium. Gersick (1991) used a sports analogy to describe these periods and said that “if deep structure may be thought of as the design of the playing field and the rules of the game, then equilibrium periods might be compared loosely to a game in play” (Gersick, 1991, p. 16). The deep structure of an organization connotes a stable playing field bounded by clearly defined fences and well trod base paths, with equilibrium as “a state in which opposing forces or influences are balanced.” However, this deep structure can be punctuated by periods of dynamic tension, when the game’s outcome is in doubt.

Similarly, periods of equilibrium for institutions are those episodes in the life of an organization when the refinements and incremental changes that systems require take place and keep the organization in balance as they work to achieve the goals that emerge from their deep structure (Gersick, 1991). Besides deep structures and periods of equilibrium, the third major element of PET is the punctuation, or what Gersick (1991) termed the “revolutionary periods,” which become the moments of dynamic tension.

Since resistance to change is a fundamental premise of PET, for the institution to change it often cannot do so gradually or by incremental steps, it can only do so as a result of complete upheaval. Thus, for change to occur, something must first happen to dismantle the deep structure, leaving the system temporarily vulnerable, before a revolutionary period can occur. When this vulnerability occurs, the system – which naturally desires to move towards equilibrium – will combine some of the old elements of the deep structure with newly introduced pieces to form a different type of organization that functions according to a new set of rules (Romanelli & Tushman, 1994).

As might be expected, given its biological roots, the use of PET by higher education scholars began with applications in the sciences (Gould, 1989), psychology (Lenvinson, 1986) and sociology (Kuhn, 1970). Gersick (1988, 1989, and 1991) has done the most to test the efficacy of PET on the different levels of organizational development and as a relatively new theory, scholars are just beginning to apply PET to specific industries, for example: the cement industry (Anderson and Tushman, 1990), computers (Loch and Huberman, 1999; Romanelli and Tushman, 1994); savings and loans (Haveman, 1992), banking (Fox-Wolgramm et al., 1998), and airlines (Kelly and Amburgey, 1991).

The application of PET to higher education was first undertaken by Sastry (1997). Her punctuated change model emphasized the influence of the exo-institutional environment on the ability of universities to recognize poor performance; recognition being the first step to initiating any type of organizational change. Sastry's model posited the force of internal inertia holds a university's deep structure constant for as long as this performance level is perceived as appropriate - externally. In her model, equilibrium is the steady state that naturally exists when the external perception of organizational performance matches the organization's actual performance. When organizational imbalances do happen, they can only be remedied by either: altering external perception, or by overcoming internal inertia to change performance. If internal inertia is overcome and changes do occur, as soon as the change has become established, internal inertia is quickly reestablished to hold performance steady again, returning the organization to the desired state of equilibrium (Sastry, 1997).

As an industry, higher education is rich in examples of historical instances where PET may apply, for example:

- The founding of public land-grant universities for the “education of the children of the industrial class,” initiated by the Morrill Act and signed into law by President Lincoln in 1862 - in the midst of the Civil War (Severino, 1996);
- The post-World-War-II GI bill, which led to a massive expansion of American universities (1944 Guide to the Records of the U.S. House of Representatives);
- The increased emphasis on science education and research in the U.S. triggered by the Soviet launching of Sputnik in 1957 (Douglass, 1999).

Although PET is a new theory, some empirical evidence exists to support its principles. For example, the organizations to which this theory has been applied have typically experienced their periods of punctuation, altered their systems in response, and completed their organizational transformations within two years. Where the transformation took longer, in all cases studies showed the process was complete within five years. Also, in their study of punctuations in the computer industry, Romanelli and Tushman (1994) found no evidence to suggest the changes they were observing were the result of a series of small changes accreting over time. Instead, their research supported the key argument of PET that organizations undergoing a revolutionary period (to use Gersick’s 1991 term) do not change incrementally. Finally, these studies found that punctuations were driven by exo-institutional forces, in most cases a change in environmental conditions and a succession of chief executive officers.

Changes in chief executive level leadership often trigger punctuations. This may be because new chief executives come into office with a desire to establish their agenda and in the process may challenge at least three of the five components of deep structure, through a re-distribution of power as well as changes in the organizational structure and in strategic priorities. When this happens, organizations may respond by acknowledging operational ground rules have changed and that either the old ways of doing business are no longer acceptable, or there is a new opportunity to force through changes that have been previously viewed as too radical. In both scenarios, the result is punctuation in the equilibrium of the organization.

Tushman and Romanelli (1985) found the succession of a chief executive officer, even when all other factors remained constant, was enough to overcome institutional inertia and trigger punctuation because “fundamental organizational transformation requires not only a vision of the type of transformation that will promote organizational interests but also an opportunity for instigating transformations” (Romanelli & Tushman, 1994, p.1145). Thus a change of executive leadership can create an opportunity for transformation.

Bate (1994) also found the period *following* a punctuation can be very productive. For example, it is during this period of disequilibrium that new ideas may evolve and new ways of doing business emerge (Gold, 1999). Often in hierarchical organizations such as universities, these changes to the deep structure occur at the highest administrative levels, or within groups with the strongest vested interests (such as the faculty) and then “trickle down” to the lower echelons where employees are on their own to figure out how these changes may impact their work. This is an example of how external performance

pressures, whether real or imagined, can become a force for change in an organization (Tushman & Romanelli, 1985). Changes to the external environment that threaten an organization's ability to acquire needed resources is another common scenario with the "potential to punctuate equilibrium" (Gersick, 1991, p. 21).

Responding to punctuation may also be a matter of organizational perspective. In other words, if an institution feels external changes are serious enough and change is supported by the agenda of new executive leadership, the institution may respond by beginning the collective soul searching necessary to enact changes to its deep structure. For that reason, when an organization is undergoing a crisis, it may use this crisis as a catalyst for change and initiate a contingency response. When this happens, core values and beliefs may be called into question so that other elements of the deep structure can be changed (Fidler, 1998; Deal & Kennedy, 1982).

PET and the Graduation Rates of "Last Mile" Students

Portland State University is an organization that appears to be undergoing an extended period of disequilibrium due to the changes in the state-supported funding model described above. These external changes are beyond the control of the institution and appear to be triggering a classic punctuated equilibrium response. Under the leadership of a new president and other senior leaders, PSU also appears to be overcoming its institutional inertia and beginning to focus on internal weaknesses that must be corrected before it can reestablish its equilibrium and reset itself as a sustainable new organization. While going through the metamorphic stage, PSU would do well to heed the advice of at least one scholar and consider allowing itself an extended trial period, where new policies and procedures are allowed to establish themselves without

fear of further change, at least during the reset period (Sastry, 1997). Interpreting this management response through a PET lens allows the researcher to better understand how key institutional objectives – such as improved graduation rates – can be achieved and then maintained, however such a theoretical construct is worthless without a better understanding of Last Milers themselves.

Last Milers do not fit neatly into the graduation rate literature. In fact, the term Last Miler itself does not appear in the literature. The term more commonly used to describe students who persevere into the fifth and sixth years is “extenders.” What little is known about extenders is due to the work of Volkwein (1993), Volkwein and Lorang (1996), as well as Ma (2010). One study found there are two types of extenders: vocational and collegiate. Vocational extenders share the following characteristics: they have higher levels of financial need and loan indebtedness; they are more likely to need paid employment in order to cover their expenses, and they are more likely to have low grade-point averages (GPA). Collegiate extenders are defined as students who choose to enroll for fewer credits because they desire more free time. They may also be students who choose to drop one or more courses after the beginning of the term because they feel they are too difficult, or because they want to protect their GPA (Volkwein, 1993).

Ma’s (2010) study of extenders found their behavioral patterns differed greatly from graduates. For example, extenders tend to enroll in fewer terms over their first three years and in their fourth year take fewer than 12 credits per term. These results confirmed Volkwein and Lorang’s (1996) findings that extenders complete fewer than 15 credit hours per semester² for multiple semesters. Duby and Schartman (1997) also

² Students taking 15 credit hours are considered full time students in a university on the semester system whereas students taking 12 credit hours are considered full time for universities on the quarter system.

found that students who take lower course loads in their early years of college tend to take longer than four years to graduate.

The literature on late dropouts or on dropouts who leave the institution after four years is scarce, however Berkner, et al., (2003) in research using data from the NCES 1995-96 longitudinal study, found that only 2% of all beginning baccalaureate students in four-year institutions left their original institutions in the fifth and sixth years. This would seem to imply that students who reach the fifth and sixth year of enrollment at one institution are likely to complete their college career at that same institution. This also suggests that while the student experience during these latter years is unlikely to have an effect on a student's persistence – which has already been established – it may have an effect on their graduation rates.

In a study limited to the academic performance of extenders, Desjardins and Pontiff's (1999) looked at a sample of 2,077 students who left a large public research university within eight years of matriculation; they termed these students "leavers" and contrasted them with 2,945 students who remained enrolled or had graduated within eight years from the same institution; a group they labeled "stayers." They learned that nearly 60% of the leavers had GPAs below 2.0 when they left the institution after two years, about 25% left after at being enrolled for four years and 13.5% of their sample frame had earned a 2.4 GPA when they left the institution in the fifth or sixth year. While the fact that late leavers had higher GPAs than the early leavers is interesting, what is most germane to *this* exploratory case study is their finding that most leavers did not drop out in order to attend another institution.

Ma (2010) in a study on the three outcomes of six-year graduation, late dropout, and extended enrollment drew the following five conclusions: 1) college major and GPA had strong impacts on the studied outcomes; 2) student demographics and financial aid, do not have significant direct impacts on graduation within six years; 3) students with high SAT Math scores are more likely to extend their enrollment or even dropout than are peers with lower SAT Math scores; 4) students who major in a science field in the fourth year are more likely than their peers in other fields to be late dropouts or extend their enrollment beyond six years; and 5) receiving a higher amount of private and athletic grant support in the fourth year correlates with a greater likelihood of late dropout.

Finally, in a study of leavers and persisters, Xie (2005) found no significant differences in either gender or ethnicity between these two groups. However, leavers and persisters did have significant differences in the frequency with which they experienced academic and financial holds. Leavers had more records of academic probations, and suspensions than persisters; 41.7% of leavers had academic probation records and 24.1% had suspension records, while the proportions for persisters were 26.3% and .3%. The two groups were also different in their proportion of financial holds; 39.2% of leavers had financial hold records while the proportion for persisters was 24.8%.

Holds, of both the academic and the financial variety, are just two examples of the types of internal policies that can affect the college experience of extenders and Last Milers. Other internal policies can be impactful as well. In order to understand the effect of such policies on the subject of this exploratory case study, I consider PSU's body of internal policy literature next.

Graduation Rates and Policy at Portland State University

As a “third wave” institution³, founded in 1946 to serve returning veterans, PSU has always been a creature of the state, chartered and primarily funded by the state, to serve state purposes. These purposes have remained constant over time: to provide access to a publicly subsidized college education for place-bound students of all types in the Portland metropolitan region, where one-third of the state’s population resides.

From 1946, until new legislation made it a state college in 1956, the education PSU provided was largely vocational. This met the needs of returning veterans – many of whom had families – because under the vocational education model, academic work need not be a full time pursuit for most students and could be juggled with personal, family, and work responsibilities. By serving veterans, PSU’s access mission also served the needs of the regional business community. James T. Marr, secretary of the Oregon chapter of the American Federation of Labor (AFL) expressed the view of the Portland metropolitan business community at the time, when he remarked, “We want a school where children from working families can go to school and work part of the time” (Dodd, 2000, p. 53).

During the period 1956 to 1969, the educational focus shifted to serving undergraduates and in 1969, when PSU finally became a university, nascent graduate education and research opportunities became available to students as well. However, graduate courses were limited to interdisciplinary degree programs that were not considered duplicative of existing programs at the University of Oregon and Oregon State

³ First wave Universities were established in country towns to serve rural interests from 1750-1862. Second wave institutions – known as land grant universities - developed when President Lincoln signed the Morrill Act in 1862. The “mission of these land grant universities was still primarily a rural one, namely to improve agrarian techniques and farm production” (Severino, 1996, p. 298).

University. This emphasis on interdisciplinary programs made strategic sense for the new university: first, because these programs did not compete with existing programs at the land grant institutions, and second because they could be sold to the state legislature as applied education that addressed a need voiced by the community.

In his opening convocation address to the faculty in September 1974, President Joseph C. Blumel began to clarify this relationship to the community by expressing the “urban nature” of PSU. The use of this phrase described an institution not only intended to serve place-bound students in a location that could contribute to their education outside of the classroom, but also a university whose research interests were focused on urban problems (Dodd, 2000). This was the beginning of PSU’s self image as a “city-grant” university; a city grant university that differed from its counterparts by “bringing the maximum of its resources to bear on the urban community with a total impact somewhat akin to that which the land-grant college had on rural and agricultural life and economy” (Dodd, 2000, p. 174). With this newly articulated urban mission came a relatively harmonious, well regulated, and stable relationship with the legislature for as long the state’s economic health allowed for the adequate support of higher education in Oregon.

1990 was a transformative year for Oregon and a seminal year for the study of graduation rates at Portland State University. The Student Right to Know Act and Ballot Measure Five combined to create the regulatory conditions and financial need for a coordinated approach to monitoring and improving (if they could) PSU’s singular weakness; its graduation rates. These early studies were coordinated by Dr. Mary Kinnick and their research objectives were clear:

We wanted to know more about entering students, non-returning students and graduates, and about how our retention and graduation rates compared with those of similar public urban universities. We needed information on the impact of current university policies and practices, and how they facilitated or limited the progress of specific sub-groups of students. We also wanted information on the effectiveness of interventions used at other universities. We were concerned however, that solutions be designed for our institution, rather than imported wholesale from another university. (Kinnick & Ricks, 1993; p. 8).

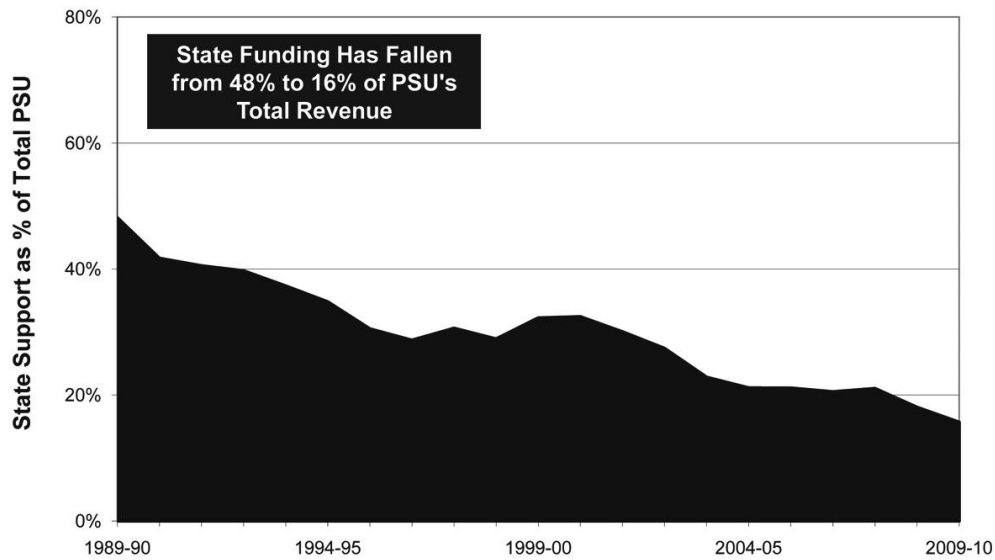
Also in 1990, “new accreditation standards, federal reporting requirements and the State fiscal crisis combined to increase the demand for information about retention and student success” (Kinnick & Ricks, 1993; p. 18).

At the time of the Kinnick studies, approximately half of PSU’s 15,000 students attended on a part time basis; with 10% of students living on campus, while the remainder commuted. The average age of undergraduates was 27 and of graduate students 36 (Kinnick & Ricks, 1993). There were very few traditional first time freshmen, and the six year graduation rate hovered around 32%. This situation was virtually unchanged from the 1970’s when PSU’s Office of Institutional Research and Planning (OIRP) began using cohort survival methods to produce periodic reports on student attrition. Analysis of FTFT freshmen at this time showed a graduation rate that remained close to 30% during this time period.

On occasion, students who had left the institution just shy of graduation were surveyed by OIRP to try and determine why they had left before completing their degree. The outcome of these surveys tended to support the historical perspective that students:

1) left PSU early because they could not work and manage their family obligations while attending school; and 2) when forced to eliminate one responsibility, they chose to eliminate school. As applied research, these surveys and studies were difficult to relate to policy change because they began with the assumption that an urban university, with a student body made up of non-traditional students, was so different from more traditional institutions that graduation rate comparisons were nearly meaningless. Also, at the time they were done, a meaningful comparison may not have seemed crucial to university leadership since PSU identified (and was identified) with its access mission and low retention and graduation rates were understood to be an unfortunate, but inevitable by-product of this mission.

In 1990, when Oregon voters passed Ballot Measure Five placing limitations on property taxes in the Oregon Constitution, the impact on higher education was immediate and profound. That year, the Oregon University System received 62% of its revenue from the state. State allocations in the next biennium (Oregon is on a two year budget cycle) began a sharp decline, and by 2004, the state's allocation to the OUS system comprised just 37% of its revenue (OUS, 2010). As Figure 1.5 below illustrates, at PSU the situation was even worse. The pass-through of state support from the OUS to PSU accounted for 48% of their revenue and after Ballot Measure Five was enacted, each biennium this percentage declined. This trend continues and in 2009-10, the state's contribution to PSU's budget was just 16%.



Source: Portland State University Budget Office, 2011

Figure 1.5. *The decline of State funding at PSU.*

Fiscal crisis, combined with changes in the state and federal regulatory environment, are the principle external forces that have combined to create the conditions necessary for PSU to overcome its institutional inertia. These forces have triggered institutional soul searching in key policy areas and a fresh look at graduation rates; with the goal of improving them. More specifically, the external/internal changes I refer to are: changes to the methodology the OUS uses for allocating education and general funds to its member institutions and a change in executive leadership at PSU.

The Chief Executive as a Policy Trigger

Dr. Wim Wiewel came to Portland State in the fall of 2008. As only the eighth president of the institution – and a unanimous choice of the Oregon University System hiring committee – Dr. Wiewel brought an international reputation in sociology and urban planning to the position. His administration followed the tenure of Dr. Daniel Bernstine, whose decade-long legacy at Portland State was characterized by growth in

student enrollment, facilities, and academic programming, both domestically and internationally. Although growth was an effective strategy for raising the profile and revenue of the University, it did nothing to improve its graduation rates. When Dr. Bernstine took office in 1997 the six year graduation rate at PSU was 31.2%. When he left ten years later the rate had moved up very little to 32% (OIRP, 2010).

Dr. Wiewel brought a unique skill set to his presidency built on a 30-year career at urban universities and in particular the University of Illinois at Chicago (UIC), where he worked for 25 years and led the university's *Great Cities* initiative. After his long tenure at UIC, and before assuming the presidency at Portland State, Dr Wiewel spent several years at the University of Baltimore, where he was Provost and Senior Vice President for Academic Affairs. During his time in Baltimore, one of his notable successes was that he presided over a period of increased retention and graduation rates.

In one of his first public appearances at Portland State, Dr. Wiewel outlined a few of the top priorities for his presidency. These included an ambitious agenda to improve Portland State's connections with the state's other universities, community colleges and the K-12 system, as well as the city and its businesses. Dr Wiewel closed his remarks by saying he planned to repeat his success at Baltimore and improve PSU's student retention and graduation rates. As the university's new leader, he is in a position to do so.

Accountability and Allocations at PSU

The accountability movement begun by the Bush era No Child Left Behind (NCLB) legislation affected higher education too and now some state legislatures are beginning to tie resource allocations to productivity outcomes as demonstrated by key performance metrics. For example, public universities in Virginia and South Carolina

“attend to their legislatures since state resources can be allocated based partly on student retention and graduation” (Filkins, Kehoe & McLaughlin, 2001, p. 5). However, governors and their state legislators are reluctant to acknowledge the “catch 22” situation in which they have placed public institutions. On the one hand, they want to reduce state subsidies and restrain tuition increases, while at the same time they expect to see increased quality (Bontrager, 2008). This scenario has begun to play out in Oregon as well, where even as the state’s contribution to higher education declines, the legislature expects OUS institutions to be ever more accountable for the few dollars they do get.

In 2011, Dr. Jay Kenton, OUS Vice Chancellor for Finance and Administration, proposed a new allocation model for the OUS annual operating budget. First he noted that state allocations would continue to be made in accordance with Legislative directives and Board policies and priorities, but then he pointed out that the allocation process had been redesigned to provide incentives to improve retention and graduation rates. In a further development Susan Weeks, OUS Vice chancellor for strategic programs, and planning and assistant vice chancellor for student success initiatives, Joe Holliday, led a discussion on graduation rates and programs at OUS campuses in which Weeks stated that improved graduation rates are critical to achieving the “40-40-20 goals” of the state (40% of Oregonians with a bachelor’s degree or higher; 40% with an associate’s degree or certificate, and 20% with a high school diploma). Dr. Weeks noted the focus of the Board’s Academic Strategies Committee is to look at ways to fill the gaps the OUS has now in graduation rates within student populations and at institutions. Although it is yet unclear how this focus will affect graduation rates system wide, it *is* clear that PSU, the

Oregon University with the lowest graduation rate, (OUS Fact book, 2010) has the most to gain from improvement in this area.

The Last Mile Cohorts at Portland State University

Beginning in 2007 with an evaluative process initiated by Provost Roy Koch, the policies and procedures that most influence student success have been under scrutiny at PSU. This effort began with the formation of the First Steps for Student Success and Retention (FSSSR) committee which was charged with investigating the root causes of Portland States' low graduation rates. This group is a standing committee representing all of PSU's major academic and administrative units. Working in conjunction with the Office of Institutional Research and Planning, the FSSSR has: reviewed the institution's retention and graduation data; identified the best practices of its peer institutions; and reviewed internal policies that impact retention and graduation issues. The committee has also made use of a retention and graduation best practices matrix (See Appendix B) developed by the OUS. Using the matrix as a guide, the FSSSR committee has mapped all of PSU's retention and graduation practices against the OUS matrix with the intention of adopting those system-wide best practices most readily transferable to PSU.

With new leadership and a renewed commitment to improving its graduation rates, PSU has begun to question its deep structure and overcome its organizational inertia. Although many important steps have already been taken to address the confounding problem of low undergraduate student graduation rates, there may be more opportunities for making rapid improvement by concentrating new policy interventions where the potential yield is greatest; on Last Milers.

Research Questions for the Study

Based on this literature review, it is clear that a host of factors influence the undergraduate graduation rates of public universities. However, using PET as a policy framework for this exploratory case study emphasizes the significance of executive leadership and the primacy of certain types of policy variables, for example policies related to resource allocations and financial aid. Therefore, this study will use a mixed-method approach to investigate policy variables that may influence the behavior, and improve the graduation rates, of Last Mile students at Portland State University.

The overarching inquiry that guides this study is the extent to which graduation rates of Last Milers at PSU are influenced by policies that affect their behavior in the fifth and sixth years. Subsumed within this are more detailed research questions:

RQ 1: What internal policies appear to have the greatest impact on the ability of “Last Mile” students to graduate within six years, based on descriptive displays of institutional data and correlational studies among common attributes?

RQ 2: What internal policies do “Last Milers” identify as having retarded their progress towards graduation within six years?

RQ 3: What internal policy interventions do “Last Milers” believe would help facilitate their progress towards graduation within six years?

The following four claims have led to the research question for this study: 1) degree attainment has been declining in the United States (Fry, 2009) and national policy makers are taking forceful steps to remedy this situation (Obama, 2010); 2) the demand for increased degree attainment may be singularly important to public urban universities, since they award the most undergraduate degrees (Coalition of Urban Serving

Universities, 2010); 3) persistence theories that consider student and institutional characteristics may help explain the behavior of PSU students who leave the institution in years 1- 4 (Tinto, 2005; Bean & Metzner, 1985) but; 4) some types of organizational policy theory – such as Punctuation Equilibrium Theory (PET) – may better explain the institutional environment for students who persist to the sixth year without graduating (“Last Mile Cohorts”) (Baumgartner & Jones, 1991; Sastry, 1997).

Given the amount of research that has already been done on retention and graduation rates, I propose that what is needed now are studies leading to new models that help institutions translate theory into practice. In this regard, I concur with Tinto, who states, “it is not the lack of research but rather the failure of past research to translate its many findings into forms that would guide institutional action” (Tinto, 2005, p. ix). From this perspective, universities undergoing periods of profound change may benefit from studies that explore the efficacy of targeting new policies at improving their greatest vulnerabilities; which in this case may be undergraduate graduation rates (Wiewel, 2010). When this happens, universities with large numbers of Last Milers may see significant improvement in these rates if they concentrate their change efforts on policies that impact students closest to the cut point for federal reporting – the sixth year of enrollment.

CHAPTER II

METHODS

Chapter II begins with an introduction to the research design methods used in this exploratory case study. This is followed by a description of the setting and participants as well as the measures used in data collection. Special attention is paid to the formative interviews that inspired the development of the researcher-created student survey instrument. The chapter continues with a description of the analytical procedures and their congruence with Punctuated Equilibrium Theory (PET), the theoretical conceptual framework for this study. Chapter II concludes with a discussion of the limitations of the methods used in this study.

Research Design

The methods used in this exploratory case study were selected for their capacity to help the researcher: 1) investigate whether relationships exist between the graduation rates of Last Milers and factors associated with individual student circumstances; 2) explore how external expectations may influence Portland State University as it experiences a period of rapid organizational change – a period of punctuated equilibrium; 3) measure the possible effects of new administrative policies targeted at overcoming the organization’s internal inertia and improving its area of greatest weakness – in this case graduation rates; and 4) determine whether evidence suggests these policies may have a positive effect on graduation rates at the institution, if implemented.

An Exploratory Mixed Methods Research (EMMR) design was utilized in this study. This method addresses the research questions listed in Chapter I through an iterative process of interpretation that builds toward conclusions from multiple bodies of

evidence. More specifically, the method consists of two distinct steps: an exploratory qualitative step, followed by a quantitative step (Creswell & Plano Clark, 2007). The strength of the two-step EMMR approach is that it allows the researcher to use the results of the first (qualitative) method to help develop or inform the second method (quantitative) before these methods are conjoined as two lenses through which to explore the research questions in the study (Green et al. 1989).

In an EMMR study, the qualitative (interview) data and subsequent analysis provide the researcher with a general understanding of the research problem. This exploratory phase can be instructive, for example, when the study variables are not fully known, or instruments or measures are unavailable to the researcher, or there is no sufficient theoretical construct to guide the study (Creswell & Plano Clark, 2007). According to Morgan (1998), EMMR is also appropriate when a researcher wants to test aspects of an emergent theory – such as PET – in order to determine its efficacy as a theoretical frame for the study. Another strength of EMMR is that it is a pragmatic method that combines the logic of induction (converting observable facts to general principles); deduction (reasoning from the general to the particular); and abduction (uncovering and relying on the best of a set of explanations for understanding one’s results) in a combination of techniques and procedures that may work well together to answer the research question posed by this study (Denscombe, 2008).

EMMR was deemed an appropriate method for this study for at least two reasons: 1) doing an exploratory policy study that adequately addressed the research question required the collection of both qualitative and quantitative data; and 2) because the training program for which this dissertation is “partial fulfillment of” is intended to train

collaborative pragmatists. More specifically, the mission of the University of Oregon's D.Ed. program is to produce applied scholars who can understand practical consequences and empirical findings and utilize qualitative methods, quantitative methods, or a combination of the two to address a policy or problem that is field-based and related to current issues (EMPL Program Manual, 2008). Since pragmatic application of the findings of this research is the ultimate goal, EMMR is an appropriate method for addressing the research questions in this study.

Research Setting

This study took place at Portland State University (PSU), a public, urban institution with a Carnegie designation of Intensive Doctoral Research. PSU is accredited by the Northwest Commission on Colleges and Universities and enrolls about 30,000 students in eight schools and colleges. With students, faculty and staff from over one hundred countries and all fifty states, representing a broad spectrum of religions, ethnicities, sexualities, abilities, ages, experiences and genders, PSU has Oregon's largest and most diverse student population. Chartered in 1946 to serve returning WWII veterans, PSU now has over 130,000 alumni, 60% of whom live and work in the Portland Metropolitan area, the state of Oregon's most populous urban region. With the motto - "Let Knowledge Serve the City" - PSU is nationally recognized for its innovative programs in sustainability, undergraduate education and community engagement, and now ranks among the 100 largest universities in the country (Portland State University Factbook, 2011).

Participants

Participants for this study came from two sources: a targeted group of university counselors and administrators who agreed to be interviewed and a sample of students across five cohorts of traditional first time, full time (FTFT) freshmen who entered PSU in the fall quarter of years 2000, 2001, 2002, 2003 and 2004 and were still enrolled five years later.

Administrative Interviewees

I conducted semi-structured, in-person, informational interviews with nine PSU administrators and one community partner (see Table 2.1) between December 2010 and March 2011. These interviews were preparatory and purposively sampled according to the institutional role of the interviewee at the case study site. Case studies often use purposive samples, which are a non-representative subset of a larger population constructed to serve a specific purpose, if purposive samples help inform an understanding of the central research questions by being deliberative and non-random (Creswell & Plano Clark, 2007). As formative conversations, these informational interviews were intended to help focus the research questions to be addressed, and highlight key issues surrounding graduation rates and policy at PSU.

I developed the interview questions for this advance work after a review of the graduation rate literature, (Powell, et al. 2011) and tailored them to the expertise of the particular interviewee. For example, I asked counselors to comment on processes and policies related to advising and retention, while I asked program administrators organizational and finance related policy questions. By contrast, the community partner answered questions related to transfer and co-admission policies. These formative

interviews were generally instructive and in particular helped me determine which topics to cover in the student survey instrument, their order and their focus. They also helped me identify the sources of institutional data that were available at PSU.

Table 2.1. *List of Interviews with Key Administrative Personnel.*

Name	Title
Dan Fortmiller	Associate Vice Provost - Academic & Career Services
Robert Mercer	Assistant Dean - College of Liberal Arts and Sciences
Agnes Hoffman	Associate Vice Provost - Enrollment Management & Student Affairs
Denise Wendler	Associate Vice President - Finance & Controller
Sukhwant Singh Jhaj	Special Assistant to the Provost & Director - University Studies
Jackie Balzer	Vice President – Enrollment Management and Student Affairs
Leena Shrestha	Academic Advisor / Community College Liaison Information & Academic Support Center - Student Affairs
Michael Burton	Vice Provost - Extended Studies
George Reese	Program Manager, Training & Site Support -Gateway to College

Because each interviewee represented a different decision and policy making level in the organization, a single set of questions was judged inappropriate. Instead, I developed a unique set of questions for each interviewee with no set of questions requiring more than a half hour of discussion to answer. In each case, the questions were sent in advance to the interviewees. Figure 2.1 shows the format used in the informational conversations with key administrative personnel.

Figure 2.1. *Informational Interview Format*

Project: University of Oregon Dissertation

Subject: Informational Interview – Topic: External stakeholders and graduation rates at Urban Universities.

Subject:



George Reese
Program Manager, Training & Site Support
971-634-1217
greese@gatewaycollege

Date: March 17, 2010

Questions:

1. What should PSU, and other urban universities that draw large numbers of transfer students from local community colleges, be doing differently to ensure higher graduation rates for these students?

Help community College students understand the range of careers and the pathways to attaining them. Ideally, faculty can play a role in this by speaking to community college students before they matriculate. Another method is to have more programmatic articulation agreements that align curriculum, so the pass off from community college to PSU is more seamless.

Since community college students tend to be older and have more responsibilities, more of an effort should be made to provide a wider variety of flexible courses that are online and 24/7.

2. How should PSU work with organizations like Gateway to College to prepare them for PSU so these students have the highest chance of success?

Gateway is an intervention program working with dropouts to bring them back into the educational system. We help provide the remedial academic support necessary to bring challenging students back into the system. The literature says that although this is an important service that must be provided, when students start out in higher education with remedial classes, they are much less likely to graduate so we should be working with

PSU to minimize the amount of time they stay in these remedial programs.

3. Please describe the ideal relationship between Gateway to College and PSU.

Urban universities should be working closely with Gateway students to help them see their pathway through college. As it is now, when Gateway students are asked what they want to do as a job, students are responding with T.V. references.

For Further Consideration:

1. A Capstone that matches PSU students with Gateway students to help them get into school and navigate the system successfully.
2. Create academic pathway maps for Gateway students while they are taking remedial courses so they can see their path to a PSU degree.

Student Cohorts

In this study, the initial student sample frame consisted of 100 percent of the applicable population of five student cohorts of FTFT freshmen who entered PSU in the fall terms of 2000, 2001, 2002, 2003 and 2004 and were still enrolled five years later. These cohorts numbered 4,999 undergraduate students. As each cohort moved through their coursework their retention rates declined, diminishing the size of the sample. The final sample frame was arrived at by eliminating all students who left the institution, for whatever reason, before the fall of their fifth year. Those still enrolled in the fall of their fifth year met the definition for this study of “Last Milers” and were included in the final sample frame. This group numbered 925 students and their attrition patterns are depicted in Table 2.2.

Table 2.2. *Attrition Rates of Last Mile Cohorts.*

Cohort Years	Students in Fall of 1 st Yr.	Students still enrolled in Fall of 6 th Yr.	Total # Graduated over 6 years	# Graduated in 6 th Year	Last Mile Students
00-06	854	153	299	37	116
01-07	958	188	306	56	132
02-08	1108	177	343	48	129
03-09	1204	227	370	47	180
04-10	1,087	180	356	48	132

Analysis of the survey data revealed additional themes for which clarifying data were available to the researcher. These themes were related to policies that may impact Last Mile students. Where it was possible to acquire or generate data on these themes, they were added to the list of independent variables of interest in this study.

Study Design

Data for this study were generated by an exploratory web-based survey with closed and open-ended questions for Last Milers. In addition to the survey, contextual institutional and extant student demographic and characteristic data were also collected and for this study (Stage & Manning, 2003) with special attention paid to institutional and student attributes identified in the survey.

Measures Used in This Study

The informational interviews with key PSU administrators previously discussed indicated the need for a survey instrument to be used with the sample of Last Mile students. In this case, the informational interviews served as an important manipulation check during the development of the survey questions and helped the researcher understand how best to render the instrument with validity and administer it with fidelity (Zvoch, 2009). The survey was developed as described below and made available to the

sample frame of 925 Last Mile students. As a web-based survey, it was anticipated that survey response rates might be low and not entirely representational of the frame. However, as part of the exploratory case study design, the survey was intended to help identify the relevant questions to ask and the potential trends to examine in a larger institutional data collection effort through a telephone survey or some other more comprehensive method to be administered at a later date.

Originally, I had hoped to contract with a survey research lab to administer a telephone, rather than a web survey; the literature recommends the efficacy of such an approach. For example, having a professional organization administer the survey would have enhanced its quality by improving the experience for respondents who might not otherwise understand, appreciate or choose to participate in a research study (Gwartney, 2007). Professional administration could also have increased the validity of the survey by maintaining a higher level of fidelity (Zvoch, 2008) thereby reducing potential interviewer and respondent errors and improving the overall reliability of the data. Also, response rates from a telephone survey could be expected to be higher and more representative. Unfortunately, the cost of such an institutional survey proved prohibitive.

Although too expensive for a doctoral dissertation data collection, such institutional survey research data collection might be implemented at the case study site through policy change as a result of this exploratory research, should results prove promising; see Chapter IV, Discussion, Conclusions and Implications.

The Survey Instrument

Qualtric's Survey Suite web application was used to develop, administer and produce an initial analytical output for the student survey. Preliminary survey design

utilized a retention matrix created by the Oregon University System (OUS) office and circulated to the seven OUS campuses in 2004 (See Appendix B). The purpose of the matrix was to identify “best practices” already in use at the various campuses that could be shown to help improve retention and graduation rates. While the matrix showed what practices were being used at different universities, it also showed practices that were *not* being used, and by which institutions.

This made it possible for the researcher to cross reference the best practices with the practices PSU had already implemented in order to identify “gaps” in PSU’s graduation rate improvement efforts. Since whether or not to use a best practice is a policy decision, the practices PSU chose *not* to use represented foregone policies that may have effected change - if enacted. Through such a gap analysis, these policies became the basis - along with the administrator and community interview sessions described above - for the web-based survey questions.

The final survey consisted of a total of 16 questions, of which 13 were close-ended questions, scored on a Likert scale, and 3 were open-ended questions. Although cost was the deciding factor to use the web-based approach as described above, there are some compelling reasons for preferring online data collection to self-completed postal or even telephone surveying. For example, the use of online surveying software such as Qualtrics may have a higher level of delivery fidelity than telephone surveying.

Delivery fidelity is one of the three elements of treatment fidelity that were first formally introduced into social and behavioral studies in 1991 by Moncher and Prinz. With the addition of two more elements in 1999, the current model of treatment fidelity includes five components: design, training, delivery, receipt and enactment (Ory, Jordan

& Bizarre, 2002). High delivery fidelity is one of the strengths of the online web survey format because each participant is contacted in exactly the same manner (by email), using the exact same language (without vocal intonation or the potential influences of subject/surveyor interactions) and the survey questions are presented in the same sequence, using the same language.

Online survey tools like Qualtrics also guarantee that data can be collected in a short time frame, while protecting against the loss of data and providing the researcher with embedded analytical tools. The wholly electronic nature of online surveys also reduces human errors while making it easier for researchers to transfer data into other applications for additional analysis (Carbonaro & Bainbridge, 2000; Ilieva, Baron & Healey, 2002). With the newer generation of online survey applications like Qualtrics, barriers such as networking and security for some populations have become less problematic and response rates may now be the major hurdle to their use.

Response rates as low as 30% on self-completed postal or mail surveys are considered reasonable by some in the research community (Saunders, Lewis & Thornhill, 1997). However, there is a much higher variability of response rates for online surveys, with some research showing a range of between 15 and 29% (Comley, 2000) and other scholars finding response rates of 25 to 60% (Moss & Hendry, 2002), depending on incentives intended to encourage survey responses.

According to Comley, (2000) three factors have the greatest affect on online survey response rates: (1) the “look” or design of the first page of the survey; (2) the relationship of the respondent with the surveyor; and (3) the relevance of the survey to the respondent’s interests. In on-site facilitated surveying using paper and pencil, for

which both time and place are bound, there is more likelihood that the researcher will be able to get a respondent to participate, once they are in the situation and engaged in the work. In web surveying, however, respondents can participate asynchronously (at the place and time of their choosing) as long as they have an internet-enabled computer. This freedom both encourages participation, while also creating conditions whereby a respondent may postpone or even forget to complete the survey.

The validity and reliability of the data collected using an online survey can also be subject to the level of certainty a researcher has in the identity of the respondent. Concerns about identity have been mitigated in this study by limiting the number of respondents to those for whom a current personal email address has been provided by PSU's Office of Institutional Research and Planning. Also, special care was taken in writing the email subject line so the invitation email would not be flagged as spam and summarily deleted by web filters targeting the word "survey."

Variables

Consistent with an EMMR approach, the formative phase of this research surfaced a number of themes and helped the researcher focus on the independent variables most worth comparing to the dichotomous outcome variable – graduation in six years – which was coded 0 for not graduated and 1 for graduated. What follows is a list of these independent variables, the statistical models used to analyze them and their application in this study:

1. *Contextual Institutional Statistics* were used to establish the environment within which this study was run. Graduation rate means for PSU's OUS approved

university peer group are presented as well as an analysis of how the graduation of Last Mile students might impact these rates.

2. *Descriptive statistics* were used to summarize the sample frequency, mean, and standard deviation for extant data available for all 925 students in the final sample. These data were provided by PSU's Office of Institutional Research and Planning and included demographic, academic and financial information. The descriptive variables used in this study were: a.) Gender – coded 0 for female and 1 for male; b) Citizenship – coded 0 for non-citizens and 1 for citizens; c.) Race/Ethnicity – coded 1 for Whites, 2 for African Americans, 3 for Hispanics, 4 for Asians and 5 for All Others; d) Marital Status – coded 0 for not married and 1 for married; e) Parental Status – coded 0 for no children and 1 for has children; f) Veteran's Status – coded 0 for not veteran and 1 for veteran. In addition to the demographic variables, academic variables were explored as well and coded thus: a) High School GPA – coded 0.00-2.50 = 1, 2.51-3.00 = 2, 3.01-3.50 = 3, and 3.51-4.0 = 4; b) SAT Scores – coded 500-750 = 0, 760-990 = 1, 1000-1250 = 2 and 1250-1500 = 3; c) Transferred Credits – coded 0 for no transferred credits and 1 for transferred credits; d) Number of Terms At PSU – coded 1-10 terms = 0, 11-20 = 1, 21- 30 = 2 and more than 30 terms = 3; e) GPA while at PSU – coded 0.00-2.50 = 1, 2.51-3.00 = 2, 3.01-3.50 = 3, and 3.51-4.0.
3. Additionally, a *web based survey instrument* was administered to the student sample and histograms were created for all of the Likert-scaled survey questions.
4. Themes were identified for the *open ended survey questions* and a cross case display, with the individual student serving as the case for this portion of the

analysis, was created for these questions (Miles & Huberman, 1994). Cross-case analysis can be a useful visualization tool for survey data as it “facilitates the comparison of commonalities and difference in the events, activities, and processes that are the units of analyses in case studies” (Khan & VanWynsberghe, 2008, p. 1).

5. Separate studies were run on *select financial variables* that appeared frequently in the themes culled from the formative interviews and the open ended survey questions; these were:

1. Dependency on Parents – the researcher ran a Chi-Square analysis due to the dichotomous nature of a portion of the data. For data analysis purposes dependency was coded 0, while non-dependency was coded 1.

2. Accumulated Debt – Educational debt only – the researcher ran a Chi-Square Analysis. Accumulated educational debt was coded:

- \$ 0-10,000 = 0
- \$ 10,001-22,000 = 1
- \$ 22,001-30,000 = 2
- More than 30,000 = 3

3. Financial holds – Debt stopping enrollment – the researcher ran a Cut Point Analysis. Last Milers who experienced at least one financial hold while at PSU were coded 1, while those without holds were coded 0.

6. Finally, because *Punctuated Equilibrium Theory* (PET) is the theoretical construct for this study, exploring evidence supporting this theory was considered important. The literature suggests the most likely evidence for PET may be found in expenditures data, since expenditures are a concrete manifestation of policy implementation (Romanelli & Tushman, 1994). In this case, a leptokurtic

distribution of recent expenditures on student success initiatives could be evidence of PET, consequently an analysis of these data was done looking for such a distribution.

Procedures

Approval for this study was required from the Institutional Review Boards (IRB) of both the University of Oregon (as the institution conferring the degree) and Portland State University (the subject of the case study). Once approval was given, survey data collection as well as assembling and analysis of extant data could begin. Survey administration began in June 2011 and concluded in August 2011.

As discussed previously, extant student characteristic data were collected with the assistance of the PSU Office of Institutional Research and Planning (OIRP). The OIRP provided the researcher with a list of unique identification numbers for all of the Last Milers who enrolled in the fall quarter of years 2000, 2001, 2002, 2003 and 2004 and were still enrolled five years later. The researcher was also able to use the unique identifier numbers to obtain current student email addresses in order to administer the online survey. The unique identifier subsequently was used to help collect additional data, as described below.

Survey Procedures

Although student email is a notoriously unreliable mode of contact (student's email addresses change frequently), PSU's Office of Information Technology has been able to map the university's email accounts to a variety of other known email accounts so administrators have some assurance that students are more likely to receive PSU-generated emails. This gave the researcher some confidence that the email addresses

provided by OIRP were somewhat more accurate than might be expected otherwise and therefore more likely to result in contact.

Using these email addresses, the survey was administered to the original sample of 925 Last Milers. It was initiated by an email invitation that also doubled as a click-through consent form for the survey, as approved by IRB protocol. A click-through consent form was chosen as the survey's gateway because the research literature is ambivalent about the most effective approach to establishing initial contact with the sample. Some researchers feel it is an ethical imperative to first send a letter (or for online surveys, an email) of introduction before following this soon after with an invitation to take the survey (Mehta, & Sivadas, 1995). Others point out a pre-notification message may be considered unsolicited e-mail and as such may be summarily deleted. However, it is the view of Sheehan (2006) that sufficiently short pre-notification or emails of introduction that allow the receiver to opt in to the respondent pool may be more palatable to potential respondents. Because this study is an exploratory study of a single case and is not designed to produce fully generalizable results but rather to serve as a basis for subsequent institutional research, I decided to combine an email of introduction with a click-through consent form, primarily in the interest of student time and survey turnaround-time.

To incent students to participate, those who completed the instrument within two weeks were notified they would be included in a drawing for ten \$20 gift cards, which subsequently took place and the cards were awarded.

After the invitation and consent email were sent to the each member of the sample, I received "bounced back" emails. Bounce backs, which are email messages

received by the sender when the sending email could not be successfully delivered to the machine address or individual account, were treated as a disqualifying factor. When one was received, that student was subtracted from the original contact sample. Where emails appeared to have been delivered, subsequent reminder prompts were sent to the sample every third day for 10 days, for a maximum of three total follow-up requests for survey completion for individuals without bounce back.

The survey itself was constructed using classic survey protocols (Gwartney, 2007). These entail six steps:

1. Study design and planning which help “define the scope and content of the study’s objectives, assess their feasibility, and consider alternatives” (Gwartney, 2007, p. 11).
2. Survey instrument design – To inform the survey instrument design, the informational interviews and the OUS matrix mentioned previously were employed along with examples from two extant telephone surveys done by the University of Oregon Survey Research Laboratory: 1) The Survey of Non-Returning Students (Langolf & Gwartney-Gibbs, 1994); and 2) the Survey of College Seniors (Gwartney & Murata, 1998). These instruments provided ideas for the draft structure and questions in the survey, which were subsequently reviewed by both survey professionals from the dissertation committee and PSU administrators and students and refined prior to implementation, as described below.
3. Sampling – As discussed previously, the researcher focused the study on a sample frame of 100 percent of the available study population, from which contact with

- all individuals in the frame was attempted. The final sample became those students in the frame with non-bounce back email delivery.
4. Data collection and entry – Also discussed previously, this was an automatic feature of Qualtrics, the survey software used in this study.
 5. Data analysis – This was done by the researcher using a variety of quantitative and qualitative data analytic techniques and tools, as mentioned previously and described in more detail in upcoming sections.
 6. Reporting – Also an automatic feature of Qualtrics, the final data collection report provided the researcher with descriptive statistics for each closed question in the survey as well as the verbatim responses of all respondents to the three open-ended questions. From this and through the analytic processes, the researcher developed additional reporting displays, as shown in the Results chapter.

As described in 2 above, prior to running the actual survey, the instrument was piloted by a group of advisors and admissions experts at PSU. This group was chosen because they have been working with students who have (i) applied for graduation and then (ii) withdrawn their applications short of receiving their diploma. Though not Last Milers, these students share some of the same characteristics as the study group. Figure 2.2 is the text of the click-through invitation and the informed consent email that was sent to the initial student sample of 925 Last Milers.

Dear PSU Viking,

As a student who enrolled as a freshman at Portland State University in the fall of one of the following years: 2000, 2001, 2002, 2003, or 2004 you have been selected to take this web survey for a dissertation study entitled **Policy and Persistence: Navigating the “Last Mile” to degree attainment at Portland State University**. This survey is intended to help the researcher better understand the factors that may contribute to PSU students staying in college beyond six years.

To thank you for your time, we will be giving away Fred Meyers gift cards (value \$20) to 10 randomly selected participants who complete this survey by October 1, 2011.

If you would like to be included in the drawing for the gift cards, please send only your email address to wubbold@pdx.edu with the subject line: Survey Gift Card. Winners will be selected on October 3, 2011 and notified the next day.

Please Note: Since only 925 students are eligible to take this survey, the odds of your winning a gift card are very high - if you take the survey.

Informed Consent Statement

~ The data collected in this study will be kept confidential. Your name will not be recorded. Only an IP address and participant ID will be recorded. All response data will be kept on the principal investigators' password-protected computers.

~ The risks encountered in this study are no greater than the risks encountered in everyday life.

~ Your participation in this study is voluntary. No one will hold it against you if you decide not to participate. If you do participate, you may withdraw from the study at any time, for any reason, without penalty.

Additional information about this study may be obtained from Mark Wubbold, Principal Investigator, wubbold@pdx.edu, (503) 725-9877 or his advisor: Dr. Kathleen Scalise at (541) 346-0893.

If you have questions regarding your rights as a research subject, contact the Office for Protection of Human Subjects, University of Oregon, Eugene, OR 97403, (541) 346-2510. This office oversees the review of the research to protect your rights and is not involved with this study.

Before beginning the survey, you are encouraged to print a copy of this informed consent statement for your records.

By clicking on the survey link below, you confirm that you have read the informed consent statement above, consent to participate, and are at least 18 years of age.

Follow this link to the Survey: **Take the Survey**

Figure 2.2. *Click-through informed consent form and survey gateway.*

Data Collection

As previously discussed, four types of data were collected during or prior to this exploratory case study: 1) select institutional data for contextual purposes; 2) extant quantitative data provided by the institutional subject; 3) formative, qualitative data collected through a series of interviews with select administrators; and 4) survey data collected via a web based instrument. While collection of the formative data gathered from in-person interviews has been described in some depth previously; institutional data, extant student background characteristic data and the survey data are considered in more detail next.

PSU Peer Selection

In 1997, Weeks, Puckett and Daron embarked on a project to create a list of peer institutions for each of the seven universities in the Oregon University System. Their study focused on variables and measures that “reflect the missions of the universities, such as program, level of funded research, and graduate degrees awarded” as well as “incorporate both informed administrative judgment at the campus level and an appropriate array of statistical data” (Weeks, Puckett & Daron, 1997; p. 4). Following this approach, their selection variables took into consideration the experience of previous researchers as well as the availability of data. Carnegie classification was also considered, as were student and program characteristics such as size of enrollment, proportion of part-time to full-time enrollment, degree types awarded, distribution of degrees awarded by discipline, and the proportion of research to instructional expenditures.

Weeks, Puckett and Daron used Integrated Postsecondary Education Data System (IPEDS) descriptive data as the initial filter for screening potential peers. This provided them with the necessary facts to create a general peer profile. In order to control for institutional differences and emphasize or de-emphasize factors related to each institution's programs and mission, the researchers weighted key variables. For example, in the case of Portland State University this meant a variable like part-time enrollment was weighted higher than it was for the University of Oregon or Oregon State University, which have more traditional enrollments. A complete list of the peer selection variables resulting from this prior study is shown in Figure 2.3.

-
1. Carnegie classification
 2. Land-grant designation (Oregon State University only)
 3. Urban/rural designation (Portland State University; Eastern Oregon University)
 4. FTE enrollment (calculated as full-time headcount plus one-third part-time headcount)
 5. Part-time enrollment as percentage of total undergraduate and graduate FTE enrollment
 6. Two-year degrees as percentage of total degrees awarded
 7. Bachelor's degrees as percentage of total degrees awarded
 8. Master's degrees as percentage of total degrees awarded
 9. Doctoral degrees as percentage of total degrees awarded
 10. First-professional degrees as percentage of total degrees awarded
 11. Degrees in engineering technology as percentage of total degrees awarded
 12. Degrees in medicine as percentage of total degrees awarded
 13. Degrees in law as percentage of total degrees awarded
 14. Degrees in veterinary medicine as percentage of total degrees awarded
 15. Degrees in business as percentage of total degrees awarded (by level: bachelor's, graduate)
 16. Degrees in education as percentage of total degrees awarded (by level: bachelor's, graduate)
 17. Degrees in humanities/social science as percentage of total degrees awarded (by level: bachelor's, graduate)
 18. Degrees in science and engineering as percentage of total degrees awarded (by level: bachelor's, graduate)
 19. Ratio of research to instructional expenditures
-

Source: Weeks, S. F., Puckett, D., & Daron, R. (2000). Developing peer groups for the Oregon University System: From politics to analysis (and back).
 Research in Higher Education

Figure 2.3. *Initial Peer Selection Variables for Portland State University*

Defining these variables was the first step towards narrowing the selection criteria for a representative list of peer institutions. The next step required an analysis of data from the National Center for Education Statistics' (NCES) Integrated Postsecondary Educational Data System (IPEDS) survey. This survey included 660 public four-year institutions and provided the basis for the peer selection variables. Using the methodology of the Kansas Board of Regents, each variable was converted to a z-score in order to make an "apples to apples" comparison. Based on their analysis of these scores the researchers were able to demonstrate the relative "closeness" of each variable for each institution and create a rank-ordered inventory of potential peers with the ones most like OUS institutions at the top of the list.

Weeks, Puckett & Daron's next step was to use qualitative data to further refine the list of peers. According to Ingram (1995), combining qualitative and quantitative data, as a means of refining the peer selection process enables the researcher to "enhance or correct the information obtained through the statistical process." This refinement process took into consideration such issues as:

- the geographical distribution of the institutions;
- their representation in peer states;
- current peer lists in use at the institutions;
- additional programmatic information;
- and a manageable number of comparators.

Such a method can eventually result in a list of peers that includes both aspirational and statistically similar comparators.

The outcome of this hybrid methodology was a group of nine peer institutions for my study institution, Portland State University. These peers are listed in Table 2.4.

Table 2.4. *Peer Institutions for Portland State University*

George Mason University – Washington, D.C.

Indiana U/Purdue U at Indianapolis – Indianapolis, Indiana

San Diego State University – San Diego, California

University of Illinois Chicago – Chicago, Illinois

University of Memphis – Memphis, Tennessee

University of Texas Arlington – Arlington, Texas

University of Toledo – Toledo, Ohio

University of Wisconsin Milwaukee – Milwaukee, Wisconsin

Western Michigan University – Kalamazoo, Michigan

Source: Weeks, S. F., Puckett, D., & Daron, R. (2000). Developing peer groups for the Oregon University System: From politics to analysis (and back). *Research in Higher Education, 41*, 1–20.

In 1999, after being reviewed by the Oregon State Board of Education, the state legislature and the Governor’s office, the list of OUS peer institutions was adopted by the campuses.

Extant Student Data

For my study within this case, using the unique identifiers provided by OIRP for each student in the sample, I obtained student characteristic and demographic data via queries to three PSU databases: Degree Audit Reporting System (DARS), BI Query and Banner:

- DARS is a comprehensive, individualized reporting system that tracks a student's academic progress. This data warehouse ascertained the “progress towards degree” status of individual members of the five student cohorts.
- BI Query is a Graphical User Interface (GUI) reporting tool. It is a Windows-based, "point and click" application that provides an easy-to-use graphical interface with the Banner warehouse database.
- Banner is an integrated student data system that includes registration, admissions, financial aid, and student demographic information. Banner has been the principle database for all academic and financial records at PSU since the mid 1990's.

Together, these three institutional data sources provided information on student background, demographic and institutional progress, including financial aid, terms completed, and GPA, for the five student cohorts. See the Results chapter for additional exploration of what the extant data sources yielded.

Survey Data

As was mentioned previously, additional data were gathered via a web-based survey. The survey was designed to take about ten minutes. All but four of the 13 closed questions were scored on a seven level Likert scale. Three of the closed questions were scored on an eight level Likert scale and one of them was a “select the best fit” type of question. Steps were taken to make the survey language as non-technical as possible and whenever a question contained a term or a concept that may have been unfamiliar to the subject, a prompt was given that included an explanatory example.

Once the subject began the survey, they could leave and then return to it at any time and for as long as they needed to complete it, within a fixed period of 10 days. If the subject took longer than 10 days, their survey was invalidated by Qualtrics automatically closing the instrument and decoupling the link in the invitation email from the survey. There were no incomplete surveys; all subjects who began the survey completely finished it within the 10-day period.

To help protect the identity of the subject, the survey was only made accessible through the invitation email. When a subject completed the survey, Qualtrics sent an automatic email notifying the researcher of this occurrence. The researcher then checked this subject off the “active” list. This list was used to track subjects who had yet to complete the survey and every three days a targeted reminder email was sent to those students who had yet to complete the survey, but were still on the active list. These emails served two purposes: they reminded the subject of how much time they had left before the survey expired and they reminded the students that the declining number of individuals eligible to take the survey increased their odds of winning one of the gift cards if they completed the survey before it expired.

Data export is a feature of Qualtrics that allows the researcher to obtain results formatted for various analytical software packages, such as Excel and SPSS, and to display them in Microsoft Word, Powerpoint or Adobe Acrobat. The Qualtrics analytics generate descriptive statistics such as the minimum, maximum, mean, variance and standard deviation for each question, as well as provide histograms and cross tabulations. The full text of the Qualtrics survey is displayed in Appendix A.

Data Analysis

During and following data collection, and at a variety of time points during the study, a number of analytic techniques were employed, results of which are presented in the next chapter. Here the major set of eight techniques employed in the analysis is described. The techniques are shown below, and each is taken up in a subsequent section following the list below:

1. Contextual Institutional Statistics – Institutional characteristic descriptives and displays
2. Student Demographics Extant Data– Student characteristic descriptives and displays
3. Dependency on Parents – Chi-Square relationship comparison
4. Accumulated Debt – Educational debt only – Chi-Square relationship comparison
5. Survey Questions Visual Snapshot – Bar chart displays for results of Likert-scaled questions
6. Survey Questions Cross Case Analysis – Cross case analysis of open-ended survey response data
7. Financial Holds Data – Displays for cut-point analysis
8. Student Success Expenditures Data – Displays for consideration of Leptokurtic distribution

Contextual Institutional Statistics: Excel 2007 was used to analyze OUS peer graduation rate data, Last Mile student attrition patterns data, and to chart the delta of the change in PSU graduation rates if more Last Milers were to graduate within six years.

Student Demographics Extant Data: A combination of Excel 2007 and SPSS Version 17 software was used to organize and analyze the extant data provided by PSU’s Office of Institutional Research and Planning (OIRP).

Dependency on Parents: SPSS Version 17 was used to do a Chi-Square relationship comparison on this independent variable.

Accumulated Debt: Last Milers with accumulated educational debt were divided into independent groups so a Chi-square (X^2) statistic could be run on this independent variable.

Survey Questions Visual Snapshot: The analytics built into the Qualtrics survey suite were used to create histograms for all Likert-scaled questions in the survey. In this case, the histograms were used to provide the reader with a visual snapshot of the frequency and percentages of the survey responses.

Survey Questions Cross Case Analysis: Each open-ended survey question was treated as an individual case and cross case analysis was used to qualitatively explore selected themes revealed in each of the three questions, through a themed approach to data reduction and data display. In case-oriented research, identifying commonalities across multiple instances of a survey response may allow the researcher to draw conditional conclusions about the data. The researcher may find that multiple instances of a similar response to a question are enough alike to be treated as examples of the same or similar answer (Miles & Huberman, 1994).

Financial Holds Data: Because many Last Milers were found to have financial holds that may have impeded their progress to graduation, financial holds were deemed a variable of interest. Using the debt threshold communicated in PSU's holds policy as a starting point, Excel 2007 was used to run a cut point analysis that showed what the potential effects could be on the graduation rates of Last Milers if the financial threshold (the cut point) for holds was either increased or decreased.

Student Success Expenditures Data: Besides the presence of new senior executive leadership, the strongest indicator that an organization may be undergoing a period of

punctuated equilibrium is its resource allocation patterns. In this case, SPSS Version 17 has been used to analyze student success expenditures data looking for a markedly peaked distribution characteristic of leptokurtosis (Sastry, 1997).

Limitations

The methods for this study have a variety of limitations. For example, because this is a policy study of an issue, graduation rates, that is of great concern right now to the case study institution, the urgent need to address this issue has engendered much attention from policy makers. While this response may be evidence of PET and in fact support the theoretical construct of this study, an unforeseen consequence may be that, given the five cohorts of available data, this attention has resulted in such a rapid and or recent change in graduation rate related policies as to make some of the findings from this research irrelevant within the lifetime of the study.

Also, as concerns the student survey, difficulties with the email addresses provided by the university reduced the sample substantially. Additionally, response rates to this small sample have reduced the final sample frame and consequently the study's representativeness even further. This has been addressed by making this study an exploratory case study whose findings may help engender a subsequently more complete institutional survey research process.

Furthermore, as with all single case studies, conclusions from this research must be limited to the university from which the research sample was drawn, and claims for generalization out to a broader population are thus limited. However, it is possible that if other universities exhibit similar characteristics and consider themselves in some ways comparables to the institution of study, they may choose to generalize into the setting, for

beliefs of operating under similar environmental, institutional and student population conditions.

Finally, this study may be subject to certain types of bias. For example, as a survey with a small response rate, the many members of the sample frame may differ so significantly from the respondents, that their lack of involvement may not just influence the generalizability, but the actual validity of the data as well.

CHAPTER III

RESULTS

This chapter presents results of the study described in Chapter II, employing a mixed methods design to combine institutional data at the case study site with exploratory survey research on a sample of the Last Miler study population. Eight strands of analysis were pursued:

1. Contextual Institutional Statistics – Institutional characteristic descriptives and displays
2. Student Demographics Extant Data – Student characteristic descriptives and displays
3. Dependency on Parents – Chi-Square relationship comparison
4. Accumulated Debt – Educational debt only – Chi-Square relationship comparison
5. Survey Questions Visual Snapshot – Bar chart displays for results of Likert-scaled questions
6. Survey Questions Cross Case Analysis – Cross case analysis of open-ended survey response data
7. Financial Holds Data – Displays for cut-point analysis
8. Student Success Expenditures Data – Displays for consideration of Leptokurtic distribution

Results for each of these analyses will be presented and explored in turn in this chapter. The chapter concludes with a discussion of the results in relation to each of the three research questions.

Pre-analysis Consultation

It is the practice of the doctoral program in the University of Oregon's Educational Methodology, Policy, and Leadership (EMPL) department to allow the use of methodological consultants to develop or extend portions of the dissertation analysis when appropriate. EMPL considers this practice to be consistent with the intention of preparing leaders for practice in the field, where working with data analysts on a staff basis or through a consultancy arrangement is often required by instructional leaders in schools or by local, state and national educational agencies (LEAs, SEAs, NEAs).

For this study, two Ph.D. candidates working in methodological areas, Perman Gochyyev at UC Berkeley and Cheng-Fei Lai at the University of Oregon, were consulted early in the planning stages of the dissertation. They contributed to the development of the survey and to suggestions for the eight analytic techniques chosen to be employed here. However, their contributions were of a formative nature only and did not enter into the analysis or presentation of the actual results shown here, which were completed by the dissertation researcher directly. The researcher would like to express his appreciation to these volunteer consultants for their contributions to the design of the survey and study analytics, for which their expertise was valuable and helpful.

Contextual Institutional Statistics

As PSU enters a new era of its development, with a new set of external limitations brought on by changes in the Oregon University System (OUS) and a new internal administrative structure (new president, new vice presidents and new administrative units), student persistence to graduation within the desirable six year federal time frame continues to be a challenge. This was a concern expressed in the informal interviews and

reiterated at all four levels of the organization: student advisory, mid level administrative, high level administrative and external partnerships. For example, when asked “what would you change at PSU to improve graduation rates,” the Director of Financial Aid responded with specific recommendations: 1) require mandatory advising and orientation and 2) create two maps for each student: one to show what students need to do to get through the enrollment process, the second to show what they need to do to graduate from PSU.

This clear and purposeful response was typical of those interviewed and demonstrates an awareness of the issue and a primary concern with low graduation rates at all levels of the organization. In other words, improving graduation rates is an issue that has impressed itself upon the “deep structure” of PSU (Tushman & Romanelli, 1985). As mentioned previously and illustrated in Figure 3.1 below, this collective perspective is justified by current and historical data; PSU’s graduation rates are the lowest amongst their OUS peer group and at least since the 1990s (Kempner & Kinnick, 1990) have been banded within a narrow range.

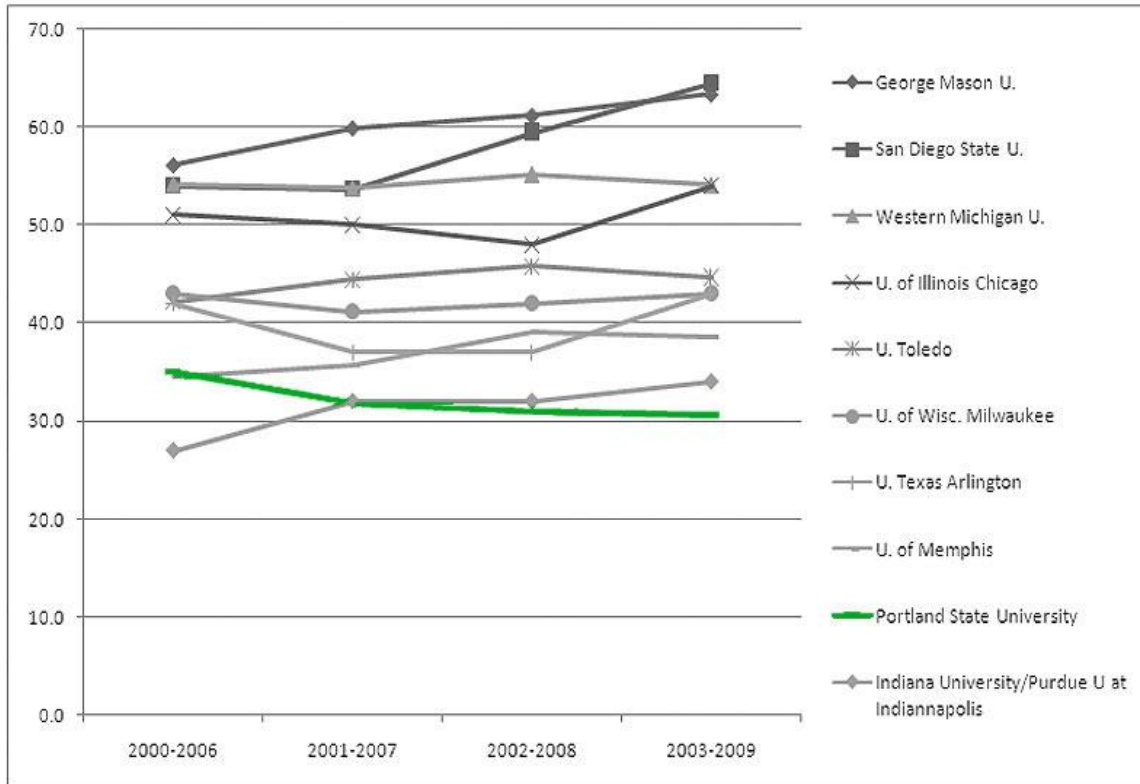


Figure 3.1. OUS Comparison of Peer Graduation Rate Data.

According to President Wim Wiewel, PSU should be capable of achieving a graduation rate that is at least the mean of its peers (Wiewel, 2010). This supposition is supported to some extent by the data presented in Table 3.1 and Figure 3.2 below, which show the latent yield of Last Milers has the potential to help push PSU’s graduation rates substantially higher, should the trends toward graduation be improved. For instance, if means were found to graduate *all* of the Last Milers, PSU would exceed the president’s goal of achieving a 40+% graduation rate. Though this exhaustive improvement is unlikely, it represents the impact that could be achieved by moving this strategic population forward, who in many cases are on the verge of graduation but do not complete. Of course, changing trends for other populations could also help improve

graduation rates, but these are outside the scope of this study and will not be taken up here.

Table 3.1. *Potential Graduation Rates Yields of Last Milers*

Cohort Years	# in Fall of 1 st Yr.	# Still in School in Fall of 5 th Yr.	# Grad. in 6 th Year	# Not Grad. in 6 th Year	Potential yield of “Last Milers”
00-06	854	153	37	116	13.0%
01-07	958	188	56	132	13.8%
02-08	1108	177	48	129	11.6%
03-09	1204	227	47	180	15.0%
04-10	1087	180	48	132	12.1%

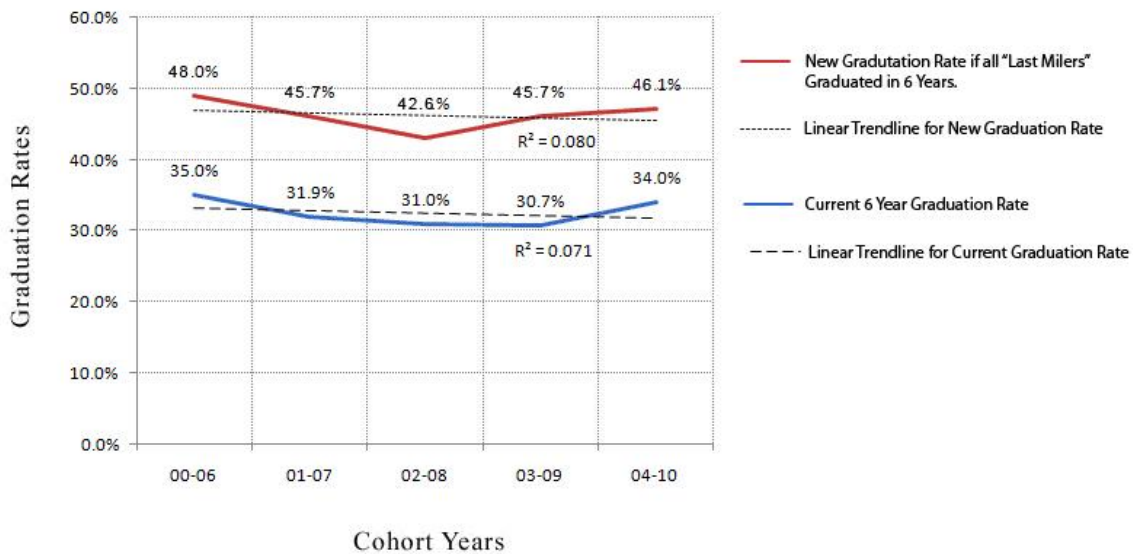


Figure 3.2. *Potential Yield If All Last Milers Graduated.*

Student Demographics Extant Data

For the sake of efficiency, independent variables have been organized into the following groups: demographics, academics and finances. Summary tables have been prepared for each group.

Demographics

PSU's data collection is decentralized and as mentioned previously, in order to obtain student data it was necessary to query and merge three separate databases. Because this is a formative, exploratory study it was deemed appropriate to report this data, even when concerns with the security of unique identifiers made it not fully possible to collect complete sets for some categories. Reporting partial data sets is consistent with the methodology SPSS Version 17 uses to analyze descriptive statistics; it uses all of the valid available data and performs its computations on that data. In this case, when a data set includes missing values, it has been noted in the reporting; otherwise the data shared here are for the full sample of 925 Last Milers.

In terms of gender, females make up a slight majority of Last Milers for the case study site, accounting for 50.3% of the sample in this study. The proportion of males was 49.7%, a fraction less than females. However, although men and women appear fairly evenly distributed, when the gender distribution of Last Milers is compared to the distribution of PSU's general student population – which is currently 54.1% female and 45.9% male – I see that men are disproportionately represented in the Last Mile cohorts relative to their representation in the general student population (OIRP, 2011).

In terms of the race and ethnicity of Last Milers, Whites make up the majority at 59.8%, followed by Asians 18.3%, Hispanics 5.4%, African Americans 3.6% and All Others 13%. When compared to PSU's current distribution of Whites 65.2%, Asian 8.5%, Hispanic 5.8%, African Americans 3.1% and All Others 11.1 %, one surprising anomaly noted is in the high percentage of Asian Last Milers.

Whereas the literature tells us the college graduation rate of Asians was approximately the same as those of Whites until the early 1950's (Alber, et al., 2010), since then their graduation rates have been higher than every other major American ethnic group. Therefore, it is noteworthy that at least for this small sample at this case study site, the ratio of Asians who are Last Milers when compared to the ratio of Asians in PSU's current general student population is more than 2:1 with very few of this group attending as international students. It is also interesting to note that if these cohorts of Last Milers were considered a special class of students, they would represent approximately 4% of the total PSU student body. This means their numbers would be nearly as high as Hispanics and greater than African American students.

At 90.5%, most Last Milers are United States citizens, with 9.5% having resident alien, or some other status. Some demographic categories, such as marital, veteran status, and whether a student has children are voluntarily reported and not all Last Milers chose to do so. However, for those who did report their marital status (N=171), only 13.5% were married; Veterans (N=807) make up 1.9% of the sample and Last Milers with children (N=801) is 7.9%. For those Last Milers who reported their parent's educational level (N=807), the distribution for the highest level of education achieved by either parent was: 3.7% Middle School/Junior High School; 28.6% High School; 64.6% College or Beyond; with Other/Unknown making up the remaining 2.9%. The percentage of Last Milers with college-educated parents at nearly two-thirds may be higher than expected because students are thought to be better prepared to succeed in college "if their parents, siblings, and extended family and community have experience with the demands and expectations of post secondary education" (Conley, 2010; p. 247) and yet they may be

disproportionately represented in these Last Mile cohorts; this outcome will be explored more deeply in Chapter IV. Demographic statistics for Last Milers are listed below in Table 3.2.

Table 3.2. *Demographic Statistics for Last Milers (N=925) *unless otherwise noted*

VARIABLE = DEMOGRAPHICS	N	PERCENTAGE
GENDER		
Female	465	50.3%
Male	460	49.7%
ETHNICITY		
White	552	59.7%
Asian	169	18.3%
Hispanic	50	5.4%
African American	34	3.6%
All Others	120	13%
CITIZENSHIP		
U.S. Citizen	837	90.5%
Resident Alien, Other	88	9.5%
MARITAL STATUS *(N=171)		
Married - yes	23	13.5%
Married - no	148	86.5%
VETERAN STATUS *(N=807)		
Veteran - yes	15	1.9%
Veteran - no	792	98.1%
PARENTAL STATUS *(N=801)		
Children - yes	63	7.9%
Children - no	738	92.1%
PARENT'S EDUCATION LEVEL *(N=807)		
Middle School/Jr. High School	30	3.7%
High School	232	28.6%
College or Beyond	522	64.6%
Other/Unknown	23	2.9%

Academics

As previously discussed, because of challenges with the security of unique identifiers, it proved impossible to obtain high school cumulative grade point averages (GPA) for all Last Milers, to give an indication of their incoming preparedness for post-secondary studies. However, of those for whom GPA data were available (N=483), 29% earned a high school cumulative GPA of between 3.51 and 4.00; Last Milers GPA in the 3.01-3.50 range accounted for 32% of the sample frame; and those in the 2.51-3.00 range accounted for 23%. The remaining 16% of students earned a high school GPA of 2.50 or below. By comparison, PSU's newest class of first time full time freshmen have much higher incoming high school GPA's:

- 38% in the 3.51 to 4.00 range
- 44% in the 3.01-3.50 range
- 17% in the 2.51- 3.00 range with only 1% of admitted students under 2.51

Pre-college admission testing scores are reported below, with a few caveats shared first:

- Because both the Scholastic Aptitude Test (SAT) and the American College Testing (ACT) are accepted for admission to PSU, some members of the sample had taken one set of tests and some the other. Many of the students had taken the test multiple times and some had even taken both sets of test, the ACT and the SAT, and had scores in both.
- In order to do an exploratory comparison, it was necessary to convert ACT scores (which were in the minority) into the more common SAT scores. This conversion

was done using the College Board's concordance tables.⁴ Once this conversion was made, in order to smooth the data, all duplicate scores were removed from the database and in cases where the student had taken a test multiple times, the lower score was deleted and their highest score was used in the analysis.

Using these methods, it was possible to obtain SAT Math and Reading scores for most of the Last Milers (N=817). The average SAT Reading score for this sample was 501, with a standard deviation of 106, whereas the SAT Math score was 519, with a standard deviation of 87. By comparison, as a composite score of 1020, this would place Last Milers in the 50th percentile of this year's class of first time, full time PSU students.

Many Last Milers (37.1%) transferred credits from at least one school while they were at PSU. As for the number of terms they enrolled in while at PSU, the mean for the sample was 19.3 terms with a standard deviation of 4.9. Since PSU is on the term (4 terms equals an academic year), rather than semester system, a mean of 19.3 terms of enrollment suggests Last Milers maintained consistent enrollment. However stop outs were a significant part of the pattern as well with 10.3% enrolled for 12 terms or less. In terms of their academic performance while at PSU, 12.8% of Last Milers had an accumulated institutional GPA in the 3.51-4.00 range. Those with a GPA in the 3.01-3.50 and 2.51-3.00 ranges accounted for 32% and 34.5% of the sample, respectively. The remaining 20.7% earned a GPA in the 0.00-2.50 range.

Depending on how many of the 20.7% of Last Milers with a GPA fell into the < 2.00 range, an academic hold would affect their progress. At PSU the academic hold policy is that students with 12 or more attempted credits whose cumulative PSU GPA

⁴ The College Board's Concordance Tables are available at: <http://professionals.collegeboard.com/data-reports-research/sat/sat-act>

falls below 2.00 are given an academic warning and a registration hold is placed on their student records until they have attended a mandatory workshop facilitated by the Undergraduate Advising and Support Center (UASC). Academic warnings are changed to academic probation if the student does not meet at least one of the following requirements:

1. They raise their cumulative PSU GPA to 2.00 in the next term thereby returning to good standing; *or*
2. They earn a GPA for the next term of 2.25 or above, thereby continuing their academic warning and making them subject to the same requirements in the following term.

Last Mile Majors

PSU has eight schools and colleges that offer an undergraduate major: the College of Liberal Arts and Sciences; the School of Business Administration; the School of Fine and Performing Arts; the Maseeh College of Engineering and Computer Sciences; the Mark O. Hatfield School of Government; the Toulon School of Urban Planning and Public Affairs; the School of Community Health; and the School of Social Work.

As was to be expected, given it has the most majors and generates the most student credit hours, programs in the College of Liberal Arts and Science enrolled the most Last Milers at 34.1%. The second most popular set of programs was in the School of Business Administration with 18.5%; followed by the School of Fine and Performing Arts 10.7%; the Maseeh College of Engineering and Computer Sciences 10.2%; the Mark O. Hatfield School of Government 3.2%; the School of Community Health 3%; the School of Social Work 2.3%; and the Toulon School of Urban Planning and Public

Affairs 1.9%. It is noteworthy, that if included in the rankings above, undeclared students - at 16.1% of the sample - would have been the third most populous group.

Academic statistics for Last Milers are listed below in Table 3.3.

Table 3.3. *Academic Statistics for Last Milers (N=925) *unless otherwise noted*

VARIABLE = ACADEMICS	N	PERCENTAGE	MEAN	S.D.
HIGH SCHOOL GPA *(N=483)			3.18	.49
3.51-4.00	140	29.0%		
3.01-3.50	155	32.0%		
2.51-3.00	111	23.0%		
0.00-2.50	77	16.0%		
PRE COLLEGE TESTING SCORES *(N=817)				
SAT Reading			501	106
SAT Math			519	87
TRANSFERRED CREDITS				
Yes	343	37.1%		
No	582	62.9%		
TERMS OF ENROLLMENT			19.3	4.9
PSU - GPA			2.92	.48
3.51-4.00	118	12.8%		
3.01-3.50	296	32.0%		
2.51-3.00	320	34.5%		
0.00-2.50	191	20.7%		
MAJORS – RANKED BY COLLEGE				
Liberal Arts and Sciences	315	34.1%		
Business Administration	171	18.5%		
Undeclared	149	16.1%		
Fine and Performing Arts	99	10.7%		
Engineer. & Comp. Sciences	94	10.2%		
School of Government	30	3.2%		
School of Community Health	28	3.0%		
School of Social Work	21	2.3%		
School of Urban Planning & Public Affairs	18	1.9%		

Finances

Most Last Milers (87.2%) used the U.S. Department of Education's Free Application for Federal Student Aid (FAFSA) to apply for financial aid while at PSU. The mean number applied for was 4.4 years with a standard deviation of 2.8.

It was possible to obtain first year dependency data for most Last Milers (N= 807). Of these students, 88.8% were claimed by their parents as dependents in their first year of enrollment. Last Milers who took out loans typically did so with more than one bank. The average number of lenders used by these students was 1.8 and the average aggregated loan debt for which current data was available (N= 583) was \$22,802. For the 186 Last Milers who carried an institutional balance, the average amount owed to PSU from all sources (tuition, fees and fines) on the day this data was compiled was \$318.

Financial statistics for Last Milers are listed below in Table 3.4.

Table 3.4. Financial Statistics for Last Milers (N=925) *unless otherwise noted

VARIABLE = FINANCES	N	PERCENTAGE	MEAN	S.D.
APPLIED FOR FINANCIAL AID				
Yes	807	87.2%		
No	118	12.8%		
NUMBER OF FAFSAS			4.4	2.8
1ST YEAR DEPENDENCY *(N=807)				
Yes	821	88.8%		
No	104	11.2%		
NUMBER OF BANKS *(N= 583)			1.8	
DEBT				
AVE. LOAN DEBT *(N= 583)		\$22,802.90		
AVE. BALANCE OWED *(N= 186)		\$318.09		

Inferential Statistics

As with the descriptive statistics above, the independent variables have been organized into the following groups: demographics, academics and finances; summary charts have been provided for each group.

Demographics

Using Pearson product moment correlation calculations, the independent variable gender was found to be slightly negatively correlated (-.06) with the dependent variable Sixth Year Graduation ($p=.04$). Parental Status was also found to be slightly negatively correlated (-.10) with Sixth Year Graduation ($p<.01$). This means that as the number of male Last Milers increases, as compared to females, the number of Sixth Year Graduates slightly decreases; also as Parental Status increases, the rate of Last Milers slightly declines. As shown in Table 3.5, none of the remaining demographic variables were found to be correlated with Sixth Year Graduation, although Veteran Status was marginally close to significance ($p=.06$). Correlation with Sixth Year Graduation of variables of Citizenship, Race/Ethnicity, Parent’s Educational Level and Marital Status were all non-significant for this data set, with a p-value greater than or equal to .21.

Table 3.5. *Demographic Correlations.*

Graduated in 6th year	Biological Sex	Citizenship Status	Race Ethnicity	Parent_Ed_Level	Marital Status	Parental Status	Veteran's Status
Pearson Correlation	-.066 *	.021	.041	-.033	.093	-.095 **	-.067
Sig. (2-tailed)	.044	.529	.211	.345	.368	.007	.058
N	925	925	925	807	95	801	801

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Academics

As shown in Table 3.6, High School GPA and GPA while at PSU were each positively correlated with Sixth Year Graduation Rate, with small but significant correlations of .13 ($p < .01$) and .16 ($p < .01$) respectively, while Number of Terms Enrolled was negatively correlated (-.10) with Sixth Year Graduation Rate ($p < .01$). This means the researcher could be somewhat confident that as Last Miler's incoming High School GPA and GPA increased in value, so did their likelihood of Graduation in Six Years. For the significance of the Numbers of Terms Enrolled, since this was a negative correlation, the researcher could be somewhat confident that as the number of terms a Last Miler was enrolled increased, the likelihood of their Graduating in Six Years decreased. In this study, whether a student transferred credits from another school ($p = .97$) and composite SAT scores ($p = .40$) were not significantly correlated with Sixth Year Graduation.

Table 3.6. Academic Correlations.

Graduated in 6th year	HS GPA	GPA while at PSU	NUM TERMS	TRANSFER CREDITS	SMEAN(SAT)
Pearson Correlation	.126 **	.162 **	-.100 **	-.001	-.028
Sig. (2-tailed)	.007	.000	.002	.968	.400
N	464	925	925	925	925

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Finances

As shown in Table 3.7, whether a student was claimed as a dependent in their first year of enrollment, if they had had financial holds on their account, and the amount of aggregated debt they carried all proved to have small to moderately significant correlations with Sixth Year Graduation ($p < .01$), at -.10, -.12, and -.20 respectively. This means that if a student *was* claimed as a dependent in their first year, as well as if they

did have a financial hold placed on their account while at PSU, then a researcher could be somewhat certain the likelihood of their Graduating in Six Years would decrease. How many lenders they had while at PSU was not significantly correlated (p=.28).

Table 3.7. Financial Correlations.

Graduated in 6th year	1st yr. dependency	AGG Debt	0-1 or more lenders	Registration Holds
Pearson Correlation	-.095 **	-.117 **	-.036	-.200 **
Sig. (2-tailed)	.007	.005	.278	.000
N	807	583	925	921

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Dependency on Parents and Accumulated Debt

In the next analysis, I wish to test two assertions: that there is an association between Last Milers who are claimed as dependents by their parents in their first year of college and whether they are likely to graduate within six years; and similarly that there is an association between the accumulated debt of Last Milers and their likelihood of graduating in six years.

A Chi-Square test was performed to determine if Last Milers claimed as dependents in their first year and those with accumulated debt were distributed differently than Last Milers who graduated within six years, with results for both shown in Table 3.8. In both cases the test indicated a significant difference: First Year Dependency χ^2 (1df) = 480.953, $p < .01$ and Accumulated Debt χ^2 (3df) = 39.017, $p < .01$. This indicates that those with dependency in the first year and those with accumulated debt in the \$10-20 thousand range were over-represented in the Last Mile cohorts. However, at least for dependency, the dependent group was over-represented originally and continued to be, and this finding does not support the hypothesis of over-representation by independent

students. Also, debt in the range of \$10-20 thousand is a typical amount for urban students near degree completion, thus might be expected as the mode. Therefore neither finding seems to especially lend itself to additional interpretation at this time, but might be explored in a more complete data infrastructure; see the last chapter for more information and consideration on this.

Table 3.8. Chi-Squares

1st yr. dependency

	Observed N	Expected N	Residual
Dependent	715	403.5	311.5
Independent	92	403.5	-311.5
Total	807		

AGG_Debt

	Observed N	Expected N	Residual
0-10000	125	145.8	-20.8
10001-22000	207	145.8	61.3
22001-30000	107	145.8	-38.8
more than 30000	144	145.8	-1.8
Total	583		

Test Statistics

	1st yr. dependency	AGG Debt
Chi-Square	480.953 ^a	39.017 ^b
df	1	3
Asymp. Sig.	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 403.5.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 145.8.

Researcher Created Student Survey

As has been previously discussed, creation of the student survey was an iterative process. It began with informational interviews with key PSU policy makers. These

interviews revealed an institutional perspective on the importance of improving low graduation rates. This led the researcher to investigate the steps other OUS institutions were taking to improve their rates, which in turn uncovered a system-wide best practices retention survey and results matrix. The OUS matrix was instructive and gave focus to the study as it expanded to include the efforts PSU has undertaken to increase its own “student success” as defined by higher retention and graduation rates. This effort manifested itself in the creation of a researcher-designed student survey. How the research influenced the eventual design of the student survey instrument and the results of the survey itself are reported next.

With the advent of the First Steps to Student Success and Retention Committee (FSSSR) in 2007, PSU began to take – if not the first then certainly serious – steps towards overcoming its institutional inertia and improving its performance in this area. The OUS system supported this effort by surveying its member institutions and creating a matrix of the best practices each uses (See Appendix B) to improve and then sustain higher student retention rates. Mapping its own student success initiatives against this best practice matrix, PSU devised a strategy it hopes will quickly lead to better retention rates and the ultimate measure of student success – higher graduation rates.

Table 3.9 shows the self reported best practices in use at the six institutions that participated in the OUS survey. Scoring for the survey was based on a 1- 4 scale, whereby:

1 = Limited success

2 = Some success, but cannot be implemented across campus

3 = Success with real potential for greater benefit with expanded implementations

4 = A major success, worthy of replication to other campuses

Using the means of the scores and ranking them highest to lowest, the researcher discovered that institutions which “provide[s] accessible honors programs for its most academically talented and motivated students” are likely to have the most success retaining and thus graduating students (OUS, 2004) while Student Development Transcripts that “recognize[s] and list[s] the student’s achievements and involvement in co-curricular activities” are likely to have little or no effect on retention and eventual graduation (OUS, 2004).

Table 3.9. *OUS Retention Best Practices.*

							Mean
Honors Programs	4	4	4	2	4	3	3.50
Experiential Learning	4	3	4	3	3	2	3.17
Learning Centers	4	3	2	3	4	3	3.17
Counseling and Support Groups	4	4	3	1	4	3	3.17
International Education	4	4	2	3	4	2	3.17
Dual Admission/Enrollment	4	4	4	2	3	2	3.17
Advising	4	3	2	3	4	2	3.00
Student Leadership Programs	4	3	2	2	4	3	3.00
Residence Life	4	4	2	1	4	3	3.00
Faculty Involvement	3	3	2	3	4	3	3.00
Career Guidance	4	4	3	1	3	2	2.83
Support for Diversity	3	3	3	2	4	2	2.83
Collaborations Between Academic and Student Affairs	3	3	3	2	4	2	2.83
On-line Student Services	4	3	2	2	4	2	2.83
Policies and Procedures	4	3	2	3	3	2	2.83
Faculty Development	3	3	2	3	4	2	2.83
Freshman/First Year Seminar	0	3	4	3	4	2	2.67
Interdisciplinary/Integrative Learning	2	2	4	3	3	2	2.67
Collaborative Learning	3	2	4	2	3	2	2.67
Writing Across the Curriculum	3	4	3	2	1	3	2.67
Transfer Student Support	4	2	4	1	3	2	2.67
Community Outreach	4	1	4	2	3	2	2.67
Peer Mentors/Peer Leaders	4	2	2	1	4	2	2.50
Ceremonies and Traditions	3	3	2	1	4	2	2.50
Learning Communities	1	3	4	2	4	0	2.33

Non-traditional Student Support	3	2	3	1	2	3	2.33
Convocations and Special Events	3	2	2	1	4	2	2.33
On-line Courses	4	4	2	2	1	1	2.33
Systematic Assessment and Reviews	3	3	2	1	3	2	2.33
Development Programs	2	3	2	2	2	2	2.17
First-generation Student Success Programs	0	2	2	3	4	2	2.17
College-wide Student Retention Initiatives	2	3	0	2	4	2	2.17
Common Core	3	3	0	3	0	3	2.00
Information Fluency/Library Orientation	2	4	0	3	3	0	2.00
Calling Campaigns, Person to Person Contacts	3	3	0	3	0	3	2.00
Community -nurturing Facilities, Common Spaces	3	2	0	2	3	2	2.00
Math/Science Emphasis	0	4	0	4	0	3	1.83
Early Warning Systems	4	2	2	2	1	0	1.83
Student Success/Degree Plan	0	2	2	2	3	2	1.83
Relationship Building Activities	3	3	2	1	2	0	1.83
Special First Year Curriculum	0	1	4	3	0	0	1.33
Child Care	0	1	2	1	4	0	1.33
Embedding Study Skills in Specific Courses	0	1	3	1	2	0	1.17
Degree Audit	0	1	2	0	3	0	1.00
Mandatory Assessment	1	1	0	1	2	0	0.83
Summer Bridge Programs	0	2	2	0	1	0	0.83
One-stop Enrollment Services	0	2	0	0	1	2	0.83
Portfolios	0	2	0	1	1	0	0.67
One-stop Employment Services	2	2	0	0	0	0	0.67
Student Development Transcripts	0	1	0	0	0	0	0.17

Using the OUS matrix as a starting point, FSSSR created its own initiatives map (See Appendix C) to display best practices that were already in place at PSU; those for which there was a current plan of adoption; and those the university was unprepared to (or did not want to) adopt at this time. Many of these initiatives fell into the 3-4 point OUS range and were related to:

- Learning Centers
- Counseling and Support Groups
- Advising

- Student Leadership Programs
- Residence Life
- Faculty Involvement

This map became the blueprint for a set of initial policy recommendations the FSSSR felt were the proper *first steps* to take towards an effective and sustainable student success strategy; they are:

Action Step 1: Establish and put into practice a clear and comprehensive intentional model of undergraduate academic advising (centralized) and departmental (de-centralized).

Action Step 2: Revamp and utilize the Academic Advising Council (AAC) to increase the quality of advising campus-wide.

Action Step 3: Provide assistance to Schools/Colleges/Departments to articulate a departmental advising model and build capacity within departments for advising students.

Action Step 4: Utilize SIS-Banner to require students to declare a major and to see departmental academic advisors as determined by the college or school process.

Action Step 5: Increase professional development and trainings for departmental advisors on general education requirements, university resources, advising skills and best practices.

Action Step 6: Pilot a Summer Bridge program for a select group of high risk students.

Action Step 7: Identify a space or building on campus that could be designated for student services that would benefit from centralization and/or collaboration.

Action Step 8: Evaluate the PSU Portal for the breadth of its communication potential as well as other Customer Relationship Management (CRM) software tools and web-based support. (FSSSR Committee, 2007)

Of the eight action steps called for in their initial recommendations, the FSSSR devoted five to student advising. These recommendations correlate well with OUS best practices and too, at least one respected scholar: “It is hard to imagine any academic support function that is more important to student success and institutional productivity than advising” (Kuh, 1997, p. 11).

The FSSSR’s remaining three recommendations are notable for their deviation from the OUS matrix. For example, Action Step 6 calls for a Summer Bridge program, whereas with a mean score of 0.83, such programs are held in low regard, system-wide. FSSSR’s Action Step 7 is also noteworthy; it would have PSU, “identify a space or building on campus that could be designated for student services that would benefit by centralization and/or collaboration.” While one can appreciate the administrative efficiencies and possible academic synergies of such a recommendation, it is difficult to see where this fits into the best practices matrix, unless it can be considered part of a “One-stop Enrollment Services” facility, in which case (at 0.83) this is also an idea that ranks very low system-wide. Finally, FSSSR’s Action Step 8 calls for an evaluation of PSU’s Portal (the principal web based channel of internal communication with students) as well as other Customer Relationship Management (CRM) software tools and web-based support systems that would make it easier to track and communicate student progress (or lack thereof). However, with a score of 1.83 these Early Warning Systems

are not well represented system-wide; though financial considerations may have something to do with this.

While PSU has adopted many of the best practices revealed in the OUS survey, and through the efforts of the FSSSR has begun to adapt these practices to their own student success endeavors, they have also chosen *not* to adopt some of them. This may be due to financial concerns or perhaps the adoption of some of these ideas does not fit the sequencing the FSSSR has in mind for PSU's student success strategy. Nevertheless, the decision to exclude certain best practices is a policy decision and so germane to this study. Punctuated Equilibrium Theory hypothesizes that policies reflect the collective thinking of an organization; in this case they are the *means* by which PSU expresses and institutionalizes its student success initiatives (Sastry, 1997).

With this in mind, the researcher created an online student survey designed to explore the gaps in the policy areas that may apply to Last Milers and are not currently in practice at PSU; the results of this survey are reported next.

Survey Questions Visual Snapshot

The web survey was administered on a one-time basis to the 925 Last Milers for whom the researcher had current email addresses. The final sample of Last Milers with active PSU email accounts was 339 of the original sample of 925, or 36.7%. This was somewhat lower than anticipated given PSU's approach of tracking parallel emails. Of the 339 members of the final sample frame, 39 (or 11.5%) completed the survey. With only 11.5% of Last Milers completing the instrument, the response rate to the online survey was disappointingly low. However, those who chose to participate provided complete and thoughtful answers to all of the questions.

The survey contained 13 closed questions. Of these, there were many that demonstrated a strong respondent preference. For example, while Last Milers who had not attended a mandatory orientation were ambivalent as to its value (Q1), most were adamant that they did not want their parents having to attend such an orientation to be a condition of their being able to sign up for their classes (Q2).

Surprisingly, given the relatively positive perception of collaborative learning (mean score of 2.67, 60th percentile) in the OUS matrix, 82% of Last Milers felt including Group Projects in all of their courses (Q3) would have little or no effect on their ability to complete their coursework faster. Also somewhat surprising, considering their profound interest in advising, was the indecisiveness Last Milers showed towards placement testing (Q4) and free individualized instruction in core academic areas (Q5).

With 87% of respondents reporting that being required to meet with an academic advisor each fall before they could sign up for classes would have helped them complete your degree faster, Q6 showed the strongest association between a Last Miler's perception of the correlation between academic advising and their success. Somewhat tepid, but still significant, was their belief in the importance of financial advising to student success (Q7). In this case, when aggregated, 72% of respondents supported this idea along the Likert scale, from a little to a lot.

The relationship between financial holds and student success is an interesting one. While holds have been shown to be significantly correlated (at the 0.01 level) with the sixth year graduation rate of Last Milers who have had them, only 19% of the sample have experienced a hold. This makes it somewhat difficult to interpret the output of Q8.

That said 61% of respondents showed interest in being contacted before a financial hold was put on their account.

Financial holds are symptomatic of inadequate financial resources. Not all Last Milers have student debt, but for the 121 (13%) of the Last Mile sample that have not graduated and do have school debt, that debt (an average of \$28,383) is 22% higher than the national average (\$23,227) for students who have *successfully completed* an undergraduate degree. Along these same lines, Q9 was intended to gauge the perceived utility of Last Mile specific grants in aid. It is interesting to observe that most respondents indicated such a grant would be more useful to them in the 3rd through 5th years. This may be significant since little money is earmarked for Last Mile students. Instead, financial aid tends to flow to students in the early years of their university career; which is consistent with the literature and makes sense for recruitment and retention purposes (Bowen et al., 2009).

When asked whether they felt active participation in special activities designed to deepen their connection to the campus community would have had an impact on how quickly they graduated (Q10), the majority of Last Milers (51%) felt such an intervention would have no effect. This is not surprising given the number of years Last Milers have already spent in the university. Rather, their longevity may reduce the value they place on socialization factors the literature tells us would normally be effective in retaining students in their early years (Tinto, 1993). Whereas socialization factors may not resonate with Last Milers, organizational factors seem to. For example, when asked how much it would have helped Last Milers complete their degree faster if they could have

gone to just one website and found all PSU's enrollment services (Q11), 74% felt this would have helped them to some degree.

Two questions (Q12 and Q13) were asked to gauge how Last Miler's perceived the value of online courses. The policy of moving more course offerings online is a fait accompli in many universities and a pedagogical approach that PSU is expanding as well. It was interesting to see that Last Milers – who began their university careers before PSU committed to the rapid expansion of online courses – were generally supportive of the idea, even if their support was somewhat bounded.

Finally, in terms of response frequency, as the majority's answer to 10 of the 13 open ended questions, “not at all” was by far the most popular response of Last Milers. With most of these open ended questions requiring respondents to reflect on past events, these questions were intended to produce an answer based on experience and not supposition. Therefore it was expected that only a small handful of questions would engender a strong enough positive response to warrant further investigation, which was the case. Results from the survey are shown in Figures 3.3-3.15.

Histograms of the Survey Output

1. *I'd like you to think back to when you first started at PSU. How much would it have helped you complete your degree faster if you had been required to attend new student orientation before you could sign up for fall classes?*

Figure 3.3. Answers to survey question 1.

#	Answer	Frequency	%
1	A lot	5	13%
2	Some	3	8%
3	A Little	3	8%
4	Not At All	8	21%
5	Refuse To Answer	0	0%
6	Don't Know	2	5%
7	No Answer	0	0%
8	Not Applicable, I Attended Orientation	18	46%
	Total N	39	100%

2. *How much would it have helped you complete your degree faster if your parents had also been required to attend new student orientation before you could sign up for fall classes?*

Figure 3.4. Answers to survey question 2.

#	Answer	Frequency	%
1	A lot	3	8%
2	Some	4	11%
3	A Little	4	11%
4	Not At All	19	50%
5	Refuse To Answer	0	0%
6	Don't Know	1	3%
7	No Answer	0	0%
8	Not Applicable	7	18%
	Total N	38	100%

3. *How much would it have helped you complete your degree faster if all your courses included some Group Projects?*

Figure 3.5. Answers to survey question 3.

#	Answer	Frequency	%
1	A lot	1	3%
2	Some	2	5%
3	A Little	6	15%
4	Not At All	26	67%
5	Refuse To Answer	0	0%
6	Don't Know	4	10%
7	No Answer	0	0%
	Total N	39	100%

4. *How much would it have helped you complete your degree faster if you had taken a placement test that helped place you in classes that were the right level for you - not too hard or too easy - during your freshman year?*

Figure 3.6. Answers to survey question 4.

#	Answer	Frequency	%
1	A lot	10	26%
2	Some	8	21%
3	A Little	5	13%
4	Not At All	12	31%
5	Refuse To Answer	0	0%
6	Don't Know	4	10%
7	No Answer	0	0%
	Total N	39	100%

5. How much would it have helped you complete your degree faster if PSU had offered programs where you could get free individualized instruction in reading, writing, math, and other core academic areas?

Figure 3.7. Answers to survey question 5.

#	Answer		Frequency	%
1	A lot		7	18%
2	Some		7	18%
3	A Little		7	18%
4	Not At All		16	41%
5	Refuse To Answer		0	0%
6	Don't Know		2	5%
7	No Answer		0	0%
	Total N		39	100%

6. Thinking back again to when you first started at PSU, how much would it have helped you complete your degree faster if you had been required to meet with an academic advisor each fall before you could sign up for classes? (NOTE: Academic Advisors are there to help you select classes, plan your major, look into internships, consider study abroad, and generally help you think about the direction of your academic life at PSU.)

Figure 3.8. Answers to survey question 6.

#	Answer		Frequency	%
1	A lot		23	59%
2	Some		7	18%
3	A Little		4	10%
4	Not At All		5	13%
5	Refuse To Answer		0	0%
6	Don't Know		0	0%
7	No Answer		0	0%
	Total		39	100%

7. How much would it have helped you complete your degree faster if you had been required to meet with a financial advisor each fall before you could sign up for classes?
 (NOTE: Just as Academic Advisors help you plan your coursework, Financial Advisors help you develop a college financing plan so you can stay in school.)

Figure 3.9. Answers to survey question 7.

#	Answer		Frequency	%
1	A lot		7	18%
2	Some		10	26%
3	A Little		11	28%
4	Not At All		11	28%
5	Refuse To Answer		0	0%
6	Don't Know		0	0%
7	No Answer		0	0%
	Total N		39	100%







8. How much would it have helped you complete your degree faster if PSU had contacted you before a hold was put on your record? (NOTE: If you aren't sure what a hold is, a financial hold means you owe PSU money that needs be paid before you can register for classes. An Academic hold means your GPA has dipped below 2.0 and you need to attend an Academic Standing Workshop before you can register for classes.)

Figure 3.10. Answers to survey question 8.

#	Answer		Frequency	%
1	A lot		13	33%
2	Some		4	10%
3	A Little		7	18%
4	Not At All		11	28%
5	Refuse To Answer		0	0%
6	Don't Know		2	5%
7	No Answer		2	5%
	Total N		39	100%






9. Thinking about your entire time at PSU, if you had received a grant to help you complete your degree faster, in what year would it have been most helpful? (NOTE: A grant is money you would not have to pay back)

Figure 3.11. Answers to survey question 9.

#	Answer		Frequency	%
1	Year One		6	15%
2	Year Two		5	13%
3	Year Three		10	26%
4	Year Four		10	26%
5	Year Five		2	5%
6	Refuse To Answer		0	0%
7	Don't Know		6	15%
8	No Answer		0	0%
	Total N		39	100%






10. How much of a difference would it have made in how quickly you completed your degree if PSU had actively encouraged you to get involved in special activities designed to deepen your connection to the campus community? (NOTE: Some examples of this would be mentoring activities, informal gatherings, and campus housing potlucks.)

Figure 3.12. Answers to survey question 10.

#	Answer		Frequency	%
1	A lot		7	18%
2	Some		5	13%
3	A Little		5	13%
4	Not At All		20	51%
5	Refuse To Answer		0	0%
6	Don't Know		2	5%
7	No Answer		0	0%
8	Not Applicable		0	0%
	Total N		39	100%






11. Thinking back over your PSU experience, how much would it have helped you complete your degree faster if you could have gone to just one website and found all of PSU's enrollment services? (NOTE: For example, financial aid, registration, advising, course listings, etc.)

Figure 3.13. Answers to survey question 11.

#	Answer		Frequency	%
1	A lot		11	28%
2	Some		8	21%
3	A Little		6	15%
4	Not At All		13	33%
5	Refuse To Answer		0	0%
6	Don't Know		1	3%
7	No Answer		0	0%
	Total N		39	100%

12. How much would it have helped you graduate faster if more of your PSU core courses had been offered online? (NOTE: Core courses are the basic courses required to graduate in your major.)

Figure 3.14. Answers to survey question 12.

#	Answer		Frequency	%
1	A lot		9	23%
2	Some		8	21%
3	A Little		4	10%
4	Not At All		15	38%
5	Refuse To Answer		0	0%
6	Don't Know		3	8%
7	No Answer		0	0%
	Total N		39	100%

13. How much would it have helped you graduate faster if more of your PSU courses in general had been offered online?

Figure 3.15. Answers to survey question 13.

#	Answer		Frequency	%
1	A lot		11	28%
2	Some		6	15%
3	A Little		7	18%
4	Not At All		12	31%
5	Refuse To Answer		0	0%
6	Don't Know		3	8%
7	No Answer		0	0%
	Total N		39	100%

Survey Questions Cross Case Analysis

With a response rate of 97% for those who completed the survey, these three questions engendered quite a bit of interest from the respondents who, in general, answered the questions fully and thoughtfully. Using Cross Case analysis (Miles & Huberman, 1994) to evaluate the responses to these open ended questions, the researcher parsed respondent’s answers according to themes; these findings are reported next.

A broadly written question, intended to reveal Last Milers feelings about the global issues that influenced the rate at which they progressed through their PSU career, answers to the first open ended question could be categorized as belonging to one of four themes: Organizational Issues, Personal Issues, Finances and Advising/Counseling. The majority of Last Milers who responded to this question - 39%, considered a lack of adequate advising and counseling to be the most important issue that “slowed [their] progress towards completing their degree” followed by finances and personal issues at 23%, and organizational issues - 15%.

Even though the survey sample was small, with a 16 percentage point delta between the theme advising/counseling and the other three themes, the results for question 14 lend support to a policy that either increases advising and counseling or makes it mandatory for Last Milers. The responses also reveal systematic issues these students encountered in regards to effective advising at the case study site.

Table 3.10. *Open ended survey question 14 (N = 38)*

Question:	What has been the one thing that slowed your progress towards completing your degree - the most?
Theme:	Organizational Issues
	<p>Availability of classes during the year</p> <p>Circumstances that forced me to finish my degree through distance education which then required me to change my major</p> <p>Life. That isn't helpful, but there it is.</p> <p>Inconvenient times for scheduled classes, given the need to maintain two jobs during full time study.</p> <p>Not enough hours in the day?</p> <p>Lack of overall online courses!</p>
Theme:	Personal Issues
	<p>Myself (personal issues, bad time management, motivation, etc)</p> <p>I quit school second year into it to live on my own. When I came back to school, I had to take one class to continue with the course which had changed. Because of that one course, I had to take the first year back part time. The class I had to take was a joke and was almost exactly like one I took at PCC that didn't transfer.</p> <p>I went through a divorce which required me to drop out of classes and I had to take a two year break in order to pay back the school the money I owed from that quarter. I also have had to retake classes the previous quarter because we split right during finals and completing finals was</p>

rather difficult.

My brother died, my parents got divorced and my mother got cancer and I became the primary caregiver. All financial hardships, but more than anything it was the emotional stress combined with the school stress that limited the amount of classes I was able to handle. I would also like to point out that I'm about to get two degrees, not just one, but two and this whole "slowed your progress" thing is bullshit and offensive. Two degrees in seven years is 3.5 years a degree. Plus, I did that on top of my brother dying suddenly. Perhaps, some people take longer to graduate because they actually have things going on in their lives and can't just bury themselves in their studies. I'm sorry my brother died, I'm sorry my mom got cancer, what I was suppose to ignore it and push through at 16 or 21 credits a term?

Getting through personal challenges on my own...many low income, first in the family to attend college students have very little support from family at home.

I was a UNST Mentor, worked for OIT as a technical student coordinator, and helped found a student group + life. I was very busy so I kept my course load to 12 credits. When I tried to do 16, I would generally drop one.

I suck at math

Parenthood: Being pregnant (and throwing up so much I physically couldn't sit in class); Giving birth and taking time off to recover from that experience; raising a child as a single parent with a two-year wait-list for on-campus childcare. Also, early on, student activities were more of a priority for me. I was very active in student government and other student groups. Most of the people in those clubs, like me, took more than 4 years to complete their degree. I think there's a big push for students to get involved on campus, which is great. However, I feel offering (and funding) more academic-focused clubs would help students finish their degrees faster!

Having a child and having to switch my major to be able to take only online classes.

Theme: Finances

The cost of tuition, especially the removal of the tuition plateau for 12-16 credits.

The need to maintain a full time job. It affects my course load and ability

to work around class schedules that are not offered early in the morning or late at night.

Financial Obligations. The drastic increase of tuition over the years, inflation and the cost of living in Portland.

The fact that I have only ever had enough time to go to school full time when I haven't had the money to do so; The fact that whenever I have had the money to go full time I've never had the time; having to hold down menial jobs in order to pay for my education: these have been the root causes of the inordinate amount of time it has thus far taken me to attain a degree.

Also, more financial aid.

Money. In my unfortunate situation, my parents insisted in taking out private student loans to pay for college because "I didn't get anything from FAFSA". In the end, I am thousands upon thousands of dollars more in debt due to these loans than had I gone through FAFSA. They just didn't understand how it worked, and neither did I.

Working while attending school was the thing that made school take longer. Changing my major also slowed my progress, but not as much

The fact that I've had to put myself through college by working jobs in the food industry. What with the shitty pay and odd hours I never have time or money enough to go to school full time.

Finances.

Theme: Advising/Counseling

My first and second years I wasn't sure what classes to take and I didn't know if I should see a counselor or not.

Having to repeat courses. If I had been required to see an adviser and/or take placement tests before registering this could have been avoided. To be fair, I do think part of college is learning to fend for yourself and the university shouldn't necessarily be looking out for me every single step of the way. I think the school should encourage adviser meetings and some form of entrance exams, but ultimately it should be up to the student to utilize these services.

Not realizing what courses I needed to complete before graduation.

No help outside of class. Tutoring wasn't available for every subject and

even the ones that were available were limited. Also, more financial aid.

Repeated changes of major

Not having any sort of guidance outside of my adviser.

The lack of shown support in wanting me to succeed and knowledge of what is available on campus

It's not just the lack of advising, it's PSU's general disorganization and inefficiency. The left hand doesn't know what the right hand is doing; there is no overarching structure or quality control. This leads to infighting between the dept. and conflicting requirements, esp. for multiple majors.

Being told the incorrect thing by my counselor, which resulted in me taking classes I didn't need and delaying my graduation time.

Not knowing what I wanted--I wandered aimlessly and took classes I liked. The thing that would have helped me the most/ the thing I most regret not doing is seeing a counselor, having a plan that included some sort of long term vision. Secondly, more involvement in out of the classroom and into the community activities would have helped me to believe my college career can become an actual career.

Academic advisors not multicultural or first-generation, for example. I'm not white, my parents barely speak English, my parents did not attend even high school... some of the advisors were not empathetic to that situation.

Lack of guidance and counseling in what courses to take and how to plan for my future.

Lack of a clear direction and help identifying areas that I would have been more successful in.

Not enough academic support I. e. academic advising/ counseling/ career planning

I was able to take upper division business classes before being admitted to the SBA. Even after taking several business classes, my GPA was still not up SBA admission standards. As a result, I had to back-track and retake several under-division business classes so that I could get my GPA to meet the minimum requirements for acceptance. Another problem that occurred is that many of the upper-division business core classes are offered only once a year. So for example, If I was not able to get into ISQA 439 during Fall term, then I would have to wait an entire year before I could take the

class again. Since pre-requisites are required for the majority of upper division classes, I was left with very little options. I ended up taking several classes that were unnecessary because I could not take the classes I needed. It was only when I sat down with my advisor and created a plan to get into the SBA program, that I was able to get my degree back on track.

A much more narrowly written question, the second open ended question was intended to reveal the parts of the student experience that PSU *might be able to* control – the policy areas – and any concerns or ideas Last Milers might have for addressing these areas. The answers for the second open ended question could be categorized as belonging to one of five themes: Employment, Institutional Support, Curriculum, Personal Issues, Finances and Advising/Counseling.

Given the opportunity to make specific suggestions about how to improve policy areas, the majority of Last Milers (34%), reiterated their support for more frequent and consistent advising and counseling. A sizable percentage (24%) felt institutional support would have helped them progress more rapidly through their PSU career, while 16% felt they would have benefitted from changes in the curriculum (particularly the offering of more online courses) followed by help with finances 13%; personal issues 8%; and employment 5%.

Institutional Support, because so many of the suggestions involved expenditures, could be considered a euphemism for resource allocations. From a resource dependency perspective (Titus, 2006) such expenditures are concrete manifestations of policy decisions. Thus, the responses that fall into this theme are a rich trove of possible policy interventions that may affect the persistence behavior of Last Milers.

Table 3.11. *Open ended survey question 15 (N = 37)*

Question:	If there is one thing PSU could have done to help you complete your degree faster, what would that have been?
Theme:	Finances
	<p>I haven't been able to take classes in over 3 years because of a debt to PSU that I have been paying off, even though I work here AND had monthly payment plans set up. There should be some sort of way to work around this for people who are serious about finishing their degree but hindered by finances.</p> <p>Encouraging me to have a sham Marriage the year before applying in order to apply for financial aid without having my parents income factored against me, thus allowing me to attend school full time.</p> <p>Providing and informing me of more opportunities for scholarships</p> <p>Forgiven my balance (which was the result of changes made to how financial aid was applied to my balance, unbeknownst to me), and lifted the registration hold. I spent two years scrimping and saving just to get along, while my PSU balance continued to go up and up and into collections. I eventually started earning more money and paying it back, an extra \$700 on \$2100.</p> <p>They would have told me to get a sham marriage with an out of state student when I was 19 so that I would have been independent of my financially comfortable parents who aren't paying for my college for purposes of financial aid assessment.</p>
Theme:	Personal Issues
	<p>Portland State is a great university there is nothing the school could have done to help me complete my degree. Everything that has happened has been personal. I wasn't focused on school for a few years just focused on getting my life back together. I wish I could have completed my studies a while ago but being older and wiser never hurt.</p> <p>Uh, talk me out of double majoring in psych and criminology? Prevent my mom from getting cancer (or possibly having free mammograms for mothers and daughters), preventing my brother from dying?</p> <p>Not wasted two years taking graphic design classes from a bunch of luddites who hadn't actively worked in the field in over twenty years.</p>
Theme:	Employment

Helping students get connect to on campus job opportunities. When I started at Portland State, I had no idea we even had a career center for at least the first year.

More exposure to the job market. Assistance in finding a job after graduation

Theme: Curriculum

Offer more bachelor degree choices through distance education

Offer more classes online or after 5pm.

I feel that for my particular degree, Environmental Science, that some of the courses, Biology in particular, are not very well suited to my field. As a result I had to repeat some of those courses. If the required biology course for ESM majors was not the same course as that required for biology or health majors I would have been more successful. I feel that the biology courses I was required to take had more depth and breadth that is necessary for my major. A separate biology class should be created for non-biology and non-health majors. It could even be 2 terms instead of 3, which would allow me to finish sooner or take another class in my own department.

Offer more classes online.

Allowed me to skip the bullshit classes that were not in my specific area of study and not a development of core skills. That would have saved me at least 2 to 3 terms.

A wider variety of online classes or alternative programs (such as the SBA Weekend Business Degree Program model) at all undergraduate levels, both in core curriculum and in the PSU School of Business.

Theme: Advising/Counseling

Freshman and Sophomores should be required to plan out their years in advance. When I met with my SBA counselor and we planned out every term for the next year and a half I knew exactly what I had to take and when.

Requiring meeting with an academic advisor each year.

More advising available to students in area of study

I completely believe making it mandatory for students to meet with an academic and financial aid advisor before fall term begins would be beneficial for all. I think this would have assisted me in completing my education more quickly.

Excellent, consistent advising. Also consider that this is just a stepping stone: it is the responsibility of the university to help students invest in their futures, which means going on to grad school and careers.

Make sure the counselors know what they're doing.

Forcing me to see a counselor. I did not know I needed one until it was way too late...

More information on what to do once your done with your degree... mandated to set up some type of plan

Forced advising at the start

Academic forecasting toward a specific degree. By this I mean meeting with an academic adviser quarterly or yearly to plan what courses I needed to take for a specific major.

HIRE BETTER ADVISERS! I figured out halfway through this 7 year degree journey that I REALLY like the biological sciences and do well in those classes. Up until then I was just bumbling along taking courses in the social sciences because I was interested those fields. I don't feel like I started having a true college experience 'til I started exploring science. And I didn't take any science classes sooner because I was intimidated and didn't really know that I could just sign up for a science class and not fail it. I was never challenged by the advisers or asked what I wanted to do or what else interested me. Most of what the advisers told me I could have looked up in the PSU bulletin. It was a very frustrating experience and I don't really feel like I received true academic advising like at the more prestigious universities. Being a Liberal Studies major might have something to do with it. I don't even know if I have a Department Head I'm supposed to see.

I believe this problem has been fixed but students who are not accepted into the School of Business should not be allowed to take upper-division business courses under any circumstances. It would also help if the business core classes are offered more than once a year. Finally, what really helped me in the end was meeting with my advisor and creating a plan for success. If I was required to meet with my advisor before classes started every year I guarantee I would have been done with my degree several years ago.

Theme: Institutional Support

Calling when there were holds or things that needed to be processed. More organization and not losing papers. Actively alerting students of criteria etc.

Transferred the class I took at PCC so I could start my year back at PSU full time. Also, more financial aid options (other than loans) would have been nice.

Smaller classes, required internships

Have better Math teachers.

Better academic forecasting, I suppose; more individualized instruction

I think if PSU offered more studying resources it would help students greatly. I felt like there wasn't enough free access to these types of programs. Also test prep, GRE testing, etc would be beneficial.

More approachable resources that could help in me succeeding

More study workshops

Offered more available child care services (including changing stations in bathrooms) so I could actually attend class on campus.

Finally, in the most “open” of the open ended questions, Last Milers were encouraged to respond extemporaneously to the third question in this set. The intent of this question was to see if there were any unscripted responses that might expose new variables of interest for Last Milers that couldn't be revealed in any other way.

Not expecting a large response, the researcher was pleasantly surprised at the number (N= 29) and the frankness of the answers. A catch-all question, the third open ended question did not lend itself to categorization, however where there were illuminating comments with policy implications, they have been presented here verbatim.

Table 3.12. *Open ended survey question 16 (N = 37)*

Question:	Before you finish the survey, is there anything else you'd like to add?
Theme:	Quotes

Fixing the goddamned Financial Aid website so that forms can be submitted from all computers, not just PCs would've been handy.

There need to be more online classes offered. I worked full time and went to school full time which made things really difficult because the classes usually only had 2 options, one in the morning and one at night. That also made taking the required classes really difficult because of scheduling conflicts.

Though I am sure it will pay off at some point (hopefully before I'm dead), I have spent much too much on education in the past 8 years. Please encourage/recommend PSU require students to meet with advisors. I realize now how helpful it could have been. Also, students should be assigned a particular advisor. I think this may have been part of my issue. Every time I went to speak with an advisor it was someone different. It would have been nice to have been able to meet with the same person.

I felt very much "on my own" through a significant portion of my time at PSU, despite knowing the availability of academic advisors. I had a semi-dedicated advisor through the SBA Weekend Business Degree Program, which helped get me through a large portion of my upper level requirements, but even that compares poorly to the phenomenal 1-on-1 guidance I am getting through my graduate degree program, which is not through PSU.

Even just more in your face information about the benefits of academic advising would be good--little plugs at the beginning of classes during the first week, etc...

My experience has just been so frustrating. I couldn't afford to pay back PSU because I couldn't afford to start paying on student loans. Eventually paid off PSU to find out that now I have to pay off some loans that defaulted while I couldn't afford to pay anything to anyone. So now I'm trying to pay them off while at the same time having to pay my entire tuition out of pocket since I don't qualify for school aid until this defaulted loan is paid off. All I want is to be able to finish school and be able to move on and get a job that finally allows me to pay it all off. Trying to pay it off while trying to finish a degree is a phenomenal headache.

I think students could really benefit from having academic advising that is founded on concrete career planning. For first generation Latino college students the university system can be very difficult to navigate. I felt lost quite a bit. It was not until I entered the EOP program that I received the academic advising I needed.

I think having some sort of cohort model would be helpful. I envision it as a small to medium group of students that are required to get together periodically with an adviser and talk about their challenges, successes, and progress. PSU NEEDS TO GET IN THE BUSINESS OF PREPARING ALL STUDENTS FOR GRADUATE SCHOOL. It gives students, especially non-traditional students, something to look forward and aspire to.

Due to the lack of parent friendly services on campus I had to change my major from mathematics and business to Arts & Letters so I can take classes online. Now I am unhappy with my degree and cannot find a job in the field that I want.

Financial Holds Data

Exploratory analysis of debt data revealed that 19.3% of Last Milers have had at least one financially related hold during their time at PSU. Financial holds result from carrying a financial balance that exceeds the allowable limit and are significant because they trigger an automatic registration hold, making it impossible for students to enroll in classes until the money is paid off. In 2007, PSU's policy was to place holds on student accounts under four conditions: 1) the student owes a prior term balance greater than \$100; 2) the student owes a current term balance for residents that is greater than \$1,000 and for non-residents that is greater than \$2,500; 3) there is a written-off amount equal to or greater than \$25, or 4) the student's account has an unsettled returned or stop paymented check. Since 2007, the financial hold policy and its debt thresholds have not changed except for the fourth condition – “the student's account has an unsettled returned or stop paymented check” – which has been dropped.

In the case of the study sample, 179 Last Milers have had at least one financial hold during their PSU career and of these, 165 did not graduate by the end of their sixth year. As a percentage of the total number of Last Milers who do not graduate by the end of their sixth year (n=689), this represents 24% of the sample. The average balance owed to PSU by Last Milers at the time of their hold was \$1,604.86 which is far above the cut point for holds; however 21 of the 689 Last Milers that do not graduate before the end of their sixth year (3 %) owe PSU between \$1,001 and \$1,500. Thus, it is possible that if the financial hold policy was changed so its threshold was tied to inflation or percentage increases in tuition, it would mean the students on the margins might have fewer holds and PSU might yield a higher number of Last Mile graduates.

How hold thresholds are determined and how frequently they are updated are just two examples of the types of policies that impact Last Milers and may affect their graduation rates as well. Although by no means exhaustive, this collection of exploratory data has revealed other policy areas that might benefit from deeper and more frequent scrutiny.

Student Success Expenditures Data

Even as a relatively new theory with a limited body of literature, PET has enough of a scholarly history to have built up an empirical body of evidence to support its major tenets. Tushman and Romanelli (1994) have contributed the most to this effort and can point to at least four hypotheses their research is able to support; they are: 1) installation of a new chief executive officer significantly increases the likelihood of revolutionary transformation; 2) major changes in environmental conditions significantly increase the likelihood of revolutionary transformation; 3) organizational transformations occur in

short, discontinuous bursts of change involving key domains of organizational activity; and 4) small changes in individual domains of organizational activity do not accumulate incrementally preceding a fundamental transformation (Romanelli & Tushman, 1994). Since these four hypotheses frame the results for this policy study of graduation rates, they are discussed next.

Having already established the presence of new senior executive leadership (President Wiewel, three new Vice Presidents and two new administrative units) and the major changes in the environmental conditions that have significantly increased the likelihood of revolutionary transformation (declining state support and a new regulatory environment), the next most creditable evidence for PET is “short, discontinuous bursts of change involving key domains of organizational activity.” According to the literature (Sastry, 1997; Asmussen, 2010) evidence of such bursts would appropriately display in a leptokurtic distribution, or unusually peaked distribution compared to prior base rates, of data in a key area, for example, in the distribution of expenditures.

As discussed previously, Leptokurtosis is a probability function that shows itself as being more peaked than a normally distributed bell curve. Moreover, a leptokurtic distribution in the allocation of organizational resources is said to exhibit “fat tails” (Sastry, 1997). Higher kurtosis means more of the variance in the data is the result of infrequent extreme deviations, rather than frequent modestly sized deviations. Of the data sources available to the researcher and given the aims of this study, it was decided the most useful place to look for such a distribution was in the “student success” expenditures data, since these data reflect policy decisions in this area.

Utilizing the budget codes used to track expenditures, as Table 3.13 shows, it was possible to isolate the categories used to recruit, admit, advise and retain students at PSU for the six initial matriculation years for Last Milers.

Table 3.13. Student Success Expenditures

	05-06	06-07	07-08	08-09	09-10	10-11
Org Type 330140 - New Student Programs (Publications)	\$147,115	\$157,115	\$157,115	\$242,115	\$577,000	\$315,118
Org Type 330130 - Undergraduate Orientations	\$279,182	\$298,119	\$304,897	\$563,651	\$352,591	\$508,975
Org Type 330070 - New Student Advising	\$327,175	\$162,908	\$178,361	\$284,751	\$296,678	\$499,868
Org Type 330001 - Student Success	\$42,991	\$48,854	\$0	\$0	\$88,150	\$102,670
Org Type 331801 - 1st Year Student Advising	\$0	\$141,570	\$146,780	\$178,960	\$240,369	\$254,065
Org Type 331801 - Info. & Academic Support Cntr.	\$638,116	\$687,601	\$695,928	\$651,188	\$686,108	\$748,713
Totals by year	\$1,434,579	\$1,496,167	\$1,483,081	\$1,920,665	\$2,240,896	\$2,429,409

Certain categories, such as Undergraduate Orientations and New Student Programs (Publications) show the “infrequent extreme deviations” I would expect to see in a PET scenario. However, the variability of New Student Programs (Publications) expenditures may be the result of admissions policies to move more of this type of recruiting and retention material online.

When aggregated, Figure 3.16 shows a steady increase in student expense expenditures and a steeper increase in recent years. This has occurred even during a period nearly all other areas have experienced budget cuts. This would suggest a shifting of institutional priorities towards student success, and may be evidence that PSU is making a significant effort to overcome inertia in this area. While this resource distribution pattern is consistent with PET, the fact that I have so few years of data to compare makes it difficult to confirm if the data suggest an ongoing leptokurtic distribution. This trend could be followed in upcoming years to observe the comparisons

to better inform this observation, thus conclusions should be interpreted cautiously at this time. Having reported the results in Chapter III, I turn now to a discussion of their implications in the final chapter of this study.

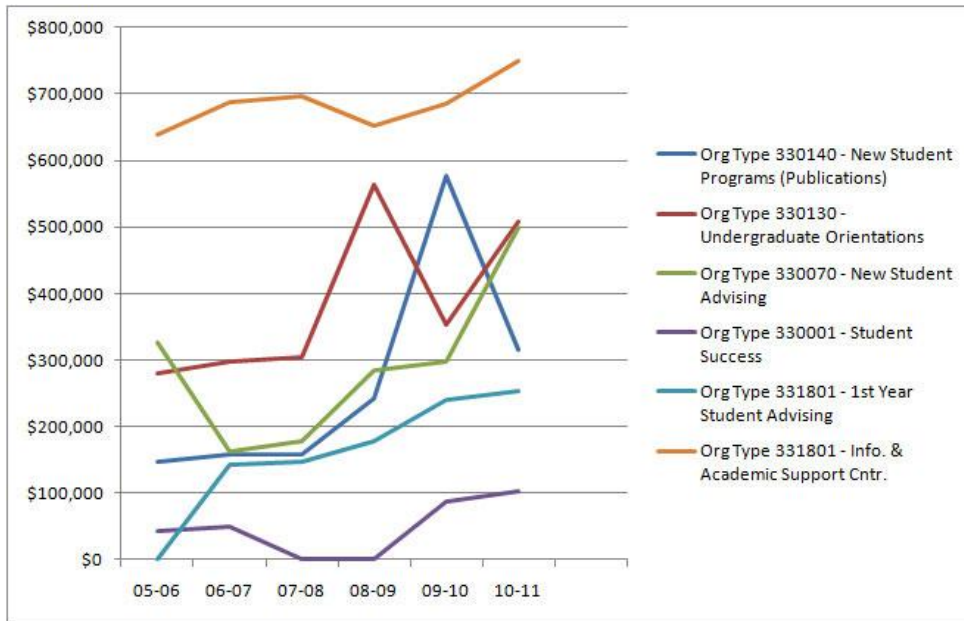


Figure 3.16. *Trend Line Chart of Student Success Expenditures*

CHAPTER IV

DISCUSSION, CONCLUSIONS AND IMPLICATIONS

“These students [Last Milers] represent the low-hanging fruit in our national agenda to increase the number of college graduates. Policies and practices designed to reach and support these students through completion have the potential to move the needle on our collective efforts to increase college completion for all students” (IHEP, 2011).

The objective of this study has been to focus on the group of students most likely to impact graduation rates at the federal cut point for such rates; the sixth year. Because these students are so far along in their university career, they represent a relatively small percentage of all students and yet their persistence is evidence of their strong commitment to obtaining a college education. A better understanding of such students may not only inspire interventions designed to reduce their numbers and increase their likelihood of success, it may shed light on issues that, if addressed, may encourage the persistence of all students.

As a group, Last Milers are anomalous because they persist beyond the first and second years when the literature suggests internal social integration issues could make them susceptible to dropping out (Tinto, 1975, 1993). They persist beyond the third and fourth years, when the literature suggests external environmental factors might lead to their attrition (Bean & Metzner, 1985; Bean & Vesper, 1990). Now in their fifth and sixth years they have fallen off the radar of most scholars. And yet, to the university in this case study, these persistent students represent a unique opportunity to improve one metric that has confounded the university since its inception; graduation rates.

In a period of punctuation, when the institution in this case study is reassessing itself and making dramatic internal changes so it is better able to manage to metrics,

developing a sophisticated student success system that leads to improved graduation rates and allowing that system a trial period – before it resets itself – may be critical to PSU’s future success. This is especially true if public universities are to be judged, perhaps even funded, based on a limited number of performance metrics, and graduation rates are to be one of these.

Chapter IV begins with a brief summary of the study. This is followed by a discussion of the findings as they relate to each research questions. Next, conclusions are drawn and recommendations for new internal PSU policies are made based on the findings of this study. The chapter concludes with implications for future research.

Summary of the Study

Five cohorts of Last Mile students participated in this study. They met the federal definition for graduation rate cohorts by enrolling as first time, full time freshmen in the fall term of years 2000, 2001, 2002, 2003 and 2004 and the study’s definition for Last Mile students by still being enrolled at PSU after five years without having completed an undergraduate degree. Descriptive and inferential statistics for the Last Milers were gathered with the assistance of PSU’s Office of Institutional Research and Planning. Formative information on these cohorts was first acquired through a series of informal interviews with policy makers from all levels of the organization. Using an iterative process to create a researcher designed online instrument, Last Milers were surveyed. Survey questions were based on a gap analysis of OUS system-wide student success efforts that resulted in a matrix of replicable best practices. Analysis of the survey responses and the descriptive and inferential statistics suggested additional independent variables of interest for which additional analysis was done. Findings were analyzed in

light of Punctuated Equilibrium Theory and related to the relevant PSU policies most likely to influence the dichotomous outcome variable of graduation within six years.

Discussion

As previously mentioned, the overarching inquiry that guides this study is the extent to which graduation rates of Last Milers at PSU are influenced by policies that affect their behavior in the fifth and sixth years. Subsumed within this larger question are three more detailed research questions:

RQ 1: What internal policies appear to have the greatest impact on the ability of “Last Mile” students to graduate within six years, based on descriptive displays of institutional data and correlational studies among common attributes?

RQ 2: What internal policies do “Last Milers” identify as having retarded their progress towards graduation within six years?

RQ 3: What internal policy interventions do “Last Milers” believe would help facilitate their progress towards graduation within six years?

I now address each question in turn.

Research Question 1

One finding for RQ 1 has little to do with what could be gleaned from the institutional data and correlational studies and more to do with the data infrastructure available at the case study institution. This is to say that the decentralized nature of PSU’s data collection and retrieval systems made it very difficult to gather complete sets of student demographic, academic and financial data. This was the case even though the researcher had near complete access to the pertinent systems and the full support of the office of institutional research and planning throughout this study. However, it should be

noted that institutional data collection for this dissertation began in November 2010. Since then, PSU has acquired a new vice president for finance and administration and made substantial investments in connecting the institution's disparate databases. With the advent of the COGNOS and DATAMASTER projects, PSU has begun to make it much easier to collect data across platforms and generate reports that are consistent and intuitive to the user. Such improvements in the reporting of business data (and in the future, Human Resources and Student Affairs data) will make it much easier for PSU administrators, researchers and other "power data consumers" to use data to make informed policy decisions in the future.

Unfortunately, this study came too early to benefit from the improvements to the data infrastructure listed above and there were problems matching students to ID numbers across three different databases and the interfaces used to query them; there were problems obtaining up-to-date contact information; and there were problems gathering admissions data related to pre-admission such as ACT and SAT scores. If improving the graduation rates of Last Milers is to become a priority (and this study shows the potential impact on PSU's graduation rate should be enough to warrant this change) then a systematic approach to gathering and analyzing relevant data at PSU must be devised. New policy making this type of data collection a priority, coupled with the appropriate resources to create scripted data queries so Last Milers can be identified annually, should be enacted. The lack of such policy makes it impossible to identify Last Milers, which is the first step towards addressing their needs and helping them graduate within six years.

Analysis of the descriptive statistics reveals several other internal policy areas that warrant attention. For example, demographic statistics show an unusually high

concentration of Asian students amongst the Last Mile cohorts. As previously discussed, since the 1950's, the graduation rates of Asian students have been higher than any other ethnic group (Alber, et al., 2010). Why isn't this also the case with these cohorts of PSU Last Milers? Is this simply an aberration, or is there something different about this group that requires new internal policies to understand their circumstances and help them graduate? For example, would it be helpful if Asian group demographic data could be disaggregated into its composite sub-groups for enrollment management purposes? What might that tell us? Are there more Vietnamese or other Asian groups at PSU? If so, does their representation in the Last Mile cohorts reveal the need for more advisors who speak Asian languages, or perhaps these students are first generation students and need to be advised accordingly? In any event, the unusually large numbers of Asian students in the Last Mile cohorts suggests the need for further analysis and appropriate advising policies to address their needs as they are revealed.

Also, if Last Milers are a characteristic group unto themselves (which their qualities and numbers suggest they might be) and PSU is serious about improving its graduation rates (which it appears to be), then from a policy perspective, perhaps PSU should be paying as much attention to characteristic groups as it is to ethnic groups. If the university adopts new internal policies having to do with data collection and creates annual data queries for targeted student groups, this will represent a leap forward in the sophistication with which they manage their enrollments. In turn, it may enable them to realize higher student success dividends if they concentrate these analytical tools on graduating students from similar characteristic groups (like Last Milers) rather than ethnic groups; which is current policy.

When I look at the academic dimension of the descriptive statistics, two findings stand out. First, with PSU's new higher admissions standards, many of the Last Milers would not have been admitted to the university in the first place without additional preparation. On the one hand, this suggests that perhaps today's students, based on their higher GPAs and test scores, are better prepared and thus more likely to complete their coursework within the desirable six year framework. Since the correlation between higher high school GPAs and test scores has already been established (Bowen, et al. 2009) this new internal policy alone is likely to yield higher graduation rates for PSU. However, this policy may also turn out to be a double-edged sword. By preferring students with higher GPAs and test scores, it will necessarily exclude some students with Last Mile characteristics, thus creating a more homogenous student body and denying admission to students who have the ability to persevere to graduation, if given the opportunity to do so. This would suggest the need for some discretion on the part of policy makers, so students with Last Mile characteristics can be included as part of the mix of future freshman cohorts, or can be better prepared for inclusion.

Changing admissions policies are an argument for understanding as much as possible about Last Milers. As enrollment management becomes more strategic and sophisticated and more is known about predictable student behavior, the students most likely to fit a certain profile may be given precedence over others. From a financial perspective we are already beginning to see this in the heavy recruiting of international students, who pay much higher tuition. With an increased emphasis on graduation rates, a student's potential for being able to graduate within the six year timeframe is likely to be part of their profile. Thus policies which require admissions personnel to know as

much as possible about students whose high school performance may relegate them to the fringes of this “ideal” profile will be very important going forward.

The second academic descriptive statistic that reveals a lack of internal policies that may be impacting the graduation rates of Last Milers is that so many (16.1%) are allowed to go through their PSU career without declaring a major; being undeclared they do not benefit from departmental advising. As with higher admissions standards, combining more professional advisors with new internal policy that requires students to declare a major in a timely fashion is likely to help students better align their path through PSU and result in higher graduation rates.

When I add the survey data to this descriptive data I see that Last Milers have a need for more specialized advising because their circumstances are generally more individualized and influenced by adult responsibilities. This suggests the type of advising that helps freshman and sophomores align their schedules with their interests towards the goal of graduating within a particular major may not be as useful for Last Milers. In their case, more pragmatic advising appears called for. If, as it appears likely, most Last Milers are to continue receiving academic advising from departmental advisors, then their advising should be focused, not on navigating PSU academic requirements as it is for early career student, but on navigating degree completion; this approach may be most useful to students with more individualized circumstances. Survey findings of this study suggest new internal policies that provide for this type of advising could be very useful to Last Milers.

It may also be a major finding of this study that advising support systems in general in the years leading up to the fifth and sixth years at PSU need substantial

improvement. One way to mitigate this weakness would be to assign every enrolled student an advisor in their freshman (or first year in the case of transfers) that stays with them their entire college career. This would help reduce some of the social integration stressors that act on new students by providing them with a contact within the university that understands how to successfully navigate the system. Ideally, each student would be able to meet with this advisor at least twice a year. Since weak or inappropriate advising throughout their post-secondary studies was cited by numerous last mile students, this may also be the cause of attrition for other students who do not persist long enough to even become Last Milers.

Correlational studies were run for Demographics, Academics and Finances with the following results:

- Gender and Parental status were found to be negatively correlated with the dependent variable Sixth Year Graduation.
- HS GPA and GPA while at PSU were positively correlated and Number of Terms Enrolled was negatively correlated with Sixth Year Graduation.
- Whether a student was claimed as a dependent in their first year of enrollment, if they had had financial holds on their account and the amount of aggregated debt they carried all proved to be significantly correlated with Sixth Year Graduation

These findings are consistent with the literature review in Chapter I, and all point to issues that may need to be addressed or to supports that need to be offered if Last Milers are to graduate by the end of their sixth year.

Research Question 2

In order to answer the question: what internal policies do “Last Milers” identify as having retarded their progress towards graduation within six years; I shift to an analysis of the survey data. For the small final sample frame (N=39), the responses to both open and closed questions overwhelmingly indicated that Last Milers feel advising is the single most important internal policy area that has retarded their progress towards graduation within six years. This finding is further supported by the analysis of frequency ratios for responses to the survey. For example, most of the open-ended questions engendered a strong “*not at all*” response from Last Milers. That is to say that in terms of response frequency, the majority’s answer to 10 of the 13 open ended questions - “not at all” - was by far the most popular response. In contrast, *only* questions about advising provoked a strong response that this factor was an issue.

Mandatory advising has been a dream deferred at PSU for some time now. In 2001, PSU accepted the recommendation of the President’s Student Advising Action Council (SAAC) to adopt a new advising model. The SAAC Model specified that:

- Orientation would be mandatory for all undergraduates.
- All incoming undergraduates would have an individual advising session within their first 24 credits at PSU.
- All undergraduates would declare a major prior to completing 120 credits.
- Upon declaration of a major, all undergraduates would be advised on all academic requirements within the major department and majors would be encouraged to meet with a departmental advisor at least once prior to the completion of 90 credits (As quoted in the PSU Advising Website).

Between 2001 and 2007 this model was largely unfunded. In 2007 the Academic Advising Council called again for these advising improvements and refined their recommendations to include a plan and funding for a mandatory pilot program that would begin advising all incoming freshmen in the fall of 2007. At a recommended case load for professional advisers of 300, assigning each incoming freshman to a professional adviser would require the hiring of 4.5 FTE at a reoccurring cost of approximately \$270,000.

As of the fall of 2010, PSU has finally been able to act on the AAC's recommendations and has committed the necessary funds to hire enough professional advisers to provide new students with a combined mandatory orientation and initial advising session they must complete before they can register for classes. According to the PSU advising website (2012), the combined program is intended to assist students with the following:

- Exploration of personal goals
- Exploration of career and academic goals (including graduation and professional programs)
- Integration of personal, academic, and career goals
- Selection of general education option, degree, and major or program of study
- Selection and scheduling of courses
- Understanding University policies and regulations
- Information about and referral to University resources and services

What is missing from this new advising policy is complementary policy addressing the need for the timely declaration of majors. Since only new students (freshman and

transfers) are required to attend the combine, primary advising for all other students is still the responsibility of their major department. If students are allowed to stay undeclared until they have completed 120 credits (as is the recommendation of the SAAC) then a full time undergraduate successfully completing 12 credits per term for three terms a year, will be one term into their fourth year before they can enjoy the benefits of regular advising through their major department. According to the Last Milers, this is the scenario many of them experienced. Thus, it may be concluded that the lack of a strong declaration of major policy retarded the progress of Last Mile students towards graduation within six years.

Although Last Milers identify the lack of adequate advising as *the* major internal policy hurdle to their having graduated in six years, they identify other areas as well. For example, the availability of additional sections of core courses is called out as an impediment to their timely completion as well as financial considerations such as having to work full time while attending college and a lack of sufficient financial aid.

Another area of concern Last Milers identified in the survey was their need for more, and more conveniently scheduled, sections of core courses. However, since this is a resource allocation policy issue, it is better addressed in RQ 3. Specialized financial aid, on the other hand, was also an important policy issue that Last Milers flagged as well. While financial aid is a concern for most PSU students, it may be a particular concern for Last Milers because they have been in school for an extended period and as indicated previously, have accumulated higher debt loads than the national average for students who have completed their undergraduate degrees; and as we know, Last Milers have not. According to PSU's Director of Financial Aid, Last Milers may fall into a

characteristic group for which financial aid “may not provide the means to resolve their financial problems.” According to this expert, many PSU students use their financial aid for purposes other than paying for school. “For example, they may be using it to replace income from a lost job, or to support a family or a parent.”⁵ This is consistent with my survey findings which indicate that the experience of Last Milers is very individualized and complicated and requires targeted advising and specific interventions if they are to graduate within six years.

Research Question 3

In order to answer the question: what internal policies do “Last Milers” believe would help facilitate their progress towards graduation within six years, data from both the closed and the open questions of the student survey were combined. The survey identified a short list of concerns, which if addressed with new internal policies, could facilitate the progress of Last Milers towards graduation within six years. They are advising (both academic and to a lesser but still important degree, financial); financial holds; additional online courses (particularly for core courses that are part of a sequence); consolidated enrollment services on a centralized website; and financial aid occurring in their 3rd through 5th years.

The issues surrounding academic advising have already been discussed in some detail, however financial advising has not. Currently, financial advising is not required for new freshman and transfers at PSU. This makes sense since they are just beginning their academic career, in many cases are still claimed as dependents by their parents and have not yet begun to accumulate the debt typical of Last Milers. For these reasons, it is probably not necessary to make mandatory financial advising of freshman, sophomores

⁵ Interview with Financial Aid Director Phillip Rodgers, Feb. 19, 2010

and transfer students a new policy. However, for Last Milers – particularly as they enter their fifth year – mandatory financial advising might help surface some of the fiscal challenges that can lead to holds.

Financial holds, as has been discussed previously, are significantly correlated with six year graduation at the 0.01 level. The survey data supports their significance as well. In fact, a financial hold doubles as an academic hold by bringing a student's progress towards graduation to a full stop. Survey responses indicate that Last Milers who experience a financial hold may end up in a situation where they have to stop out of school in order to earn enough to clear the hold before they can continue their education. An unforeseen condition of this scenario is that stopping out may throw these students out of academic sequence making it difficult for them to re-align their programs for a timely graduation; particularly if they miss the first core course in a major sequence. Because the success of all students is predicated on their ability to maintain academic momentum, intentional administrative roadblocks such as hold policies should be managed with the utmost care.

The need for additional sections of core courses was also a consistent theme within the student survey data. As already mentioned, Last Milers may be susceptible to this need because so many suffer financial holds. From an internal policy perspective this is a difficult issue to address since additional sections of core courses mean additional resources as well. Perhaps the solution is contained within the survey responses themselves which suggest that more of these core courses be offered online. To the extent the pedagogy supports such a medium, there are several advantages to adding online sections of core courses: once created, they can be less expensive to run;

the number of students an online course can serve is often higher than a typical class; and because wholly online courses can be asynchronous (taken anytime, anywhere) they can fit into most schedules. Internal policy that mandates the shift of appropriate core coursework online is a prudent use of valuable web resources and is consistent with an overall policy to provide as many services as possible online.

The second open ended question of the student survey called for Last Milers to identify the parts of the student experience they felt PSU *could* control – the explicit policy realm – and make suggestions for addressing these areas. In this case, the survey data showed that providing students with “consolidated enrollment services on a centralized website” was thought to have merit. This is an excellent example of the aforementioned policy of moving as many services as possible online. Given the ubiquitous nature of the internet and the fact that so much PSU material that was once printed (such as the bulletin of courses) is now online, moving *all* of the enrollment management materials online is not only possible, according to Last Milers, it is preferred.

Financial aid occurring in the 3rd through 5th years was the last significant survey finding that pertains to RQ 3. Financial aid is important to Last Milers not simply because most of these students have been in school long enough to have accumulated large debt loads, or because they may have financial holds that are impeding their progress; there may be a psychological value to late career financial aid for this group as well (Ma, 2010). In reality, there is little financial aid specifically earmarked for late career students. Typically, universities use most of their available financial aid for the recruitment and retention of early career students. Conversely, late career students are

often limited to loans with balance limitations and work study packages that provide inadequate support. A grant in aid, arriving in the 3rd through 5th years could provide Last Milers with the psychological boost they need to make the final push towards graduation; the survey data suggests as much.

In concluding this section it is important to reiterate that the impediments to the success of Last Milers appear to be largely pragmatic and may lend themselves to an internal policy response. Returning to our theoretical frame, if PSU is to overcome its internal inertia and improve its graduation rates, then PET would suggest they do so in a manner so that when their equilibrium is re-established, new internal policies bound these efforts and support a commitment to student success. I explore this framing conclusion and draw other conclusions as well in the section that follows.

Conclusions and Recommendations

I began this study with the idea that an institution experiencing a period of punctuation would act forcefully to correct areas of greatest perceived weakness; in this case graduation rates. Additionally, I posited the most direct path to improving these rates was to improve the graduation rates of students who were closest to the cut point for measuring such rates; the sixth year of enrollment. So, unlike most degree attainment studies, which focus on student and/or institutional characteristics and how they impact the early years of the student's career, this study was directed at the institutional policies that might influence student behavior in the fifth and sixth years. However, the question remains; are the circumstances of Last Milers different enough to warrant policies specifically tailored to their needs? And were these policies to be developed and implemented, would they be likely to achieve the desired result and help Last Milers

graduate before the end of their sixth year? In this section I draw conclusions and make recommendations intended to address these questions while being defensible using the data collected and analyzed for this study.

Five major conclusions may be drawn from this exploratory study based on my analysis of its mixed methods on the outcome of six-year graduation. First, formative interviews, contextual institutional data and student success expenditures data lead me to conclude that PET is an appropriate theoretical framework for the study. I base this conclusion on the fact that this single case displays four of the classic conditions of an institution experiencing punctuation: 1) installation of a new chief executive officer and 2) major changes in external environmental conditions have combined to significantly increase the likelihood of revolutionary transformation; 3) these organizational transformations are occurring in short, discontinuous bursts of change involving key domains of organizational activity; and 4) these changes in the individual domains of organizational activity are not accumulating incrementally to yield this fundamental transformation (Romanelli & Tushman, 1994).

Although the conditions described above are evidence enough that PSU is exhibiting characteristics of a classic PET response, these characteristics may be best described as the developmental “ecosystem” of the organization. As an ecosystem, PET can be thought of as a shell that contains behavior; however it is not the operational environment within which change can occur. Change, in the form of the conclusions and recommendations I make in this study, may be best enacted as part of a continuous improvement strategy. In the organizational development literature, continuous improvement is a change strategy that is typified by the flexibility and responsiveness

with which an organization responds to feedback from its customers and benchmarks against its competitors (Kaye & Anderson, 1999). As PSU appears committed to making the fundamental alterations to their operational environment necessary to improve their graduation rates, they should do so as part of a continuous improvement strategy nested within the PET ecosystem.

Second, the literature review for this EMMR study affirms that most of the planned and adopted interventions of the First Steps to Student Success and Retention Committee (FSSSR) are supported by the literature; are likely to yield the desired results; and as a result are likely to have the desired effect of improving PSU's graduation rates over time. However, until these recommendations are enacted and take hold, there are still thousands of students making their way through the institution without the benefit of these new policies. And regardless of the impact of *any* new policies, there will still be a need for additional policies tailored to the circumstances of Last Milers, who are a unique and a uniquely important group at PSU. They are unique if only because they represent the last opportunity to increase the university's yield of graduates in a given year and therefore may represent PSU's best opportunity to actively manage the metric of graduation rates. As managing to metrics becomes a necessary skill for public universities, being in a position to pull a policy lever in the fifth year that has the potential to increase graduation rates in the sixth may be desirable.

Third, the decentralized nature of student data at PSU and the inability of the university to maintain consistent contact with its current students as well as its alumni weakened the value of this study, and will continue to be a challenge for all such studies investigating student success until new data management and student/alumni email

policies are enacted. Decentralization of data sources impacted the researcher's ability to obtain complete data sets, particularly for the demographic data pertaining to the pre-college experience of Last Milers. Discontinued and outdated email addresses also made it impossible for me to obtain a high enough response rate to my survey research to develop generalizable results. Going forward, these systemic weaknesses will need to be addressed if PSU is to be able to identify and properly track Last Milers, which is a pre-condition if any policy interventions are to be timely and successful. Thus, PSU needs to address their data collection issues so they are at least on par with their peers, where "it is really no longer a question of whether institutions can get the data they need – it's whether they invest in analyzing the data they already have" (IHEP, 2011).

While the necessary data collection systems certainly do exist at PSU, obtaining the Last Mile data sets requires specialized queries that have not yet been written and reliable email connectivity with students and alumni. Policies that provide the necessary resources to execute these queries as well as permanent email addresses for all PSU students (whether currently or formerly enrolled) are needed if PSU is to make the annual collection of this data possible. As PSU begins managing to metrics, the level of precision and reassurance predictive studies provide administrators could become the new standard at PSU. But for this to even be a possibility will require a much more robust and integrated approach to data collection than is currently feasible. Furthermore, it may be necessary to invest more analytical resources in the evaluation of characteristic groups (like Last Milers) than is currently done, if PSU is to see the fruit of student success initiatives reflected in their graduation rates.

Fourth, as PSU enters the era of managing to metrics, it would be wise to consider the cautionary principle of Punctuated Equilibrium Theory. That is organizations undergoing a change should treat the time following a change as a *trial* rather than a *reset* period. It is during this trial period that personnel adjust to new policies and procedures and senior administrators are able to determine the environmental and strategic “fit” of the change effort. Sastry (1997) found successful examples of this approach in General Electric’s experience with change management within a Punctuated Equilibrium framework in the early 1990s. A trial period which includes the introduction of new policies that are spaced far enough apart, will have the added benefit of enabling the organization to protect existing competencies while undergoing the organizational stress and turbulence that are endemic during times of change. While a trial-period does not guarantee an organizational change will be entirely successful, according to Sastry (1997) it does provide the necessary conditions for an organization to *enact* change when it is in the midst of a punctuated mode.

The fifth conclusion for this study is a set of internal policy interventions at PSU that have emerged from this study and may improve graduation rates in an organization undergoing punctuation. Were any of these recommendations to be considered of value to PSU administrators and adopted, they should be done so in a moderated fashion observing the need for a trial period during which they could be evaluated for efficacy and environmental, as well as for strategic, fit. After all it is not very helpful if a new policy enacted to meet one vital objective proves dilatory to another. Having provided this cautionary frame, I make the following recommendations:

Recommendation One: Definitions, Committees and Innovations

PSU's administrative definition of Last Mile students should be expanded. Currently, this group is being tracked by a committee of advisors and admissions experts who limit their definition of Last Milers to students who have submitted an application for graduation and then withdrawn that application, without graduating. The aim of this ad hoc committee is to identify all of the students who may be within a few credits of graduation or who already have the necessary number of credits to graduate, and to help them do so. The work of this committee has been very successful and in less than a year they have graduated over 80 students. However, at some point they will have identified and worked with the students for which a simple administrative fix will be sufficient to help them graduate and the temptation may be to declare their charge completed and disband; this should not be allowed to happen. The work of the Last Mile Committee should continue and their focus should be expanded to include my study's definition of Last Milers.

Also, by rotating in new advisors and admissions personnel on a regular basis, were this committee to be made a standing committee it could serve as a training ground for best practices on how to identify Last Milers, analyze their unique circumstances and provide the necessary interventions to graduate them by the end of their sixth year. As it is currently structured, the Last Mile Committee is working with very few students that meet my study's definition for Last Milers; consequently their success has little impact on the university's graduation rate. However, the fact a committee has been formed to work with Last Milers means there is an opportunity for PSU to leverage the capacity of this administrative team - a team with the necessary expertise as well as access to

specialized data sets - to address their unique needs and increase their graduation rates; if they were made a standing committee.

Furthermore, in addition to expanding the definition of Last Milers and converting the Last Mile team from an ad hoc to a standing committee, the role of this committee should be expanded to make it part of the data analysis team in the newly formed Office of Enrollment Management. There are at least two good reasons for this: 1) Last Mile committee members can use their experience with this characteristic group to write, or at least to oversee the writing of the necessary data queries to obtain the fall of fifth year data needed to identify Last Milers in the first place; 2) they have the necessary expertise to separate Last Milers for whom a minor administrative tweak is sufficient to graduate before their sixth year from Last Milers with intractable issues that will require more complicated interventions to achieve the same result. The existing ad hoc committee has been given funds and the necessary authority to help graduate Last Mile students whose limited financial needs – the cost of a graduation application for example – are all that is keeping them from graduating. This practice should continue. In fact, if an aggressive effort was made to track down and provide administrative (waiving the re-admission fee and providing priority advising as they have at the University of New Mexico) and financial incentives (as they have at Eastern Oregon University) to bring fourth year dropouts back on campus, PSU might not only reinvigorate a whole new group of Last Milers, but through the influx of their tuition dollars, provide an ongoing source of funding for the work of the Last Mile committee. Here is how this is being done at Eastern Oregon University (EOU).⁶

⁶ This section is informed by an August 10, 2010 telephone interview with Dr. Mike Cannon

In 2010, a focus group of 15 EOU advisers, led by Dr. Mike Cannon, Dean of Enrollment Services, met to consider ways to get students who had “stopped out” for more than three terms to re-enroll in classes. Based on the adviser’s personal belief (supported by limited interviews of EOU Students - and the survey results of this study) that most stop outs were leaving school because “life got in the way,” the Dean got authorization to offer a financial incentive to get these students to re-enroll. Known as the “Pride Grant,” this program makes \$300 a term grants to students who have been out of school for at least 3 terms and who agree to re-enroll and take a minimum of 8.1 credits per term for at least two terms. Most of the students who initially took advantage of this grant were online students (roughly half of EOU students are off campus - either online or at satellite facilities) for which teachers are paid by the student headcount on an overload. This cost made it necessary to require credit minimums for grant recipients.

A large number of students took advantage of the grant when it was initially offered; that number has dwindled to about 10 a term and Dr. Cannon believes they may have served most of the eligible students in the first year of the grant. The grant has since been expanded to include any student who needs financial assistance but has not qualified for any other type of aid. To date, EOU has given roughly 50K in “Pride Grants” and realized 280K in increased tuition + state compensation. Assuming new email policies make it possible for PSU to connect with stopped out students, replication of such a program might have the same benefit for PSU as it has had for EOU. As regards Last Milers, it might bring more stopped out students back on campus to graduate before the end of their sixth year, while also providing additional resources for the future work of the Last Mile committee.

Recommendation Two: Timing, Advising and Degree Audits

Advising services should be improved throughout the trajectory of instruction and likely for all students, as discussed in detail in the prior sections. In addition, policy interventions that are likely to impact the behavior of Last Milers should occur at the beginning of their fifth year. PSU's Office of Institutional Research and Planning (or if the recommendation above is adopted, the Last Mile committee) can generate a new list of Last Milers every year after the fourth week of fall enrollment. This list would be used by the Last Mile committee to initiate a degree audit and determine each student's progress towards their degree. Because so many Last Mile students have undeclared majors, once they have been identified, they are likely to need mandatory academic and financial advising. A degree audit should surface the remaining issues they need to resolve in order to graduate, while giving them sufficient time to act upon these issues before the end of their sixth year. Particular attention should be paid to Last Milers whose advising sessions reveal them to be at risk of having a registration hold put on their accounts as they approach the end of their fifth and sixth year.

Last Milers acknowledge the efficacy of early academic advising above all other interventions. Unfortunately, due to financial constraints, PSU has had to rely on departmental advising programs and has not been able to fully implement the centralized model until recently. In 2010, administrators committed roughly \$1 million to hire, train and support the new advisers, who will be housed in the schools and colleges. This investment is likely to result in immediate improvements in retention and over time, should improve graduation rates as well.

It may also be highly advantageous for the institution to begin incorporating skill building courses that support the advising mission and can be taken for credit early in a student's studies, near the time of admission, such as a College Readiness course (Conley, 2010). This course could result in midterm and final projects that generate planned programs and scenarios customized for the student, by the student. Through student reflection and elaboration these "maps" could illustrate a clear pathway to degree completion and meet, or at least identify, career planning objectives. In the absence of such a program, for the hundreds still in the system, it is imperative that Last Milers be given priority advising so they can make the necessary adjustments to their academic and financial plans to put themselves in a position to graduate by the end of their sixth year.

Recommendation Three: Special Grants in Aid

As a group that warrants special attention, Last Milers would also benefit from grants in aid intended to address their special needs. PSU may even find, as Eastern Oregon did, that when you offer a special grant to students approaching their sixth year of enrollment, the amount of tuition realized from these students as they make their final push towards their degree may exceed the cost of the grant and provide a small new revenue stream to the university.

Regardless of whether such a program could have the same result at PSU, this study indicates that having funds permanently sequestered for grants to Last Milers may incent them to complete their degrees within the desirable six year period. Furthermore, it is very possible, given the tangible outcomes of such expenditures, that a benefactor (perhaps a successful Last Miler themselves) might be found to underwrite scholarships targeted at this characteristic group.

The efficacy of such a fund could be marketed from at least three perspectives: first, it would help Oregonians by providing the state with more college graduates and the higher tax base correlated with a better educated workforce; second, it would help individuals realize their dream for a college education; and third, it would help PSU improve its graduation rates, making it a more competitive choice for discerning students shopping for the best return on their higher education investment. In fact, the arguments for such a fund are so manifold that it would be a missed opportunity; especially as PSU begins its planning for a major fundraising campaign, *not* to use the Last Mile story as an enticement for donors.

Recommendation Four: Policy Development and Maintenance

Besides the President and his executive committee, two other bodies represent the “deep structure” of the policy making community at PSU. Administrative policies are developed and propagated (with the President’s final approval) by the campus-wide University Policy Committee (UPC). Academic policies fall within the jurisdiction of the Provost (again with the President’s final approval) and the Faculty Senate. Section III; subsection 2 of the 2012 Faculty Governance Guide states:

The Faculty has primary responsibility for such fundamental areas as curriculum, subject matter, and methods of instruction, research, faculty status, and those aspects of student life that relate to the education process...[and]... the University shall not establish, abolish, or effect major alteration in the structure or educational function of departments or of programs, including those of more than one department or academic

unit, without prior action by the Faculty Senate upon advice of the Educational Policies Committee.⁷

Thus, for any new policy recommendations to be enacted, one or both of these bodies need to be engaged.

Involving the faculty senate in academic policy development addresses five elements of deep structure for which the faculty role is critical: 1) core values and beliefs; (2) the strategies that engender basic organizational priorities; (3) the distribution of power; (4) organizational structure; and (5) control systems; and is absolutely necessary if an institution is to make and maintain change, when it is undergoing a punctuation (Tushman & Romanelli, 1985). Thus, for any effort to develop and enact new academic policy successfully, it must attract the attention of and honor the deep structure of the institution and the primacy of the faculty in this area. This is true when developing new policies; it is also true when maintaining them.

Just as the offices of Enrollment Management, Business Affairs, Admissions and Budget collaborate every year to set enrollment targets and tuition rates based on the financial needs of the institution, these administrative units as well as Academic Affairs, Student Affairs and Finance and Administration should review student success policies on an annual basis as well. Just as public universities make financial adjustments on the margins in order to balance their budgets, they should begin to appreciate the importance of their policies in promoting student success and make the necessary adjustments on the policy margins to maximize the numbers of graduates. This type of neo-professionalism on the part of policy makers must become part of the “deep structure” of the institution, if

⁷ Retrieved from the Faculty Governance Guide 2011-12:
<http://www.pdx.edu/faculty-senate/sites/www.pdx.edu/faculty-senate/files/2011-12%20Ed2%20FGG.pdf>

it is to re-establish its equilibrium at a higher threshold of confidence and begin to produce the numbers of well educated graduates called for by this state and country.

A concrete example of how this process might be operationalized is explained in the next recommendation.

Recommendation Five: Holds Policy

For this case, financial holds are significantly correlated with the dependent variable, graduation within six years. At PSU, financial holds result when a student carries a balance owed that exceeds the allowable limit from one term to the next. They are significant to a student's graduation prospects because they trigger an automatic registration hold, making it impossible for students to enroll in classes until the money is paid off. Since 2007, the financial hold policy and its debt limit thresholds have changed very little. Analysis of Last Mile debt balances indicate that a small but significant number of these students would benefit from a recalculation of the thresholds that trigger the financial hold policy. Therefore I recommend the financial hold policy be changed so it is tied to a less arbitrary and more realistic threshold that changes as financial realities change.

A fairly straightforward approach to doing this would be to tie financial holds to more flexible indices. For example, indexing the economic thresholds that trigger hold policies to annual percentage changes in tuition or national inflation rates might give students clustered around the cut point for such a policy a little more financial leeway before a hold is initiated. This would allow more students to maintain their academic progress for a longer period of time and on the margins, might help more students graduate before the end of their sixth year. Such a threshold adjustment could be

programmed into the financial systems at the same time annual tuition adjustments are made.

Another idea that is more controversial, but warrants consideration is to invoke a “no financial holds” policy for Last Milers. This would undoubtedly be viewed by some as a discriminatory policy, favoring a select group of students. However the policy could be structured so invocation of the financial threshold was only delayed – not foregone – until the student had either graduated before the end of their sixth year or matriculated to their seventh year. This would benefit the student and the university by eliminating one hurdle to graduation the university controls without eliminating the financial liability to the student. As PSU begins to manage to metrics, tying financial policies to changing indicators and eliminating hold policies for Last Milers may make sense and is emblematic of the type of sophisticated, granular, administrative practices that can make a real difference on the margins of a strategic enrollment management effort.

Implications for Future Research

Last Mile students by any other name including extenders, late dropouts, near completers, etc. have rarely been studied in the research literature. As has been discussed previously, their characteristics have been perceived as being so individualistic and tied to the unique settings of individual universities that researchers have thought it difficult to produce studies that could generalize their findings into larger and more homogenous groups. However, this study suggests the population may have some consistent characteristics and important needs that can be addressed. Regardless, as the number of students taking longer than five years to graduate increases, and the need for a better educated workforce as well, it is incumbent upon researchers to understand as much as

they can about these students who represent the “low hanging fruit” in our national effort to increase graduation rates.

One approach would be, as Tinto (2010) suggests, to focus more on the application of research to solving specific problems associated with improving graduation rates. This research is likely to take a different form in each institution. For example, student characteristic data is still not accurate enough, nor is it systematically gathered and maintained such that PSU researchers could readily attempt and successfully complete predictive studies of the type available at other universities. Moreover, the unique characteristics of PSU (its size, urban setting, emphasis on engaged learning, community engagement mission, etc.) may produce an academic experience that requires more sophisticated qualitative studies to capture the full range of activities and correlate them with student behaviors.

In many ways the behavior of Last Milers demonstrate a lack of the “contextual skills and awareness”, or what college and career scholar David Conley (2010) has termed the fourth dimension of student success; college knowledge. Although this concept may not apply wholly to Last Milers, after all they have demonstrated enough of contextual awareness to have selected PSU and successfully navigated the initial rounds of bureaucracy required by the admissions process. However, as the survey data from this study shows, once admitted, Last Milers struggle to understand the university’s culture and traditions and without adequate and consistent advising may also struggle to acquire the necessary skills to successfully complete their degree within six years. According to Dr. Conley these skills include: the ability to work collaboratively and as part of a team; an understanding of the norms of the university; being able to

communicate effectively with their professors as well as people from different backgrounds and other cultures; having a mature set of informal communication skills; and finally, being able to demonstrate leadership skills in varied settings (Conley, 2010; p. 41).

From this perspective then, further studies that help administrators better understand the depth of this “college knowledge” deficit and what specific policies or actions might be needed to remediate this deficiency in the early years of the student’s career may prove useful. In a context where scholars are trying to do work that informs university practice in the future, such research should be every bit as useful as social integration and student attrition studies have been in understanding student behaviors in the past.

At first glance, an exploratory study of a single case may appear to have limited value to graduation rate scholars. As an exploratory study it cannot purport to “prove” anything and as a single case its findings have limited generalizability. However as perhaps the only study that has taken an applied approach to addressing policies that influence Last Mile students, this study may have a practical purpose. It may also represent a next halting step in the evolution of degree attainment scholarship towards what Tinto has termed “research [that] translate[s] its many findings into forms that would guide institutional action” (Tinto, 2005, p. ix).

This was certainly the intent of the researcher and to the extent the findings of this study help inspire a deeper and richer analysis of this unique group of students, it will have served its purpose. While acknowledging the many limitations of an exploratory study of this type, the researcher hopes PSU will find enough in it to warrant the

necessary investment of time and resources to connect with larger numbers of Last Milers. Ideally this could be done through the development of a professionally administered and analyzed telephone survey. Writ small, such an effort could lead to the revelation of new issues that challenge Last Milers. Writ large, it could teach PSU much about working with characteristic groups - the type of unique groups that can only be identified through systematic data analysis. It is these unique characteristic groups that may prove particularly important to its future as PSU reestablishes its equilibrium and embarks upon a new era of sophisticated policy making that is inextricably linked to student success.

APPENDIX A

SURVEY INSTRUMENT

The “Last Mile” Student Survey

Q1: I'd like you to think back to when you first started at PSU. How much would it have helped you complete your degree faster if you had been required to attend new student orientation before you could sign up for fall classes?

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer
- Not Applicable, I Attended Orientation

Q2: How much would it have helped you complete your degree faster if your parents had also been required to attend new student orientation before you could sign up for fall classes?

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer
- Not Applicable

Q3: How much would it have helped you complete your degree faster if all your courses included some Group Projects?

- A lot

- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q4: How much would it have helped you complete your degree faster if you had taken a placement test that helped place you in classes that were the right level for you - not too hard or too easy - during your freshman year?

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q5: How much would it have helped you complete your degree faster if PSU had offered programs where you could get free individualized instruction in reading, writing, math, and other core academic areas?

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q6: Thinking back again to when you first started at PSU, how much would it have helped you complete your degree faster if you had been required to meet with an academic advisor each fall before you could sign up classes?

(NOTE: Academic Advisors are there to help you select classes, plan your major, look into internships, consider study abroad, and generally help you think about the direction of your academic life at PSU.)

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q7: How much would it have helped you complete your degree faster if you had been required to meet with a financial advisor each fall before you could sign up for classes?

(NOTE: Just as Academic Advisors help you plan your coursework, Financial Advisors help you develop a college financing plan so you can stay in school.)

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q8: How much would it have helped you complete your degree faster if PSU had contacted you before a hold was put on your record?

(NOTE: If you aren't sure what a hold is, a financial hold means you owe PSU money that needs be paid before you can register for classes and an academic hold means your GPA has dipped below 2.0 and you need to attend an Academic Standing Workshop before you can register for classes.)

- A lot
- Some
- A Little

- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q9: Thinking about your entire time at PSU, if you had received a grant to help you complete your degree faster, in which year would it have been most helpful?

(NOTE: A grant is money you do not have to pay back)

- Year One
- Year Two
- Year Three
- Year Four
- Year Five
- Refuse
- Don't Know
- No Answer

Q10: How much of a difference would it have made in how quickly you completed your degree if PSU had actively encouraged you to get involved in special activities designed to deepen your connection to the campus community?

(NOTE: Some examples of these would be mentoring activities, informal gatherings, and campus housing potlucks.)

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer
- Not Applicable

Q11: Thinking back over your PSU experience, how much would it have helped you complete your degree faster if you could have gone to just one website and found all of PSU's enrollment services?

(NOTE: For example, financial aid, registration, advising, course listings, etc.)

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q12: How much would it have helped you graduate faster if more of your PSU core courses had been offered online?

(NOTE: Core courses are the basic courses required to graduate in your major.)

- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know
- No Answer

Q13: How much would it have helped you graduate faster if more of your PSU courses in general had been offered online?

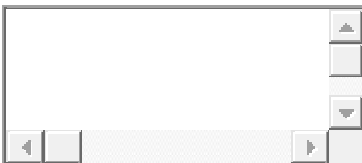
- A lot
- Some
- A Little
- Not At All
- Refuse To Answer
- Don't Know

No Answer

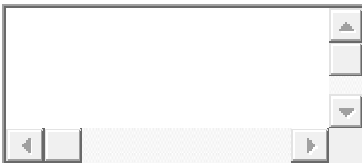
Q14: What has been the one thing that slowed your progress towards completing your degree - the most?

A rectangular text input field with a light gray background and a thin border. It contains no text. On the right side, there are three small square buttons stacked vertically, and on the bottom side, there are two small square buttons, one on the left and one on the right.

Q15: If there one thing PSU could have done to help you complete your degree faster, what would that have been?

A rectangular text input field with a light gray background and a thin border. It contains no text. On the right side, there are three small square buttons stacked vertically, and on the bottom side, there are two small square buttons, one on the left and one on the right.

Q16: Before you finish the survey, is there anything else you'd like to add?

A rectangular text input field with a light gray background and a thin border. It contains no text. On the right side, there are three small square buttons stacked vertically, and on the bottom side, there are two small square buttons, one on the left and one on the right.

Q17: If you are close to completing your degree at Portland State University - and want to finish it - you can get the information you need to help you graduate by contacting the Last Mile Committee at lastmile@pdx.edu

This is the end of the survey. Thank you!

APPENDIX B

OUS RETENTION GRID

1 = Limited success 2 = Some success, but cannot be implemented across campus 3 = Success with real potential for greater benefit with expanded implementations 4 = A major success, worthy of replication to other campuses	OUS	OUS	OUS	OUS	OUS	OUS	OUS	OUS
Learning Communities	1		3	4	2	4*		
Freshman/First Year Seminar			3	4	3	4*	2	
Interdisciplinary/Integrative Learning	2		2	4	3	3	2	
Experiential Learning	4		3	4	3	3	2	
Collaborative Learning	3		2	4	2	3	2	
Writing Across the Curriculum	3		4	3	2	1	3	
Math/Science Emphasis			4		4		3	
Honors Programs	4		4	4	2	4	3	
Common Core	3		3		3		3	
Special First Year Curriculum			1	4	3			
Embedding Study Skills in Specific Courses			1	3	1	2		
Other			4*					
Instructional Assistance and Academic Interventions								
Learning Centers	4		3	2	3	4	3	
Early Warning Systems	4		2	2	2	1		
Mandatory Assessment	1		1		1	2		
Summer Bridge Program			2	2		1		
Developmental Programs	2		3	2	2	2	2	
Information Fluency/Library Orientation	2		4		3	3		
Other			3*					
Student Development Initiatives								
Advising	4		3	2	3	4	2	
One-stop Enrollment Services			2			1	2	
Peer Mentors/Peer Leaders	4		2	2	1	4*	2	
Student Leadership Programs	4		3	2	2	4	3	
Counseling and Support Groups	4		4	3	1	4	3	
Residence Life	4		4	2	1	4	3	
Student Development Transcripts			1					
Portfolios			2		1	1		
Student Success/Degree Plan			2	2	2	3	2	
Career Guidance	4		4	3	1	3	2	
Calling Campaigns, Person-to-Person Contacts	3		3		3		3	
Child Care			1	2	1	4		
Other								
Campus Climate								
Support for Diversity	3		3	3	2	4	2	
International Education	4		4	2	3	4	2	
Community-nurturing Facilities; Common Spaces	3		2		2	3	2	
Relationship Building Activities	3		3	2	1	2		
Non-traditional Student Support	3		2	3	1	2	3	
First-generation Student Success Programs			2	2	3	4	2	
Ceremonies and Traditions	3		3	2	1	4	2	
Convocations and Special Events	3		2	2	1	4	2	
Faculty Involvement	3		3	2	3	4*	3	
Other								
Partnerships								
Collaboration Between Academic and Student Affairs	3		3	3	2	4	2	
Transfer Student Support	4		2	4	1	3	2	
Dual Admission/Enrollment	4		4	4	2	3	2	
Community Outreach	4		1	4	2	3	2	
One-stop Employment Services	2		2					
Other								
Institutional Leadership and Direction								
Policies and Procedures	4		3	2	3	3	2	
Faculty Development	3		3	2	3	4	2	
College-wide Student Retention Initiatives	2		3		2	4	2	
Systematic Assessment and Reviews	3		3	2	1	3	2	
Other								

APPENDIX C

PSU RETENTION MATRIX

#	Title	Description	At PSU?
1.A.	Curricula Learning Communities	Curricula learning communities are classes that are linked or clustered during an academic term, often around an interdisciplinary theme, and enroll a common cohort of students. This represents an intentional structuring of students' time, credit, and learning experiences to build community, and foster more explicit connections among students, faculty, and disciplines. In living/learning communities, students who are enrolled in learning communities are also assigned to the same residence halls.	Yes
1.B.	Freshman/First-Year Seminar	First-year seminars are opportunities for small groups of students (usually 12 - 18) to benefit from close personal interaction with faculty as they explore an idea, topic, or event. In certain cases, first-year seminars may be subdivided into even smaller group sessions to perform collaborative tasks or address special topics. Seminars can also help to acclimate students to the college campus and culture. There are many different types of freshman seminar. The National Resources Center distinguished between: (1) Extended orientation – emphasizes academic skills and introduction to campus resources (2) Academic seminars with common content (3) Academic seminars with variable content (4) Basic study skills (5) Professional seminars (to prepare students for demands of a major or profession).	Some
1.C.	Sophomore Year Seminar	Sophomore year seminars are similar to first-year seminars, but focus on students in their second year at the institution, and assist with the transition to junior status and major fields of study.	Maybe?
1.	Transfer Seminar	Transfer seminars are designed for students who have spent at least one term at another institution	

D.		of higher education after high school graduation. These seminars give students the chance to explore either their major or other disciplines of study. Small groups of transfer students meet weekly with a faculty member or facilitator. Students learn how to navigate the resources on campus, including financial aid, internships, study abroad, and career opportunities.	
1. E.	Senior Year Seminar	The senior year seminar is a capstone experience for students and includes a senior project or internship experience that allows students to combine their coursework to address contemporary issues and problems. Products of the senior year seminar can include projects, papers, and internship experiences.	Yes
1. F.	Pedagogy Based on Learning Styles	Several initiatives in course redesign, such as those supported by the Center for Academic Transformation, lend support to the theory that large introductory college courses can be altered to improve learning outcomes for students and to improve retention. Course redesign initiatives often employ online technology tools to individualize the course and to vary the learning pace for students.	Yes
1. G.	Interdisciplinary/Integrative Learning	The institution promotes and supports curricula and pedagogies that heighten students' awareness of the interconnections between disciplines and the necessity for multi-pronged approaches to solve complex problems. The institution allows students to design specialized, interdisciplinary programs.	Yes
1. H.	Experiential Learning/Service Learning	Curriculum integrates practical experiences such as service learning, community-based learning, cooperative learning, internships, study abroad, practicums, externships as well as undergraduate student research, and other faculty-student projects in the learning environment.	Yes
1. I.	Collaborative Learning	The institution fosters an environment where the instructor encourages team learning within a course	No
1. J.	Writing Across the Curriculum	The institution supports writing competence across programs and disciplines.	?
1. K	Honors Program	The institution provides accessible honors programs for its most academically talented and motivated students.	

1. L.	Embedding Study Skills in Specific Courses	The institution integrates study skills (note-taking skills, test-taking techniques, etc.) into selective classes (e.g., nursing, general chemistry, calculus).	Yes
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#	Title	Description	At PSU?
2. A.	Learning Centers	The institution provides learning assistance, such as tutoring, writing/reading/math assistance, advising/counseling, and supplemental instruction, in a designated area, and/or online.	Limited
2. B.	Early-Warning Systems	The institution has a system of tracking or monitoring academic performance of all students from the beginning of the term. The alert system allows the institution to proactively make contact with students in academic difficulty and offer assistance through a variety of support services.	Limited
2. C.	Mandatory Placement Testing	The institution undertakes a focused and early diagnostic assessment of “basic literacies” (reading, writing, math, science) as students enter college. This may involve mandatory or recommended placement. Note: Could this include something that addresses 1 st gen. issues for early intervention beyond class placement?	No
2. D.	Summer Bridge Program	Summer bridge programs can be used for two purposes: 1) to allow students to “jump start” their college career and help to acclimate students to the college environment or 2) to provide instruction for students who need further college-level preparation, particularly those identified as highly “at risk,” are offered assistance through proactive and/or intrusive measures during the months preceding the beginning of the school year. These interventions include intellectually stimulating summer orientations, readings, focused advising, special community events to build relationships, and improve morale.	Limited
2. E.	Developmental Programs	Developmental programs aim to provide basic skills to students who need additional skill development to succeed in college coursework. Examples include supplemental instruction, tutoring, intensive math preparation, developmental courses (e.g., math, writing, reading), writing workshops, ESL courses, and study skills sessions.	Limited

2. F.	Information Fluency/Library Orientation	Students are offered special workshops in library and technology usage.	Yes
2. G.	Identifying DWF Courses	The institution identifies and reviews the courses with a preponderance of D, W, F grades to determine if these courses would benefit from course redesign, smaller class size, peer tutors, different instructional techniques, and/or graduate assistance. The assumption would be that more students can improve their performances in these classes with alterations.	Limited
2. H.	Reading Centers/Labs	The institution offers identified academic support areas for students to gain individualized instruction in reading, mathematics, and other core areas.	No
2. I.	Tutoring	Students are assisted with coursework by peer or professional tutors. Tutoring can be conducted in a face-to-face format, online, or in groups.	Yes
2. J.	Supplemental Instruction	Supplemental instruction originated at the University of Missouri-Kansas City in 1973, to address rising dropout rates. SI sessions are interactive, collaborative review sessions that combine what-to-learn (content) with how-to-learn (study strategies). Supplemental instruction student leaders: attend all lectures, takes notes, reads course material, conducts two SI sessions per week, plan interactive learning activities that integrate study strategies with course content, prepare handouts with questions/problems to be covered during the SI session, conduct exam review sessions, model outstanding student behavior and successful academic practices, and work 10-15 hours per week.	Yes

#	Title	Description	At PSU?
3. A.	Orientation	Orientation experiences are designed to maximize persistence and success of freshmen and transfer students. Orientations may vary according to target audiences.	Yes
3. B.	Advising	All students are required to see an advisor to help them identify their course load and educational objectives.	No
3. C.	Peer Mentors/Peer Leaders	Students take an active part in helping their peers succeed and persist, through a variety of peer mentorship and leadership activities.	Yes

3. D.	Student Leadership Programs	The campus has a wide array of leadership programs for students (e.g., student government, clubs and student organizations, co-curricular activities)	Yes
3. E.	Counseling and Support Groups	The campus offers services such as career counseling, personal counseling and referral, support groups, and personal development classes.	Yes
3. F.	Residence Life	The campus has a well-planned residential community that nurtures and supports its members. Co-curricular activities in residence life are connected to various retention-fostering initiatives described here. The institution offers themed residence halls. Freshmen are required to live in student residence halls.	Yes
3. G.	Student Development Transcripts	The institution has adopted and implemented the concept of a “Student Development Transcript” that recognizes and lists each student’s achievements and involvement in co-curricular activities.	No
3. H.	Career Guidance	A career services office provides support for career exploration, decision-making, and employment through career guidance and counseling.	Yes
3. I.	Calling Campaigns, Person-to-Person Contact	The institution provides a system for contacting students by phone, email, or other means, in order to support their educational success and sense of belonging. This may involve providing information and referral to resources.	No
3. J.	Child Care	The institution provides support for child care, which may include information referral, subsidies, or facilities on campus or nearby.	Yes
3. K.	Student Employment on Campus	The institution offers opportunities for students to gain employment on or near campus.	Yes
3. L.	Pre-College Programs	The institution offers pre-college programs in collaboration with local secondary schools to encourage students to pursue higher education.	Yes
3. M.	Parent/Family Services	The institution works collaboratively with parents and families to support the learning of students (e.g., parent orientation and parent organizations).	No

#	Title	Description	At PSU?
4. A.	Support of	The campus provides institutionalized support	

	Diversity	for a diverse student body, through formal governance structures, coursework, and/or co-curricular activities. Centers, resource people, and organizations support a sense of belonging for students who have faced barriers based on culture, race, gender, religion, etc. The institution is proactive in ensuring that marginalized or underrepresented persons perceive a welcoming environment and experience a culture of inclusiveness? Professional development, training, information concerning cultural differences, “hate-free environment” statements, and other initiatives are provided in support of this goal.	Yes
4. B.	International Education	The institution takes special steps to welcome and sustain international students. It may also provide opportunities for native students to gain a global perspective, with options such as study abroad programs, internships, exchange programs, celebrations and festivals, and peace studies.	Yes
4. C.	Community-Nurturing Facilities; Common Spaces	The institution has made a specific commitment to enhancing common or shared spaces with the goal of enhancing, fostering and stimulating community interactions between students, faculty and staff.	No
4. D.	Relationship Building Activities	The institution fosters the development of relationships that will strengthen interpersonal bonds and deepen attachment to the institution and the community. Examples might include mentoring activities, informal gatherings, guest faculty dining passes, and potlucks.	No
4. E.	Non-Traditional Student Support	The institution has specific initiatives to support students who fit into the “non-traditional” category (e.g., returning adults, dislocated workers, and displaced homemakers).	Yes
4. F.	First-Generation Student Success Programs	The institution has developed programs or interventions aimed at enhancing the college preparation and initial experience of first-generation students.	Yes
4. G.	Ceremonies and Traditions	Institutional ceremonies and traditions strengthen communal bonds and deepen connections to the campus. Examples might include symbolic shared traditions, bonfires, barbeques, bagpipers at commencement, songs, and holiday celebrations.	Some

4. H.	Convocations and Special Events	The institution promotes freshman, sophomore, junior, or senior convocation using community-affirming rituals that reinforce success, sparks engagement, and deepens attachment. Rituals may include guest speakers, special events, presentations, and other forums that promote learning.	Yes
4. I.	Faculty Involvement	The institution fosters structured, planned, or intentional opportunities for out-of-class student-faculty contact (e.g., faculty involvement in early warning systems and involvement with high risk students).	No
4. J.	One-Stop Enrollment Services	Enrollment services are in one place, so that students can easily find enrollment services at entry. It generally is supported through cross-training. The institution also offers online enrollment services.	No

#	Title	Description	At PSU?
5. A.	Collaboration between Academic Affairs and Student Affairs	Academic and Student Affairs staffs collaborate to develop and implement strategies to increase student success and retention.	Yes
5. B.	Partnerships with Community Colleges and PSU	The institution seeks partnerships with community colleges and to enhance the academic experience of students (joint degree programs, consortia activities, etc.).	Yes
5. C.	Dual Admissions/Enrollment	The institution has signed dual-enrollment agreements with one or more other institutions of higher education to support seamless attendance and/or transfer between institutions.	Yes
5. D.	Community Outreach	The institution fosters connections between students and the local community through initiatives such as service-learning and other community engagements.	Yes
5. E.	Co-op Programs and Internships with Business Industries	The institution develops relationships with businesses and other agencies to offer internship and co-op experiences in which students can practically apply outcomes of various disciplines.	yes

#	Title	Description	At PSU?
6. A.	Availability of Needed Courses on Campus	The institution reviews its course sequencing to ensure that students can access needed courses for graduation in a timely manner. The institution offers some courses for graduation	No

		online to ensure flexible scheduling for students.	
6. B.	Availability of Needed Courses in the OUS System	The institution participates in consortia activities to ensure that students can maximum access to degree programs or courses in the OUS system.	No
6. C.	Online Student Services	Services such as admission, registration, advising, orientation, and financial aid are available online to students.	Some
6. D.	Degree Audit	Students are able to monitor their progress through an online degree audit system.	Yes
6. E.	Online Courses	Online courses are available for students, for flexibility and adaptability to students' individual needs.	No
6. F.	Student Success/Degree Plan	The institution helps students develop a comprehensive success plan, a plan for completing degrees or certificates, and/or a plan for transferring to another institution. These may be based on individual assessment measures.	No

#	Title	Description	At PSU?
7. A.	Review and Implementation of Policies and Procedures	The institution has specific procedures and policies to encourage student persistence, program completion, and transfer. Such policies could cover academic standards, distribution of scholarships, degree waivers and exceptions, suspension committee rules, early warning systems, and admissions policies. Policies should relate specifically to student success and be widely disseminated and consistently followed.	IP
7. B.	Faculty Development	Professional development programs are provided for new faculty and designed to promote student persistence and success. Continuing faculty have access to professional development opportunities related to student success	No
7. C.	College-Wide Student Retention Initiatives	The campus leadership has made an explicit commitment to monitoring and improving retention. The institution identifies retention as a critical priority, develops related goals, sets targets and organizes, and funds initiatives to attain those goals.	IP
7. D.	Systematic Evaluation Assessment and Reviews	The institution undertakes periodic and on-going reviews and assessment of retention initiatives. Information and data about the students' performance is rigorously collected, reviewed,	Yes.

		organized, and disseminated in a consistent way. Feedback is processed and used to improve retention practices.	
7. E.	Increasing Financial Aid	The campus leadership makes it a priority to increase scholarships and financial assistance for students, particularly students from low-income families.	Yes.

This Table originated from the University of North Carolina and has been modified to reflect Portland State University.

NA = not apply or not the prerogative of this working group.

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