

Summaries of Works Cited in the Pros and Cons of Moving from DP to R2 Status Document (2/21/20)

The summaries were prepared by External Source Subcommittee of the Carnegie Classification Ad Hoc Committee

Brawner, C. E., Felder, R. M., Allen, R., & Brent, R. (2003). 2002 SUCCEED Faculty Survey of Teaching Practices and Perceptions of Institutional Attitudes toward Teaching. *Grantee Submission.*

Methods: Focus was engineering schools. A survey was sent to 1589 faculty emails. Compared masters institutions to research institutions on a variety of variables and listed the differences that were statistically significant. Carnegie classification was one of the group variables they looked at.

- Faculty members at masters institutions were less likely to lecture for the majority of each class than those at research institutions.
- Faculty members at masters institutions utilized student group work for the majority of class time significantly more often than those at research institutions.
- Faculty at masters institutions assign team projects to their students more often, as well as require students to complete homework in teams.
- Faculty members at masters institutions or those who attended multiple teaching seminars were significantly more likely than those who either did not attend seminars or worked at research institutions to require students to work in teams to complete their homework.
- Masters faculty spent just over an hour more than research faculty per week preparing for class, but the difference was not significant.
- Faculty at masters institutions wrote institutional objectives more frequently than those at research institutions.
- Faculty at masters institutions spent around 6 hours each week with undergraduate students. In comparison, faculty at research institutions spent around 3.5 hours each week.
- Faculty members at masters institutions spent more time with undergraduate students outside of their office hours.
- Over 40% of faculty at research institutions videotaped their teaching, versus around 30% of masters institutions. Masters faculty also had colleagues observe them more frequently, a difference of 79% versus 55%.
- Faculty members at masters institutions, who attended SUCCEED programs and teaching seminars, or were active in the coalition were more likely to use cooperative learning and instructional objectives than those at research institutions who had not utilized programs, seminars, or participated in the coalition.
- Faculty members at masters institutions wrote instructional objectives and utilized active and cooperative learning more frequently, and they were also more likely to think these practices improved their students' learning.

- Faculty at research institutions spoke with their colleagues and their graduate students at least monthly, while those at masters institutions were less likely to do so.
- Faculty at research institutions more frequently put their old tests and solutions to problems online. Masters faculty tended to provide more online quizzes. Research faculty also responded to student questions by e-mail more frequently, while masters faculty more often used a class chat room. Research faculty tend to send information to their classes via e-mail while masters faculty favored course management tools.
- Faculty at masters institutions were more likely than faculty at research institutions to try new methods.

Cox, B. E., McIntosh, K. L., Reason, R. D., & Terenzini, P. T. (2011). A Culture of Teaching: Policy, Perception, and Practice in Higher Education. *Research in Higher Education*, 52(8), 808-829.

Methods: The perceptions and practices for 5,612 faculty members from 45 different colleges and universities were polled for this study. The researchers were interested in the relationship between policies about teaching and learning and actual practices at the institution. Used multilevel modeling. Found that selectivity, Carnegie classification, and other typical university characteristics predicted teaching practice more than the institutions' policies.

- Carnegie classification is a consistent predictor of faculty practices and culture, along with traditional characteristics such as size and selectivity.
- The faculty at doctorate institutions perceived their institution's emphasis on teaching to be lower than those at non-doctorate institutions. The doctoral institutions tend to have identities that put a preference on research more than teaching.
- Doctoral institutions had lower interactions between faculty and students, which indicates these institutions' research focused culture. Even though all of these campuses have policies to support teaching and learning, this finding was consistent across doctoral institutions.
- Doctoral institutions were consistent in their culture and practices, whereas non-doctoral institutions tended to vary more in their culture and practices.
- Non-doctorate institutions have stronger teaching culture and vary more in their teaching and learning policies and campus culture than doctoral institutions.
- Faculty members at masters or bachelor's institutions utilize many different teaching practices, and their perceptions of their institution's emphasis on teaching tend to vary from person to person.

Henderson, B. (2013) Moving on Up: Changes in Publishing and Prestige in Former SCU's. *Teacher-Scholar: The Journal of the State Comprehensive University*. 5.

Methods: 50 public universities that moved in Carnegie classifications from comprehensive or master's level to doctoral or research were selected for this study. The universities' publications were pulled from the ISI's Web of Knowledge database. The indicators of status were pulled

from two USNWR ratings: overall ranking from three separate time periods, and peer assessment ratings.

- A finding of this study is that changing Carnegie level from the master's to doctoral did not cause a change in status.
- “Even if a university aspires to be like the research universities, it is unlikely it will be able to break into the elite class. Rankings, and to a lesser extent, peer assessments, are a zero-sum game. There is little room at the top and those at the top are unlikely to yield their positions. The truth is that when it comes to outcomes such as publication rates and overall prestige, the striving universities, like those in the master's category they left, are becoming less like the elite research universities as the latter continue to build on their advantages.” (Henderson, 2013, p. 9).
- Striving universities who changed Carnegie classifications did not see a significant increase research activity or perceived prestige among peers.
- Striving can have a variety of consequences for an institution: costs to undergraduate students such as a loss of resources directed toward their education, faculty members may see changes in workloads, and universities may be able to less adequately serve educational or economic needs in their region.
- Publication rates are not affected by changes in Carnegie classification for former state comprehensive universities.
- While publication rates do relate to reputation, minor increases in publishing do not necessarily change reputation.
- It is a significant challenge for new doctoral/research universities to reach the same level of universities with established resources and reputations.

Iglesias, K. (2014). The Price of Prestige: A Study of the Impact of Striving Behavior on the Expenditure Patterns of American Colleges and Universities. *Seton Hall University Dissertations and Theses (ETDs)*. 1938. <https://scholarship.shu.edu/dissertations/1938>

Research question: This study sought to find out expenditure patterns of universities moving from one CC to a higher one, including institutions that are striving to move to a R2 status.

Background info, citing Brewer et al. 2005:

- More prestigious universities (i.e., R1 and R2 CC) have more flexibility in admissions and who receives financial aid. Faculty have a reduced teaching load at R1 and 2s. There tends to be an increase in private donations at R1 and 2s and these institutions tend to receive increases in state appropriations.
- Astin 1992 noted that pursuit of a higher CC can have negative consequences for undergraduate education. Striving institutions tend to develop excessive expenditures and in some cases, these institutions do not meet the needs of a diverse group of students—particularly those who are perceived as not adding “prestige” to the institution.

Table 1

Characteristics of Striving Institutions

Area of institutional operations	Indicators of striving
Student recruitment and admission	<ul style="list-style-type: none"> • Increased selectivity over recent years, including high school rank, GPA, and SAT/ACT • Increased use of early decision in admissions • Increase in institutional student grants
Faculty recruitment, roles and reward systems	<ul style="list-style-type: none"> • Greater attempt to hire “faculty stars” with research emphasis • Rise in faculty salaries, grants, awards, and prestigious fellowships • Rise in expectations for research for tenure and promotion • Decrease in faculty teaching loads
Curriculum and programs	<ul style="list-style-type: none"> • Shift of funding away from remedial programs to honors programs • Addition of graduate programs and shift in emphasis from undergraduate to graduate programs • Focus among faculty on making programs more rigorous
External relations and institutional identity	<ul style="list-style-type: none"> • Institutional actors working to shape an internal narrative about striving to frame major decisions • Institutional actors using various means to shape an external image of the institution as more prestigious • Recent hiring of one or more senior-level administrators from institutions of greater prestige • Increase in private grants and awards
Resource allocation	<ul style="list-style-type: none"> • Increase in spending on infrastructure • Shift in resources from instruction to administrative support • Investments made in competitive amenities • Increased spending on research activities

From Iglesias 2014, page 6.

Background info, cont.

Student recruitment and admissions.

- Institutions gain prestige when the quality or qualifications of their incoming students improve.
- Institutions may actively solicit applications from less-qualified students to make the admissions process more selective or reject well-qualified students when the institution believes the student applied as a “backup” plan.
- Institutions may also build their early decision/admissions programs.
- Early decision applicants tend to come from upper/middle class families and can pay, but the early decision process makes it more difficult for low and middle income families to be admitted.
- Marketing strategies may be ramped up to increase student applications and more money may be sunk into “competitive amenities” like athletic facilities, residence halls, enhanced students services, and tech in the classrooms.

Faculty recruitment, roles, and rewards.

- Striving institutions actively recruit research-oriented faculty.
- This process tends to come with increasing faculty salaries, increasing research expenditures, and more rigorous promotion and tenure requirements.
- Faculty also tend to decrease their teaching time allocation to focus more on research, scholarship, consulting, and other professional activities.

Curriculum and programs.

- Striving institutions tend to shift their resources from undergraduate education to graduate programs and education.
- Striving institutions tend to change their focus to prestigious sounding undergraduate programs to attract higher quality undergraduate students.
- Institutions also limited/eliminate remedial and developmental programs.
- Faculty responsibilities of advising and teaching are shifted to non-tenure-track faculty.
- This tends to result in dramatic increases in overall faculty for universities.

Consequences of Striving.

- Striving institutions tend to increase spending on infrastructures and administrative support.
- Focus changes towards spending more to pursue external funds.
- Striving institutions tend to launch campaigns to attract additional donor support, increase endowments, and encourage faculty to bring in external funds.
- Additional funds are needed to support faculty's specialized research and these funds tend to be pulled from instruction and outreach.
- Striving will model themselves after more comprehensive, more prestigious institutions than themselves.
- Institutions may decide to eliminate degree programs and services that are less likely to receive research-based funding or those exclusive to undergraduate education.
- Administrative costs also grow as striving grows. Doctoral programs tend to disproportionately increase expenses for non-instructional administrative services.

Table 2

Prestige-Generating Components

Prestige areas	Specific institutional investments
Students	Recruiting Costs Merit Scholarships Maintaining Classroom and Dorm facilities
Research	Faculty Salaries Reduced teaching loads-increased costs Maintenance laboratories and facilities Indirect research expenses
Athletics	Player Scholarships Coach and AD salaries Maintenance stadiums/arenas

Adapted from *In Pursuit of Prestige: Strategy and Competition in U.S. Higher Education*, by D. J. Brewer, S. Gates, and C. Goldman, 2005, New Brunswick, Canada: Transaction.

From Iglesias 2014, page 46.

Methods

Population and Sample.

- The study includes 1,215 institutions classified into non-strivers and strivers. Non-strivers had not changed CC from 2005 to 2010, whereas strivers did—changed CC at least one level higher than their 2005 classification. Sample of 1,013 non-strivers and 203 strivers.
- Study reports findings in expenditure per full-time-equivalent student enrollment (FTE). Data are derived from IPEDS
- Expenditure lines examined include: 1) Instructional, 2) Research, 3) Institutional support, 4) Academic support, 5) student support services, 6) Public services, 7) Scholarship and fellowships, and 8) Total core expenditures (sum of all 7 lines).
- Descriptive statistics and multilevel regression models.

Results

- Among non-strivers, total core spending increased by 7.8% whereas for strivers spending in this category increased by 24.4% (Tables 5 and 6).
- For non-strivers, spending mostly increased in the following lines 1) Student support (+16.1%); 2) Research expenditures (+13.8%); 3) Academic support (+11.6%). Spending decreases were noted in Scholarship and fellowships, as well as Public service.
- Strivers mostly increased funding in: 1) Scholarships and fellowships (+40.0%), 2) Academic support (+35.9%); and 3) Student services (+34.0%). Strivers did not see a decrease in any expenditure lines.

Table 5

Mean Expenditures (in \$ per FTE) for Nonstriving Institutions (N = 1,013) for 2002 and 2011

Expenditure stream (\$ per FTE student)	Mean	Standard deviation	Minimum	Maximum	% of total core exp	% difference in mean expenditures
Instructional expenditures						
2002	\$5,538	\$12,013	\$18	\$180,745	42.1	
2011	\$5,869	\$11,982	\$43	\$124,658	41.4	6.0
Research expenditures						
2002	\$2,392	\$8,336	\$0	\$92,633	18.2	
2011	\$2,723	\$9,149	\$0	\$88,904	19.2	13.8
Public service expenditures						
2002	\$695	\$2,521	\$0	\$30,409	5.3	
2011	\$690	\$2,614	\$0	\$37,270	4.9	-0.7
Academic support						
2002	\$1,401	\$3,472	\$0	\$53,589	10.7	
2011	\$1,563	\$3,729	\$0	\$52,399	11.0	11.6
Student services expenditures						
2002	\$920	\$1,408	\$0	\$21,994	7.0	
2011	\$1,068	\$1,408	\$14	\$17,763	7.5	16.1
Institutional support expenditures						
2002	\$1,659	\$2,981	\$12	\$38,894	12.6	
2011	\$1,734	\$2,912	\$16	\$34,354	12.2	4.5
Scholarships and fellowships expenditures						
2002	\$541	\$1,408	\$0	\$18,253	4.1	
2011	\$529	\$1,209	\$0	\$9,133	3.7	-2.2
Total core expenditures						
2002	\$13,146	\$28,957	\$53	\$390,539		
2011	\$14,176	\$29,327	\$135	\$211,868		7.8

Adapted from U.S. Department of Education, IPEDS, 2002-2011.

From Iglesias 2014, page 95.

Table 6

Mean Expenditures (in \$ per FTE) for Striving Institutions (N = 202)

Expenditure Stream (\$ per FTE student)	Mean	Standard Deviation	Minimum	Maximum	% of Total Core Exp	% Difference in Mean Expenditures
Instructional Expenditures						
2002	\$2,535	\$3,768	\$0	\$24,319	45.2	20.0
2011	\$3,041	\$4,314	\$0	\$25,611	43.5	
Research Expenditures						
2002	\$547	\$1,939	\$0	\$15,008	9.7	19.9
2011	\$656	\$2,152	\$0	\$12,459	9.4	
Public Service Expenditures						
2002	\$302	\$920	\$0	\$6,558	5.4	10.9
2011	\$335	\$1,044	\$0	\$6,791	4.8	
Academic Support Expenditures						
2002	\$596	\$965	\$1	\$6,665	10.6	35.9
2011	\$810	\$1,445	\$7	\$10,623	11.6	
Student Services Expenditures						
2002	\$532	\$633	\$0	\$7,430	9.5	34.0
2011	\$713	\$641	\$17	\$5,843	10.2	
Institutional Support Expenditures						
2002	\$854	\$913	\$0	\$6,796	15.2	27.1
2011	\$1,086	\$1,210	\$54	\$8,794	15.6	
Scholarships and Fellowships Expenditures						
2002	\$245	\$490	\$0	\$3,417	4.4	40.0
2011	\$343	\$774	\$0	\$6,524	4.9	
Total Core Expenditures						
2002	\$5,612	\$8,560	\$19	\$56,492		24.4
2011	\$6,983	\$10,308	\$112	\$61,090		

Adapted from U.S. Department of Education, IPEDS, 2002-2011.

From Iglesias 2014, page 100.

Table 8

Change in Spending (\$ per FTE) Between Nonstriving and Striving Institutions and Relative Difference, 2002-2011

	Change in spending between 2002 and 2011		
	Nonstriving institutions (<i>N</i> = 1013)	Striving institutions (<i>N</i> = 202)	% Diff
Instructional Expenditures	6.0	20.0	234.1
Research Expenditures	13.8	19.9	43.8
Public Service Expenditures	-0.7	10.9	1,574.8
Academic Support Expenditures	11.6	35.9	209.4
Student Services Expenditures	16.1	34.0	111.7
Institutional Support Expenditures	4.5	27.1	500.8
Scholarships and Fellowships Expenditures	-2.2	40.0	1,891.6
Total Core Expenditures	7.8	24.4	212.8

Adapted from U.S. Department of Education, IPEDS, 2002-2011.

From Iglesias 2017 page 105.

- Organizational leadership must make strategic choices to increase expenditures in particular funding lines to move CC and attract more high quality students and faculty and more specialized administrative support (Table 8).
- Striving institutions must make heavy investments in the school's research capabilities, infrastructure, administrative support, and scholarships and grants.
- Choices center on attracting highly qualified students and great grants, awards, and fellowship for faculty.
- Analysis across various categories of strivers seems to indicate that spending trends are universal across all strivers and not specific to the level an institution is attempting to climb.
- Moving towards greater prestige comes with a significant, long-term cost, especially since RIs are not idling in neutral while rising institutions attempt to catch up. Pursuing a change in CC can leave institutions in worse a financial situation.

Focus on attracting more students, building research output and infrastructure to support increased research output.

Kelderman, E. (2018). Is Climbing the Carnegie Research Rankings Worth the Price Tag? *Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/article/Is-Climbing-the-Carnegie/244048>

- Within the next five years, Saint Louis University is looking to increase the funding from grants, private contractors and donations geared towards faculty research and to move from R2 to R1.
- Doing this is likely to increase its prestige, attract better faculty and students, attract more donors.
- But it may not be worth it:
 - It requires a very large investment by the institution; it is costly for institutions to increase their institutional profile because there will be a greater need for lab spaces, funding to recruit better faculty and for Assistantships
 - The competition is increasing for quality faculty members and for grants, so these are increasingly hard to get
 - It's often done just for prestige and academic quality might go down
 - While grad programs might become more competitive, undergrad programs may decrease in quality (the amount a university spends on research is not directly related to undergrad learning)
 - Minority and low-income students might lose out
 - It is difficult to create a research culture

Kelderman, E. (2018). Here's How Some Universities Are Raising Their Research Profiles. *Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/article/Here-s-How-Some-Universities/244047>

- Saint Louis University is seeking to increase the research dollars received from grants, private contractors and donations. To do this, it is using the following common strategies:
 - Picking a few research areas to focus on
 - Hiring in clusters so that they have a “significant number of faculty members who can make a deep impact in a particular field” (Para. 4)
 - Taking steps to keep these faculty through award systems and clear evaluation processes
 - More support and training for faculty
 - Seed money for projects that have the potential to grow

McClure, K. R., & Titus, M. A. (2018). Spending Up the Ranks? The Relationship Between Striving For Prestige and Administrative Expenditures at US Public Research Universities. *The Journal of Higher Education*, 89(6), 961-987.

- Does a move upwards in Carnegie Classification result in increased administrative costs?
- Overall, universities added 5-10 administrative staff per 1000 FTE students between 2000 and 2012
- Carnegie Classification not a ranking system but due to associated prestige, universities often find reasons to continue to increase spending to remain listed
 - Additional external revenues – but no guarantee

- Private donations (they don't mention it but since more than half of all giving is from 60+ year old alumni, younger schools will still have an uphill battle)
 - Research grant funds
- Hypotheses:
 - Nonresearch universities that shift to become research universities spend more on administration
 - The generation of more resources leads to more administrative spending at public research universities
- Tested via a pooled OLS AR(1) model
 - Results of 164 public research universities shows a significantly positive relationship.
 - They don't say it but the effect was more pronounced during the Great Recession Era
- Results show, as per the figure below, that moving up to research university status led to more administrative spending.

978  K. R. MCCLURE AND M. A. TITUS

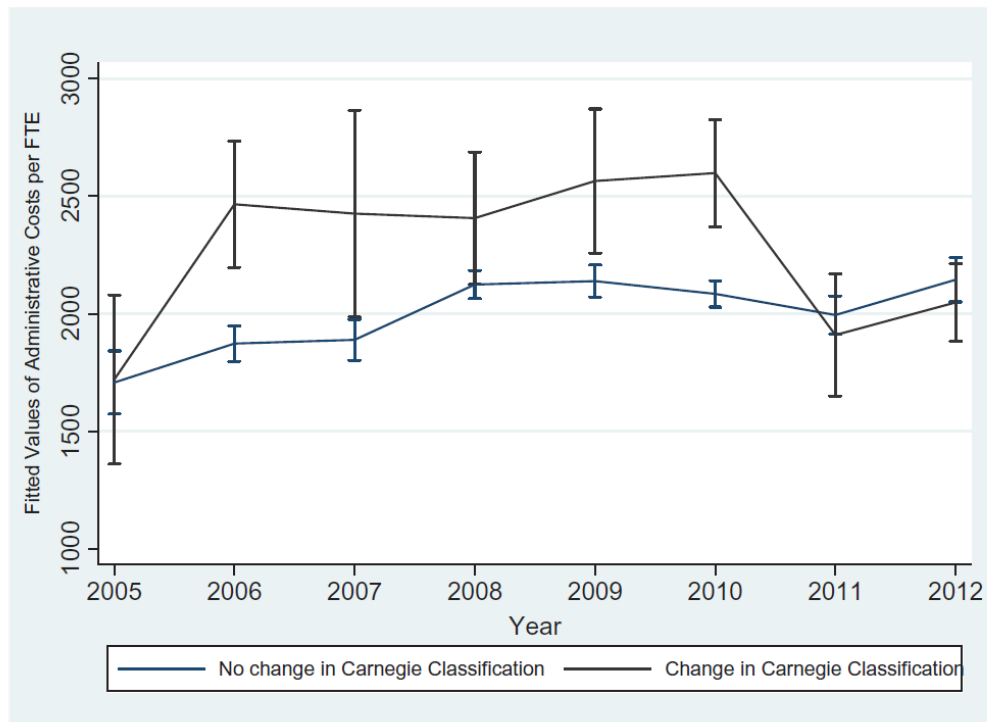


Figure 2. Predictive margins of change in Carnegie Classification with 95% CIs.

Mendenhall, A. (2018). Carnegie Classifications—What’s All the Fuss? *James G. Martin Center for Academic Renewal*. Retrieved from <https://www.jamesgmartin.center/2018/05/carnegie-classifications-whats-all-the-fuss/>

This was a news article addressing the question “why is R-1 designation most desired by universities”? The article makes the following points:

- The reason CCs are valued is because Department of Education and U.S. News and World report and others rely on them. So indirectly, they are used for rankings and grant eligibility.
- The author argues that “administrators should not treat a move from R1 to R-2 as a demotion”, as “quality” of research and education cannot be quantified in terms of numbers (Par. 9).
- The problem with CCS is that they greatly encourage “educational malinvestment” as they are misinterpreted and misused (Par. 14). When a university chooses to move from R-3 to R2 or from R2 to R1, they produce more doctorates, and hire more faculty. Especially in humanities, the doctorates cannot find employment and are in substantial debt.
- CCs don’t account for the “quality” of research or true faculty productivity. That is, they measure aggregate numbers of people and investment, but not the value or effectiveness of publications. Thus, CCS should be considered as funding categorizations, not research categorizations.
- People mistakenly treat CCS as indicators of productivity of university faculty and as proxies of research quality. Also the phrases “highest research activity” etc. used by Carnegie should be dropped as Carnegie does not measure research activity but research expenditure.

Olson, G. A. (2018). What Institutions Gain from Higher Carnegie Status. *Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/article/What-Institutions-Gain-From/244052>

This article discusses the positive and negative effects of moving up in Carnegie Classification.

Positives:

- Striving for a higher classification can help an institution focus its energy and resources on becoming more complex and sophisticated
- Prestige and material benefits
- Enhanced ability to attract external research grants
- Look more appealing to industry partners who are considering engaging in joint research-and-development projects
- More leverage to negotiate a higher rate of reimbursement for the overhead costs that come with receiving federal grants
- Improved ability to inspire donors to invest in institutional projects
- Improves ability to recruit high-quality faculty, postdoctoral fellows, and graduate students
- Provide justification for raising faculty pay
- Can enhance graduates’ attractiveness to prospective employers and to respected graduate and professional schools

- Encourages colleges to aspire to new heights and to reach levels of productivity they might not have attempted otherwise

Negatives:

- Classification is associated with prestige, which makes the Carnegie Classifications a source of competitions and envy among institutions. A rising number of institutions are seeking to change their status
- Research activity, graduate programs, graduate degrees awarded and other factors can represent a sizable investment for many universities
- Mission creep – colleges can lose sight of their identity and what makes them unique