Higher Education and Silicon Valley: Academic Program Reviews by Ethan Ris

While the primary qualitative data for this research study came from formal interviews with administrators at broad access colleges, we sought alternative data sources for purposes of triangulation (Miles & Huberman 1994). One major source we employed was academic program reviews conducted by departments at our institutions under study. This appendix provides some background on these reviews, an explanation of how we employed them, and some revelatory themes that emerged from our analysis of them. Additionally, we make recommendations for policies around academic program reviews that could increase their use value both for researchers and for higher education administrators.

BACKGROUND

Academic program reviews have their policy origins in the original "assessment movement" in higher education in the 1970's and 80's (Astin and Antonio 2012). At that time, national and state-level political attention moved beyond increasing access to higher education institutions, towards demanding evidence of the educational outcomes of colleges and universities. The language of a 1986 report by the National Governors' Association was typical: "The public has a right to know what it is getting for its expenditures of tax resources; the public has a right to know and understand the quality of undergraduate education that young people receive from publicly funded colleges and universities" (National Governors' Association 1986). Importantly, the impetus at this historical moment was to hold only public institutions accountable. In the era before federal loans and grants began flowing to non-public colleges and universities (especially for-profits) in significant numbers, private institutions were simply not on

the radar screen. As a result, assessment tools like program reviews only exist at public institutions.

Program reviews take many forms, but they are commonly text-based assessments largely compiled through internal self-study and authored by faculty members (Mets 1995). Craven (1980) provides a general definition that keeps the focus on actionable findings: "Academic program review refers to the process of defining, collecting, and analyzing information about an existing program or noninstructional unit to arrive at a judgment about the continuation, modification, enhancement, or termination of the program or unit." The program review process has typically been mandated and delineated by state higher education agencies. While some states had previously exercised authority over the creation of new programs at public colleges and universities, the commencement of program review processes in the 1970's marked the first time that state authorities became involved in assessing *existing* programs – a practice that had traditionally been reserved for the institutions themselves (Conrad & Wilson 1985). The use of program reviews spread quickly, although there was little fidelity to one model; a 1982 study found that 82% of institutions reported employing formal program reviews, but survey responses indicated that practices varied widely and some institutions even classified accreditation procedures and annual budget reviews as "program reviews" (Barak 1982).

Academic program reviews were initially designed as measures focused largely on students. Administrators directed departments and programs to articulate learning objectives, establish standards for accomplishment, assess whether students met those standards, and analyze demographic variation in accomplishment (Palomba & Banta 1999). By the mid-1990's, however, researchers found that in practice, the focus of program reviews had drifted away from students and towards faculty and institutional issues (Gentemann & Fletcher 1994). Additionally,

reviews quickly became intertwined with the budgeting process, serving primarily as tools for resource allocation (Arns and Poland 1980).

In summary, academic program reviews are a relatively new phenomenon with little consistency across states and institutions. While they were conceived as tools to facilitate external assessment, they are largely conducted internally; while they are standardized in theory, in practice they are variegated. Bogue and Hall (2003) note that "even within formalized systems of academic program review, academic cosmetology and modest forms of academic skullduggery are possible." As described below, we reached similar conclusions in our analysis. However, despite their vagaries, these artifacts are far from bankrupt as tools for understanding and evaluating higher education programs and departments.

PROGRAM REVIEWS AS A DATA SOURCE

Collecting and analyzing academic program reviews allowed us to triangulate our qualitative interview data in two respects: voice and chronology. These reviews, as noted above, tend to be authored by faculty members, more often than not by department chairs. Our research design and constraints did not allow us to spend significant time interviewing faculty, but studying program reviews gave us a window into a perspective distinctly different from the high-level administrators we interviewed. Those administrative interviews were also limited in their contributions to the longitudinal aspects of our study. Since they have been written for more than four decades, program reviews create a historical paper trail of faculty perspectives that cannot be replicated through interviewing. This is both due to the low chance of obtaining interviews with individuals who may be retired or deceased, as well the fact that these documents are synchronous artifacts and do not rely on individuals' memory or institutional mythology. They

also differ from traditional artifacts typically studied by historians of higher education, such as records from presidents, trustees, and other administrators, as well as published materials, which reflect a perspective several levels removed from "on the ground" reality. Furthermore, academic program reviews, despite their origins in the higher education "accountability movement," are generally not written for public consumption; they are created as internal documents and a way for faculty to both reflect on their own strengths and weaknesses and to advocate for change. (On this last point, the reviews often have a clear agenda; we view this as a data-rich asset and not a liability.)

We collected academic program reviews from seven of the broad access institutions in our study: four community colleges and three master's-level universities. These institutions are spread across the three geographic subregions in our study: greater San Francisco (two community colleges and one masters-level university), South Bay (two community colleges and one masters-level university), and East Bay (one masters-level university).The program reviews we collected and analyzed came from four disciplinary areas: business, biology, computer science/studies, and engineering. Computer science and engineering were chosen due to their close relationship to the core industries in Silicon Valley, while biology was chosen due to its tangential relationship to biotechnology, an emerging industry in the Bay Area. Business was chosen as a more geographically-neutral, but still workforce-focused, disciplinary area, in order to provide contrast to the others.

In total, we gathered 94 separate academic program reviews from institutional archives, repositories in academic affairs offices, and, for newer reviews, from online repositories. (We also collected and analyzed 36 other department-generated documents, including accreditation reports and informal self-studies; these are not discussed in this appendix.) Since institutions

differed significantly in their fidelity to review schedules and in their retention of review documents from previous cycles, the number of reviews per institution varied from a low of five to a high of 30. At several institutions, extensive searches only turned up program reviews dating to the early 2000's. At one master's-level university, academic affairs staff told us that they had been instructed to systematically destroy any program reviews older than seven years. Interestingly, the richest sources of program reviews (in quantity, if not in quality) came from two community colleges that maintained on-campus archives. While the master's-level universities in our study also had institutional archives, they did not collect program reviews (perhaps judging them as too parochial for preservation purposes). Even in 2014, the availability and format of program reviews posted online through institutional websites was haphazard and widely varied.

Institution	Number of Reviews by Department	Total Reviews	Date Range
City College of San Francisco	Biology (5), Business (5), Computer Programs (16), Engineering (4)	30	1985-2014
San Francisco State University	Biology (2), Business (1), Computer Programs (2), Engineering (4)	9	2003-2013
Foothill College	Biology (6), Business (7), Computer Programs (7), Engineering (4)	24	1984-2014
Skyline College	Biology (3), Business (2), Computer Programs (3)	8	1996-2014
California State University East Bay	Biology (2), Business (3), Computer Programs (1), Engineering (2)	8	2009-2014
Evergreen Valley College	Biology (1), Business (2), Computer Programs (1), Engineering (1)	5	2009-2012
San Jose State University	Biology (2), Business (2), Computer Programs (2), Engineering (4)	10	2001-2014
Total		94	1984-2014

Additionally, the format and content of the program reviews varied widely. Some reviews were cursory two-page documents, focused on basic statistics about student enrollment and demographics. Others exceeded one hundred pages and were deep studies including student and instructor interviews, survey data, and robust quantitative analyses of enrollment and success trends over time. In general, only the self-studies themselves were available, with little evidence of feedback or follow-up; however, in some cases formal letters of acknowledgement by administrators were appended to the reviews. In several cases, individual reviews were dominated by complaints about institutional hindrances, especially budget constraints.

NOTABLE FINDINGS

Our analysis of the program reviews turned up findings that both confirm and diverge from our interview data results. Open-coding resulted in a focus on seven themes that emerged from the reviews and hold relevance for the larger study: fluctuations in student enrollment, fluctuations in faculty size/makeup, departmental sensitivity to the labor market, departmental collaboration with industry, departmental emphasis on workforce preparation, difficulties delivering the curriculum, and use of online learning.

Results vary across institutions and regions, but a key finding is that for some of our core research foci, variation occurs more at the department level than at the institution level. This contrasts with our interview data from high-ranking administrators, who tended to conceptualize their institutions as unified entities. In assessing program review data, it is generally impossible to make generalizations about a college or university; there is enormous variation at the department level that overshadows the actions or experience of an entire institution.

To take one example, at San Jose State University we found ample evidence of industry collaboration from the Business and Computer Engineering departments, but across campus at the Computer Science department, there is almost none. Conversely, at San Francisco State University, the opposite is more or less true: Computer Science has historically displayed close ties to industry, while Engineering operates in a relative silo. These findings corroborate historic trends within departments (i.e., Hasegawa, 1992) more so than they do the aspirations of campus-wide administrators. It is also easier to make generalizations across disciplines than it is across a single institution. Continuing with the industry collaboration example, Biology departments at nearly every institution in our study have struggled to establish partnerships with employers. And in certain areas, we can make generalizations about type of institution: two-year schools have lots of evidence of using adjunct instructors and experimenting with online education, while the masters-level universities generally have very little in either category (although evidence from the most recent reviews shows an increase in these phenomena across all institutions).

Additional themes emerged from the program review data analysis that add complexity to the intentions of higher education administrators and policymakers. We include three here as examples of findings that partially contrast with interview data, showing the research potential of these artifacts:

(1) *There is an inherent tension between vocational and academic curricula that arises repeatedly in the program reviews.* Many actors in the colleges and universities under study do not have workforce preparation as their primary goal. While campus-wide administrators may claim that orientation for their institutions (as interview data often indicates), in many departments faculty display a clear countervailing preference: against

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pre-professional curricula, focusing instead on research and more academic curricula. (This is generally more evident in Biology and Computer Science than it is in Business and Engineering.) Adding to this, in multiple cases the program reviews indicate that students typically gravitate to more traditional courses of study. This is especially true at community colleges, in which many students seek to transfer to four-year institutions and therefore eschew vocational courses that do generate transferrable credits. These trends have a countervailing effect on policies designed to grow certificate programs and strictly vocational degree programs.

(2) *Fluctuations in student enrollment and faculty size are more common than is commonly understood.* Conventional narratives, guided by memory, are often incomplete. The effects of the "dot-com crash" in 2000-2001, for example, come up repeatedly in interviews (as well as in some program reviews) as a transformational event in terms of these fluctuations for computer-oriented programs. The common theory is that interest in these programs dropped after students became skeptical about their job prospects in the computing industry. A close longitudinal look at evidence from other reviews shows a more complicated story, however. First, other disciplines (not just Computer Science) saw significant enrollment declines in the early 2000's, indicating that broader economic factors had as much to do with fluctuations as did student sentiment towards specific disciplines. Second, at many schools computer science enrollments never returned to anywhere close to late 90's levels, even in recent years during the "second dot-com boom," indicating that these programs were overenrolled before the crash. Finally, other periods have seen major drops across multiple institutions and regions – for example, in the early 1990's for computer programs, and in the late 2000's for some business

programs. Explanatory narratives quickly penetrate institutional memory, but they do not always tell the whole story.

(3) *Efforts towards "modernizing" undergraduate education through technology and non-traditional instructors are often thwarted.* In interview data and future-facing sections of program reviews, institutional actors often cite the potential of educational technology (i.e., online coursework) and differentiated instruction (i.e., by adjunct instructors who actively work in industry) as transformative innovations. Much of the program review data, however, indicates that these efforts are often unfruitful. Since at least 2000, online technology has been continually touted by both faculty and administrators as a coming game-changer, but the reviews indicate very little uptake of online coursework, especially at the four-year institutions. Efforts towards growing online programs are small and routinely aborted. Similarly, administrators create and promote programs with the promise that close ties to industry professionals, who will teach as adjuncts, will bolster their workforce-preparation functions. However, many program reviews cite the impossibility of hiring these types of adjuncts, most often because of the huge disparities in pay between industry work and instructional pay at broad access colleges. As a result, while the use of adjunct instructors has risen at all institutions, the new hires typically resemble the ones from past decades (academically-trained, with little industry connection), just without tenure.

CONCLUDING REMARKS

While the creation of academic program reviews continues to be mandated by state higher education agencies, including those in California, our experience in working with them indicates that they are poorly structured and utilized. In some (though not all) cases, they appear

to be nothing more than a bureaucratic formality, conducted hastily and not used for any constructive purpose. This state of affairs is reflected in the research community's waning attention; while a robust literature described and analyzed program reviews in the 1980's, very few higher education scholars today use these artifacts in their research.

This does not need to be the case. Since there are no apparent efforts to end mandates for conducting program reviews, the administrators and faculty responsible for them ought to seek to make the process more consistent and more generative. The initial objectives for program reviews were to increase the public accountability and transparency of academic programs and departments, and to facilitate their ability to make thoughtful changes and improvements. These goals are hampered by a *pro forma* process and haphazard record-keeping.

At a minimum, institutional and state-level policies should mandate the maintenance and display of program reviews for set length of time, if not indefinitely. Digital record-keeping makes such maintenance simple, and posting materials online will help researchers, administrators, policymakers, and members of the public quickly access these important documents, without digging through archives or discovering that they had been destroyed. (Additionally, academic affairs staff should develop better protocol for providing access to program reviews; several times, we were told that they were confidential documents, which was incorrect and required us to appeal to high-level administrators for intervention.) A potential added bonus of making program reviews widely available is the salutary effect of daylight on a neglected practice. This is not limited to inspiring better fidelity to standards and thoroughness. Program review authors could surely benefit from seeing examples from other departments and institutions, leading to better documents and perhaps less "siloing."

Beyond maintenance and display, more consistent protocols for conducting and responding to academic program reviews would surely make them a more robust resource. While published guidelines call for reviews to be conducted on a set schedule (typically every five years), we found that in many cases departments missed those deadlines. In a related issue, as noted above we found little evidence of official responses to program reviews other than occasional boilerplate acknowledgments of their completion. It was unclear to us, and perhaps to the reviews' authors as well, if anyone in institutional administration or at state agencies was actually reading these documents.

Finally, we encourage more scholars to use academic program reviews in their research, both in order to remind faculty and administrators of their continuing importance, and simply because they are rich and fascinating data sources. While much of this appendix has offered criticism of academic program reviews, we do not want that to overshadow their usefulness in this study and their potential for contributing in many ways to scholarship on higher education. It is a special advantage to get an intimate look at faculty perspectives and self-assessment from a range of institutions, disciplines, and historical moments. While we hope that program reviews become more consistent and transparent, we also hope that that level of access and insight does not subside.