

GENERAL EDUCATION IN CALIFORNIA –
TRENDS OVER THE LAST THIRTY YEARS

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GENERAL EDUCATION IN CALIFORNIA –
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A Thesis

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Abstract
of
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General education (GE) requirements are common at modern American universities and have been molded by historical events and cultural attitudes over time. Current debate over GE centers on the purpose, effectiveness, implementation and assessment of this often-sited espoused common experience for students. By examining the GE trends in requirements of different University of California campuses, California State University campuses, and large California private schools, this thesis explores how GE requirements have changed over the last thirty years.

Twelve California college general catalogs – four each from the UC system, CSU system, and private schools – for the academic years 1974/5, 1984/5, 1994/5, and 2004/5 were examined. Primary measures were the weight of general education, as defined by the percentage of degree units devoted to GE, and the flexibility of GE, as defined by the number of approved classes per class required.

The survey showed an increase over the last thirty years in the share of degree units devoted to GE requirements. At the same time, the number of classes students may choose from has grown as well. According to universities, general education is meant to

serve a purpose that is usually described in college catalogues as creating a well-rounded student.

The larger share of coursework devoted to general education and increased discussion of GE in college catalogs indicate a greater emphasis on general education. The increased flexibility in GE over time might be due to changes in the student population, which has grown both in numbers and in diversity since 1974. However, none of the schools surveyed had any measures in place to evaluate the effectiveness of their GE requirements.

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To Emily

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Chapter 1 – Introduction

General education (GE) requirements are common at modern American universities. To many students, GE's are just another hoop to jump through in order to reach graduation. However, general education is meant to serve a purpose that is usually described in college catalogues as creating a well-rounded student. Another often-cited reason espoused is a common experience for students. Most who are familiar with the term “general education” know that this usually entails a certain number of mandated classes to be taken from a broad range of fields. But how similar are these requirements from school to school? If the requirements vary, is this a positive thing? Have they changed over time, and if so, how?

By examining the trends in requirements of University of California campuses, California State University campuses, and large California private schools over the last thirty years, perhaps an answer can be found. In comparing universities and systems in California to each other and over time, a greater understanding of general education today, and in recent history, may be discovered. Looking at the stated goals and theory of GE compared to past and current education policy will give insight into policy implications for the future of general education.

The main methodological thrust of the thesis will be a survey of twelve California college general catalogs – four each from the UC system, CSU system, and private schools – for the academic years 1974/5, 1984/5, 1994/5, and 2004/5. Using the data in these catalogs, this thesis will examine trends in general education over the last thirty

years. Primary measures will be the weight of general education, as defined by the percentage of degree units devoted to GE, and the flexibility of GE, as defined by the number of approved classes per class required.

Why is general education important? Many reasons come to mind. First, it is a policy that millions of students across the country are required to comply with, in some form or another. Anything that affects such a broad swath of people should never be taken for granted. Secondly, as each campus or system often determines their own goals and rules for general education requirements, this in turn defines a great deal of the educational experience students are in fact receiving. Finally, discoveries in the differences between universities over time may point the way to more questions, and direction for further studies.

For those creating higher education policy, the information discovered in this thesis will give insight into the trends in action for the largest and most diverse state in the nation. This thesis seeks to give a benchmark to policy-makers involved in general education to compare their own campuses to, and to stimulate the debate about where general education in this state and this country is headed.

This introduction will be followed by a review of the literature, which will attempt to capture the history and current views of general education. Following that, the methodology of the thesis will be described in detail. A presentation of the findings follows the methodology, and the findings are then addressed in the discussion chapter.

Chapter 2 – Review of the Literature

Universities provide higher education to prepare students for professions, further graduate study, and life as an educated person. In addition to courses delving into a specific major, university curricula often require so-called general education (GE) classes to broaden a student's education outside of their stated field of study. Before venturing forth in exploring current general education requirements, an examination of the history of GE in the United States is necessary. In addition to the origin and evolution of GE, the principles, definitions, and contemporary purpose of GE classes will be reviewed.

Origins and History

The American university has its roots in the religious colleges of the colonial era, such as Harvard (founded 1636), William and Mary (1693), Yale (1701), and Princeton (1746). These schools began as seminaries, and were expanded to include other professions, such as law and medicine, in the mid-1700's. Before 1800, there was little variation in the coursework at a given school; students studied a rigid curriculum based in the classics (Greek and Latin) no matter their post-college ambitions (Rudolph, 1977, 29-31). In fact,

The curriculum of the colleges in this era was little changed from that of the Middle Ages. Its aim was to provide students with a liberal education, which meant facility with classical languages, grounding in the three basic philosophies of Aristotle ... The first two years were spent for the most part mastering the classical languages ... Philosophy, general subjects, and divinity were taught in the final two years (Altbach, 1999, 40).

This strict classical education began to change around 1800, when more students attended college to receive vocational training. For example, at Amherst College in 1826, two different courses of study were created - the traditional classical course work and a scientific or technical track, for those not advancing to medicine, law, or divinity (Foster, 1911, 353-356). Although it only lasted three years, the Amherst curriculum was the first attempt to modernize curriculum to reflect knowledge required in modern society (Thomas, 1962, 15). The classical course of study began to be seen as inadequate in the new world of the Industrial Revolution. This is when the term and concept of “general education” first came in to use:

Our colleges are designed to give youth a general education... which is preparatory alike for all the professions. They afford the means of instruction in all the branches, with which it is desirable for a youth to have a general acquaintance before directing his attention to a particular course of study (Packard, 1829, 300).

This acknowledgement that a single fixed standard of study was insufficient was, ironically, the first glimmer of modern GE. Universities realized that the limited classical program of study omitted modern discoveries and innovations (Thomas, 1962, 16). From 1870 to the early 1900's, the interests of the individual were elevated, so that “the prevailing view was that the common good was best served by serving the individual interest” (Thomas, 1962, 34). GE changed due to the explosion of state-supported secondary schools and higher enrollment, the rising power of departments as the modern campus administrative structure emerged, and the influence of the budding field of behavioral sciences (Thomas, 1962, 35).

The rapid increase in enrollment taxed the existing class structure of universities so new methods of instruction had to be devised to lessen the toll on GE classes. Increasingly in the late 1800's, students were given electives among various departments instead of the old mandatory path of classes. This gave the university more flexibility in accommodating the increasing student population while allowing the departments to retreat from the old general education requirements and to their own specialized fields (Thomas, 1962, 43-45).

Another reason for the diversification of individual majors and de-emphasis of GE was the advent of a modern departmental structure. This resulted in a power shift, changing the focus from liberal or general education to specialization. Each department now had a vested interest in producing the best scholars of their field, instead of overall scholarship; the physics department wanted to produce outstanding physicists, not well-rounded scholars. The department structure also gave faculty a stronger voice to lobby for changes necessary to forward their vision (Thomas, 1962, 43-47).

One last reason for the gain in specialization was the emphasis that the burgeoning behavioral sciences put on individuality. Behavioral sciences, and its counterpart - educational theory, added to these administrative and population changes in the turn of the 19th century.

The doctrine of individual differences was pressed to the point that not only was the student allowed a remarkable degree of freedom in the determination of his program of studies, but often within a particular course he was encouraged to exercise considerable initiative in determining the details of the course (Thomas, 1962, 57).

There are many more examples of how historical events and cultural movements have changed GE requirements. An early example can be found in the proliferation of “non-major” courses in the early 1900’s. In the hard sciences and mathematics, the incidence of GE courses designed for non-mathematics majors increased over the century. In 1914 none of the schools with natural science or mathematics requirements offered special courses for non-majors; by 1964 40% offered non-major courses in mathematics, and by 1993, 74% offered non-major science options and 38 percent non-major mathematics options (Dissolution, 1996, electronic).

Approaching modern times, trends in historical events continue to shape GE. For example, in the 1960’s, education policy was influenced by the Cold War, as the U.S. government began promoting the sciences in response to a perceived Soviet advantage (Carnegie, 1981). Also, the advent of the civil rights movement and women’s liberation influenced the expansion of ethnic and women’s studies. The year 1968 saw the first predominately-white school start an African-American studies program (San Francisco State), followed in 1969 with the first Asian-American studies program (San Francisco State again), and the first women’s studies programs in 1970 (San Diego State and Cornell) (Gaff, 1997, 78). The next diversity program milestone came in 1988, when San Francisco City College founded the first gay and lesbian program (Gaff 1997, 81). The increasing inclusion of minorities at college campuses that began in the 1960’s continues, reflected by a 55% male college population of 1975 to the 55% female college population of 1995 (Altbach, 1999, 64). Increased diversity not only added multicultural requirements, but also impacted other requirements, such as literature and history.

Courses that emphasize non-Western or non-traditional perspectives are made more available as both the students and faculty have become more diverse, wanting to study or teach about issues that concern their cultural experiences (Hall, 1982, 25-30).

Options in GE increased when, in 1978, Harvard unveiled the Harvard Plan for General Education. Instead of a core curriculum, the plan allowed students to take ten courses out of one hundred offered in five subjects – literature/arts, history, social and philosophical analysis, science/math, and foreign language/culture (Gaff, 1997, 80). Though the plan was criticized for being too timid and too much like a distribution plan and for being too strict, arbitrary, and narrow (Gaff 1983, 57), many schools follow such a pattern today, allowing far more available classes.

Following the direction of the Harvard plan example, the fervor for GE as a uniting experience faded, as more colleges loosened up GE requirements during the '80s and '90s. For example in 1914, 1939, and 1964, the percentage of institutions with natural science requirements that also demanded some laboratory work hovered between 74 and 84 percent. By 1993, however, this figure had fallen to 30 percent (Dissolution 1996, electronic), as hands-on science for the average student was de-emphasized. For non-science students, a theoretical and cultural view of science was more valuable than actually conducting rudimentary lab experiments (Gaff, 1983, 37). GE continued to change, and by the 1990's, multicultural studies (as they had become known) were a common requirement. Also, just as the industrial revolution spurred on new course work, the advent of the Internet and expanding computer technology was a factor in general education with the dawn of the Information Age (Dissolution, 1996, electronic).

Increasingly, proficiency in information technology is being regarded as “central to the intellectual development of every undergraduate, contribut[ing] to a successful academic life” (Sellen, 2002, 115-116). Requiring information technology courses “acknowledges that assisting students in making sense of this environment is a fundamental skill on the level of reading and writing” (Sellen, 2002, 115-116).

Modern Principles, Theory, and Criticism

The principles behind general education today – making students well-rounded to prepare them for a variety of challenges after graduation and avoiding the one-dimensional studies encouraged by ever specialized technology (Miller, 1988) – are noble ones. However, there is still significant debate as to how best, or even if, to pursue those goals.

The debate began in the mid-1800’s as the old classical, one-dimensional curriculum and specialization conflicted. University presidents’ views provide examples of this debate. President Francis Wayland of Brown University (president 1827-1855) argued that the university should serve the public interest by breaking down class divisions with a shared academic background (Thomas, 1962, 22).

On one hand, Charles Eliot of Harvard (president 1869-1909) took an individualist perspective. He saw GE through choice as the path to an informed and intelligent public. He trusted to students to make wise choices (Eliot, 1898, 1). On the other, President Paul Ansell Chadbourne of the University of Wisconsin (president 1867-1870) clung to the traditional view. He believed technical training was not a universities’ job and ought to be a part of another institution. He felt universities should “give the best

conditions for mental culture to the best minds in the world... for that higher good to the race than material wealth alone can give (Chadbourne, 1869, 335).

Moving forward to modern debate, one major concern about general education today is the concept of “coherence.” Coherence is meant to represent a connected approach to GE at a university. Advocates of coherence “urge curriculum designs that provide students with more opportunities to figure out how different elements, themes, or ideas can be connected and applied to social situations and human reflection.” The goal of general education should be more than simply instilling students with a broad selection of facts, but to teach how different fields are related and give students tools that will actually be relevant off campus (Gaff, 1997, 146-147).

However, the idea of coherence is somewhat separate from a plan on how to achieve it, or who even is responsible for it.

A key unanswered question in the debate over coherence in general education is, Who provides that coherence – the student, or the faculty in designing the curriculum? Rather than a dichotomy, the answer may present an inherent tension in the general education curriculum. (Gaff, 1997, 147)

Balancing how much control should rest with the students and how much with the faculty is, as we have seen, a long-standing concern. The delivery and implementation of coherence is just another facet of the debate.

Even the relatively new aspect of multiculturalism, under its current widespread form, can be seen as being implemented incorrectly in relation to the pursuit of coherence.

Few institutions have found a serious and significant way to incorporate multiculturalism fully into the curriculum. Diversity courses are often add-ons

rather than integral to the reform and redesign of curriculum towards greater coherence and quality (Gaff, 1997, 148).

In tying multiculturalism back into the general course of study, its relevance and importance will become clearer and greater coherence will be achieved (Gaff, 1997, 149).

Another issue currently being raised about general education is its implementation for students of different backgrounds. Given the student variety from different ethnic groups, geographic regions, and pre-college academic achievement, many universities do not adequately cover the range of students' choices for appropriate general education. By providing a system of clustered planned sequences with different focuses, the university may serve their students better in GE (Gaff, 1997, 163).

Also, a major concern with general education today is the evaluation of general education programs. How does one measure that the goals of GE are being met? At most schools, there has been little discussion about the exact goals of GE and what students should be able to do after completing GE. Faculty tend to be more concerned with what their own department's students are doing for the major than on what the universal requirements are. There is rarely an impetus to examine a program like GE, which does not "belong" to any given department, but is usually the domain of a faculty committee. Few schools have any sort of system in place to examine what, if anything, students are learning from GE and how that matches up with stated university goals (Gaff, 1997, 151-152).

Some debate the educational need of a core or general education curriculum at all.

What is the problem to which core curriculum is an answer?" ... I do not think my question presupposes that the problem is educational. I do not think that educational issues are in fact exclusively education issues; rather, they are – in part at least – a reflection of the problems that occur on the economic, political, social, and ethical levels as well. And thus, the problem to which core curriculum is a solution is not an education problem, but is a political, moral, ethical, and social problem (Hall, 1982, 3-4).

Viewed from this lens, it is possible to consider other reasons that may be at the heart of GE requirements.

From an economic perspective, GE functions much like protectionism. By requiring students to take classes from departments they might otherwise avoid, faculty positions are protected. "Some faculty who now teach in shrunken liberal arts course sections may couch their argument in eloquently altruistic terms when, in fact, they are fighting to save their paychecks by restoring thinly justified course requirements." Additionally, a background that includes a core curriculum can help prop up a degree in a less desired major in the marketplace (Hall, 1982, 9-10).

From a military and political view, general education can be seen as indoctrination. A student is fed information that higher powers deem necessary and culturally important. Even courses on non-Western cultures can be viewed in a "know thy enemy" sense, if this is the prism through which one chooses to look (Hall, 1982, 10).

Many of these concerns can be traced back to World War II.

In the burgeoning economy following World War II, the employment needs of expanding industry and government bureaus, the country's race to space with quantum funding of scientific research, and the dramatic growth in the number and diversity of college aspirants all exerted strong influences on the undergraduate curriculum (Hall, 1982, 13-14).

Hall argues that “the combined forces of government, science, and industry encouraged a core curriculum, distribution requirements, and a constricted, professionally oriented major for training well-rounded, knowledgeable employee” (Hall, 1982, 13-14). The social, political, and economic issues of the post-war to 1960’s era thus limited the college curriculum of the day to a less purely academic emphasis, “under the vise of vocational pressures and narrowing curricular objectives born of the times” (Hall, 1982, 13-14).

Critics of GE also dispute the need or feasibility of the community aspect of a core curriculum. “College is not the place to instill a sense of community. By the time students arrive at college, they have shared a much more homogeneous culture than ever existed before through their exposure to television” (Hall, 1982, 35). Perhaps in the 19th century, before the advent of common media such as TV and radio, such a role was needed. In modern society, though, communication is so powerful that any collegiate attempt at creating a community is misguided at best, as all of America is part of the same community to a larger degree than ever before. The “ultimate purpose of education... is neither socialization nor indoctrination into a community value system, but is instead to gain the capabilities by which one ultimately makes good judgments” (Hall, 1982, 36-37).

A different view questions the very existence of a shared American culture for which general education can aim.

Even the casual observers of the quiz shows will recognize that Americans no longer own a common culture. Questions readily answered by teenage contestants stump the senior citizens, and vice versa. At the very least, there currently are diverging cultures for the two generations and perhaps a classical

and popular culture. Pluralists would argue that many more cultures exist; not only do traditional Western values emphasize one view of the world, but Western culture itself is changing (Stark, 1997, 353).

If that is the case, it is no longer clear what community or students should understand, even if it is assumed they should have some sort of common cultural understanding.

Newton (2000, 166), highlights the modern conflicts in general education as:

- unity versus fragmentation (knowledge)
- breadth versus depth (student learning)
- generalist versus specialist (faculty competence), and
- Western culture versus cultural diversity (content)

Newton goes on to elaborate that the tension between unity versus fragmentation.

Advocates of unity (or coherence as Gaff would call it) prefer that GE as a whole should be integrated and show students how the disciplines are related. Fragmentation proponents argue that such a universal approach is fruitless, as academic knowledge, and the faculty passing on that knowledge, has become “increasingly specialized and discipline-oriented” (Newton, 2000, 166-167).

Regarding breadth versus depth, Newton (2000), argues that

In the beginning, American colleges provided a broad common education for their students. This approach eroded over time because of three developments: the introduction of new disciplines, the enormous increase in the amount of knowledge, and the emphasis on faculty research and publication. These movements have resulted in a chronic tension between breadth and depth in undergraduate education, a tension usually resolved by further reduction of general education requirements to make additional room for courses in the major. In pre-professional undergraduate curricula especially, the prescriptions of outside accrediting agencies have left less and less room for general education or electives. (167)

Newton believes this has led to students, and often faculty, to believe that general education is just something to “get out of the way” so the student can get to the “important” part of their academic career, the major (Newton, 2000, 167).

Faculty also play a role in how general education is taught today. According to Newton (2000),

Primary identification and loyalty have shifted from the university to the professional specialty. The most significant reference group has become other members of one's discipline rather than one's university colleagues, and the department has supplanted the university as the primary source of authority and rewards. Researching teachers have been replaced by teaching researchers... A view of the university as a set of separate schools or departments only loosely joined under a vague general purpose has pushed aside the perception of the university as an organic whole pursuing a common purpose.” (168)

This leads to a university where the general is passed over for the specialized, as “In such an environment, the concerns of general education are at the bottom of the list. With little attraction and few rewards for junior or senior faculty, especially in larger universities, general education courses have often become the domain of graduate students and part-time teachers” (Newton, 2000, 168).

The content of general education is also at the center of tension. Multicultural and non-Western views struggle for a place amongst traditional subjects (Chang, 2002, 20). The advocates of a traditional Western approach have argued that the Western world is what has made America what it is today, and should be the focus of a culturally literate American. Traditionalists also argue against “the curriculum's substitution of the contemporary issues for perennial concerns” (Newton, 2000, 169). Critics of this Western-focused approach “argue that it represents the disembodied ideas and values of

an elite in one culture to the virtual exclusion of the contributions of other cultures or theoretical perspectives. Multicultural and gender concerns, not only to offer students a more balanced education, but also to prepare them to live in a world where an understanding of cultural differences will be essential for survival and success” (Newton, 2000, 168-169).

Newton sees the models of general education in use today in three main categories: the great books model, the scholarly discipline model, and the effective citizen model. The great books model attempts to emphasize unity of knowledge and a breadth of student learning, relying on faculty who are willing to think outside their disciplines. The content of the great books model is focused on Western ideas, but often includes non-Western views, either as a critique of the West or as great books of other cultures. This model is most often seen at small liberal arts colleges that foster greater university cohesion (Newton, 2000, 169-171).

The scholarly discipline model asserts that the Western/non-Western dichotomy is false and instead attempts to incorporate the best of all sources into its curriculum. “Today, the amount of knowledge and level of sophistication required for serious achievement in any scholarly area requires a concentration and specialization possible only through dedication to a single discipline” (Newton, 2000, 172). This model emphasizes in-depth exposure to each subject and trusts the student to put things together to see the connections. Faculty in this model are free, even encouraged, to remain specialists. This model is seen more in large universities with a strong department system (Newton, 2000, 172-174).

Proponents of the effective citizen model argue that the scholarly discipline model is too insulated in the university's ivory tower, that the great books theory looks back too much, and that today's economic and cultural world is the best teacher. The focus in the effective citizen model is on training students to be able to interact with the world they will graduate into. Instead of learning the academic disciplines, they are expected to learn how the disciplines fit into the modern world in a meaningful way. Faculty in this system are expected to put aside some of their specialist tendencies and instead focus on illustrating how their fields tie into industry and culture. The content of the effective citizen model is much more focused on multicultural and non-Western concerns, since this is increasingly the world that graduates will face (Martinez-Aleman, 2001, 102-3). This approach is found on campuses both large and small, but most often where faculty can agree and cooperate towards such an overall vision (Newton, 2000, 174-176). Effective citizen advocates might argue that Hall's assertion that the "ultimate purpose of education... is neither socialization nor indoctrination into a community value system, but is instead to gain the capabilities by which one ultimately makes good judgments" (Hall, 1982, 36-37), ignores the possibility that to make good judgments in the context of the real world, a citizen must be an informed and aware member of their community.

These models are often mixed in practice, for two reasons. One is that different campus departments might approach their GE roles following different models. For example, at a scholarly discipline campus, the humanities department may take a great books approach, while the social science department might emphasize the effective citizen model. The second reason is that,

Even though the models may have different assumptions, pedagogical approaches, and perceptions of the ideal graduate, that does not mean their implementation will exclude entirely the concerns of the other models. Great Books advocates might argue that developing a familiarity with the perennial questions is the best way to produce effective citizens. Scholarly Discipline proponents may incorporate classical authors and historical development of the discipline as essential components of their general education courses. Effective Citizen advocates may argue that life in modern society requires an understanding of relevance of the key concepts of the disciplines. (Newton, 2000, 178)

Newton concludes that “it is likely that each model, while sufficiently different to represent a distinct approach, will in varying ways seek to incorporate aspects of the two other models” (Newton, 2000, 178). Given these factors, finding any campus that is a pure example of any of the three models would likely be difficult (Newton, 2000, 178).

A report from the Association of American Colleges and Universities outlines what 21st century students need to be getting out of college. One goal is for students to become “intentional learners” who are aware of both the need to learn and how to do so successfully. Intentional learners are adept at thinking critically and applying their knowledge to new situations. They also are responsible in their personal and community lives. The report claims these goals are consistent with liberal education, with a new emphasis on “intellectual flexibility,” so that the student can adapt throughout their life to new demands and situations. The AACU also argues that such an education should be available to all students, and not just those at the traditional small liberal arts colleges (Association of American Colleges and Universities [AACU], 2002, 25-28).

In order to reach these goals, the AACU recommends that all universities set “explicit goals for student learning so academic department and general education outcomes can align with them.” The AACU then goes on to stress the need for identifying student

learning outcomes in a meaningful way, beyond simply credits completed. Another suggestion is to integrate general education more fully with the major. Instead of the standard wide gap between the two, the report envisions general education and major courses reinforcing each other in a consistent and significant manner. Further, a strong academic advising system is advocated to help students navigate the high standards of this new curriculum in a coherent way. Finally, incorporating student learning outcomes – not simply what is taught – in faculty reward systems is suggested as a way to bring the faculty in to this learning-oriented program (AACU, 2002, 29-36).

Summary

Clearly the definitions, goals, and methods of implementation of general education have changed over time. From the origins of GE as a religious and classical core to detractors who claim that GE is protectionist, indoctrination, and ineffectual to today's colleges' vision of creating culturally sensitive, contemporary, responsible, and well-rounded citizens - GE has come a long way. What is the current state of GE, and how might GE vary from campus to campus or system to system? This thesis will look at the trends in GE requirements over the last thirty years in a variety of California universities and what the meaning of those trends may be.

Chapter 3 – Methodology

To determine if and how general education requirements have changed in California, this thesis will examine the general education requirements of twelve universities in California over the last thirty years.

Looking at the catalogues of several public and private schools, beginning thirty years ago and looking at ten-year increments, this thesis will examine how the general education requirements have or have not changed. In particular, this thesis will look at changes in:

- The percentage of units required for GE relative to total required units for graduation (weight of GE).
- The number of different requirements (math, history, etc., breadth of GE).
- The number of courses needed for each requirement (depth of GE).
- The number of courses eligible for satisfaction of each requirement (flexibility of GE).

In addition to these more quantitative measures, this thesis will also attempt to examine the philosophies at these universities, particularly in relation to how these philosophies influence the trends shown in the numerical data.

By focusing on California, it is hoped that variance based on region of the United States will be minimized. A spread of schools from throughout California will be used, so variance within California might appear in some form. If so, this will be discussed in the results and findings section.

This thesis will look at UC, CSU, and private schools. This will be useful because the UC and CSU systems each have their own requirements. Looking only at

UC's or CSU's might in fact only show us what that particular system is doing. By including both of California's public four-year university systems as well as large private schools, it is hoped that larger trends will be discovered that range across systems and individual campuses. The systems may vary from each other for any number of reasons, and if so, this study should discover those variations.

Finally, I will look at today's larger schools so that differences in student population today are less likely to have an impact, though by their nature most UC and CSU campuses are still considerably larger than even the largest California private universities.

The colleges that will be included in the study are:

UC – Berkeley, Irvine, Los Angeles, and San Diego

CSU – Fullerton, Los Angeles, Sacramento, and San Diego

Private – Azusa Pacific, Stanford, USC, and the University of San Diego

Quantitative Definitions and Procedures

Catalogues – published for each institution from academic years 1974/1975, 1984/1985, 1994/1995, and 2004/2005 will be used. Some universities publish catalogues that cover multiple academic years. In this case, the catalogues covering the years in question will be used. Other documents, such as a schedule of classes, may be incorporated as well, since schools sometimes publish some general education information, such as lists of eligible classes, there.

General Education – any set of requirements that all students are held to and are intended to expose a student to a variety of subjects, for whatever reasons a school states. Some schools refer to GE as “breadth requirements,” “core curriculum,” or other such descriptions. Such requirements will be considered general education requirements. Also in regards to requirement variety within a single university, any unit that comprises over fifty percent of the undergraduate student body will be used to represent that school. If no single unit has a majority, then the average of the different units will be used. For example, some universities allow each academic unit to set GE requirements, or have a system of sub-colleges that have varying requirements. For schools with no dominant unit, their general education approach will be discussed more fully in the findings section.

Requirement Categories – the separate subjects areas that a student is expected to cover. This study will only consider major categories as defined by the school. For example, if a school lists math, science, humanities, and social sciences, and has a sub-requirement for humanities that student needs both history and literature, the school will still be considered to have four requirement categories.

This study will not pre-suppose a given distribution of requirements. For example, if a school considers math and science two requirements, so will this study. If another school considers math and science part of a single requirement, this study will do so as well for that school.

Courses Required – the minimum number of classes in any category necessary to fulfill the requirement.

Eligible Courses – the number of potential classes for each requirement available in the catalogue. Some schools do not have a list of courses, and instead allow students to take any classes for which they meet the prerequisites in certain departments. In discussing these schools, they will be assumed to be similar to others in their system, and perhaps higher in their ratio of allowed classes to required classes. In addition, when considering systems containing such schools, the study will only consider the actual numbers available, but it should be remembered that the true system ratio is likely higher than calculated.

GE Percentage of Total Required Units – the total number of units required for GE divided by the number of units needed for graduation. This will give a clearer picture of the true weight GE is given at each school.

Qualitative Aspect of the Thesis

In addition to the quantitative aspects described above, this thesis will consider the reasons each school gives for their GE requirements in their catalogues. The statements of each school may illustrate trends found in the numbers gathered.

Plan to Examine Findings

As data is collected for each school, it will be possible to examine trends for each area of inquiry over time, between systems or private schools, and between campuses.

The data collected will represent twelve universities, each in a cluster of four system or private schools, across four different instances in time. These forty-eight points of inquiry will then be compared based on the various criteria described above.

Additional attention will be given to the schools in relation to their systems, and systems in relation to each other.

Chapter 4 – Findings

Through analysis of the data gathered from forty-eight college catalogues, several interesting trends can be seen. Before looking at each school and system, some general comments should be made.

One approach to general education common in the 1970's and still used by some schools today was to allow a student to take any class for which they qualified in a department to fulfill the requirement from that department. So, if a student needed to take a math class for their GE's, they were not limited to a pre-approved list of math classes. This approach made part of the study, namely the ratio of allowed GE classes to required GE classes, less accurate than originally desired, as there is no way to determine thirty years later what math class the average student would be able to enroll in. Suffice it to say, the eligible-to-required ratio for any system that allows this sort of choice will most likely be higher than the numbers stated below.

When a trend is being discussed below, the statistics will be given in 1974/1984/1994/2004 order, unless otherwise noted. Also, unless otherwise stated, when referring below to the UC or CSU system, that the term "system" is used only to refer to the schools surveyed for this study in the given system.

This chapter will first look in turn at each system surveyed from a quantitative perspective. First will be a discussion of the entire system, followed by a discussion of each campus in that system. Then, the chapter will focus on the catalogues of some of the surveyed schools and their stated philosophies of general education.

UC System

The UC system as a whole can be characterized as a relatively low percentage of degree units devoted to general education, and a relatively large number of classes to choose from to fulfill those lower requirements. Though Berkeley and San Diego are not included in the eligible to required course ratios, as they allow students of all surveyed years to take any class in certain departments to fulfill their GE requirements, even the two UC's with defined GE course lists dwarf the allowed to required class ratios of CSU's and private schools. UC's have a ratio of 17.4/27.6/46.1 since 1984 (all UC's had the open plan in 1974). This compares to 16.5/19.5/23.7 for CSU's and 15.6/21.9/19.5 for private schools over the same period. One can only assume the true value of the ratios would be higher if Berkeley and San Diego could be accurately included. One might guess that such freedom is allowed to accommodate larger numbers of students, but the CSU's surveyed had similar enrollments to the UC's, and in fact the CSU's average enrollment of 29,135 in 2004 tops the 27,867 average enrollment of the UC's.

UC's had a required category trend of 3.4/4.9/5.2/5.0, showing a consistent measure since 1984. The courses required per category fell as a trend of 3.5/2.9/2.9/2.8, but this shift from 1974 to 1984 in large part is accountable to the larger number of categories. In terms of actual classes required for GE, UC's increased from 1974 to 1984, for an overall trend of 12.0/14.3/15.1/14.3.

UC Berkeley

UC Berkeley has seen amazingly little change in its general education requirements over the years. Their GE unit's percentage of total degree units has been

26.7/27.5/27.5/27.5. In fact, since 1984, in addition to the constant weight of GE units, Berkeley has maintained four required categories of general education and eleven required GE classes. Unfortunately, it is impossible to know exactly how many classes Berkeley students may choose from to fulfill their GE requirements, as the university allows students to choose from the offerings of entire departments in fulfilling their requirements. There have been more defined lists for some requirements added over the years, but there still remains tremendous flexibility in how students fulfill their GE's. One can only assume Berkeley students have as many, if not more, options as their fellow UC compatriots at Irvine and Los Angeles. Berkeley has been very consistent in its categories and courses required. Berkeley had three GE categories in 1974, and has had 4 since, while requiring twelve GE courses in 1974 and eleven since. This makes for a very consistent courses per category ratio as well, at 4.0/2.8/2.8/2.8.

UC Irvine

UC Irvine is the most demanding of the UC's surveyed in terms of degree units devoted to general education. Irvine's percentage has risen over the years, trending 26.7/33.3/40.0/42.2. Though starting behind the survey average, by 1994, Irvine was demanding more GE units than the average of school included in this study. Of the two UC's with defined GE course lists, Irvine has much more lenient options, with an eligible to required ratio of 15.7/31.2/49.3 since 1984. In 1974, students could take any six classes they chose in one non-major department, and any three classes in any other two non-major departments.

UC Irvine's allowed class ratio in 2004 is the highest of any surveyed school with a list of allowed courses. Irvine approved an astounding 936 classes for fulfillment of nineteen total general education courses that year. One fact of note is that a full 578 of those classes are choices a student can take for their three class Multicultural Studies and International/Global Issues category. This category was first seen in this study in 1994, and the choices allowed have only exploded since. Other universities in this study have followed similar patterns of instituting multicultural requirements and allowed long lists of classes to satisfy them, but Irvine is by far the leader in that regard. UCI's number of required categories has risen at a pace of 3/5/7/7. The shift from 1974 to 1984 was an entirely new system, but the additional two categories – Foreign Language and Multicultural Studies and International/Global Issues – in 1994 were an extension of the 1984 system, which is still largely in place today. UCI's courses required per category ratio has been 4.0/3.0/2.6/2.7.

UCLA

UCLA has seen a decline in required general education emphasis over the time period surveyed, after an initial increase. UCLA had GE percentage of degree units of 20 percent in 1974, rising to 31.1 percent in 1985 and 1994, before dropping back down to 26.7 percent in 2004. Only USC and Stanford have lower GE percentages of degree units in the most recent year surveyed. UCLA students were required to take only 10 GE courses in 2004, down from 14 in 1985 and 1994. Plus, while 1985 and 1994 featured a steady 264 and 269 allowed classes, respectively, for ratios of 18.9 and 19.2 allowed classes to required classes, UCLA increased the number of allowed classes to 386 in

2004. This, combined with fewer required classes, jumped the ratio of allowed to required classes up to 38.6. In a similar vein, UCLA's GE categories rose and have since fallen, trending 3/4/4/3, which, when combined with a total GE course requirement of 9/14/14/10, results in a courses per category trend of 3.0/3.5/3.5/3.3.

UC San Diego

Undoubtedly the most complicated of the universities in this study, UC San Diego consists of multiple smaller colleges of roughly equal size, each with their own general education requirements. Each college has its own educational philosophy, and general education is how they put that philosophy in practice, as all UCSD students face the same major requirements, regardless of college. In 1974 and 1984, UCSD had four colleges, increasing to five in 1994 and six in 2004. For the purposes of this study, all colleges are averaged for UCSD's entry in the study numbers.

On the whole, UCSD has been the second most demanding UC, with GE units to degree units percentages of 33.1/37.6/39.4/39.1 over the examined period. These numbers are higher than UCLA and Berkeley for all years, and higher than UC Irvine for the first two. The last three years studied have featured a remarkable consistency in courses required at 17.3/17.2/17.3 since 1984. This is even more surprising when it is considered that UCSD has gone from four to five to six colleges over that time. This indicates that although each college has its own requirements, the campus as a whole has been fairly consistent over time.

Most of the colleges do not provide lists of allowed GE courses, instead allowing students to choose from among the required departments. Thus, no allowed to required

course ratios are available for UCSD. The categories required average has varied over the years at UCSD as the campus has added more college, showing a 4.8/6.5/5.8/6.2 trend. However, the average number of classes required has been very consistent since 1984, with a 15.0/17.3/17.2/17.3 record. The courses required per category measure was 3.2/2.7/3.0/2.8.

One interesting feature at UCSD is the general education program of Warren College (formerly Fourth College), in place for all studied years. Outside of basic writing and math/science requirements, all Warren students are required to complete two programs of concentration as part of their general education. Warren College chooses this approach to “ensure both depth and breadth of study” (UCSD 1994, 31). Each concentration consists of three lower division and three upper division courses, and one of the concentrations must be non-contiguous with the student’s major. Thus, a political science major could concentrate in economics and biology, but not economics and psychology, as all three fall under the Social Sciences category. This is reminiscent of UC Irvine’s 1974 requirements, and is the only other example of such an approach found in this study.

CSU System

For most of the time period covered, the California State University system has had the most demanding GE requirements in terms of courses required and percentage of degree units devoted to general education. Other than 1974, when private schools lead both indicators, the CSU system has required both the most units and most courses. Their trend of 14.0/16.5/17.0/17.0 required classes tops the other systems by 1.5 to 4.0

classes over the 1984-2004 years. Only two campuses, Fullerton and San Diego, allowed unlimited departmental choice for GE classes, and both of those campuses only did so in 1974. Similarly, their percentage of units for GE trend of 34.2/38.9/40.0/41.3 leads other systems every year since 1984 by 1.1 to 10.5 percent. The CSU system also has an eligible-to-required GE class ratio similar to the private schools and lower than the UC's. The CSU system has had the most consistent number of GE categories, with a 5.3/5.5/5.0/5.5 trend. The courses required have been 14.0/16.5/17.0/17.0, with a courses per category ratio of 2.7/3.0/3.4/3.1.

CSU Fullerton

Cal State Fullerton is matched for the highest GE units as a percentage of degree units in the CSU system with Cal State Sacramento over the last twenty years, with percentages of 36.7/41.1/42.5, and trails CSUS in 1974 only 37.1 to 36.3. In recent years, Fullerton has been more lenient with the ratio of eligible GE classes than most of its other CSU companions, leading the 1994 ratio with 26.5 and second in 2004 with 27.6 to San Diego's 29.5. Nonetheless, Fullerton's 14.8/26.5/27.6 ratios since 1984 is close to the overall trend found in the twelve surveyed schools. Fullerton was one of only two schools examined among the CSU system to have at any time allowed students to take an unlimited selection of courses from the specified departments, joining San Diego in that category in 1974. Fullerton has had five categories of GE every year except 1994, when they had four. CSUF's courses per category ratio has gone 3.0/3.2/4.3/3.4. That spike in 1994 is simply the result of the lowered number of categories, as the actual number of classes required has been 15/16/17/17.

CSU Los Angeles

CSULA is the most narrow of CSU's in the eligible-to-required GE class ratio category. In 1974, CSULA allowed 12.7 class options for each required GE class, and this dipped in 1984 to 7.9. Rising in 1994 to 9.4, the 2004 ratio of 12.5 is the most limited selection of classes among CSU campuses surveyed, and second among all schools surveyed only to Azusa Pacific. The ratio would be even lower if one considered all but one of their currently seven, formerly six, categories. The last category is an upper division interdisciplinary topical focus in which most of the GE program's choice is found. CSULA's current seven GE categories is also the most required of any CSU. CSULA has had a very consistent number of categories required, with six each year studied prior to 2004's seven categories. The courses per category have been 2.5/3.0/3.0/2.6, and the total courses required has been 15/18/18/18.

CSU Sacramento

CSUS has, along with Cal State Fullerton, had very consistent requirements for general education. Their trend of general education units as a percentage of degree units leads the CSU system at 37.1/38.7/41.1/42.5. Their eligible GE classes versus required class ratio shows an interesting trend. Sacramento's 46.2 ratio from 1974 is the highest defined ratio of any year and any CSU and is one of the higher marks of any school and year surveyed. However, this was brought sharply down in 1984 to 25.8 and again to 19.5 in 1994. This is a rare example of choice being constrained over time, as most schools have increased student options. Even Sacramento's increased 2004 ratio of 26.1, though above the CSU average, is below the survey average for 2004. Like most schools,

the recent increase in eligible classes can be traced to long lists of diversity classes being added to the GE requirements. CSUS had lows in 1974 for categories and courses – and a high in courses per requirement – but has been very stable since. The number of GE categories has been 4/6/6/6, and the total courses has been 13/16/17/17, resulting in courses per category ratios of 3.3/2.7/2.8/2.8.

San Diego State

San Diego State follows a pattern similar to the rest of the CSU campuses surveyed. From a CSU low 32.3 percent of degree units for GE in 1974, SDSU climbed to 39.5/39.5/40.8 since 1984. In fact, SDSU has maintained a GE requirement of 16 classes for at least twenty years. The 2004 increase in GE/degree unit percentage is due to a small decrease in degree units required. One of the more flexible CSU's, San Diego has increased their eligible to required class ratio from 18.5 in 1984 to 23.5 in 1994 and a CSU high 29.5 in 2004. In 1974, San Diego, along with Fullerton, was one of only two CSU's with an open GE class policy, allowing students to take any class for which they qualify in certain departments to meet the GE requirements. SDSU has narrowed the number of GE categories they require at a trend of 6/5/4/4, although since 1984 the number of classes has remained constant, a trend of 13/16/16/16. The required courses per category ratio was 2.2/3.2/4.0/4.0.

Private Schools

Private schools had the most rigorous GE requirements in 1974 in terms of units required as a percentage of degree units and in courses required. They were second in these categories to the CSU's in 1984 and 1994, but fell to last in 2004 due to revised

requirements at USC and Stanford, whereas USD and APU remained fairly constant. Today, USD and APU have much heavier GE requirements than USC and Stanford, in part because of their required religious coursework. There is much more variation among the private schools than among CSU's or among UC's, which is to be expected since each private school has more liberty to construct its curriculum than a school that's part of a multi-campus system. The number of GE categories fluctuated most with private schools, at 5.5/6.5/7.3/5.5, and the courses required also varied, going 15.0/14.3/15.5/13.0. These trends made for ratios of 2.7/2.2/2.1/2.4 classes required per category.

Azusa Pacific University

Azusa Pacific University has consistently held the highest standards for their general education requirements. Their GE units as a percent of degree units trend has been 51.6/48.4/50.8/50.8 over the course of the survey, and they have required between 20 and 22 GE classes of their students. APU was the only university to reach 50% of units in GE, with USC's 1974 percentage of units at 46.9% the second most, and APU has consistently stayed at that level. APU has also given the lowest ratio of choice in classes allowed, with students having 3.4/3.2/3.4/9.0 classes per required course to choose from. The last spike in 2004, while still lower than almost any other schools individual year (only CSULA's 1984 ratio of 7.9 was lower), can be accounted for with a new diversity requirement that almost single-handedly accounted for the increase in course options. APU has been very consistent in terms of GE categories, defining six of

them over the course of the survey. This, combined with only small variation in classes required, resulted in courses per category ratios of 3.7/3.3/3.5/3.5.

One reason APU has such high requirements is that, as a religious institution, they require students to complete several courses in religion as part of their GE's. No public university does such a thing, of course, although UC's and CSU's do often include courses on religion in other GE categories, such as their humanities, history, or diversity requirements. While in a sense APU has an "unfair" advantage in boosting their GE requirements measures with these religion classes, they nonetheless do result in a common background for their students, as well as help fulfill what APU sees as its mission in educating students, which certainly includes a religious component. That is, after all, the historic definition of general education. Further, given that the original curriculum in America's first universities included significant inclusion of religion, this modern requirement at APU is not unprecedented.

Stanford University

Among the surveyed universities, Stanford has had the most lax general education requirements. As a percentage of degree units, Stanford has required the fewest GE units for the first three years surveyed and is second fewest among schools now to USC's 2004 requirement of 18.8 percent. The GE unit as degree unit trend is a low 15.0/22.2/24.4/20.0 over the thirty-year period examined. From 1984 to the current year, Stanford's allowed courses per required GE course ratio is far higher than other private schools or CSU's and historic UC's, and higher, by margin of 48.0 to 46.1 systemwide, than UC's currently. Though no exact ratio is available for 1974, when students could

take any class they qualified for from several departments to fulfill GE requirements, the ratio since 1984 has been very high at 45.8/52.6/48.0 classes allowed for each class required. Stanford has had a very fluctuating number of GE categories, moving at 3/8/9/4, although the last number mostly represents a consolidation of the previous nine. As such, their courses per category has varied at 3.0/1.3/1.2/2.3, despite the number of classes only varying at 9/10/11/9.

University of Southern California

USC is an example of curricular change over time. From 1974 to 1994, USC maintained a robust GE units to degree units ratio of 46.9/43.8/43.8, all well above the averages for those years. However, in 2004 USC's ratio fell to 18.8 percent of degree units devoted to general education. This 18.8 percent mark is the lowest current requirement and second lowest (to Stanford's 1974 mark of 15.0 percent) among all surveyed schools. The courses allowed fell also, though, such that the ratio of allowed courses to required courses actually dropped from 1994's 26.2 to 2004's 23.7. This 23.7 ratio in 2004 is also lower than the survey-wide 2004 mark of 29.7, showing that, while fewer units are required now at USC, students are completing GE coursework that shares more common classes than their peers at many other schools today. USC saw the number of GE categories rise over the years at 4/4/5/6, but the increase in categories in 2004 obscures the drop in GE requirements previously described, as the total GE classes trended 15/14/14/6, for ratios of 3.8/3.5/2.8/1.0 classes pre category.

University of San Diego

The University of San Diego follows some of the same trends as APU. USD has had higher than average requirements for general education units over the period surveyed. As a percentage of degree units, USD required 46.8/43.5/38.7/38.7 general education units. All of these marks top the study-wide trend of 32.3/36.3/37.6/35.4. Additionally, USD – as a Catholic institution – requires religious instruction as part of their general education requirements, much like APU. This distinction in some ways separates the private schools into groups of the two religious schools and the two non-denominational schools. The religious schools have much more in common with each other than with the secular private schools, and vice versa. USD has seen their categories change over the years, trending 9/8/9/6. The last drop in categories was not accompanied by a drop in classes required, as the number of GE classes required was 14/13/16/16. As such, the classes per category ratios were 1.6/1.6/1.8/2.7.

As USD students are allowed to take any courses they qualify for in the appropriate departments to meet their GE requirements, it is impossible to determine the ratio of classes allowed for GE to the number of required courses. USD is the only private school to currently allow such flexibility (Stanford and USC both followed the same model in 1974).

Figure 1.

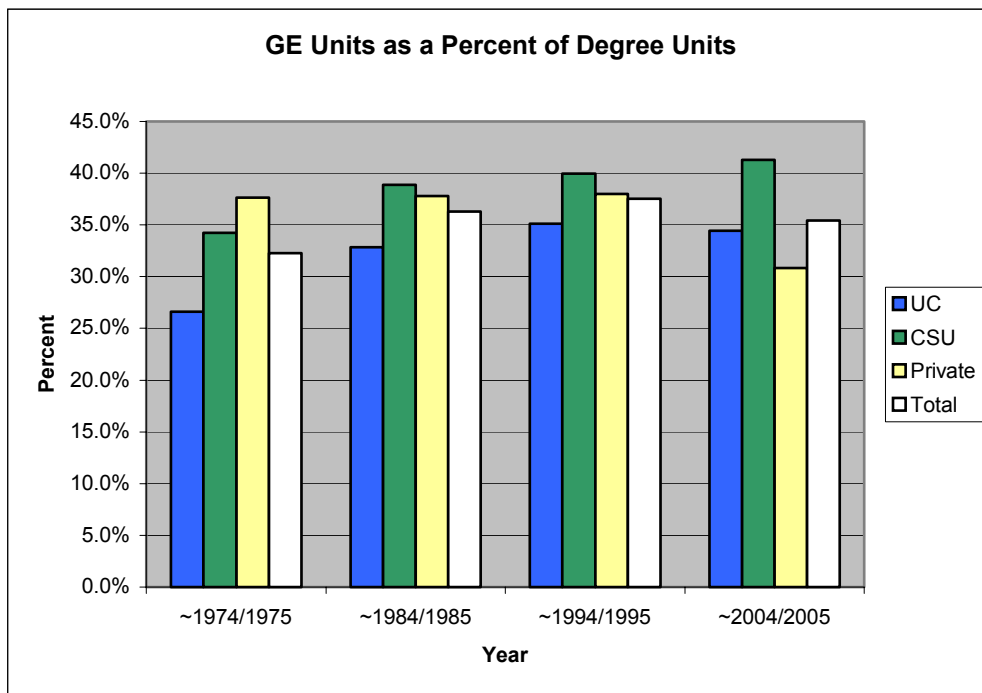
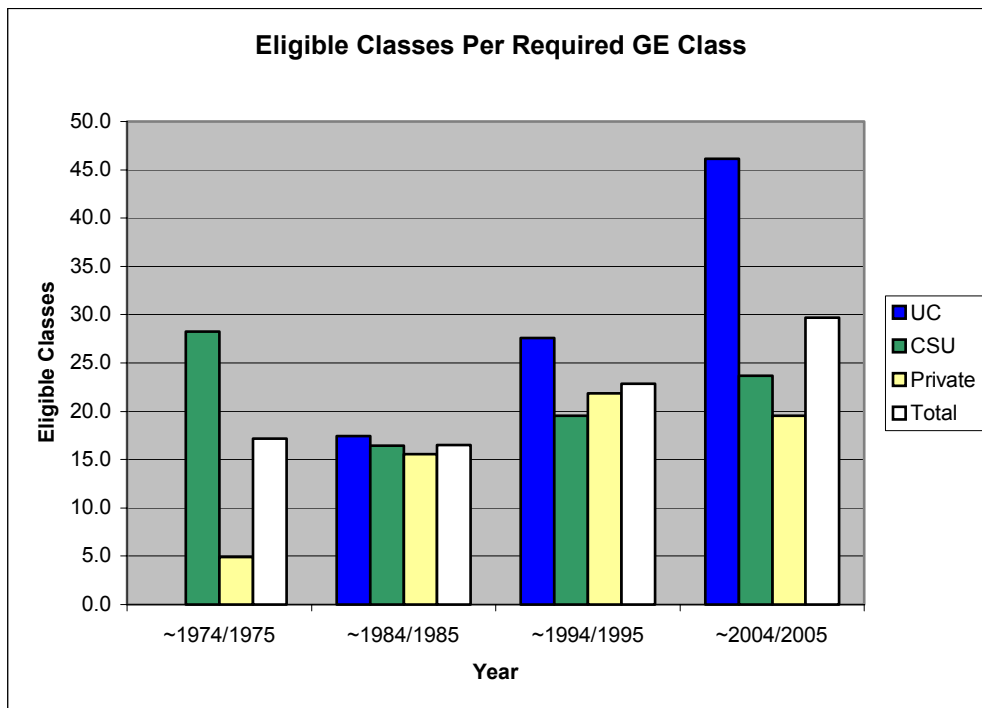


Figure 2.



Current University Goals of General Education

With criticisms of protectionism, indoctrination, and futility stacked against GE, what do proponents say is the purpose of general education? What are schools themselves hoping to accomplish with these requirements? Although higher education institutions each have varying definitions, they all have similar stated thrusts – to be well-rounded.

UCLA’s general education statement emphasizes creating a well-rounded and well-prepared student:

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world. This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems. (UCLA’s College of Letters and Science, the campus’ largest academic unit)

In 1974, the UCLA general catalog simply gave the requirements for general education with no explanation of the university’s philosophy on GE.

UC Irvine starts with the idea of a well-rounded person, and keeps on rolling, eventually naming just about every conceivable goal or benefit of general education:

Among the many possible purposes for breadth requirements, the one that stands out at UCI is that of introducing students to the basic modes of thought that characterize academic disciplines. In order to know ourselves and the world, we need to know first the ways these can and have been known. Thus the breadth requirement at UCI requires students to devote a substantial amount of their course work, especially in their first years, to connected series of courses which

provide a coherent experience within such areas as the natural and social sciences, humanistic inquiry and the arts, and the nature of symbolic systems.

Other aims that UCI regards as desirable include cross-cultural awareness, current knowledge of political and cultural events, general problem solving skills, and varied intellectual experiences. Similar to UCLA, Irvine did not elaborate on GE in its 1974 catalog beyond simply listing the requirements.

San Diego State University emphasizes an interdisciplinary approach to general education in their catalogue, as well as lifelong habits and skills:

The overall intellectual development of each student is the central focus of San Diego State University's general education program. The intent of the program is to provide students with multiple sets of skills, perspectives, and knowledge that will enable them to approach intellectual, cultural, and ethical issues in a flexible and balanced fashion. This breadth of understanding is the basis for effective citizenship, effective contribution to society through a profession, and lifelong enjoyment of artistic and intellectual activities. The General Education program is expected to provide the motive and foundation for lifelong learning, and help students develop their personal worldviews, identities, and sense of purpose.

To this end, the university even goes so far as to say it has a "special responsibility" to broaden a student's horizon. "General Education courses have a special responsibility to assist students in becoming active learners who participate in their education, and to suggest how different academic fields are connected to one another." (SDSU). If the university curriculum does not encourage life long learning and multicultural experiences, where else will students learn those values? In contrast to these fervent statements about GE in 2004, SDSU's 1974 catalog does not give any reason for their GE requirements.

CSU Sacramento also sees the university with a unique role - to prepare the student for overall life skills that will be needed later on, as well as forming an educated person. “The University is an institution of people dedicated to the ideal of providing for a truly educated citizenry.” Students, like all human beings, will be forced to confront issues of cultural diversity and problem solving. GE enables students to participate in “a wider range of human interests and activities that must ultimately confront each of us.” (CSUS 2004) CSUS’s 1974 catalog describes the GE program as “designed to contribute to each individual’s effectiveness as a person rather than to provide him with the skills, knowledge, and attitudes necessary to pursue a specific career or field of study.” This statement shows a long belief in the effective citizen model of GE at CSUS.

The University of Southern California’s General Education program professes that

The university’s general education program is structured to provide a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. In thinking over what is necessary, the faculty identified two principal goals: to help you (1) locate yourself in your own moment of cultural and intellectual history; and (2) think critically about... theories in the humanities, the social sciences and the natural sciences (USC, 2004, 183).

These goals largely echo those of the public universities. In 1974, USC’s catalog described their goals for GE as showing the student “how to approach knowledge, that he have habits of inquiry and appreciation, and that he establish a set of satisfying personal values.” This shows a similar focus on the effective citizen model of GE, but with perhaps a greater emphasis placed on the individual than on society when compared to 2004.

Stanford University also states two reasons for their general education program: “(1) to introduce students to a broad range of fields and areas of study within the humanities, social sciences, natural sciences, applied sciences, and technology; and (2) to help students prepare to become responsible members of society.” (Stanford, 2004, 21) Further, Stanford makes it clear that it puts the onus on students to develop coherence. Fulfillment of the General Education Requirements in itself does not provide a student with an adequately broad education any more than acquiring the necessary number of units in the major qualifies the student as a specialist in the field. The major and the General Education Requirements are meant to serve as the nucleus around which the student is expected to build a coherent course of study by drawing on the options available among the required and elective courses. (Stanford, 2004, 21) Stanford’s 1974 catalog did not express the school’s reasoning for the school’s GE requirements.

Summary

As can be seen through the findings above, there have been noticeable trends in general education over the last thirty years. The foremost of these is a much broader selection of classes students can choose from to meet their GE requirements. There has also been a rise in weight given to GE as a percent of degree units, although 2004 saw some of that increase slip away. Another trend is that, since a rise between 1974 and 1984, the number of GE categories schools require has been fairly stable. Similarly, the courses required per category measure has been very stable. Finally, behind these overall

trends, individual schools have had a great deal of variety in their general education requirements at each period examined.

Also evident, though each university emphasizes slightly different angles, in the end, they all come back to the goal of preparing a well-rounded student with skills that will help them in their future. Lifelong learning and the ability to understand a variety of topics later on are heavily discussed, as is the emphasis on interdisciplinary approaches to learning and understanding. In addition, the unique role, and even responsibility, of the University to create a more tolerant, aware, and well-rounded person is emphasized. Many institutions feel a duty to produce not only graduates equipped in a specific field of study, but culturally sensitive, ethically conscious, and intellectually robust citizens of the world.

Chapter 5 – Discussion

The findings raise several questions. What are the overarching trends behind the numbers? What sorts of differences are there between the schools? How do the systems differ? How do the answers to these questions affect university policy? And ultimately, is there a “right” set of general education requirements? This section will also feature a look at possibilities for further study.

Trends over time

There are three main trends that can be seen in the schools examined. First, students have been given increased flexibility in fulfilling their general education requirements. Second, these requirements peaked in terms of percentage of degree units devoted to GE, GE categories, and courses required in 1994, and all these measures had declined by 2004. Finally, many schools have added requirements for multicultural or diversity studies.

In examining the path of general education over the last thirty years, the 1970’s had the lightest unit requirement of GE requirements compared to degree requirements, with a survey-wide average of 32.3% of degree units being required for GE. Students also had a great deal of flexibility. Although the 1974 eligible/required ratio is calculated to be the second lowest, an important point must be remembered - nine of the twelve schools surveyed did not have a list of approved courses, instead allowing students to choose freely from among classes offered by designated departments (only Azusa Pacific, CSULA, and CSUS had course lists). This is compared to only three such schools today

(UC Berkeley, UCSD, and USD). When looked at in light of the lower percentage of work GE made up of the degree requirements, it appears that in 1974 schools placed a lower priority on GE than they have since. Further, the lack of structured GE curriculum lists seems to indicate that a core curriculum approach to GE was not then the approach schools were taking.

The year 1984 appears to have been a transitional time for many schools regarding general education. The percentage of GE to degree units had risen from 1974 levels, and the eligible to required classes ratio was a survey-wide low. Six of the schools (UCI, UCLA, CSUF, SDSU, Stanford, and USC) which had no course lists in 1974 had instituted them by 1984, leaving only the three schools who today still allow choice among the course offerings of designated departments. In the aspects of GE/degree unit percentage, required GE categories, and specified GE course lists, 1984's requirements look much more like 2004's than 1974's. The primary change that would come after 1984 would mostly be the broadening of those allowed course lists as more classes, often for multicultural studies requirements, were added.

In this study, 1994 represents a peak in terms of expanding GE as a proportion of degree units, classes required, and adding extra GE categories. The percentage of GE/degree units rose with a survey-wide average of 37.6 percent and classes required rose to an average of 15.9, up from 1974's 13.7. Also, the GE category average rose from 1974's 4.7 GE categories to 5.8 by 1994. At most schools, the new category was a "multicultural" requirement, which had begun appearing in the 1980's. Finally, eligible

GE classes rose from 1984's 16.5 per required class to 22.8 - a 6.3 class increase in choice.

By 2004, general education requirements lost some of their weight in the curriculum as compared to their 1994 high, but were at about the same import as in 1984, and certainly higher than 1974. In 2004, schools required 5.3 GE categories, the drop coming largely due to reorganization of existing requirements into broader categories. For example, Stanford dropped from nine categories in 1994 to four in 2004, as they rolled their separate math, science, and technology requirements into one "Natural Sciences, Applied Sciences and Technology, and Mathematics" category, their humanities and social sciences into one "Humanities and Social Science" category, and their world cultures and American cultures requirements, along with a new gender studies sub-requirement, into a single "World Cultures, American Cultures, and Gender Studies" category. Despite all this consolidation, Stanford merely changed from requiring 11 GE courses in 1994 to 9 in 2004.

Besides downsizing the load of GE required in 2004, the other main change was the broadening of available class choices. Eligible courses per required course rose from 22.8 in 1994 to 29.7 in 2004; an increase of 6.9, following the 6.3 increase experienced in 1994. Over the twenty years, the eligible class ratio had grown from 1984's 16.5 to 29.7, an 80.2 percent increase in GE classes for students to chose from.

Regarding multicultural requirements, some schools, such as UC Irvine and Stanford, currently require separate courses for this requirement, while others, such as

San Diego State and Cal State Fullerton, mix in diversity classes with other category requirements, such as in the humanities or social sciences.

One implication of the relatively recent diversity requirements is that, contrary to facilitating a broader understanding of many different cultures, the multicultural requirements actually foster a sort of “tunnel vision” regarding so called “multicultural” education. Two main reasons for this are: first, that all the schools surveyed required just one or two multicultural courses. Second, the vast majority of classes approved for the multicultural requirements focused on a single culture or aspect of diversity. Among the courses approved at SDSU, for example, to fulfill their one class diversity requirement are topics as narrow as “Issues in American Indian Education,” “Caribbean Literature,” “Modern Jewish History in Feature Films,” and “Contemporary Issues in Filipino American Communities.” This leads to an unanticipated result – students who are believed to be getting exposure to a wide variety of cultures in fulfilling their diversity requirement are likely to, in fact, see only one view or one aspect of diversity for a single term and nothing more.

While a student who has been given a glimpse of a different culture is better off than one who has not, one who has learned about many cultures is even more well-prepared for today’s American and global societies. Considering the goal of multicultural requirements in GE are “appreciate the multicultural complexity of our society” (SDSU 2004), is the typically narrowly focused cultural single term sufficient? Requiring students to take a class on every aspect of diversity would be impossible, of course, between the plethora of ethnic, gender, and LGBT studies courses available, but

taking just one class from among all of those choices may be both a disservice to the student and short of the true ideals of the institution. Another option might be to structure courses so that a single class reviews multiple cultures giving the students a truly “multicultural” course.

A survey of GE requirements in 2002-2003 at eleven North Carolina universities yielded similar results. “Most baccalaureate programs consist of 122-128 credit hours, or which general education accounts for 42-45 credits” (Brasor, 2004, 1). This percentage is roughly 34.8%, very close to the 35.4% found among surveyed California schools in 2004. Further, the North Carolina study concluded that “the typical general education requirement is composed of five or six components” (Brasor, 2004, 1). Again, this is in line with California’s 2004 average of 5.3 GE categories. The North Carolina study addresses the ratio of allowed courses slightly differently than this study, concluding that students were required to take 3% of qualifying courses in Humanities, 4% in Social Sciences, and 5% in Natural Sciences. Put in terms of this study, those would be eligible to required ratios of 33.1, 25.0, and 20.0 respectively (Brasor 2004, 3). In 2004, California universities had a ratio of 29.7, similar and perhaps higher than the range in North Carolina.

One interesting trend observed by looking at the university catalogues is that schools today are much more ready to explain why they are requiring general education than in years past. This may be tied to the rising level of GE requirements. Not only are schools placing more emphasis on GE in their curriculum, but they are also doing so in their philosophy. By outlining their goals, they are demonstrating an increased belief of

the importance general education. In addition, although the schools profess many of the same goals, it is interesting to note just how different they attempt to achieve them when actually analyzing the requirements for different schools.

Policy implications

What do these trends say about the general education policies of the universities examined? And what do these results suggest about what an appropriate policy might be? There are several aspects of general education for which this can be considered. A university's emphasis on the breadth of student knowledge can be seen in the number of categories they consider for general education. The trend for GE categories (from averages of 4.7 to 5.6 to 5.8 to 5.3) indicates on average, that there has been since 1984 a consensus regarding how broaden GE requirements should be. Since the addition of multicultural requirements in the 1980's, little change has been seen in the number of required GE categories. Schools seem to classify academic study in around five or six different fields. One fact to note is that although this study did not consider the potential sub-categories of GE requirements, many schools do include them in their curriculum. For example, UCI's Multicultural/Global Issues category specifically requires one multicultural class and one class on international studies, intending to give students an understanding of different cultures both home and abroad. A further study of the variety of sub-categories at each school might give more insight into this area.

Another aspect of general education is the depth of knowledge students are expected to acquire. From the trend seen in the study, it would appear that by at least one measure, there have been very consistent expectations for depth of learning. The number

of classes required for each GE categories was 2.9 in 1974, 2.7 in both 1984 and 1994, and 2.8 in 2004. The means that for each broad subject a university adopts, they require about 2.8 classes over the course of the study. This trend is by far the most consistent among the various measures tracked in the thirty-year period. Not only is it consistent from 1984-2004, as most other observed trends are to some degree, but even in 1974 – when other measures were significantly different – the ratio is virtually the same. This suggests that there is little debate in California about the depth of knowledge students should acquire. Two points to consider, however, are – as mentioned above – the possibility of sub-categories and the state of multicultural requirements. Sub-categories that carve what appears to be categories with a three course requirement into one class from each of three different fields do not aid the depth of knowledge, more focusing on breadth. Also, as discussed, multicultural requirements are typically fewer classes than other requirements, which – combined with the nature of the field – limits both depth and breadth of knowledge.

One possibility for the large increase in classes offered to satisfy general education requirements is that, as mentioned in the literature review, universities have larger and more diverse student bodies than at any point in their history. Among those surveyed with available enrollment numbers, the average campus population rose from 16,403 to 26,410, while California saw a large influx of immigrants from Latin America and Asia. Additionally, these immigrants, or children of recent immigrants, are now attending college in much higher numbers than ever before. The larger student population could certainly put a strain on any effort by an institution to hold all students

to the same curriculum. Requiring the same class of all members of these larger cohorts may prove a logistical impossibility. Simply offering that many sections of a core class and finding professors to teach them is a major problem. Allowing students to take a wider variety of classes relieves some of this stress on the system. The increase in student diversity has also increased the number of classes offered for GE requirements via the multicultural requirement. While in the 1970's, a campus might have featured only African-American Studies and Women's Studies departments, most campuses now have many more multicultural departments and corresponding courses, reflecting the new face of the student body. Since offerings from each of these departments will of course be allowed into the multicultural GE menu – how could a school justify approving African-American courses for GE but not Asian-American? – it is only logical to expect an explosion of eligible GE courses.

An across the board trend among all twelve schools and all four years studied was that no college had any sort of assessment in place for students completing the general education curriculum. A student's transcript would be checked to make sure they had taken the required classes before graduating, but nowhere was there any type of assessment of knowledge or skills gained from general education. In all cases, simply successfully completing the required GE program was deemed sufficient. In contrast to the lack of assessment for GE, several schools, such as SDSU, Stanford, and UCI, required either a writing exit exam or senior year class on writing. These schools had procedures in place to assess and emphasize writing – a principle the schools value. However, there was no such similar procedure in place for GE requirements. This lack of

assessment is troubling. While it might be a challenge, measuring the results of GE programs is perhaps as important as making sure graduates can write well. This lack of such assessment shows that the universities studied either do not have the motivation or the means to examine a program that, in 2004, accounted for 35.4 percent of their students' undergraduate work.

One possible problem with implementing an evaluation system for general education such as it is today is that with almost 30 possible classes for every one class of general education, it would be almost impossible to implement a single test. Even for each category (beyond writing, which most schools have relatively focused requirements for), it would be difficult. How would a campus design a multicultural exit exam when a student could have taken classes about any of several dozen diversity topics? How could a campus implement a social sciences test when some students take economics, some political science, others psychology, etc.? Since it is unlikely that the large number of class choices will be limited, schools are faced with developing evaluation measures around a system that cannot guarantee what a student will gain a background in. Given that, perhaps the correct approach would be to evaluate the classes themselves more carefully, instead of the records of the students. While one cannot guarantee a student will come away truly understanding the goals of even a well-designed class, by at least evaluating what is being done in GE classes as it relates to GE, a school can be more sure that students are at least being exposed to valuable GE lessons. By expanding class surveys already conducted at most campuses to include questions regarding whether or not general education goals for the school are met, universities will be getting valuable

GE information simply by adapting an existing system already in place to measure instructor performance and class satisfaction.

In addition to the trends in GE across individual schools, the different system – CSU, UC and private – requirements were compared. Although CSU schools require a higher percentage of GE units vs. total, the actual categories are very similar to campuses in the UC categories. Also, CSU requires more classes per category and those classes are chosen from a smaller list than at UC schools. The larger lists of available classes at UC schools may reflect the diverse research interests of the faculty rather than the demands of students. However, the list of multicultural classes at San Diego State noted above may indicate otherwise.

Looking at general education at the beginning of the study and today, it becomes clear that the public institutions are now placing a much higher priority on GE than they did thirty years ago. In 1974, CSU's required 34.2% of their degree units to be devoted to GE, while in 2004, this number had risen to 41.3%, an increase of 7.1%. Similarly, UC's rose from 1974's 26.6% to 34.5%, and increase of 7.9%. These large increases show that public institutions in California are taking GE requirements more seriously. Since the UC and CSU systems are under the control of the state government and mostly serve the people of the state – from those who attend to those who hire graduates – it can be inferred that a more demanding general education program is the will of the people. If this is indeed the case, one would expect to see UC and CSU to continue slowly increasing their GE requirements (most of the 7.9% and 7.1% increases occurred between 1974 and 1984, with slower growth since). Private schools as a whole, however, were

fairly consistent in GE units required as a percentage of degree units from 1974 to 1994, trending 37.6/37.8/38.0, before a large drop to 30.8% in 2004. APU has remained constant from 1994 to 2004 at 50.8%, as has USD at 38.7%. This leaves the precipitous drop to Stanford – 24.4% in 1994 to 20.0% in 2004 – and USC – an amazing drop from 43.8% to 18.8% from 1994 to 2004. The secular private schools have greatly reduced their emphasis on GE requirements. As independent bodies serving a more affluent population, it can be surmised that secular private school consumers – students and parents – appear to be looking for a different sort of educational emphasis than public or religious university consumers. One might guess that secular private schools might continue to reduce GE emphasis. However, it must be remembered that only two such schools were looked at in this survey, and a broader search might yield a different outlook.

As discussed, the increase in allowed GE classes can likely be traced to two factors: a larger student body, and a more diverse student body and general population. The larger student body makes it logistically difficult to accommodate all students in singled-out specific classes, while the more diversity leads to more options for the fulfillment of multicultural requirements. Though these developments lead general education away from a core curriculum model, they are not inconsistent with the goals of modern universities. Schools are increasingly seeking to focus on the effective citizen model of general education, and a large selection of classes does not detract from the ability of students to learn about their society and the interaction between disciplines. Though no individual student will know all there is to know of the various academic

topics or issues of diversity, by allowing students to forge their own academic path, the individual student also is given a chance to learn greater responsibility. Finally, while a graduating class in which no student has taken the same path might seem to be fractured, it can instead be viewed as an opportunity. Though no single graduate will be completely versed in the knowledge the school offered, the community of educated citizens produced by the institution can be, and this community offers citizens the opportunity to continue learning from each other. Those with different academic backgrounds in their GE history can complement each other.

Although there are overarching trends across the schools, each campus and each system has had its unique own coursework path over the last thirty years. The idea that all schools should have similar GE requirements is perhaps a bit odd. After all, each school and system has different requirements for their majors, why should GE's be expected to be the same? Each system has its own culture, from the research-minded UC system (where students can study Economics), to the more profession-oriented CSU (which offers Business majors), to the devout Azusa Pacific University and University of San Diego (and APU's "God's Word and the Christian Response" GE requirement). Should not this be reflected in their general education requirements?

The idea that general education can and should take on a variety of forms can be seen at UC San Diego. With its six colleges and six different general education programs, UCSD is a single-campus version of what is going on across the state. Students can choose the college that emphasizes general education and academic culture in a way that is meaningful to them. This approach is a free market version of education,

and is found even among the state-sponsored systems. Unlike a perfectly free market where all companies make a perfectly replaceable product, general education and the university in general is a system of monopolistic competition. This means that though the campuses are competing with each other, each brings a slightly different product to the market that only they can provide. This differentiation is in the end a good thing for consumers of higher education, because the demands of each student can vary in what their educational and professional goals are, how they learn, or any number of other factors.

Overall, this study shows that the stated policy goals of most universities – namely, providing a broad base of knowledge to unify the student experience, create effective citizens, and provide a more well-rounded course of study – need to match the reality of GE courses offered at colleges. Although the percentage of GE as part of the whole has increased at public universities, suggesting that GE has become a more important part of the coursework, the trend toward more variation and personal choice may undermine the goal of consistency and unification. For example, if the goal is a common student experience, there should be fewer choices available. If the goal is to create a broad base of knowledge, less-specialized courses should be the focus of general education. To achieve the goal of effective citizenship, courses with a view towards the world the students will graduate into should be included.

Each school and system will vary, and different approaches may serve the same purpose, but the point is that the approach should serve the purpose. In addition, the lack of testing or assessment of GE achievements make it difficult to tell if students are

actually benefiting from the curriculum laid out for them. Schools could benefit from a more methodical approach to GE – offering coursework that will achieve their goals and creating a process to assess if these goals are being achieved. The variety of general education policies and approaches can be a positive for students, but only if universities are careful in insuring the consistency and compatibility of both their ends and means.

Possibilities for future inquiry

Several ideas for further studies on general education present themselves following this work. The obvious options include expanding the survey in various ways. Another approach would be to work more directly with schools in order to gain a better understanding of GE requirements.

The first possibility to expand the study would be to include all UC's, all CSU's, and a larger number of private schools, including smaller private schools. Though this thesis focused on a narrow selection of campuses to obtain the general trends in each system, a more inclusive study would be more accurate and provide a clearer picture of what is going on. It would probably be impossible to include every accredited university in the state, but this study was limited to just twelve institutions. The new findings may support the findings discussed here or discover new trends that were missed. Either way, a deeper understanding and more confident results would be the outcome. Another option, perhaps in combination with the first, would be to expand the survey to other parts of the country. Conducting the same study in other large states like Florida, New York, or Texas, or adapting existing surveys such as the North Carolina survey, and comparing the findings to California could yield a completely different angle on the trends viewed in

this thesis. The study could even be broadened to a national approach, comparing public and private schools in each state. California is certainly the most populous state with a good representation of various college set ups, but comparing trends in California to those in the rest of the United States might be revealing.

Another approach for additional research would be to extend the study period back farther. The last thirty years would certainly appear to have the most significant impact on today's GE requirements. However, tracing those requirements as far back as they or the university goes could still yield interesting results on the evolution of general education over time. However, there are many schools that have only been in existence for not much more than 30 years. For example UCI was founded in 1965 and Cal State Fullerton was founded in 1957, so looking farther at all schools back may not be possible.

One way to expand on and refine this study would be to involve the academic advisors at each school. With the number of regulations, ways to fulfill requirements, possibility of fulfilling multiple requirements with the same class, counting of high school coursework (often the case in foreign language requirements), and Advanced Placement test scores, it is difficult for an outsider to say with absolute certainty by simply reviewing course catalogues what the requirements at a given campus truly add up to. Instructed in what to look for, academic advisors can give the most accurate answers for their campus. Though there would obviously be limits in doing this for past years, starting a prospective study would provide valuable tracking information for future studies on general education. One problem this study experienced would certainly be helped in asking the academic advisors. For campuses that do not have a list, but instead

give students free reign to choose their courses in each category, academic advisors would be able to identify how many options a student actually has.

A point discovered in this study could also be investigated. The period from 1984 to today is very consistent in most indicators, save for an increase in allowed classes, and 1974 is quite different. This indicates a change in thinking regarding general education may have occurred between 1974 and 1984. A study focusing on that period of GE and the changes occurring then may yield interesting data on a stretch of general education in flux.

Another way to expand on this study would be to consider individual GE requirements. A study that looked only at math GE requirements, for example, could give valuable insight into the specifics of GE programs. By examining how many and what sort of classes (are non-major classes offered?) are required for different fields, a greater level of detail could be discovered. Though specific terminology varies from school to school, enough commonality remains that studies in math, science, literature, history, social sciences, diversity and perhaps other areas could be conducted.

Finally, a particularly interesting avenue for further study is a combination of two of those previously mentioned. The multi-cultural requirement is standard in California, and as discussed, the diverse student body in this state leads to a large number of classes offered to accommodate as many members of the campus community as possible. In other states with more homogenous statewide and student populations, has the same explosion of multicultural requirements and classes occurred? What do other diverse states look like in this regard? California may be a special case regarding multicultural

studies, or it may be typical of all or at least other diverse states. Such a study would prove enlightening.

Conclusions

This study found that a variety of general education requirements are in use in California. Even campuses within the same system, large differences were found in the emphasis and structure of GE requirements. The study also indicated that the period from 1984 to current was fairly constant in many indicators, including GE categories, courses per category, and GE units as a percentage of degree units. The major change over the last twenty years was a boom in the number of allowed GE courses. As the period since 1984 was so consistent and also different in many ways from 1974, it also indicates that a change in thinking about general education may have occurred between 1974 and 1984.

Limitations

A major limitation on the study was the absence of GE course lists for some campuses, particularly in 1974. Though this study attempted to work around the missing information, if a way to accurately assess the available courses was found, the data would be more robust.

Another limitation was that in some instances the catalog for a desired year was missing or damaged. This led to use of either a previous or subsequent catalog, which may have slightly skewed the survey. As important historical documents of the university, it is surprising that catalogs would not be protected more carefully. Some campuses did have their catalogs in a university archive, instead of freely accessible on

the shelves, but even some of those schools were missing catalog years or secondary documents like college bulletins or eligible GE course lists.

A third limitation was that information on how universities actually form their general education requirements was not readily available. Although this information must exist somewhere, it is not mentioned in any college catalog, and it was impossible to locate other relevant sources in the timeframe of this survey. Finding detailed information on the exact process each campus uses to form their GE requirements would have added more context to the quantitative approach taken in this thesis.

Finally, the largest limitation was likely narrowing the scope of the survey to twelve schools. Though adequate for this survey, a more authoritative study would include all UC's, CSU's, and between perhaps one or two dozen private schools. A much clearer picture of California general education requirements would be gained from such a study.

Appendix
Complete Charts of Findings

System Comparison

UC	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	18,009	3.4	48.0	180.3	26.6%	12.0	NA	NA	3.5
~1984/1985	23,667	4.9	54.3	165.3	32.8%	14.3	249.5	17.4	2.9
~1994/1995	23,968	5.2	58.1	165.2	35.1%	15.1	415.5	27.6	2.9
~2004/2005	27,867	5.0	56.9	165.2	34.5%	14.3	661.0	46.1	2.8

CSU	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	20,000	5.3	47.8	139.5	34.2%	14.0	395.5	28.3	2.7
~1984/1985	22,700	5.5	54.3	139.5	38.9%	16.5	271.5	16.5	3.0
~1994/1995	23,250	5.0	55.8	139.5	40.0%	17.0	332.0	19.5	3.4
~2004/2005	29,135	5.5	55.8	135.0	41.3%	17.0	402.3	23.7	3.1

Private	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	11,200	5.5	52.5	139.5	37.6%	15.0	74.0	4.9	2.7
~1984/1985	20,609	6.5	52.8	139.5	37.8%	14.3	222.0	15.6	2.2
~1994/1995	14,002	7.3	53.0	139.5	38.0%	15.5	339.0	21.9	2.1
~2004/2005	22,227	5.5	43.0	139.5	30.8%	13.0	254.0	19.5	2.4

Total	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	16,403	4.7	49.4	153.1	32.3%	13.7	234.8	17.2	2.9
~1984/1985	22,325	5.6	53.8	148.1	36.3%	15.0	247.7	16.5	2.7
~1994/1995	20,407	5.8	55.6	148.1	37.6%	15.9	362.2	22.8	2.7
~2004/2005	26,410	5.3	51.9	146.6	35.4%	14.8	439.1	29.7	2.8

University of California

Berkeley	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	27,500	3	48	180	26.7%	12	NA	NA	4.0
1984/1985	30,000	4	33	120	27.5%	11	NA	NA	2.8
1993/1994	31,000	4	33	120	27.5%	11	NA	NA	2.8
2003/2005	31,000	4	33	120	27.5%	11	NA	NA	2.8

Notes: 1994/1995 complete info not available. Using 1993/1994 instead.

Irvine	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	8,517	3	48	180	26.7%	12	NA	NA	4.0
1984/1985	12,000	5	60	180	33.3%	15	235	15.7	3.0
1994/1995	16,770	7	72	180	40.0%	18	562	31.2	2.6
2004/2005	24,870	7	76	180	42.2%	19	936	49.3	2.7

Los Angeles	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	3	36	180	20.0%	9	NA	NA	3.0
1985/1986	29,000	4	56	180	31.1%	14	264	18.9	3.5
1994/1995	34,350	4	56	180	31.1%	14	269	19.2	3.5
2003/2005	37,599	3	48	180	26.7%	10	386	38.6	3.3

Notes: The 1984/1985 catalog was defaced. The 1985/1986 catalog is used, and it indicates it follows the same requirements as 1984/85.

San Diego	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	4.8	60.0	181.0	33.1%	15.0	NA	NA	3.2
1984/1985	NA	6.5	68.0	181.0	37.6%	17.3	NA	NA	2.7
1994/1995	13,750	5.8	71.2	180.8	39.4%	17.2	NA	NA	3.0
2004/2005	18,000	6.2	70.7	180.7	39.1%	17.3	NA	NA	2.8

Notes: Numbers are average of UCSD's various colleges.

UC Total	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	18,009	3.4	48.0	180.3	26.6%	12.0	NA	NA	3.5
~1984/1985	23,667	4.9	54.3	165.3	32.8%	14.3	249.5	17.4	2.9
~1994/1995	23,968	5.2	58.1	165.2	35.1%	15.1	415.5	27.6	2.9
~2004/2005	27,867	5.0	56.9	165.2	34.5%	14.3	661.0	46.1	2.8

California State University

Fullerton	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	20,000	5	45	124	36.3%	15	NA	NA	3.0
1983/1985	23,400	5	48	124	38.7%	16	236	14.8	3.2
1993/1995	25,000	4	51	124	41.1%	17	451	26.5	4.3
2003/2005	31,540	5	51	120	42.5%	17	469	27.6	3.4

Los Angeles	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	6	60	186	32.3%	15	190	12.7	2.5
1983/1985	22,000	6	72	186	38.7%	18	142	7.9	3.0
1993/1995	21,000	6	72	186	38.7%	18	169	9.4	3.0
2003/2005	22,000	7	72	180	40.0%	18	225	12.5	2.6

Sacramento	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	4	46	124	37.1%	13	601	46.2	3.3
1984/1986	NA	6	48	124	38.7%	16	412	25.8	2.7
1994/1996	19,000	6	51	124	41.1%	17	332	19.5	2.8
2004/2006	29,000	6	51	120	42.5%	17	443	26.1	2.8

San Diego	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	6	40	124	32.3%	13	NA	NA	2.2
1984/1985	NA	5	49	124	39.5%	16	296	18.5	3.2
1994/1995	28,000	4	49	124	39.5%	16	376	23.5	4.0
2004/2005	34,000	4	49	120	40.8%	16	472	29.5	4.0

CSU Total	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	20,000	5.3	47.8	139.5	34.2%	14.0	395.5	28.3	2.7
~1984/1985	22,700	5.5	54.3	139.5	38.9%	16.5	271.5	16.5	3.0
~1994/1995	23,250	5.0	55.8	139.5	40.0%	17.0	332.0	19.5	3.4
~2004/2005	29,135	5.5	55.8	135.0	41.3%	17.0	402.3	23.7	3.1

Private Schools

APU	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	6	65	126	51.6%	22	74	3.4	3.7
1984/1986	NA	6	61	126	48.4%	20	63	3.2	3.3
1994/1995	NA	6	64	126	50.8%	21	71	3.4	3.5
2004/2005	NA	6	64	126	50.8%	21	188	9.0	3.5

Stanford	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	11,200	3	27	180	15.0%	9	NA	NA	3.0
1984/1985	13,217	8	40	180	22.2%	10	458	45.8	1.3
1994/1995	14,002	9	44	180	24.4%	11	579	52.6	1.2
2004/2005	14,454	4	36	180	20.0%	9	432	48.0	2.3

USC	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	4	60	128	46.9%	15	NA	NA	3.8
1984/1985	28,000	4	56	128	43.8%	14	145	10.4	3.5
1994/1995	NA	5	56	128	43.8%	14	367	26.2	2.8
2004/2005	30,000	6	24	128	18.8%	6	142	23.7	1.0

USD	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
1974/1975	NA	9	58	124	46.8%	14	NA	NA	1.6
1984/1986	NA	8	54	124	43.5%	13	NA	NA	1.6
1994/1996	NA	9	48	124	38.7%	16	NA	NA	1.8
2002/2004	NA	6	48	124	38.7%	16	NA	NA	2.7

Private Total	pop	# of Req Cat	GE Units	Degree Units	GE/Total Units %	# GE courses req	Eligible GE Courses	Eligible/Req Ratio	Courses Req/Cat Ratio
~1974/1975	11,200	5.5	52.5	139.5	37.6%	15.0	74.0	4.9	2.7
~1984/1985	20,609	6.5	52.8	139.5	37.8%	14.3	222.0	15.6	2.2
~1994/1995	14,002	7.3	53.0	139.5	38.0%	15.5	339.0	21.9	2.1
~2004/2005	22,227	5.5	43.0	139.5	30.8%	13.0	254.0	19.5	2.4

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