Cohort Analysis of the OSSHE Prototype Student and Alumni Surveys

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INTRODUCTION

During Fall 1994, the University of Oregon Survey Research Laboratory (OSRL) conducted two surveys for the Oregon State System of Higher Education (OSSHE) as part of its Assessment Demonstration Project. The broad goals of the "Prototype Student Survey" and the "Prototype Alumni Survey" were to assess the experiences of current undergraduate students at an OSSHE institution and to assess the outcomes of higher education for the alumni of an OSSHE institution.

Using University of Oregon as the prototype institution, the specific goals of these parallel student and alumni studies were to examine:

- factors in the decision to attend the UO, including location, size, prestige, faculty, parents, friends, financial aid, diversity, intercollegiate athletics, extracurricular activities, a variety of majors, and the availability of a specific major;
- overall satisfaction with the quality and value of education received, including undergraduate teaching, the integration of research into teaching, academic advising, and the importance of a UO education to later success;
- self-assessed gains in writing, public speaking, knowledge, critical thinking, leadership, tolerance, appreciation of art/music, independence, ability to gather and analyze data for problem-solving, computer skills, and foreign language proficiency;
- activities and campus involvement;
- difficulties or issues which may interrupt student progress;
- faculty/student interaction;
- other academic issues; and
- demographics.

In order to achieve these goals, OSRL worked closely with OSSHE and a UO task force to design the survey questions. OSRL took responsibility for the overall study design, random survey samples, pretesting, human subjects approval, interviewer training, data collection (including long distance telephone charges), coding of open-ended questions, and creation of SPSS computer files appropriate for data analysis.

METHODOLOGY

For each survey, precontact letters were sent one week before interviewing commenced to explain the study's purpose. Anecdotal evidence strongly indicated that both surveys generated considerable good will among the survey respondents, who repeatedly expressed their satisfaction in being asked to take part.

For the student survey, 765 telephone interviews were completed between October 29 and November 15, 1994. Of the 1,078 randomly-chosen telephone numbers provided, 101, or 9.4%, were unusable. To the remaining 977 numbers, OSRL interviewers made 4,780 calls, or approximately 6.3 calls for each completed interview (including up to 15 calls each to 203 telephone numbers which did not result in interviews). Overall, OSRL achieved a 78.3% response rate and a 0.9% refusal rate. The interviews averaged 18 minutes each.

For the alumni survey, 1,193 telephone interviews were conducted between November 11 and December 16, 1994 (excluding the four-day Thanksgiving weekend). Of the 2,199 randomly-chosen telephone numbers provided, 618, or 28.1%, were unusable. To the remaining 1,581 numbers, OSRL interviewers made 10,063 calls, or approximately 8.4 calls per completed interview (including up to 15 calls each to 340 telephone numbers which did not result in interviews). Overall, OSRL achieved a 75.5% response rate and a 3.0% refusal rate. Although the basic structure of the alumni survey was nearly identical to the student survey, the interviews averaged 24 minutes, because alumni respondents tended to digress and enjoy "the walk down memory lane."

The two surveys contained 78 parallel questions, listed in Table 1. Each survey also contained groups of questions specific to the sample (for example, the alumni survey contained questions about involvement in alumni activities and the student survey contained questions about computer-related technology in education), which are not analyzed here. The data from the two studies were merged for all parallel questions.

ANALYSIS

The goal of the analysis is to examine cohort trends over time. We hypothesize that varying social, historical and political periods had different effects on students' choices, experiences and progress. Further, we hypothesize that the value of an undergraduate education becomes more apparent with maturation and experience. This analysis allows researchers and policymakers to assess change over time in how students and alumni chose the University of Oregon for their undergraduate education, satisfaction with their university education, attainment of specific skills, involvement in campus activities when students, interruptions in progress toward the degree, faculty/student interaction, and related academic issues.

For this analysis, cohorts were defined in terms of the decade they entered the University of Oregon. For alumni, that is the 1920s (n = 21), 1930s (n = 45), 1940s (n = 101), 1950s (n = 153), 1960s (n = 295), 1970s (n = 312), and 1980s (n = 263). For current students, it is the 1990s (n = 765).[1]

The analysis relies upon stacked-bar graphs percentaged within each decade, to allow easy assessment of trends over time. The graphs are numbered and presented in the order the questions were asked in the survey (see Table 1). For interpretation of the results, the graphs are grouped by subject matter (see Table 2). Except where substantively interesting, "don't know" responses were treated as missing data.

RESULTS

This section summarizes the overall results of the study. The results are organized to follow the over-arching goals of the study.

A. Factors in the decision to attend the University of Oregon.

What draws students to the University of Oregon and how has that changed over time? Respondents were asked about their decision to attend the UO along the dimensions of location, size, prestige, quality of the faculty, availability of financial aid and scholarships, parents, friends, intercollegiate athletics, student diversity, extracurricular activities, a variety of majors, and the availability of a specific major. Respondents answered these questions with a four-point scale: very important, somewhat important, not very important, and not at all important.

Location was very important or somewhat important for over 70% of UO students and alumni contacted over the past 80 years, ranging up to 83% and 84% in the past two decades (Graph 2).

The size of the campus and student body played a minor role in alumni's decision to attend the UO, with half or more reporting it "not very important" or "not at all important" (Graph 3). But that seemed to change in the 1990s, with 56% of current UO students saying it was "very important" or "somewhat important."

The prestige of the degree students would receive has become successively more important in decisions to attend the UO, increasing fairly steadily from 47% important for 1920s alumni to 75% important for current students (Graph 4). The highest percentage of students who replied "very important" (42%) occurs in decade 1930, and the lowest (28%) in 1950. Interestingly, 38% of the students from decade 1920 replied that the prestige of the degree was not at all important to them.

[1] We also experimented with defining cohorts in terms of eras (pre-Depression, Depression, World War II, etc.) and in terms of the year graduated. Cohorts defined in terms of decade entered the UO offered the most straightforward interpretation, and the results varied little from the other definitions.

Similarly, the quality of the faculty has played an increasing role in students' decision to attend the UO (Graph 8). 77% of current students and 80% of 1980s students reported "very" or "somewhat" important, compared to 52% of 1920s students and 57% of 1930s and 1940s students.

The availability of financial aid or scholarships in students' decisions to attend the University of Oregon shows how important a role the economy can play in higher education. Looking over decades, the importance of financial aid and scholarships has grown steadily, from 5% in the 1920s saying important to 51% in the 1990s (Graph 5). The inverse is also apparent, with the lowest percentage of those students reporting "not at all important" occurred in 1990 (24%) while the highest occurred in 1920 (80%).

As the importance of financial assistance has grown, the influence of parents has declined (Graph 6). In the 1920s and 1930s, over three-quarters of students said their parents played a very important or somewhat important role in their choice of the UO. This dropped steadily over time, reaching a low of 30% in the 1970s and then growing to 35% in the 1980s and 40% in the 1990s.

As with parental influence, the influence of friends and knowing other people going to the UO has declined over time, from 69% in the 1920s to 40% in the 1990s (Graph 7).

The UO having students from varying cultural backgrounds, however, has increased steadily and substantially as an attractant for students, from 5% of 1920s students saying it was an important factor in their decision to 61% of 1990s students (Graph 10).

Extracurricular activities have also increased steadily as an attractant for potential students (Graph 11). Fully 60% of 1920s alumni said that extracurricular activities were "not at all important" in their decision to attend the UO, compared to just 13% of 1990s students.

Intercollegiate athletics has been a minor factor in students' decisions to attend the UO all along (Graph 9). (Note that the question was re-phrased appropriately for students in different decades.) With the exception of the 1930s, 10% or fewer said it was "very important" and an additional 11% to 17% said it was "somewhat important" in their decision to attend the UO. 1930s students are anomalous in this regard, with 18% saying "very important" and an additional 13% saying "somewhat important."

The top six factors affecting 1920s students' decision to attend the UO were (in decreasing order of influence), location, friends, parents, a specific major, prestige of degree, and quality of faculty. By the 1990s, these factors had shifted somewhat to the availability of a specific major, location, the availability of a variety of majors, the quality of the faculty, financial aid, and prestige of degree.

B. Overall satisfaction with the quality and value of education received including: undergraduate teaching, academic advising, integration of research into teaching, and the importance of a UO education to later success.

Students' and alumnus' current perceptions of the UO are overwhelmingly positive, with 75% to 92% of all cohorts expressing generally positive feelings toward the institution (Graph 1). Recent cohorts, however, tend to express greater neutrality; for example, 21% of students who entered the UO in the 1990s said that overall their feelings were neutral.

Overall satisfaction with their UO education is also uniformly high, with 93% or more of each cohort expressing satisfaction (that is, "very satisfied" and "somewhat satisfied" combined) (Graph 1). As hypothesized, the proportion of alumni and students saying they are "very satisfied" with the education they received increases substantially with time since degree, from 39% of the 1990s cohort to 85% of the 1920s cohort.

Similarly, student and alumni assessment of how good a job the UO has done teaching undergraduate students is uniformly high, with 91% or more in each cohort reporting a "very good job" or a "somewhat good job" (Graph 17). Again, time since degree is an important explanatory variable, for 27% of the 1990s cohort reported a "very good job" compared to 65% to 70% of the 1920s, 1930s and 1940s cohorts. The data, of course, do not allow us to disentangle whether undergraduate teaching in the first half of this century was objectively more excellent than in the latter half, or whether alumni appreciation of the undergraduate teaching quality improves over time.

As a comprehensive research university, UO faculty are required to actively participate in research and scholarship in their field. When asked how good a job faculty do bringing their research into the classroom, the response was again very positive, with 63% to 83% of each cohort reporting a "very good job" or "somewhat good job" (Graph 18). Notably, however, 4% to 30% answered "don't know," suggesting that many students are unaware of faculty research projects.

Academic advising is an important component of student success. Academic advising is typically offered at the department or college level, as well as for the university as a whole. Among the 70% or more students who had seen an academic advisor in cohorts since the 1930s (Graph 33), 69% or more were satisfied with the quality of academic advising they received (Graph 34). As with the other satisfaction questions, earlier cohorts are much more likely to report "very satisfied" than more recent cohorts (for example, 90% of the 1920s cohort, compared to 31% of the 1990s cohort).

The effects of college education on future achievement are well known to economists and sociologists who study human capital in relation to earnings, occupation, child-rearing, and other dimensions of accomplishment. That is, each successive year of higher education results in substantial net gains in all domains of socioeconomic achievement. These effects are well known, too, to UO alumni and students, for 85% to 96% of each cohort indicate that their UO

education has been (or, for 1990s students, will be) important to their later success (Graph 71). The 1930s cohort captured the highest percentage of "very important" responses at 76% while decade 1980 had the lowest at 59%, perhaps because this recent cohort has yet to realize career successes.

When asked in open-ended questions to assess the UO's current strengths and weaknesses, many alumni from earlier cohorts simply did not know. Nonetheless, several themes are evident. The quality of education offered was mentioned first as UO's greatest strength by roughly one-third of each cohort (Graph 77). Diversity of students, faculty, and the campus emerged as one of UO's strengths for the 1980s and 1990s cohorts, at 25% and 38% of all responses, respectively. The campus' physical and educational environment is also an important strength to later cohorts, ranging from 13% of 1960s alumni up to 22% of the 1990s cohort.

When asked what they would change or improve at the UO currently, the modal substantive response for the 1920s, 1930s, and 1940s cohorts was "nothing;" that is, they think the UO is just fine as it is (Graph 78). The 1950s, 1960s, 1970s, and 1980s cohorts, however, would like to improve the UO's financial situation, with 21% to 31% of all first responses. In a parallel vein, 15% of current students, who feel the brunt of budget cuts in their higher tuition payments, commented upon student financial issues as problematic. Among the 1980s and 1990s cohorts, 22% made comments on specific academic programs and classes, and 21% of current student would like to improve academic advising.

C. Gains in writing, public speaking, knowledge, critical thinking, leadership, tolerance, appreciation of art/music, and ability to gather and analyze data, computer skills, and foreign language proficiency.

What specific academic, social and personal skills have UO undergraduates learned as a result of their university experience, and did these skills come mainly from in-class teaching or from participation in the broader life of the campus? This section of survey questions included not only formal skills acquired in the classroom (e.g., writing, and the ability to gather and analyze data), but also social skills (e.g., tolerance) and personal skills (management of personal finances and the ability to work independently). The 14 questions asking how much the UO experience improved alumni and student specific skills had the answer categories "a lot," "some," and "not at all."

The results discussed below show substantial differences between current students, the cohort which entered UO in the 1990s, and alumni. This is not surprising because the 1990 cohort has not yet had a chance to realize the extent to which they have obtained these specific skills. In some items, the results for the 1920s cohort looks very similar to the 1990s cohort; these results should be regarded with caution, however, for only 21 alumni in this survey entered the UO in the 1920s.

The ability to communicate in writing improved "a lot" due to their university experience for approximately half of UO alumni, with 43% to 58% of alumni choosing this category (Graph 56). An additional 35% to 47% responded "some." While just 27% of current students chose this category, many of them have probably not yet had an opportunity to develop these skills, and an additional 51% of current students said "some."

The ability to speak before an audience improved "a lot" by their UO experience for approximately one-third of UO alumni, ranging from 19% for the 1920s cohort to 44% for the 1930s cohort (Graph 57). An additional 45%, approximately, of alumni over the seven cohorts from the 1920s to the 1980s reported "some." Among the 1990 cohort, 17% reported "a lot" and 35% reported "some."

The ability to gather information and data improved "a lot" with educational experience at the UO for over two-thirds of alumni in the six cohorts from the 1930s through the 1980s (Graph 58). An additional quarter to one-third of these cohorts said their data-gathering ability improved "some" at UO. Among the 1920 cohort, 45% reported "a lot" and 45% reported "some," but the smallness of this cohort in the survey precludes generalization. Among current students, 36% reported "a lot" and 46% reported "some."

Gathering data to answer questions is an important skill, but knowing how to analyze it is at least equally important. Approximately two-thirds of alumni in the 1930s through 1980s cohorts said their UO experience improved their ability to analyze information and data "a lot" and roughly another third, said "some" (Graph 59). The 1920s cohort reported the lowest achievement of data analysis skills. The 1990s cohort responded 40% "a lot" and 51% "some."

Nearly two-thirds of alumni indicated that their UO experience improved their knowledge of facts, terms and basic subject matter "a lot" (Graph 67). Just 44% of current students reported the same, but their university experience is still in process.

Knowledge of major theories and their development improved "a lot" for over half of alumni in the 1980s, 1970s, and 1960s cohorts, for approximately 45% of alumni in the 1950s and 1940s cohorts, and for approximately one third of the 1930s and 1920s cohorts, as well as current students (Graph 68).

Appreciation of art, music, literature and other creative endeavors improved "a lot" from their UO experience for 30% of current students, 36% of alumni in the 1980s, 1970s and 1960s cohorts, approximately 45% of those in the 1950s, 1940s and 1930s cohorts, and 80% of those in the 1920s cohort (Graph 69).

Computer skills and foreign language proficiency questions were asked of all alumni and students in the surveys in order to compare the results with Oregon Benchmarks. These skills are not directly attributable to the UO experience, but persons with higher education are expected to be more able to acquire and use them.

Computer skills are expected to vary widely by cohort, due to generational differences in exposure to the electronic information age. Graph 72 shows dramatically how the ability to use a computer to create or edit documents or graphics, or to analyze data, improves substantially with each successive cohort: 1920s cohort - 0%, 1930s cohort - 18%, 1940s - 29%, 1950s - 51%, 1960s - 72%, 1970s - 84%, 1980s - 89%, and 1990s - 82%. These figures are substantially higher than found for persons in the same age cohorts in the 1994 Oregon Population Survey (Volume 8, Table 34). Overall in the population, 49.7% reported they are able to use a computer, but 68.5% of those with a Bachelor's degree or higher reported the ability to use a computer.

Foreign language proficiency also varies substantially by cohort, with 35% of the 1990s and 1980s cohorts reporting that they are proficient in a foreign language, compared to approximately one fifth of the 1970s and 1960s cohorts, and less than that for earlier cohorts, down to 5% of the 1920s cohort (Graph 76). These figures, like those for computer skills, are substantially higher than for parallel age cohorts in the 1994 Oregon Population Survey (Volume 1, Table 51). Overall, 15.5% of Oregon's adult population reported proficiency in a foreign language. When looking only at citizens with a Bachelors degree or higher, 27.5% report they are proficient in another language. These figures indicate that UO alumni excel beyond the general population in foreign language proficiency.

Regarding social skills, their UO experience enabled approximately 45% of alumni and students, across all cohorts, to understand individual differences and similarities "a lot" (Graph 61). For understanding cultural differences, approximately one-third said that their UO experience improved their ability "a lot" (Graph 62). Nearly half reported that their UO experience improved their ability to tolerate differing views "a lot" (Graph 62).

The results presented in the following paragraphs suggest that the improvement in personal skills which can be attributed to a university education increase with distance from the experience. That is, the skills may not be immediately apparent to current students and recent alumni, but alumni 20, 30 and more years out from their university experience recognize the effect of that experience on their subsequent lives and careers.

Roughly one quarter of students and alumni indicated that their ability to manage their own finances improved "a lot" while at UO (Graph 60). But this varied widely across cohorts, from 14% to 44%, with current students and students during the Great Depression and World War II eras indicating the greatest gains (30% to 44%).

The ability to work independently improves with maturation to adulthood, and variation in the extent to which UO students and alumni attribute this to their UO experience varies neatly by cohort (Graph 64). Recent cohorts say that their UO experience improved their ability to work independently "a lot" at 43% for the 1990s cohort and 44% for the 1980s cohort. Cohorts farther from their UO experience say that it improved their ability to work independently "a lot" from 54% to 70%.

Similarly, the ability to exercise leadership improves with distance from the university experience (Graph 65). While just 15% of current students indicate that their UO experience has improved their leadership skills "a lot," this rises to one quarter of the 1980s, 1970s and 1960s cohorts, and to 31% to 43% of earlier cohorts.

Critical thinking skills improved "a lot" due to their UO experience for 35% of current students, but for 55% to 65% of alumni, and the proportion tends to rise with distance from the experience (Graph 66).

To what extent does student learning come from strictly in-class experiences and to what extent does it come from participation in the life of the university more generally? Over all cohorts, only about one quarter of alumni and students reported that most of their learning came from inside classrooms, ranging from 18% of current students to 40% of the 1930s cohort (Graph 70). About two-thirds of most cohorts reported that their learning came equally from classes and out-of-class experiences. These findings should not be surprising, for student involvement in campus and community activities is extensive, as the next section of findings shows.

D. Activities and campus involvement as a student.

Formal classroom training is certainly central to a university education. Universities offer, however, a wide array of other educational opportunities, such as guest speakers, films, art exhibits, libraries, research experiences, internships, sporting events, political ventures, and an array informal contacts and activities that few people have before or after their college years. Various researchers have shown that involvement in campus activities enhances student learning and student satisfaction with the learning experience. Little is known, however, about levels of student participation in various activities or how this has changed over time.

A total of 16 questions were asked of alumni and students about their campus activities when at the University of Oregon. The modal level of involvement was in four or five activities. One percent or fewer were involved in no activities or were involved in 11 or more.

Participation in general campus-wide activities, such as Homecoming, Parent's Day and University Day, declined over time, with approximately one quarter of the 1990s, 1980s and 1970s cohorts taking part in at least one event, compared to over half of alumni in the 1920s to 1950s cohorts (Graph 36). Attendance at university intercollegiate athletic competitions (Graph 37) and cultural events (Graph 46) was higher, but also declining. About three-fifths of 1990s and 1980s cohorts attended athletic events, compared to over 80% of 1970s and 1960s cohorts, and over 90% of preceding cohorts. Over 83% of alumni attended some kind of play, dance performance, musical event, or art or museum exhibit when they were students, compared to 78% of current students. Participation in student athletics stayed roughly the same over the decades, with just over one-third of alumni from the 1920s to 1950s cohorts taking part, compared to 29% to 34% of subsequent cohorts (Graph 38).

Student-to-student involvement in classwork (for example, discussing course content out of class, or taking part in group projects) was high in most decades (Graph 39). Over 90% of students from the 1960s through the 1990s worked together at some time in some way on coursework, and this is substantially higher than early cohorts. Similarly, student-to-student tutoring increased steadily from 19% in the 1920s cohort to 40% in the 1980s cohort (Graph 40). Among current students, 29% have been involved in peer tutoring.

Student involvement in campus religious groups declined only slightly over time, from approximately one quarter of alumni in the 1920s to 1960s cohorts, to 18-20% of subsequent cohorts (Graph 41).

Involvement in fraternities and sororities, however, declined sharply over time (Graph 42). In the 1920s cohort, 81% pledged or joined a fraternity or sorority, but only 15-16% of those in the last three decades did. The 1960s cohort seems to have been the transitional generation for "greek" involvement, with 29% participation, compared to 54% participation in the 1950s.

The 1960s cohort was also the most likely to report having participated in students demonstrations or protests at 30%, compared to 7% or less in preceding cohorts (Graph 47). Approximately one-fifth of alumni from the 1970s and 1980s, and 14% of current students, have taken part in demonstrations or protests.

Over one-third of students and alumni have been involved in some kind of campus organization in most decades (36-38% for 5 decades), with highest participation in the 1920s (65%) and lowest in the 1970s (27%) (Graph 43).

University campuses have been leaders in promoting the notion of a "global community," and over-time developments in students' cross-cultural contacts are exceptionally evident in Graphs 44 and 45. In the 1920s cohort, only 14% reported having contact with someone from another racial or ethnic group on campus. By the 1970s and onward, 90% or more reported this type of contact. Similarly, in the 1920s only 24% had had contact with someone from another country on campus, while in the 1990s fully 90% had.

Roughly two-fifths of alumni were employed for pay at some time on the UO campus (38% - 48% across cohorts), compared to 31% of current students (Graph 48). We tested the hypothesis that this kind of student participation was associated with levels of student satisfaction with the education they received (see Graph 16), and the hypothesis was supported. Of those who worked for pay on the UO campus, 61% reported being very satisfied, compared to 54% of those who did not.

Unpaid volunteer work and internships on the UO campus and in the Eugene/Springfield community accelerated over time (Graphs 49 and 50). Roughly one-fifth of alumni in the 1920s through 1960s cohorts volunteered or interned on campus, compared to 32% of 1970s alumni, 29% of 1980s alumni, and 18% of current students. Community volunteer and intern work

increased steadily from 10% of the 1920s alumni cohort to 53% of the 1980s cohort. Among current students, 36% so far have participated in unpaid community efforts.

E. Difficulties or issues which may interrupt student progress.

The more difficulties students encounter in college, the less likely they are to complete a degree and the less satisfied they are likely to be with the education they receive. Overall, 13 questions were asked of alumni and students relating to difficulties they may have encountered. Almost 28% of the students interviewed responded "no" to all of the difficulty questions. Twenty-nine percent of the students reported difficulty in one area, moving down steadily to less than 1% reporting 8 or more difficulties.

Roughly two-thirds of UO alumni and current students never changed their major, and the amount of major changing is fairly stable over time (Graph 21). The proportion of students ever listed as an undeclared major, however, increased substantially over time, from 11% or less of the 1920s through 1960s cohorts, to 19% of the 1970s cohort, 24% of the 1980s cohort, and 48% of current students (Graph 22).

Difficulties associated with courses appear to have gradually increased over time. While one quarter of those in the 1930s cohort ever withdrew from a course they were enrolled in, 58% of those in the 1970s and 62% of those in the 1980s did so (Graph 23). Similarly, 23% of the 1930s cohort ever received an incomplete grade in a course, compared to 35% of those in the 1970s and 33% of those in the 1980s (Graph 24). Sixteen percent or less of each cohort between the 1920s and 1960s ever failed a course, compared to 21% of those in the 1970s and 26% of those in the 1980s (Graph 25). Sixteen percent or less of each cohort through the 1970s ever repeated a course, compared to 27% of those in the 1980s (Graph 26). For each of these questions, the levels for the 1990s cohort are lower than for the 1980s cohort, but current students may simply not have had a chance to experience these difficulties because they have yet to complete their education.

Despite apparently increasing difficulties with courses, the percentage of students placed on academic probation has not increased markedly over time, ranging from 7% to 19% across all cohorts, with no clear pattern (Graph 27). In addition, fewer students from recent cohorts withdrew from school partway through a term, down from 35% of the 1920s cohort to 8% of the 1990s cohort (Graph 28). Similarly, the proportion of students stopping out of school or taking a leave of absence hovered at about one-fifth for all alumni cohorts (Graph 29). However, the number of times students stop out increased over time, with 20% of those in 1970 stopping out two or more times and 28% in 1980 stopping out two or more times (Graph 30). While the reasons for stopping out in the 1920s and 1930s were predominantly financial or academic, students' reasons for stopping out in later cohorts were more varied, also encompassing health- and family-related issues (Graph 31).

We tested the hypothesis that alumni and students who had more academic difficulties would be less satisfied with the education they received, and it was strongly supported. Among those students reporting no difficulties, 66% were very satisfied, compared to 60% of those with one difficulty who were very satisfied, down to 45% of those who had 7 difficulties, and 0% of those with 8 or more difficulties.

F. Faculty/student interaction.

Student interaction with faculty members is key to student learning, and it appears to have increased over time. Between 67% and 84% of each alumni cohort reported feeling that there was a faculty member on the UO campus who cared about them, with alumni in later cohorts reporting the highest levels (Graph 19). Fully 75% of current students report the same. This high and consistent response seems exceptional for such a large and diverse campus.

About 84% of those in the 1920s through 1950s cohorts spoke with a faculty member outside of class at least once, compared to 91% to 96% of those in the 1960s, 1970s and 1980s cohorts (Graph 51). Among current students, 83% have spoken with faculty outside of class. Between 40% and 55% of each alumni cohort have been guests in a professor's home, compared to 16% of current students (Graph 52).

Student involvement with faculty in research and teaching appears to have increased over time, with about one-sixth of those in the 1930s, 1940s and 1950s cohorts taking part, compared to about one quarter of those in the 1960s, 1970s and 1980s cohorts (Graphs 53 and 54). Less than 10% of current students have yet taken part in these activities.

To more fully assess faculty/student interaction, the five yes/no questions reported above were summed and scaled. We tested the hypothesis that greater faculty/student interaction is associated with higher levels of satisfaction, and this hypothesis was strongly supported. Among students and alumni who had no interactions with faculty, just 36% were very satisfied with the education they received at UO, compared to 81% of those who experienced all five types of faculty/student interaction. Overall, 36% of students and alumni said "yes" to two items and 23% said "yes" to three items. Only 5% had had no faculty interaction at all, but 6% said "yes" to all five items.

G. Other Academic Issues.

This sections summarizes a variety of miscellaneous academically-related findings from the surveys.

When they entered the UO, approximately 86% of alumni and students in all cohorts felt that it would be very difficult or somewhat difficult (Graph 14), and about 75% found it to be so (Graph 15).

Academic majors have varied widely over the decades. Particularly evident is the predominance of Humanities majors from the 1920s through the 1960s; the growth of Natural Science majors from the 1960s onwards; and the growth of the College of Education in the 1950s and 1960s, and its subsequent decline in the 1990s.

H. Demographics.

This section summarizes the demographic profiles of respondents to the alumni and student surveys.

Graph 73 shows the sex composition of survey respondents. The predominance of females in the 1920s and 1930s cohorts is undoubtedly due to differences in male and female life expectancies; with women much more likely than men to survive to ages 70 and 80 than men, it is not surprising that more women were available to be interviewed in these cohorts. The predominance of males in the 1940s through 1980s cohorts probably underestimates the percent male graduates, for women are more likely to respond to survey requests than men.

Graphs 74 and 75 show the growing proportions of alumni and students from varying racial/ethnic backgrounds since the 1950s. Although Hispanics still account for just 3% of respondents to the student survey, fully 15% of respondents were of Asian or Pacific Island descent. This is consistent both with the growing diversification of the population and with the university's efforts to recruit excellent minority students.

CONCLUSIONS AND IMPLICATIONS

In this section, we summarize the survey findings detailed above and make suggestions for further research.

Consistent with our hypotheses, the findings reported here reveal that the results of higher education are not immediately manifest in student and alumni lives. Rather, the effects of a university education seem to mature and evolve as alumni launch and conduct their adult lives. Current students and recent graduates seem to appreciate the long-run effects of higher education less than those who graduated several decades previously. Such findings indicate the limits of current student surveys in assessing the overall value and quality of higher education. Student surveys clearly have value, however, in assessing current student issues and needs.

This report also demonstrates that the long-term effects of a higher education experience are not limited to what students learn in the classroom. Rather, the larger experience of participating in the various and sundry facets of campus life strongly affect student and alumni satisfaction with their education and other outcomes. In particular, higher levels of faculty/student interaction inside and outside the classroom and higher levels of student involvement in campus life are clearly associated with higher levels of satisfaction with the education students and alumni receive.

Finally, and consistent with our hypotheses, the long-term effects of higher education vary with the period students went to the university in. Certain variations, particularly in student activities, correlated with the Great Depression and World War II eras, as well as the 1960s. Overall,

however, student and alumni experiences in higher education, and their overall assessments of that experience (e.g., in skills and knowledge gained), seem remarkably high and stable despite historical factors.

This report has barely scratched the surface of the potential findings from these surveys. We have focused on cohort changes in decisions to attend the prototype institution, satisfaction, gains in skills and knowledge, involvement in campus activities, barriers to student progress, and faculty/student interaction. But we still know little about what explains variation in these key experiences at a university. For example, how does satisfaction level vary by major and how does campus involvement vary by major? What are the effects of campus involvement on satisfaction net of the effects of major? How do gains in students' skills and knowledge correlate with their campus involvement? Are there levels of campus involvement which are too great or too little to substantially impact satisfaction? Understanding how these factors vary is essential for policymaking to improve students' educational experiences and later success. Many other domains of alumni success can also be examined. This analysis has focused exclusively on those 78 interview questions which were common to both the student and alumni surveys. However, both surveys contained substantially more detailed information appropriate to student and alumni experience, including, for example, alumni occupations and graduate degree attainment. We recommend that the data be made widely available to the OSSHE and university community for more detailed analysis.

The survey results reported here provide sound evidence of the usefulness of alumni and student surveys as assessment tools in higher education. Not only did the process of conducting a survey generate considerable good will among those randomly selected to participate, the survey results provide fertile ground for testing a number of hypotheses about the effects of higher education on the subsequent careers and lifetime achievements of alumni.

Ultimately, these survey results can be used to address OSSHE's internal assessment and planning needs, as well as the needs of the prototype survey institution, the University of Oregon. These results can also be used to meet the information needs of external constituencies, such as legislative, business and civic leaders, as well as students and alumni themselves. Moreover, these studies can serve as baselines for future OSSHE comparisons with other institutions and to establish cross-sectional changes over time.