DEPARTMENTAL GRADES REPORT - ACADEMIC SENATE

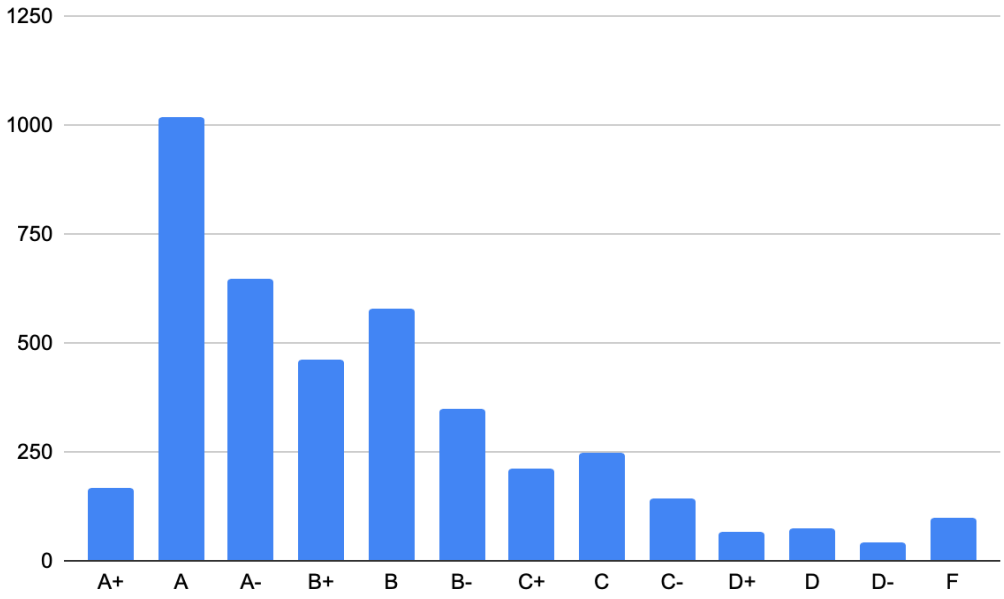
Summary Thoughts:

1. The creation of the departmental grades report(s) was undertaken in response to WSCUCs changing expectations related to program assessment and diversity, equity, and inclusion. WSCUC expects programs to regularly review disaggregated data as part of the program assessment and improvement process.
2. As part of the work of the Program Review Committee (PRC), Tatiana Nazarenko asked department chairs to submit the names of several “introductory” level courses taught within their departments. The Registrar’s office provided grades from the 2020-21 academic year for all the courses identified.
3. The PRC plans to ask department chairs if this type of report is useful and should be generated annually and will confirm which courses should be included.
4. Because the courses were not randomly selected from all courses at Westmont and the courses were identified loosely as “introductory” in nature, the results from the analysis may or may not be representative of grades at Westmont as a whole.
5. Further, because the data was collected during the school year that was likely the most impacted by Covid-19, the grades and subsequent conclusions from the analysis may not be representative of a normal, non-Covid year at Westmont.
6. The complete data set included 4,103 grades from 62 different courses.
7. The report(s) was generated during the summer of 2021 and provided to departments in the fall of 2021.

The following table reports the number of letter grades assigned in the data set. The third row provides the percent of grades assigned in each category. The fourth row provides a cumulative percentage of grades starting at A+ and working toward the bottom end of the grading scale. It indicates, for example, that 78% of grades in the data set were some form of an A or B.

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
169	1017	646	460	580	348	213	248	142	65	76	41	98
4%	25%	16%	11%	14%	8%	5%	6%	3%	2%	2%	1%	2%
4%	29%	45%	56%	70%	78%	83%	89%	92%	94%	96%	97%	99%

The histogram below provides a visual representation of the distribution of these grades. The median letter grade assigned was a B+ and the mode was an A. As can be seen in the table above, close to half (44.7%) of grades assigned were in the A range while a much smaller percentage of grades were in the D and F range (6.8%). As a result, the distribution of letter grades is skewed toward the top end of the grading scale and does not follow a normal distribution. Rojstaczer and Healy (2012) suggest that since the 1940s grades have shifted from an approximately normal distribution to the skewed form present in this data set (see Figure 1 below from their paper).



To compute the mean of the data set, the grade point average (GPA), letter grades were assigned numeric values based on Westmont's definition of letter grades (A+ = 4.0, A = 4.0, A- = 3.7, etc.). The GPA of the 4,103 letter grades was 3.107 with a standard deviation of 0.951. The median grade (B+ = 3.3) is slightly higher than the average grade (3.107). Because, as mentioned earlier, the grades are primarily from introductory courses, the 3.107 GPA is not representative of the student body as a whole but could be reasonably interpreted as representative of grades earned in introductory coursework at Westmont.

To provide some sense of context for these grades, Table 1 (below) was taken from the article *Where A is Ordinary: The Evolution of American College and University Grading, 1940-2009* by Rojstaczer and Healy (2012). As the table reports, the average % of A grades assigned in the category Private non-profit college was 47.7%, B grades were 36.6%, C grades were 11.8%, and D and F grades comprised 2.4% and 1.9% respectively. These percentages reasonably resemble the grades in the Westmont study (45% A, 33% B, 14% C, 5% D, and 2% F).

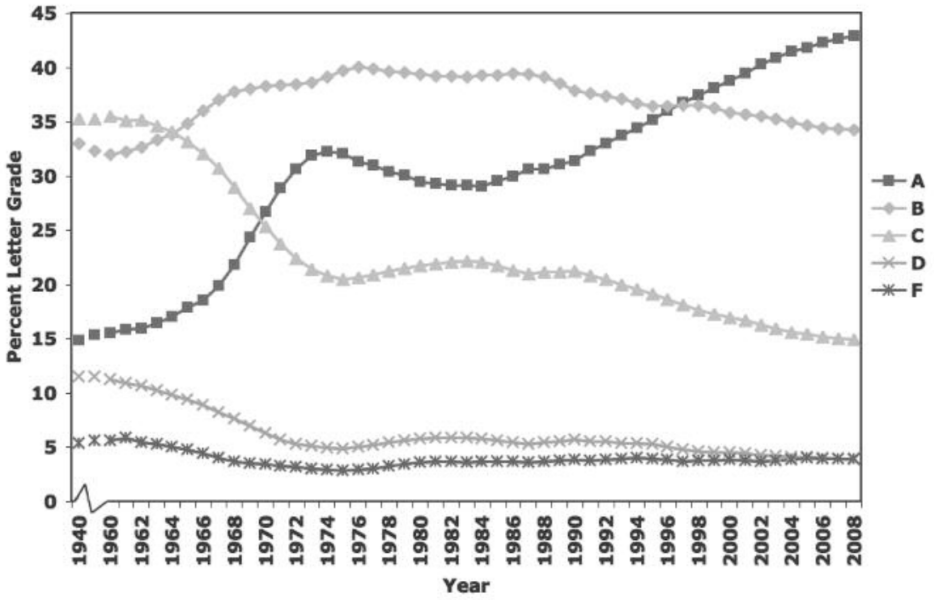
A Chi-square goodness of fit test indicates the grades assigned by faculty at Westmont during 2020-21 significantly differ from the average percentage of grades reported in the "Private nonprofit college" row of the table below ($p < 0.00001$). The largest discrepancies are seen in the % of C and D grades, with Westmont assigning more C and D grades than in the sample from the 34 colleges (and hence fewer A and B grades). While this outcome is statistically significant, one may argue the % distribution of grades assigned at Westmont are similar enough to those reported in the study for the differences to not be practically significant; perhaps it is best to say they are similar but not the same. If this trend is also in the larger grade data set, it would indicate the average GPA of Westmont students is lower than the GPA of students attending the schools in the study. It may also be reasonable to think that grades have continued to rise between the last data points in the study (2009) and now.

Table 1. Characteristics of Schools With Contemporary Data Including Grading Averages

Classification	Number of Schools	Total Population	Avg. SAT 2006	Avg. SAT 1966	Avg. %A	Avg. %B	Avg. %C	Avg. %D	Avg. %F
By school type									
Private nonprofit university	9	46,788	1245	1235	48.2	35.8	11.4	2.2	2.3
Private nonprofit college	34	75,348	1192	1184	47.7	36.6	11.3	2.4	1.9
Public flagship university	26	532,034	1172	1139	42.3	34.5	15.5	4.1	3.6
Public satellite university	25	282,449	1056	1050	41.7	32.0	16.0	4.8	5.4
Public commuter university	41	579,070	1017	1018	39.0	31.8	17.5	5.4	6.3
By region									
Midwest	28	281,092	1135	1147	45.0	34.0	14.0	3.7	3.3
Northeast	28	208,209	1153	1184	45.1	35.7	13.0	3.1	3.1
West	29	377,936	1079	1094	44.6	33.0	14.4	3.7	4.2
South	50	648,452	1102	1055	39.7	33.1	16.7	5.1	5.4
Totals	135	1,515,689	1115	1111	43.0	33.8	14.9	4.1	4.2

Of further interest in the article is the graph below which shows the changes in grades assigned from 1940 through 2008:

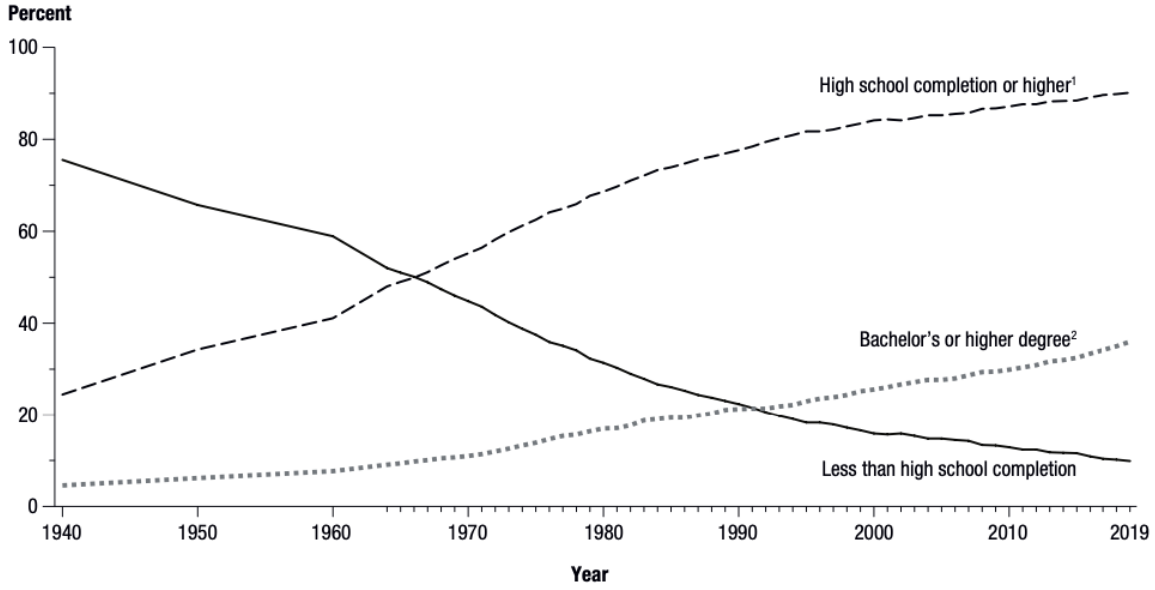
Figure 1. Distribution of grades at American colleges and universities as a function of time



Note: 1940 and 1950 (nonconnected data points in figure) represent averages from 1935 to 1944 and 1945 to 1954, respectively. Data from 1960 onward represent annual averages in our database, smoothed with a 3-year centered moving average.

The graph below was taken from the Digest of Education Statistics 2019 recently published by Institute of Education Sciences in partnership with the U.S. Department of Education.

Figure 3. Percentage of persons 25 years old and over, by highest level of educational attainment: Selected years, 1940 through 2019



[1]Includes high school completion through equivalency programs, such as a GED program. For years prior to 1993, includes all persons with 4 or more years of high school.
[2]For years prior to 1993, includes all persons with 4 or more years of college.
SOURCE: U.S. Department of Commerce, Census Bureau, *U.S. Census of Population: 1960*, Vol. I, Part 1; J.K. Folger and C.B. Nam, *Education of the American Population* (1960 Census Monograph); Current Population Reports, Series P-20, various years; and Current Population Survey (CPS), Annual Social and Economic Supplement, 1961 through 2019.

While I have not read evidence that indicates there is a causal relationship between changes in grade assignment and graduation rates, it is certainly interesting to see that both have risen together. In 2019, 36% of all persons in the U.S. age 25 and over had earned a Bachelor's degree or higher. When I graduated in 1992 this statistic was 21.4%. When my dad graduated in 1958 it was less than 7.7% and when his dad graduated in 1928 it was less than 3.9%.

Several thoughts about what has caused the grade inflation have been discussed in the literature. A few that standout include:

1. Grade inflation is due to the rise of student's completion of course evaluations. In their literature review, Brookhart et al. (2016, p28) said, "the relationship between anticipated grades and course evaluation rating is moderate at best … anticipated grades account for less than 10 percent of the variance in course evaluations."
2. Criterion-referenced testing and mastery learning. In the early 1900s educators were drawn to the idea of grading based on a normal distribution. In the early 1960s criterion-referenced testing was proposed by Glaser and in the early 1970s mastery learning and mastery testing was proposed by Bloom (Brookhart, p29). These moved grading away from comparisons between students (by use of the bell curve) to comparing a student against a set of learning objectives/outcomes.
3. Some recent suggestions for consideration include a new view of students as customers or consumers and the suggestion that perhaps students are simply higher-achieving and so deserve better grades (Brookhart, p29).