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## Secondary School Curriculum Change in Rural Nebraska

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## SECONDARY SCHOOL CURRICULUM CHANGE IN RURAL NEBRASKA

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**Abstract.** *Critics of education in the United States asserted that high school students' performance fell after 1960. The decline has been linked to high school curricula which lost academic rigor in comparison to high school curricula in earlier decades. This study investigates the curricula of selected high schools in Nebraska, using random samples of graduating seniors taken every 10 years from 1953 to 1983. Findings show that the proportions of students' programs devoted to more demanding English, social sciences, mathematics, business, and natural science courses diminished during the study period. Grade inflation was observed in smaller public schools, but not in larger public schools nor in Catholic schools.*

Critics of American education, including the authors of *A Nation at Risk* (National Commission on Excellence in Education 1984) have charged that secondary students in the United States lag behind students educated in other industrialized nations. According to the report, U.S. students' achievement, as measured by standardized tests and other indicators, declined after 1960. Moreover, the decline in achievement apparently was accompanied by grade inflation that gave students, parents, and school patrons a false sense of educational accomplishment.

This study was begun in order to investigate the extent to which educational trends in rural Nebraska high schools followed national educational trends. In order to identify relatively long-term trends, we decided to focus on educational curricula for a single year in each decade from the 1950s to the 1980s. We selected 1953 as a logical starting point prior to the Brown Decision in 1954 and the launching of Sputnik in 1957, since these events reportedly helped shape curricular change across the nation. Later observation times then followed on a ten year interval until 1983.

Early post-World War II criticisms of U. S. secondary school instruction as inadequately rigorous (Bestor 1953) and insufficiently patriotic

(Raywid 1962) led us to expect to find 1950s curricula that were wanting in appropriate academic content and largely reflective of the "life adjustment" movement of the 1930s and 1940s. We anticipated that the programs of the 1960s, which followed the launching of Sputnik and the enactment of the National Defense Education Act, likely would show increased rigor and more substantial offerings in academic subjects, including science and mathematics. During the 1970s, however, we thought that college and university turmoil spawned by large commitment of U. S. troops to Vietnam and the critiques of "compassionate critics" (e.g., Holt 1964, 1967; Ilich 1970; Kohl 1967) who argued for a more humane curriculum might have prompted shifts from mathematics and science to offerings in the humanities and social sciences. But we expected that the 1980s might show evidence of renewed demands for increased rigor and more challenging academic subjects, this time to enable graduates of U. S. schools to compete more effectively with graduates of the schools of other industrialized nations in a global market.

### **Research Design**

Two questions dominated the formulation of our research design:

- (1) Did curriculum change take place, and, if so, what was the nature and degree of uniformity of that change; and
- (2) Did serious grade inflation occur, and, if so, were there differences of degree between schools of different size classes, regional settings, or public versus parochial financing.

We chose to try to answer these questions by focusing on the curricula and grading practices in a selected group of predominantly rural Nebraska high schools at decade intervals between 1953 and 1983. Since we were most interested in educational trends in rural settings, schools in Nebraska's two metropolitan areas, Omaha and Lincoln, were excluded from consideration.

We selected 20 schools for study, 15 public and five Catholic, varying in enrollment from less than 100 to more than 1,500 students in grades 9 through 12. The schools were selected so that all non-metropolitan regions of the state would be represented. Of the 15 public schools, five were selected so that they could be paired with five parochial schools of similar size in the same community, and the remaining 10 schools were selected to

give the geographic diversity and enrollment size balance that was sought in the study. The selection of schools permitted us to examine similarities and differences between public and private schools, and between public schools of differing sizes.

Letters were written to the chief school officer of each of 20 schools initially selected for the study. Officials of nineteen of the initially selected schools agreed to allow their institution to participate in our study. Officials of one initially selected school declined to participate, because of an impending North Central Accreditation review. This institution was replaced by another school of similar size and location. We believe that the high participation rate, for which we are very grateful, reflects quite favorably on the attitudes and hospitality of Nebraska educators and school officials.

After receiving participation approval from school officials, one or both of the principal researchers traveled to each of the selected schools. At each of the 20 selected school we obtained lists of all graduates for each study year. Then, using a table of random numbers, samples of 10 percent of graduates were chosen randomly for each of the study years, 1953, 1963, 1973, and 1983. Lists of the randomly chosen graduates were given to school personnel, who then made photocopies of each chosen student's official transcript. The anonymity of sampled students was assured by having school personnel delete or blot out any information that would identify individual graduates from the official transcripts which were obtained.

The intention was to study the transcripts of 10 percent of each graduating class. Because of the small sizes of some graduating classes a minimum of 10 graduating seniors was chosen from each school for each study year. In a few instances, the smallest schools had fewer than 10 graduates in some years. For each student, we obtained a complete record of all courses taken during the four years prior to graduation (i.e., grades 9-12). In the instances of schools which reorganized during the 1953-1983 study period, we used records of students who graduated prior to reorganization.

Totaling over all 20 schools and all 4 decades, the records of 991 students were classified and analyzed. On a study year basis, the numbers of students' transcripts examined were 207 from 1953, 243 from 1963, 284 from 1973, and 257 from 1983. Using the Nebraska State Department of Education course taxonomy, student transcript entries were converted into formats appropriate to computer data processing using Statistical Analysis for Social Sciences (SASS) procedures on the University of Nebraska CMS (Conversational Monitoring System) computer system.

### Curriculum Change

Did the patterns of courses taken by rural Nebraska high school students change during the study period? The samples of graduating seniors' transcripts from each of the selected schools make it possible to estimate percentages of high school students who took various types of courses during their four years prior to graduation in each study year. Table 1 summarizes results for each major curriculum domain categorized according to the Nebraska State Department of Education course taxonomy. The numbers represent percentages of all courses actually taken by graduates in each decade. The following inferences can be made from these percentages:

1. Five domains dominate the curriculum in each decade: English, social sciences, mathematics, business, and natural science. However, it is clear that the overall patterns of courses taken by rural Nebraska high school students did change from 1953 to 1983. In 1953, these five domains made up almost 76% of the courses taken by the sampled graduates, but in 1983 they comprised only 64% of the courses. Thus, the charge of diminished emphasis on more rigorous, academically-oriented courses appears correct for these five domains. On the other hand, the 1953-83 comparison reveals a substantially broader curriculum in 1983, with increased offerings in home economics, health and physical education, industrial arts, and, to a modest extent, foreign languages.
2. English led all other domains as a proportion of total curriculum content. This is true of graduates of every school in every decade. However, as other domains increased their proportion of the academic pie, the number of English courses taken declined from 22.6% of curriculum in 1953 to 18.1% in 1983.
3. While courses in the social studies were the second most frequently taken, that domain, too, steadily declined over the study decades, from 18.3% in 1953 to 13.3% in 1983.
4. Students took surprisingly few mathematics courses, with little apparent change over the four observation times. Possibly because of Sputnik, mathematics percentages rose slightly, from 11.5% in 1953 to 12.8% in 1963 but then dropped to their lowest observed level of 10.8% in 1973, reflecting perhaps reflecting the turmoil of the Vietnam era. Approximately 11.4% of

TABLE 1  
 PERCENT OF GRADUATING SENIORS TAKING COURSES  
 IN EACH CURRICULUM DOMAIN, 1953, 1963, 1973, AND 1983

Curriculum Domain	Percent of Graduating Seniors			
	1953	1963	1973	1983
English Language	22.6	20.4	19.7	18.1
Social Sciences	18.3	16.8	15.1	13.3
Mathematics	11.5	12.8	10.8	11.4
Business	12.3	10.3	10.2	11.3
Natural Science	11.1	12.0	9.9	10.2
Music	7.3	6.9	5.7	6.4
Health/P.E.	2.3	4.8	7.2	6.3
Career Ed./Coop. Ed.	6.0	4.3	4.4	5.2
Industrial Arts	2.2	3.1	4.7	5.1
Home Economics	2.2	2.5	3.0	3.4
Foreign Language	2.2	3.8	3.9	2.7
Art	0.4	0.7	1.9	2.5
Agriculture	0.8	0.7	0.7	1.8
Safety and Driver Ed.	0.3	0.8	2.0	1.4

the courses taken by sampled 1983 graduates were in the field of mathematics.

5. Natural science course percentages exhibited trends similar to those of mathematics courses, reaching their highest level of 12.0% in 1963, and then falling to but 9.9% in 1973. About 10.2% of courses taken by sampled 1983 graduates involved natural sciences.

6. While foreign language classes were taken by students in 19 of the 20 schools selected for study, the percentage of total courses accounted for by the foreign language domain was very small, ranging from 2.2% in 1953 to

just under 3.9% in 1973. About 2.7% of courses taken by 1983 graduates were foreign language courses.

7. Business education courses fluctuated within a relatively narrow range; first, downward from 12.3% of courses for 1953 graduates to 10.2% of courses for 1973 graduates, but then upward to 11.3% of courses for 1983 graduates. Although the proportions varied narrowly overall, it should be noted that business education enrollments increased dramatically in some of the selected schools.

### **Curriculum Richness**

We were interested in how curriculum richness changed during the period of study. In order to try to measure such changes, we attempted to express the breadth and depth of curriculum taken by students in three ways. Our first index, *curriculum breadth* was calculated by giving a weight of one to each semester course a sampled graduate had completed. Thus if a student took an average of five courses per semester for eight semesters, curriculum breadth would equal 40. The second index, *curriculum depth*, was created by weighting advanced courses more heavily. Advanced courses were identified as courses which had prerequisite requirements, regardless of curriculum domain. Advanced courses were assigned a weight of two, while courses without prerequisites were given a weight of one in calculating the curriculum depth index. The third index, *academic curriculum depth*, was constructed by modifying the curriculum depth index to include only courses in the four academic domains of English, social studies, mathematics, and science. Foreign language was not included in this measure, since it was taken by so few students. Decade-by-decade mean index values and standard deviations are shown in Table 2.

Results for the index of curriculum breadth show an increase in each successive decade. 1953 graduates took an overall average of 36.3 courses during their four years prior to graduation, or about 4.5 courses per semester. The average total number of courses increased to 42.1 in 1963 and 44.5 in 1973. By 1983, students took an average total of 47.0 courses before graduation, or almost 6 courses per semester. For the study period as a whole, the average total number of high school courses taken by sampled graduates increased by nearly 30% from 1953 to 1983.

Curriculum depth also showed an increase in each decade from 1953 to 1983, revealing an increase in the number of students taking courses that

TABLE 2  
INDEXES OF CURRICULUM BREADTH, CURRICULUM DEPTH, AND  
ACADEMIC CURRICULUM DEPTH, 1953, 1963, 1973, AND 1983

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Index of Curriculum Breadth

<b>Year</b>	<b>1953</b>	<b>1963</b>	<b>1973</b>	<b>1983</b>	<b>All Years</b>
Mean Index Value	36.3	42.1	44.5	47.0	42.8
Standard Deviation	7.3	11.5	7.3	10.5	10.1
Number of Students	207.0	243.0	284.0	257.0	991.0

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Index of Curriculum Depth

<b>Year</b>	<b>1953</b>	<b>1963</b>	<b>1973</b>	<b>1983</b>	<b>All Years</b>
Mean Index Value	45.7	54.4	56.3	58.7	54.2
Standard Deviation	9.3	15.9	10.2	14.1	13.5
Number of Students	207.0	243.0	284.0	257.0	991.0

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Index of Academic Curriculum Depth

<b>Year</b>	<b>1953</b>	<b>1963</b>	<b>1973</b>	<b>1983</b>	<b>All Years</b>
Mean Index Value	30.7	35.6	32.2	31.9	32.6
Standard Deviation	7.0	8.8	8.2	10.0	8.8
Number of Students	207.0	243.0	284.0	257.0	991.0

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required prerequisites. In 1953, the curriculum depth index averaged 45.7. Once more, the greatest increase occurred in the next decade, bringing the index to a mean value of 54.4 in 1963. In 1973, the index averaged 56.3. The average value of 58.7 for 1983 was 28 percent greater than the average value for 1953, indicating that the increases in numbers of courses with prerequisites virtually matched the overall increases in total numbers of courses.

The academic curriculum depth index followed a somewhat different pattern, however. While the lowest average index figure of 30.7 occurred in 1953, the highest average of 35.6 occurred in 1963. The average index of academic curriculum depth then declined in each of the two succeeding

decades, to 32.2 in 1973, and 31.9 in 1983. From the high point in 1963, the average index of academic curriculum depth diminished by more than 10 percent. The increase in the total number of courses taken by sampled graduates was not accompanied by a corresponding increase in academically oriented courses having prerequisites in the domains of English, social studies, mathematics, and science. Expanded curricular breadth was thus a more common trend among studied rural Nebraska high schools than increased academic depth.

### **Curriculum Richness by Type of School**

We were interested in discovering whether trends involving our curriculum richness indices were influenced by the type of school from which the students had graduated for the entire study period, from 1953 to 1983. Fifteen of the schools surveyed were public schools. Five schools surveyed were Catholic parochial schools, which had been selected in such a way that they were located in communities with public and parochial schools of approximately equal enrollment sizes. Comparisons were made on all three indices as follows: public v. Catholic, public v. Catholic in the same community, and small public v. large public. For the last of these comparisons we assigned the five largest public schools to the large public school category and the five smallest public schools to the small public schools category. Tests of the significance of the difference of arithmetic means were computed using students as observations for each of the comparisons of interest.

Similar analyses of differences of means for each of the school type comparisons were undertaken for each decade. With only minor exceptions, however, the analyses for curriculum breadth, curriculum depth, and academic curriculum depth for each of the four individual decades examined separately were quite similar. The decade-by-decade analyses, therefore, are not reported here. Instead, the results for all decades pooled together are shown in Table 3.

We found in our public versus private school comparisons that all three indices yielded results that favored Catholic schools. The differences favoring Catholic schools were statistically significant for both curriculum breadth and curriculum depth. For academic depth the difference was not statistically significant. These results were mildly surprising. We had anticipated that Catholic schools would tend to focus on a smaller set of subjects and emphasize concentration in curriculum domains we had identified as academic. Instead, we found greater curriculum depth and curriculum breadth

TABLE 3  
MEAN INDEXES OF CURRICULUM BREADTH, CURRICULUM DEPTH, AND  
ACADEMIC CURRICULUM DEPTH BY SCHOOL TYPE FOR ALL DECADES

Index of Curriculum Breadth					
School Type	Number of Schools	Number of Students	Mean Index Value	Standard Deviation	Difference of Means t-Test
<b>All Public v. Catholic High Schools:</b>					
Public	15	753	43.7	8.3	Signif. (d.f.)
Catholic	5	157	48.3	7.5	.0001 (908)
<b>Public v. Catholic High Schools in Same Communities:</b>					
Public	5	195	42.5	7.3	Signif. (d.f.)
Catholic	5	157	48.3	4.5	.0001 (350)
<b>Small v. Large Public High Schools:</b>					
Small Public	5	221	41.0	7.4	Signif. (d.f.)
Large Public	5	342	45.8	8.7	.0001 (561)
Index of Curriculum Depth					
School Type	Number of Schools	Number of Students	Mean Index Value	Standard Deviation	Difference of Means t-Test
<b>All Public v. Catholic High Schools:</b>					
Public	15	753	55.7	11.5	Signif. (d.f.)
Catholic	5	157	59.8	9.6	.0001 (908)
<b>Public v. Catholic High Schools in Same Communities:</b>					
Public	5	195	54.2	9.0	Signif. (d.f.)
Catholic	5	157	59.8	9.6	.0001 (350)
<b>Small v. Large Public High Schools:</b>					
Small Public	5	221	52.5	10.0	Signif. (d.f.)
Large Public	5	342	58.6	13.2	.0001 (561)
Index of Academic Curriculum Depth					
School Type	Number of Schools	Number of Students	Mean Index Value	Standard Deviation	Difference of Means t-Test
<b>All Public v. Catholic High Schools:</b>					
Public	15	753	33.5	8.2	Signif. (d.f.)
Catholic	5	157	34.3	6.1	N.S. (908)
<b>Public v. Catholic High Schools in Same Communities:</b>					
Public	5	195	33.0	7.1	Signif. (d.f.)
Catholic	5	157	34.3	6.1	.0011 (350)
<b>Small v. Large Public High Schools:</b>					
Small Public	5	221	35.3	6.5	Signif. (d.f.)
Large Public	5	342	34.2	9.2	N.S. (561)

among sampled Catholic school graduates, and no significant difference from sampled public school graduates with respect to academic depth. Comparisons involving the five public and five Catholic schools which were surveyed in the same communities also yielded results that favored Catholic schools on all three curriculum indices. These results were statistically significant at the 0.001 level or greater.

Large public schools in our study provided higher and statistically significant measures of curriculum breadth and curriculum depth than small public schools surveyed. However, comparisons of academic curriculum depth yielded no significant differences between surveyed graduates of large and small public schools. It would appear that large and small public schools in rural Nebraska offer comparable ranges of academically oriented courses, but that larger public schools are able to offer broader overall ranges of courses.

### **Grade Inflation**

In addressing the issue of grade inflation in the high schools in our survey, we were somewhat surprised at our findings. Using a five point Grade Point Average (GPA) scale, with "A" represented by 5 at the top and "F" represented by 1 at the bottom, GPA's for each sampled graduating class of each surveyed school are shown in Table 4. Upon examining these values, to our surprise we found that two of the 20 schools in our survey actually experienced some grade deflation. 1983 graduates of the largest public school in our survey had average grades that were lower by 0.10 than those of 1953 graduates from the same school. A fourteen-teacher Catholic school had the greatest grade deflation, involving a decline of 0.43 in GPA. This school had evolved from a single parish high school in 1953 to a multiple parish school in 1983.

While only two schools exhibited grade deflation, grade inflation as severe as we had been led to expect was by no means characteristic of the entire set of surveyed schools considered together. On average over the 20 surveyed schools, GPA's increased by slightly over one-third of a grade point, from 3.499 in 1953 to 3.854 in 1983. Once we looked at the data more closely, by computing averages for all graduates in a school type class rather than over schools, it became clear that school enrollment size is an important differentiating factor in accounting for grade inflation trends. Mean GPA averages for graduates pooled by large public schools, small public schools, and Catholic schools are shown in Table 5. Indeed, we found that large public

TABLE 4  
 GRADE POINT AVERAGES (GPA) FOR SURVEYED HIGH SCHOOLS,  
 1953, 1963, 1973, AND 1983

Graduation Year	1953	1963	1973	1983	1953-83
School	GPA	GPA	GPA	GPA	Change
1 Small Public	3.411	3.523	3.937	4.101	+ .69
2 Public	3.670	3.618	3.513	3.991	+ .32
3 Public	2.960	3.504	2.861	3.337	+ .38
4 Small Public	3.336	3.685	3.819	3.869	+ .53
5 Small Public	3.581	3.378	3.445	3.654	+ .07
6 Catholic	3.866	3.668	3.743	3.949	+ .08
7 Large Public	3.647	3.611	3.620	3.548	- .10
8 Small Public	3.427	3.683	3.481	3.797	+ .37
9 Catholic	3.520	2.975	3.737	3.721	+ .20
10 Small Public	3.340	3.439	3.910	4.099	+ .76
11 Large Public	3.832	3.393	3.312	4.061	+ .23
12 Catholic*	—	3.523	3.795	3.988	+ .47
13 Public	3.341	3.637	3.756	4.026	+ .69
14 Catholic	3.451	3.388	3.298	3.800	+ .35
15 Large Public*	—	3.271	3.880	3.841	+ .57
16 Public	2.985	3.635	3.659	3.895	+ .91
17 Large Public	3.393	3.682	3.657	3.486	+ .09
18 Large Public	3.646	3.373	3.865	4.378	+ .73
19 Public	3.703	3.289	3.570	4.081	+ .38
20 Catholic	3.888	3.458	3.751	3.457	- .43
Mean Over Schools	3.499	3.487	3.630	3.854	+ .36

\* School did not exist in 1953

schools and Catholic schools experienced virtually no grade inflation, but small public schools surveyed exhibited substantial grade inflation over the four decades. In other words, the overall school-level averages were biased upwards by not differentiating according to school enrollment class.

TABLE 5  
 MEAN GRADE POINT AVERAGES BY SCHOOL TYPE,  
 1953, 1963, 1973, AND 1983

School Type	1953			1963		
	Number of Schools	Number of Students	Mean Grade Point	Number of Schools	Number of Students	Mean Grade Point
Small Public	5	49	3.34	5	52	3.60
Large Public	4*	47	3.72	5	81	3.53
Catholic	4*	28	3.61	5	43	3.46

  

School Type	1973			1983		
	Number of Schools	Number of Students	Mean Grade Point	Number of Schools	Number of Students	Mean Grade Point
Small Public	5	69	3.78	5	51	3.95
Large Public	5	110	3.63	5	104	3.73
Catholic	5	48	3.64	5	38	3.61

\* One large public school and one Catholic school did not exist in 1953.

To be more specific, the graduates of the large public schools surveyed and pooled together for computational purposes had mean grade point averages of 3.72 on a 5 point scale in 1953, 3.53 in 1963, 3.63 in 1973, and 3.73 in 1983. Corresponding averages for pooled graduates of Catholic schools surveyed were 3.61 in 1953, 3.46 in 1963, 3.64 in 1973, and 3.61 in 1983. In other words, the mean grade point averages for 1953 and 1983 were virtually identical for the large public high schools and the Catholic high schools studied. But the mean grade point averages rose quite consistently for pooled graduates of the small public high schools surveyed, from 3.34 in 1953, to 3.60 in 1963, to 3.78 in 1973, and finally to 3.95 in 1983. Our findings therefore confirm the reality of the expected grade inflation phenomenon for small public schools only, and not for large public nor for Catholic high schools studied.

### Discussion

The literature of critics and educators responding to them does not always provide an accurate picture of what is actually taking place in secondary schools. Skepticism about this matter led us to an investigation of the extent to which the curricula in a selected group of rural Nebraska high schools had responded to criticisms over the period of 1953 to 1983.

Based on pre-Sputnik criticisms that secondary school standards and performance were declining, we surmised that the 1953 curriculum would be lacking in academic rigor, that the curriculum in 1963 would be more academic following the Sputnik launch, that the 1973 curriculum would be less demanding in response to the compassionate critics, and that the 1983 curriculum would be characterized by a return to greater academic rigor. We also expected a serious grade inflation.

Our data revealed that the curriculum breadth actually increased over the study period, with sampled students at each later decade taking a larger number of courses than had sampled students at each earlier decade in our study. We also found that over time students were taking progressively more courses that required prerequisites, as our curriculum depth index increased greatly from 45.68 in 1953 to 58.63 in 1983, with the largest increase coming between 1953 and 1963. The emphasis on academic subjects increased markedly between 1953 and 1963 and then gradually declined, according to our academic depth index. Despite the decline, however, the index for 1983 was still somewhat higher than it was for 1953.

Our data do suggest that, to a modest degree, the 1963 curriculum had responded to the Sputnik phenomenon and that the compassionate critics and their allies had a mild impact on the 1973 curriculum. The curriculum in 1983, however, had apparently not responded to the demands for more academic rigor, although it may have been too early to capture the effects of the criticisms of the late 1970s and early 1980s.

While we believe our data provide an accurate representation of curriculum developments in rural Nebraska high schools over the period in question, they may very well fail to reflect what was happening in large urban and suburban high schools. To give a minor example that this may be the case, we would suggest that the large schools would not show an increase in agriculture-related studies from 0.8% to 1.8% such as was registered in our sample (Table 1). On the other hand, the virtual tripling in the percentage of the curriculum devoted to health and physical education that we found in our study may well have been paralleled in larger schools in city settings.

One crucial question that our research design could not answer was what changes had occurred in actual curriculum content in the courses identified in the sampled transcripts. We had hoped that schools would have retained courses of study or curriculum directives that would reveal essentially what was being taught in a particular subject at each of the four decades. Even records of textbooks and other instructional materials would have provided important clues to curriculum content. Generally, however, we found that the schools in our sample did not have such records. Unless schools begin to keep and to use such records in their curriculum planning, there can be little hope for comparatively and systematically measuring curriculum improvements at the local district level.

It appears, but we cannot prove, that students in larger schools profit from exposure to a larger number of teachers in a given curriculum domain, as well as from a larger selection of courses within each domain. Students in the small high schools usually have only one teacher in a particular domain, and the quality of the teacher in that domain may vary greatly from year to year, as teacher turnover is generally very frequent and tenure very limited in the small schools. This became evident to us during interviews in which we asked patrons and veteran teachers which curriculum domain was the strongest. Invariably, we were told by personnel in the small public schools that this changed from year to year, depending upon the quality of the teacher in a given domain. Catholic schools tended to be somewhat larger than the smallest public schools in our sample, and teacher turnover, especially among the religious, tended to be less rapid, and therefore tenure was longer in the Catholic schools in our sample.

The effect of teacher preparation and experience upon curriculum choices and test scores is an area that requires investigation. Unfortunately, our research provides no answers or even good hypotheses to be tested with respect to this matter.

Much school criticism has been written about declining standards as reflected in a perceived ubiquitous grade inflation. We did indeed discover some grade inflation, but the grade inflation in our sample was accounted for by small public school grading practices. In our five smallest schools there was a GPA increase of 0.61 or nearly two-thirds of a grade point from 1953 to 1983. Over the same period, however, there was an increase of only 0.01 in the five largest public high schools in our sample, and there was no change at all for the five Catholic schools we studied. We believe that the close relationship between teacher and pupil in the very small public school coupled with parental pressure on teachers to assign favorable grades to

enhance the possibility for their students to be accepted for enrollment in institutions of higher education may partly account for the very substantial grade inflation we found in those schools. Greater teacher turnover in small public schools may also have been a factor, since less experienced teachers may be more susceptible to pressures leading to grade inflation.

The curriculum indices we developed are, of course, subject to criticism. They are valid only insofar as they reflect the number and, to some extent, the kinds of courses the students in our sample actually studied. We believe they do provide a kind of shorthand method of describing curricula with some accuracy without having to list laboriously each subject or activity a student engaged in, a process that is still suspect because of the undependability of course titles with their variations from school to school. Furthermore, as previously suggested, course titles may, in fact, mask the actual content of courses.

### **Local and Research Implications**

We believe that our research methodology and research findings have a number of useful applications for curriculum related self-study by local school districts as well as for future outside researchers of school curriculum. In preparing for this long-range study we were surprised at the paucity of research into the realities of school curricula. We were even more surprised to find that local school districts, at least in the schools we studied, not only fail to collect year by year data on curriculum issues, but have no data saved so that the curricula of past years could be systematically and comparatively examined. So far as we were able to determine, curriculum data are recoverable only from two sources: student transcripts of courses, which of course do not deal with the curriculum content; and the memories of veteran teachers and school patrons. Neither of these can be deemed an entirely reliable source of data for researchers. Clearly, if secondary school curricula are to be examined systematically, schools must take deliberate steps to collect, catalog, and save materials descriptive of actual classroom activities and course content.

The research findings described above grew out of an initial research strategy that involved two areas of investigation:

- (a) the evolution of curricula over several decades, and
- (b) the phenomenon of grade inflation over the period in question.

In order to work with a manageable set of data, this research was limited to the study of 20 carefully selected public and Catholic schools. Comparisons were possible between large and small schools, and between public and Catholic schools. Data for one year in each of four decades permitted study of across school change as well as within school change over four observation times.

The research results have implications for both local and research use. Each of these will be considered in turn.

**Implications for local use.** Perhaps our most surprising finding was non-statistical. Of the 20 school districts we studied, not one had a systematic plan for evaluating the effectiveness of current, much less past, school curricula. The implicit assumption appears to be "if we offer it, it must be appropriate and good." Yet interviews with both veteran teachers and local patrons suggest that these groups, at least, were sensitive to curricular change over the four decades and some had clearly evaluative judgments about such changes. Thus, in spite of lack of clear data on the nature of curricula in the schools, we did obtain information that we believe local school districts would find useful in planning future curricula.

The simple tracking of student transcripts over four observation times from 1953 to 1983 revealed evidence of rather striking changes in the sorts of curriculum offered. While the general trend was toward broadening of the curriculum, each district might well ask if the depth of curricular offerings is being sacrificed to obtain breadth. Patron judgments as well as student follow-up information would be invaluable in helping to answer such questions. More specifically, we conclude and recommend the following five points:

1. Data on the type and content of the school curricula should be collected and "banked" each year. Computers should make such a task more feasible. However, the fact that no school had even begun such data collection suggests that considerable change in philosophy of data collection needs to occur.
2. Periodically (certainly at not less than five year intervals) the nature of the curriculum should be examined, both course by course and by area. Deliberate judgments with respect to future curricular changes, based on past data and current theory should affect not only course content, but curricular direction and staffing patterns.

3. Opinions of local patrons and teachers should be sought to give qualitative evaluation of present and past curricula as well, perhaps, as a tentative assessment of directions for change.
4. Curriculum should be conceptually driven. Unless a clear concept of curriculum has been articulated, the curriculum appears (at least in smaller schools) to drift toward the interests and strengths of the existing teaching staff. Curriculum needs should drive staffing decisions, rather than staffing decisions driving curriculum.
5. Recent graduates should be surveyed (this necessitates systematic follow-up of graduates) to determine reactions to curricula in the schools in terms of preparation for post-secondary education as well as for initial entry into the world of work. Study of graduates of 10 to 20 or more years would give perspective on the long term implications of specific school curricula.

The initial time and fiscal costs of collecting such data need not be prohibitive. Each department head could be asked to provide a one or two page description of each course offered in that department. The description should include a brief outline of course content, methods of teaching, evaluation techniques, text book/reference materials used and some evaluation of the course objectives and outcomes, as well as adequacy of materials used in teaching the course. Spread over a fairly large number of individuals, costs for such a system appear to be reasonable.

Over time, significant local teaching and school administrative benefits likely would accrue from systematic curriculum study. For example, a consistent questioning attitude about curriculum likely would engender more flexibility in both curriculum planning and school staffing decisions. In our opinion, other benefits likely would accrue as well. School patrons in the community who became involved in systematic curricular study might be expected to develop more favorable attitudes toward schools.

**Implications for researchers.** Our results also have implications for research use. These are summarized as follows:

1. The long term necessity for data collection and analysis requires a substantial commitment of researcher time. Research funds should be sought to help schools develop the base of information necessary for effective curricular research. It is clear that collecting and saving curricular information is

both unfamiliar and of low priority to present school personnel. Perhaps state department funds could be made available in support of such efforts.

2. Assuming that more complete and comparable curriculum data become available, researchers need to find means for qualitative as well as quantitative analysis of these data. Recent advances in qualitative research techniques seem particularly promising. The descriptions desired may help draw distinctions between various curriculum approaches.

3. Systematic means for seeking patron information (independent of school provided material) need to be developed. Telephone interviews using leased lines show promise of yielding good data at relatively low cost.

These points suggest the need for considerable change in attitude before effective curriculum research is likely to occur. Not only must school personnel change their attitudes and practices toward the collection of curricular data, but researchers must establish long term data gathering and research as a priority. Since much of this research effort is likely to be made at state universities, these institutions must begin to recognize the need for commitment of long term blocks of curriculum researcher time and be prepared to provide academic rewards for engaging in such activity.

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