

**A STUDY IN
EDUCATIONAL
PROGNOSIS**

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A Study in Educational Prognosis by Elbert Kirtley Fretwell

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ELBERT KIRTLEY FRETWELL

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PROGNOSIS**

A Study in Educational Prognosis

By
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A Study in Educational Prognosis

CHAPTER I

THE PROBLEM

CAN academic success be predicted? If so, how? Three bases of prognosis have received much consideration: College entrance examinations, teachers' estimates, and school marks.

In 1906, Thorndike¹ pointed out that there was a low correlation between the marks of pupils in college entrance examination and their marks later in college. Adam Leroy Jones, as champion of the college entrance examination plan, maintained that "No advocate of examinations ever supposed that the purpose of examinations was to furnish a prediction of what the boy would do . . . through his college course, or indeed even through the first year of the course."² It is certain that teachers' estimates are not perfect in selecting the pupils who can pass the examinations of the College Entrance Examination Board. For example, in 1916, three fourths of the students specially recommended by their teachers as able to pass the examinations in American history, in mediæval and modern history, and in civil government, failed to make a grade of sixty per cent.³ Can twenty-five per cent efficiency in estimating academic success be considered successful?

Do school marks foretell academic success better than do teachers' estimates? In spite of the different standards of marking of different schools, of different departments, and by different teachers, of the different emphasis placed upon different parts of the same work, of the inability of some teachers to see small differences—in spite of all these differences, are school marks a

¹ "Future of the College Entrance Examination Board," *Educational Review*, 31:5.

² "Entrance Examination and College Records," *Educational Review*, 48:109, 1914.

³ *Sixteenth Annual Report of College Entrance Examination Board*, 1916.

more accurate basis for prognosis than teachers' estimates. Without discussing whether Dearborn's coefficient of average or average of coefficients is the more suitable for his work, the conclusion that he reaches may be noted: In seventy-five per cent of the cases the standing in the university can be predicted from the standing in the high school.⁴ F. O. Smith found that with 120 students at the University of Iowa there was a correlation of .53 between the average of all high school marks and all marks in the university.⁵ Walter W. Pettit found a correlation of .63 between the average of all high school marks and the freshman marks in college.⁶ In the cases of 253 Harvard students, E. A. Lincoln found that the correlation between high school standing and standing in the college entrance examination was .47, the correlation between college entrance examination and standing the freshman year in college, .47, while the correlation between high school standing and freshman college standing was .69. Therefore, he concludes that school marks furnish a better basis for prognosis than entrance examinations.⁷

Can school marks be considered accurate when the marks of 142 English teachers, as Starch and Elliot have pointed out, vary in grading the same composition from 50 to 98,⁸ and the marks of 118 mathematics teachers for the same paper in mathematics vary from 28 to 90!⁹ Some recognition of this wide differing is necessary in order to appreciate the extraordinary variability in teachers' marks pointed out by F. J. Kelly.¹⁰

Unreliable as school marks may be, Truman Lee Kelley found that, for estimating the pupil's scholastic ability, the elementary school records of the pupil gave more accurate information than either the teachers' estimates or the tests he devised.¹¹

⁴ Bulletin No. 312, High School Series No. 6, University of Wisconsin, 1909.

⁵ *A Rational Basis for Determining Fitness for College Entrance*, University of Iowa Studies, Vol. 1, No. 3, 1910.

⁶ *A Comparative Study of New York High School and Columbia College Grades*, Master's Essay, Teachers College, 1912.

⁷ *School and Society*, Vol. V, No. 119, p. 417, 1917.

⁸ *School Review*, 20:442-457.

⁹ *Ibid.*, 21:254-259.

¹⁰ *Teachers' Marks*, Teachers College, Contributions to Education, 1914.

¹¹ *Educational Guidance*, Teachers College, Contributions to Education, 1914.

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When examinations, teachers' estimates, and school marks have been considered, is there any other basis for predicting academic success? Standardized educational and psychological tests form the basis in this study for predicting a pupil's success. On the basis of standardized tests, to what extent can a pupil's academic success be foretold? An answer to this question constitutes the theme of the work that follows—A Study in Educational Prognosis.