

COMPARATIVE PERFORMANCE OF FLORIDA TEACHERS ON THE COMMON EXAMINATIONS OF THE NATIONAL TEACHER EXAMINATIONS AND THE APTITUDE TEST OF THE GRADUATE RECORD EXAMINATIONS

G. Emerson Tully and F. J. King
Florida State University

Problem

Standardized test scores to be attained by Florida teachers seeking to qualify for competency awards or "merit raises" have been prescribed by recent Florida law. In 1961, the State Legislature of Florida passed an act which was signed into law without delay by the governor amending the Florida Statutes relating to the compensation and qualifications of public school instructional personnel by adding a provision that set forth the qualifying test score for teachers applying for competence awards. The same bill also cited the qualifying test score for applicants for teacher certification and for tenure.¹

The 1961 legislation specified that any person desiring to be eligible for a competence award must (a) make a scaled score of 600 on the Common Examinations of the National Teacher Examinations and (b) be evaluated by his principal or supervisor as ranking among the highest thirty per cent of all teachers in his county in teaching effectiveness.

Applicants for teacher certification must, under the provisions of the act, attain a score of at least 500 on the Common Examinations of the NTE; applicants failing to make a score of 500 are issued provisional or temporary certificates. Teachers seeking continuing contract (tenure) must also attain a score of 500 on the Common Examinations. Prior to the 1961 legislation, applicants for teacher certification who were graduates of accredited four-year institutions and who met the specific course requirements for their areas of teaching specialization were granted a certificate. After successfully teaching for three years, the teachers were eligible to apply for a continuing contract, which established tenure for them.

¹Laws of Florida, 1961, Chapter 61-263.

The law authorized the five-man State Board of Education consisting of the governor as chairman, the secretary-of-state, the attorney-general for the state, the state treasurer, and the state superintendent of public instruction to approve a comprehensive examination to serve as an equivalent test and to establish cutoff scores on the equivalent test. The law gave the State Board of Education the latitude to set a cutoff score on an equivalent test equal to or higher than a score of 500 on the Common Examinations of the NTE for applicants for regular certification and for advance in rank. The law also authorized the State Board of Education to establish a score on an equivalent test equal to a score of 600 on the Common Examinations of the NTE for candidates seeking a competence award, but not lower than a score at the fiftieth percentile on a national norm for college seniors who had taken the test.

Acting on the authority given it under the legislation, the State Board of Education, about four months after the bill became law, named the Aptitude Test of the Graduate Record Examinations as an equivalent test for the Common Examinations of the NTE, and established cutoff scores on the equivalent test (Table 1).

Table 1
Scaled Scores Required
for Competence Awards and Continuing Contract (Tenure)

Test	Specific Part of Test	Competence Awards	Continuing Contract or Tenure	Regular Certification
NTE	Common Exams	600	500	500
GRE	Aptitude, Total Score	960	800	800

The provisions of the law that vested the State Board of Education with the authority to set cutoffs on an equivalent test selected by the Board, and the subsequent action of that Board in carrying out its authority in selecting a test and in establishing cutoffs, raised these questions in the minds of many school people: to what degree do the Common Examinations of the National Teacher Examinations and the Aptitude Test of the Graduate Record Examinations measure the same abilities and knowledge, and to what extent are the cutoffs that were established by the State Board

of Education on the Aptitude Test of the GRE equivalent to the NTE cutoffs set forth in the law. The latter question was raised, despite the fact that the Board had been given authority to establish a cutoff on the Aptitude Test of the Graduate Record Examinations higher than a score of 500 on the Common Examinations of the NTE for applicants seeking certification.

Procedure

The data for this initial study were gathered approximately one year after the "merit raise" bill became law, and about six months after the State Board of Education selected the Aptitude Test of the Graduate Record Examinations as the equivalent test and defined qualifying test performance in terms of specific cutoffs. The study was intended to determine the degree to which the tests were operationally equivalent, and the extent to which the cutoff scores on the two tests screened similar groups. The equivalence of the tests was assessed by a product-moment correlation analysis between the Common Examinations score of the NTE and the verbal, quantitative, and total scores of the GRE Aptitude Test. The equivalence of the cutoffs was appraised by comparing the number of subjects accepted and rejected by each cutoff on the two tests and also by determining from a scattergram analysis the extent to which the accepted and rejected groups were made up of the same subjects.

Subjects for this study were 258 persons who had taken both the Common Examinations of the NTE and the Aptitude Test of the GRE at Florida State University, which serves as a testing center for the two tests. No attempt was made to select the subjects by age, by institutions at which they had earned their degrees, or by length of teaching experience. All of the subjects were white, and most of them had done their undergraduate work at Florida State University.

IBM cards were prepared for the subjects, with the Common Examinations score of the NTE, the verbal, quantitative and total score for the Aptitude Test of the GRE punched in each card. All analyses, including the scattergram analysis, were made by a computer. The scattergram analysis revealed the plotted position of each subject on the two variables (NTE Common Examinations score and GRE total Aptitude Test score) with reference to the established cutoffs.

Findings

The correlation of .76 between the Common Examinations of the NTE and the Aptitude Test of the GRE shown in Table 2 suggests that the two

tests were measuring generally within the same cognitive domain, and in this sense can be judged as approximately equivalent tests.

Table 2

Intercorrelations between the Common Examinations
of the NTE and the Aptitude Test of the GRE, SD's

	NTE	GRE-Q	GRE-V	GRE-T
NTE		.64	.68	.76
GRE-Q			.50	.87
GRE-V				.85
GRE-T				
SD	67.1	100.4	93.3	167
\bar{X}	633	450	463	913

Note: A previous study by G. E. Tully, "Screening Applicants for Graduate Study with the Aptitude Test of the GRE" (mimeographed, 1960), Florida State University, reported a mean GRE Aptitude total score of 966 for 1073 entering graduate students. The mean difference (966-913) is significant at the .01 level.

In Table 3 are reported the number of subjects and the per cent of subjects that scored above and below the two cutoffs on the two tests. The competence award cutoff on the Common Examinations of the NTE accepted approximately twice as many subjects as the competence award cutoff on the Aptitude Test of the GRE. The cutoffs on the two tests used to qualify candidates for competence awards and the cutoffs used for certification and tenure were thus both revealed to lack equivalence because of the greatly dissimilar per cents of subjects above and below the cutoffs.

The scattergram analysis showed that all but four candidates who were above the GRE cutoffs for a merit raise were also above the NTE cutoff. In contrast, only about 50 per cent of the candidates above the 600 cutoff on the NTE were also above the GRE cutoff. None of the six

Table 3

Per Cent of Subjects Accepted and Rejected by Cutoffs

	NTE		GRE	
	N	%	N	%
Subjects Who Qualified for Competence Award	181	70	92	35.6
Subjects Who Failed to Qualify for Competence Award	77	30	166	64.4
Subjects Who Qualified for Certification and Tenure	252	97.6	198	76.8
Subjects Who Failed to Qualify for Certification and Tenure	6	2.4	60	23.2

subjects who failed to attain a qualifying score for certification and tenure on the NTE made a qualifying score on the GRE. On the other hand, 37 subjects screened out by the GRE for certification and tenure qualified on the NTE. Furthermore, of this group of 37 subjects admitted by the NTE and rejected by the GRE for certification and tenure, 17 subjects scored high enough on the NTE to qualify for a competence award.

As a final approach for comparing the cutoffs on the two tests, percentile ranks for the two sets of scores of the 258 subjects were computed. In Table 4 are reported the percentile scores on each test for the two cutoffs. As will be noted, the 600 cutoff on the NTE was below the 50th percentile, an index of average performance, while the 960 cutoff on the GRE was above the 50th percentile. Also, the 500 score on the Common Examinations of the NTE to be attained by teachers seeking certification or tenure was at the 2nd percentile, and the intended equivalent score of 800 on the Aptitude Test of the GRE was at the 25th percentile.

Summary

In Florida, teacher candidates seeking to qualify for certification and tenure and teachers and teacher candidates attempting to qualify for

Table 4

Percentile Ranks of Established Cutoff Scores on the NTE and GRE

Percentile	NTE	GRE
75	678	1010
66	660	960
50	633	910
30	600	810
25	586	800
02	500	600

competence awards or merit raises must take either the Common Examinations of the NTE or the Aptitude Test of the Graduate Record Examinations. The recent Florida law that cited the Common Examinations of the NTE as the required test also defined qualifying levels of performance in terms of scaled scores. The same law authorized the State Board of Education of Florida to name an equivalent test and to establish cutoffs on the equivalent test.

The product-moment correlation between the test specified in the law and the test selected as its equivalent was found to be .76 ($n = 258$). Although this correlation indicated that the two tests are to a considerable degree measuring the same knowledge and understandings, the established cutoffs on the two tests accepted and rejected widely varying percents of subjects. Taken together, these findings suggest that the tests are generally assessing similar cognitive functions, but that the selected cutoffs on the Aptitude Test of the GRE call for a higher level of test performance than the cutoffs for the National Teacher Examinations that are prescribed in the law.