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ABSTRACT

This study examined the quality of students who continue in teacher education programs after completing the introductory courses. The purpose was to compare their academic proficiency with a group of students who had completed the same courses but did not continue on to teacher certification. Subjects were 74 graduates who went on to complete certification and 48 who did not. Data were gathered from student transcripts including grades from five core courses, total number of university credits, and grade point averages. The conclusion of the study was that, with the exception of data on two variables involving the number of credits earned in science and humanities courses, the ability and academic background of education graduates was equal to or, for three variables, better than noneducation graduates who had completed at least one of two introductory courses in education but did not complete teacher certification. The results of the study challenge the assertion that poorer students continue in teacher education while better students leave. (JD)

The Quality of Education Graduates Compared to Graduates Not Completing Certification

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Running head: QUALITY OF TEACHER EDUCATION

Abstract

Education and noneducation graduates completing introductory course(s) in teacher education are compared on 23 variables. Except for two variables, education graduates are equal to, or better than, noneducation graduates.

The Quality of Education Graduates Compared to

Graduates Not Completing Certification

According to Presseisen (1985), an analysis of eight recent reports on education indicates that "Virtually all the reports want better prepared and assessed teachers. . . ." (p. 119). This concern is exemplified in the report of the National Commission on Excellence in Education (1983) where it states that "Too many teachers are being drawn from the bottom quarter of graduating high school and college students" (p. 22). Teacher quality is also an on-going concern of teacher educators and the public, and a variety of views and supporting data are available on the issue. For instance, Feistritzer (1983) concludes that "Never before in U.S. history has the caliber of those entering the teaching profession been as low as it is today" (p. 59) while Lanier and Little (1986) indicate that "The general impression that many persons pursuing careers in teaching are academically weak continues to be supported by research" (p. 538). Galluzzo and Ritter (1986) indicate that the data on teacher quality are certainly equivocal while other studies are more positive (Barger, Barger & Rearden, 1988; Fisher & Feldmann, 1985; Matczynski, Siler, McLaughlin & Smith, 1988; Nelson, 1985; Olsen, 1985).

In an effort to move toward resolving the issue of quality of education graduates, this study examines an issue closely related to

teacher quality and program quality, namely the quality of students who continue in teacher education programs after completing the introductory course(s). The frequent allegation that poorer students remain in teacher education while more capable students leave has been summarized by Cooperman, Klagholz, and Schechter (1986). They indicated that "Whatever the reason, the fact is that the best high school graduates are unwilling to invest their energy and tuition dollars in the study of education, independent of their interest in teaching as a career possibility" (pp. 27-28).

The present study was conceived as an effort to determine the quality of university graduates completing at least one of two introductory courses in education who go on to complete teacher certification compared to graduates completing the same introductory course(s) but not completing certification. Although a measure of commitment to teaching is not available for the subjects of this study, it is assumed that those not certified had some interest in teaching since they completed an introductory, exploratory course(s).

Method

Subjects. This study involves two groups of subjects. The first group includes all graduates of the University of Wisconsin-Parkside completing teacher certification Fall and Spring Semesters 1983, 1984 and 1985, and Spring Semester 1986. Subjects

in the second group, graduates of the University of Wisconsin-Parkside for these same semesters, completed the introductory course(s) in teacher education but did not complete teacher certification. These introductory courses are Education 200 Field Experience and Education 202 Methods of Teaching; Field Experience students complete approximately 66 contact hours in a local school. With the exception of art and music education students, all Field Experience students enroll concurrently in Methods of Teaching where they acquire basic teaching and planning skills, microteach, and study current educational issues. In this study, 74 graduates completed Education 202 and/or Education 200 and went on to complete certification while 48 graduates completed Education 202 and/or 200 but did not complete certification.

Variables. The goal of this study was to compare University of Wisconsin-Parkside education graduates with noneducation graduates who had completed the same introductory course(s) in education. Data were gathered from student transcripts on 23 variables which included grades from five courses: English 101 Composition and Reading; Psychology 101 General Psychology; Psychology 210 Introduction to Human Development; Sociology 101 Introduction to Sociology; and Communications 105 Public Speaking.

Additional data were gathered for each subject on the total number of University of Wisconsin-Parkside credits (semester hour),

and their associated GPAs, in the disciplines of English and mathematics and in the five divisions of the University whose courses are most directly related to teacher preparation.[1] It was expected that these data would provide information on both the quality of work, determined by GPA, and quantity of work, determined by number of credits earned, in each discipline or combination of disciplines which would then provide a reasonably broad base for comparing education and noneducation graduates. Transfer credits were also omitted from GPA calculations and credits earned. As a result, all GPAs are comparable in the sense that all grades were given by University of Wisconsin-Parkside faculty.

The variables Degree GPA, Education 202 (Methods of Teaching) Grade, and Total Credits Earned also provided data for comparing education and noneducation graduates. Degree GPA was the grade point average for all courses completed at the University of Wisconsin-Parkside to the time the degree was awarded. Although grades and credits earned at other institutions were not included in GPA and credit calculations for all other variables, the variable Total Credits Earned does include both transfer credits and credits earned at the University of Wisconsin-Parkside. This variable was expected to provide insight into the total academic background of both education and noneducation graduates. The variable Education 202 Grade was examined since, with the exception of art and music

education graduates, this is one of the two courses completed by most subjects. Data on Education 200 Field Experience were not analyzed since the course is graded credit/no credit and the vast majority of students receive credit.

Analysis

One-way analysis of variance for independent samples was selected as the statistical procedure for analyzing the data. The significance level was set at .05.

Results and Discussion

Grade and GPA Variables. Results for the 14 grade/GPA variables are reported in Table 1. Education graduates had a significantly higher Degree GPA ($F = 13.45$, $df = 1/120$, $P < .05$) than noneducation graduates completing Education 202 Methods of Teaching and/or Education 200 Field Experience. Education graduates also had a significantly higher Education 202 Grade ($F = 21.28$, $df = 1/105$, $P < .05$) and a significantly higher Behavioral Science GPA ($F = 4.17$, $df = 1/119$, $P < .05$) than noneducation graduates. Therefore, the null hypothesis was rejected for tests on each of these three variables. Although analysis of the data for the variable Degree GPA showed statistical significance favoring education graduates, the implication of these results will be set aside because of the continuing debate on grade inflation in education courses (see Kapel, 1980).

(Insert Table 1 here)

The significant results favoring education over noneducation graduates for the variable Education 202 (Methods of Teaching) Grade suggests the presence of the construct labeled teaching mindset (Hulling-Austin, 1986). Teaching mindset might be defined as thinking which brings about and involves a positive view of teaching as a career. It seems possible in this study that teaching mindset caused students who are more positive about teaching, i.e., education graduates, to do better in the Methods of Teaching course than students choosing not to complete teacher certification; however, it is unclear whether teaching mindset is brought into the course or developed during the course.

Data for the variable Behavioral Science GPA were also statistically significant favoring education over noneducation graduates. Perhaps this is because education students see the importance of psychology in their work as teachers. Interestingly enough, there were no statistically significant differences between groups for the single-course variables Psychology 101 Grade and Psychology 210 Grade, both Behavioral Science courses. This might be explained because both are lower division courses and interest in psychology may not mature until later.

Results for nine grade variables showed no statistically significant differences between education and noneducation

graduates. These were: three single-course variables--Communications 105 Grade, English 101 Grade, and Sociology 101 Grade; two combined-course variables--English GPA and Mathematics GPA; and four discipline variables--Fine Arts GPA, Humanities GPA, Social Science GPA, and Science GPA. As a result, the null hypothesis was retained in tests of significance on these variables.

In this study, grades for English and mathematics courses were combined and examined as separate disciplines to obtain a better understanding of the success of education graduates in English and mathematics and as a follow-up to a previous study (Olsen, 1985) in which University of Wisconsin-Parkside education graduates had performed significantly better than noneducation graduates on one of two English variables but had done poorly on three mathematics variables. As was indicated above, the data on these variables in the current study showed no significant differences between education and noneducation graduates.

For the variable Communications 105 (Public Speaking) Grade, the data show that only six education and six noneducation graduates completed the course. Although not required of education students, at the time of this study it was believed by the researcher that many education graduates would have enrolled in order to develop speaking skills for teaching.

In summary, results for the 14 grade/GPA variables are significant for three variables, Degree GPA, Education 202 Grade, and Behavioral Science GPA, all of which favor education graduates. Means on the remaining 11 grade/GPA variables show no significant differences between education and noneducation graduates.

Variables Involving Number of Credits Completed. The results of analyses of data on seven variables summing the number of credits earned in the individual disciplines of English and mathematics, or combinations of courses found in the Behavioral Science, Fine Arts, Humanities, Science, and Social Science Divisions of the university, are presented in Table 2. Statistically significant differences favoring noneducation graduates over education graduates were found for two credit variables: Humanities Credits ($F = 9.85$, $df = 1/100$, $P < .05$); and Science Credits ($F = 4.08$, $df = 1/106$, $P < .05$). As a result, the null hypothesis was rejected for these two variables and accepted for the remaining five variables.

(Insert Table 2 here)

It was first thought that there were more humanities and science majors among the noneducation graduates, thus accounting for the statistically significant differences on those two variables. Inspection of the data indicated that, while one education graduate completed a science major, no noneducation graduates completed science majors. In terms of humanities credits, six education

graduates and eight noneducation graduates completed majors in humanities (communications, foreign languages and philosophy). Since education graduates must complete thirty-seven to seventy professional credits[2] for certification, education graduates likely do not enroll in additional humanities and science courses due to those requirements. However, despite these differences favoring noneducation graduates, education graduates in this study completed more overall credits than noneducation graduates (see Table 3). Such differences in credits completed are probably due to program requirements as well as student interest.

(Insert Table 3 here)

Including transfer credits, University of Wisconsin-Parkside education graduates completed an average of 150.36 credits while noneducation graduates completed 134.96 credits. This difference for Total Credits Earned was statistically significant ($F = 19.72$, $df = 1/120$, $P < .05$) and may be related to two factors: (1) The extensive number of credits required for teacher certification, particularly in elementary and music education, thus making it difficult for most students to complete the degree and certification in four years and 120 credits; and (2) Many education graduates enter teacher education late in their university careers. Whatever the reason for this large number of credits, such an extensive background must be a plus for pupils of these teachers.

In conclusion, data on the eight variables involving credits completed (Tables 2 and 3) showed statistical significance favoring noneducation graduates for Humanities Credits and Science Credits. Data on the variable Total Credits Earned were significant favoring education graduates. There were no statistically significant differences between education and noneducation graduates for the remaining five variables.

High School Percentile Rank. The variable High School Percentile Rank is of particular interest since it provides the only measure of ability for these subjects prior to entering the university. Data on this variable are also presented in Table 3. No significant difference between education and noneducation graduates completing Education 202 Methods of Teaching and/or Education 200 Field Experience was found for High School Percentile Rank in this study. The null hypothesis was therefore retained.

Limitation. One important limitation of this study must be noted: the University of Wisconsin-Parkside serves basically a commuter population which accounts in part for the age of the undergraduates in this study--the average age for education graduates was 25.76 years while that of noneducation graduates was 26.29 years. Although education graduates in this study are well beyond the typical age for college graduation, noneducation graduates are even older.

Conclusions and Recommendations

Results on 4 of 23 variables in this study indicate statistical significance favoring education graduates: Education 202 grade; Behavioral Science GPA; Degree GPA; and Total Credits Earned. For the two variables Humanities Credits and Science Credits, statistical significance favored noneducation graduates. There were no statistically significant differences between education and noneducation graduates on the remaining 17 variables.

After setting aside the results on the variable Degree GPA because of the question of greater grade inflation in education versus other university courses, education graduates in this study are statistically different from noneducation graduates on three variables, two of which are grade/GPA variables (Education 202 Grade and Behavioral Science GPA) and one which sums the number of credits earned (Total Credits Earned). Noneducation graduates are statistically different from education graduates in this study on two variables involving the number of credits earned: Science Credits and Humanities Credits.

Overall it is the conclusion of this study that, with the exception of data on two variables involving the number of credits earned in science and humanities courses, the ability and academic background of education graduates of the University of Wisconsin-Parkside is equal to, or, for three variables, better than

noneducation graduates who completed at least one of two introductory courses in education but did not complete teacher certification. The results of this study, then, begin to challenge the assertion that, after completing the introductory course(s) in a teacher education program, poorer students continue while better students leave.

Footnotes

[1]These five divisions are: Behavioral Science--courses in anthropology, psychology and sociology as well as interdisciplinary courses; Fine Arts--courses in art, dramatics arts and music; Humanities--excluding English courses, these are courses in foreign language, philosophy, and interdisciplinary offerings; Science--excluding mathematics, these are courses in allied health, biology, chemistry, geology, physics, and interdisciplinary courses; and Social Science -- courses in economics, history, geography, political science, and interdisciplinary courses.

[2]Professional education credits required in University of Wisconsin-Parkside certification programs are: Art education and music education, 37 credits; elementary certification, 53 credits (plus 17 credits in various supportive disciplines); and secondary certification, 48 credits (plus at least 3 credits in supportive disciplines).

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Table 1

Analysis of Variance on GPA Variables for Students Completing Degrees With and Without Teacher Certification

Variable	Education N	Education Mean	Non-Education N	Non-Education Mean	Value F	Value P
Single Courses						
Communications 105 Grade	6	3.4433	6	3.2217	0.50	0.4971
Education 202 Grade	63	3.5349	44	2.8484	21.28	0.0001***
English 101 Grade	58	2.8909	38	2.8511	0.08	0.7766
Psychology 101 Grade	59	2.9549	41	2.6749	2.43	0.1221
Psychology 210 Grade	70	2.9720	35	2.6480	3.53	0.0631
Sociology 101 Grade	38	2.8334	24	2.8479	0.01	0.9423
All Courses in One Discipline						
English GPA	66	2.9552	43	2.9400	0.02	0.8935
Mathematics GPA	55	2.5144	26	2.6731	0.69	0.4102

(table continues)

Variable	Education N	Education Mean	Non-Education N	Non-Education Mean	Value F	Value P
Combined Courses from One Division						
Behavioral Science GPA	74	2.9618	47	2.7249	4.17	0.0434*
Fine Arts GPA	65	3.4257	32	3.2156	3.67	0.585
Humanities GPA	57	3.0507	45	2.7769	3.56	0.620
Science GPA	64	2.5823	44	2.5445	0.06	0.8060
Social Science GPA	50	2.7354	45	2.6427	0.28	0.5960
Other						
Degree GPA	74	3.2269	48	2.9558	13.45	0.0004***

*Significant at P<0.05 *** Significant at P<0.001

Table 2

Analysis of Variance on Number of Credits Earned for Students Completing Degrees With and Without Teacher Certification

Variable	Education N	Education Mean	Non-Education N	Non-Education Mean	Value F	Value P
All Courses in One Discipline						
English Credits	66	12.439	43	11.581	0.09	0.7628
Mathematics Credits	55	5.6727	26	6.3077	0.18	0.6717
Combined Courses from One Division						
Behavioral Science Credits	74	23.568	47	26.596	0.81	0.3687
Fine Arts Credits	65	22.508	32	18.906	0.29	0.5912
Humanities Credits	57	11.140	45	18.689	9.85	0.0022**
Science Credits	64	6.453	44	10.205	4.08	0.0459*
Social Science Credits	50	13.000	45	10.689	0.75	0.3894

*Significant at P<0.05 **Significant at P<0.01

Table 3

Analysis of Variance on Miscellaneous Variables for Students Completing Degrees With and Without Teacher Certification

Variable	Education		Non-Education		Value	
	N	Mean	N	Mean	F	P
High School %-ile Rank	64	72.313	40	66.275	1.94	0.1669
Total Credits Earned	74	150.36	48	134.9	19.72	0.0001***

***Significant at P<0.001