

TITLE: Impact of Teacher Preparation Paths on Beginning Teacher Retention

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The persistent problem of teacher shortages and pessimistic views of the quality of teachers has led to a continuous demand to improve recruitment, preparation, and retention of teachers. Institutions of higher education bear the main responsibility for preparing professionals to teach the nation's children. These educational institutions continually strive to recruit individuals into the teaching profession through various incentives and monetary measures, but more importantly, by offering different routes to certification. Not only has this phenomenon created different routes to teacher certification, but it has also prompted many institutions of higher education to revamp their undergraduate traditional teacher preparation programs. With the publication of "Tomorrow's Teachers" (1986) by the Holmes Group, the concept of Professional Development Schools began to gain mainstream recognition as the preferred method of professional development (Gallagher, 1997).

Based on Goodlad's (1984) report, "A Place Called School," and subsequent reports from other researchers such as the Holmes Group (1990), and works edited by Darling-Hammond (1994), Professional Development Schools (PDS) were created emphasizing the development and operation of effective school-university partnerships. PDS partnerships, committed to school restructuring, are developed between public schools and postsecondary institutions, but optimally include other parties involved in the educational process. The key characteristic, collaboration, cements partnerships between schools, universities, school districts, departments of education, teachers' associations, and student and parent groups (Doherty-Poirier, 1999).

Although most teachers certified in Texas are produced through alternative certification programs (ACP) or university-based, traditional four-year teacher

preparation programs, the concept of Professional Development Schools appeared to be a strategy that could improve teacher preparation and increase teacher retention. With the new movement towards Professional Development Schools, Texas followed this initiative of restructuring teacher preparation. In 1992, grants were made available to educational institutions interested in establishing Centers for Professional Development and Technology (CPDT). The intent was to support universities in their attempts to re-conceptualize and redesign how teachers were prepared and to eventually increase learning opportunities for public school children. As a result, Centers for Professional Development and Technology (CPDT) field-based programs were created.

The new approach to teacher preparation was proposed to improve the performance of students and educators in both public schools and universities. By providing pre-service teachers with a comprehensive, innovative, field-based, learner-centered teacher preparation program, the CPDT program not only strives to fully prepare teachers for their teaching responsibilities, but it also strives to equip them with the pedagogy and skills necessary for a smooth transition into the classroom and ultimately for long-term retention in the teaching profession.

In 1995, a Hispanic-serving institution of higher education in South Texas received a grant from the State of Texas to restructure its traditional teacher preparation program and established a Center for Professional Development and Technology. In 1998, the name for CPDT programs was changed by the State to Centers for Professional Development of Teachers because preparation for use of technology was to be integrated in the preparation of teachers and not stand as a separate component. Thus, the CPDT

program at the participating university was named the South Texas Center for Professional Development of Teachers (STCPDT).

Due to the recent implementation of CPDT teacher preparation programs in educational institutions, very little research has been conducted on the impact of CPDT programs on teacher retention. While the more common paths to teacher certification, alternative certification programs and traditional campus-based programs, have been studied to investigate their effectiveness on teacher retention, reported results have been conflicting. Some researchers have found retention rates among teachers who are prepared through an alternative certification program to be higher than those prepared through traditional teacher preparation programs (Adams & Dial, 1993; Guyton et al., 1991); other researchers have found lower rates of retention among alternative certification program teachers than traditionally-prepared teachers (Knauth & Kamin, 1994; Shannon, 1990). One study (Fleener, 1998) that compared attrition rates of elementary teachers who were prepared through two university-based, undergraduate teacher preparation programs, traditional and CPDT, and considered the variables of gender, ethnicity, and academic performance found that CPDT teachers remained in the profession at higher rates than traditional prepared teachers.

The participating educational institution of the study offers two university-based teacher preparation routes, the Alternative Certification Program (ACP) which has been in existence for fifteen years, and the South Texas Center for Professional Development of Teachers Field-based Program (STCPDT) which has been in existence for six years. The researcher examined the retention rates of teachers prepared through both programs.

Specifically examined were the retention rates for CPDT teachers who completed all teacher certification requirements and graduated in 1997, 1998, and 1999 in comparison to retention rates of ACP teachers who completed all teacher certification requirements through the ACP program for the same time period. The major research question that this study addressed was: Is there a difference in retention rates among beginning teachers prepared through two different teacher preparation programs, an Alternative Certification Program and a Center for Professional Development of Teachers Field-based Program, in relation to their level of certification (elementary or secondary), gender, age, performance on the Professional Development 02 or 03 Examination for Certification of Educators in Texas (ExCET), and ethnicity? Information about variables that may be a factor in the attrition of beginning teachers can provide educational policymakers and administrators with the potential to streamline their efforts in teacher retention and take a proactive approach in providing beginning teachers enhanced teacher preparation programs.

Theoretical Framework

During 2000-2001, the teacher turnover rate for the entire state of Texas was 15% (TEA, 2001). In South Texas, teacher turnover has consistently remained higher than the national average of 6% to 7%. The most recent data available indicates that the teacher turnover rate in the Region One Education Service Center geographic area in South Texas was 12.7% in 1993, and 10.7% in 1997 (ROESC, 1998). More importantly, however, is a high attrition rate among beginning teachers. Studies conducted by the Texas Education Agency (1995a) and by the Texas State Board of Educator Certification

(2000) both reported that 19% of novice teachers leave after the first year of teaching. And, as many as 50% leave after the fifth year (TEA, 1995b).

A primary factor in the shortage of teachers in Texas is the continuous increase in public school student enrollments, especially among minorities. During the 1999-2000 school year, there were 3,991,783 students enrolled in Texas public schools, and minorities accounted for more than half of the student population with Hispanics making up 40% of the total (TEA, 2001). Surprisingly though, 74% of all teachers were White, 26% were minorities, but only 17% of those were Hispanic.

A second factor in the shortage of teachers is the state-mandated reduction in class sizes. In 1984, Texas passed legislation requiring class size to be limited to 22 students in kindergarten through 4th grade, with the provision going into effect for kindergarten through 2nd grade in 1985-86 and for 3rd and 4th grade in 1988-89 (Pritchard, 1999). These two factors have resulted in an increased demand for teachers that can be closely predicted; however, accurate estimates of retention and attrition rates of teachers are more difficult to assess (Fleener, 1998). Faulty supply and demand models built on assumptions have resulted in inaccurate estimates in recent years (Darling-Hammond & Sclan, 1996; Murnane, Singer, & Willett, 1989).

New teachers enter the profession enthusiastically and anxious to provide students with stimulating learning experiences (Cole, 1993). In a survey conducted by Harris (1991), of 1,002 teacher education graduates, 99% believed that all children could learn, and 83% said they were confident they could make a difference in the lives of their students. After teaching one year, however, only 48% believed all students can learn, and 58% said they wished they had been given more training before entering the classroom.

Schlechty and Vance (1981; 1983) asserted that teaching attracts the less academically students, and of those who begin teacher training, the more academically able students are more likely to change their majors from education to some other field. In the same articles, it was reported that in a longitudinal study of North Carolina teachers, the most academically proficient teachers as measured by their scores on the National Teachers Examination were most likely to leave teaching. Likewise, the least academically able students were the most likely to remain in the classroom.

Studies of teachers admitted with less than full preparation--with no teacher preparation or through very short alternate routes--have found that such recruits tend to be less satisfied with their training and they tend to have greater difficulties planning curriculum, teaching, and managing the classroom (Darling-Hammond, Hudson, & Kirby, 1989; Jelmberg, 1995). Upon further review, Evertson, Hawley, and Zlotnik (1985) concluded: The available research suggests that among students who become teachers, those enrolled in formal pre-service preparation programs are more likely to be effective than those who do not have such training.

Chapman (1984) identified commitment as a strong predictor of teacher career longevity. He found that pre-service teachers who were involved in actual classroom settings were provided important experiences for building commitment to teaching. Other researchers (Darling-Hammond, 1992; Darling-Hammond, Hudson, & Kirby, 1989) concluded that teachers who receive extensive educational training choose to stay in teaching in comparison to teachers without preparation. Moreover, pre-service teachers have credited student teaching or field-based experience as the most important element of teacher preparation (Johnston, 1994).

Methods

The study compared retention rates of beginning teachers prepared through the ACP and CPDT programs. Additionally, the study investigated program characteristics and individual characteristics of teachers as explanatory variables utilizing quasi-experimental methods and mathematical distributions to test the hypothesis.

Beginning teacher retention was measured over a four-year period, 1997-2001, as a function of six independent variables: type of teacher preparation program, level of certification (elementary or secondary), gender, age, performance on the Professional Development 02 or 03 ExCET, and ethnicity. Descriptive statistics, exploratory, and confirmatory analyses were conducted to analyze the data using SPSS 10.0 statistical software. Multiple linear regression procedures were utilized to analyze the data and to determine the amount of unique variance of retention explained or accounted for by the independent variables. All possible regression procedure was used to determine the model of “best” fit, and odds ratios were derived for each combination of the independent variables. The null hypothesis was tested with the F distribution at the .05 level of significance.

The subjects involved in the study were from a natural occurring population and not randomly assigned to the teacher preparation programs. The population included all level teachers, kindergarten through 12th grade, who completed the ACP or the CPDT field-based program at the participating university. Records of teacher candidates who completed either the ACP or STCPDT field-based teacher preparation program in 1997, 1998, or 1999 were obtained from the College of Education at the participating

university. The total number of individuals completing their teacher preparation program for the three-year period was 1, 212. Some individuals, however, had not attempted to take the Professional Development 02 or 03 ExCET or had not passed the examination, and thus, were not completely certified to teach. As a result, 24 subjects were eliminated from the population resulting in a net data set of 1,188 subjects who were recommended for teacher certification to the Texas State Board of Educator Certification during the three-year period. A total of 404 ACP interns and 784 graduates of the STCPDT field-based program were certified to teach during the three-year period. Demographic information on the subjects (N=1,188) who completed teacher certification in 1997, 1998, and 1999 is presented in Table 1.

Table 1

Teacher Demographics Based on Independent Variables (N=1,188)

Variable	Category	Frequency	Percent
Program	ACP	404	34.0
	CPDT	784	66.0
Certification Level	Elementary	781	65.7
	Secondary	407	34.3
Gender	Female	897	75.5
	Male	291	24.5
Age Group	I (< 30)	702	59.1
	II (31 – 40)	349	29.4
	III (41 – 49)	107	9.0
	IV (50 – 60)	30	2.5
ExCET Score	Set I (70 – 79)	823	69.3
	Set II (80 – 89)	325	27.4
	Set III (90 – 100)	40	3.4
Ethnic Group	Minority	1,017	85.6
	Non-Minority	171	14.4

The names of the 1,188 subjects were compared to the names listed in a Teacher Master File for the 2000-2001 school year obtained from the Texas Education Agency to determine which subjects were retained as teachers. Subjects who had the same name as other teachers or who were not found on the Teacher Master File, possibly due to name changes, were cross-referenced with the official record of educator certificates found at the Texas State Board for Educator Certification website, www.sbec.state.tx.us. Further follow up was conducted by contacting individuals at the telephone number on file, the school district where employed during the 2000-2001 school year, or the Teach for

America office to determine status of teaching. The subjects would have been teachers for a period of one to four years depending on the year each teacher was granted certification and obtained full-time employment as a classroom teacher.

Results and Conclusions

Results of the study revealed that the overall retention rate measured over a cumulative four-year period for the 1997-98 school year through the 2000-2001 school year was 88.8%. This finding was lower when compared to the national retention rate of 93 to 94%, higher when compared to the state rate of 85% in Texas (TEA, 2001), and slightly lower than the retention rate of 89.3% in the Region One geographic area in South Texas (ROESC, 1998). Additionally, the results of the study indicate that two different teacher preparation paths yielded differences in retention rates of beginning teachers when cross-tabulated with each of the independent variables.

Descriptive statistics yielded simple percentages that clearly indicate differences in retention rates when compared by teacher preparation program as illustrated in Table 2. Higher retention rates occurred with teachers prepared through the Center for Professional Development of Teachers Field-based Program than teachers prepared through the Alternative Certification Program ($p < .05$). Elementary teachers remained in teaching at higher rates for both teacher preparation programs; however, both elementary and secondary CPDT teachers remained in teaching at higher rates. Additional findings indicate that teachers with lower ExCET scores from both teacher preparation programs had higher retention rates. This finding is consistent with previous research that reported the least academically able students were the most likely to remain in the classroom

(Schlechty and Vance, 1981& 1983; Murnane, 1987). With regard to gender, ACP and CPDT males stayed in teaching longer than females. Minorities in both teacher preparation programs also had higher retention rates. Finally, as ACP teachers increased in age, so did retention rates; as CPDT teachers increased in age, retention rates decreased.

Table 2

Retention Rates of Beginning Teachers Prepared Through Different Teacher Preparation Programs

Overall Retention Rate		88.8%	
Overall Attrition Rate		11.2%	
Retention by Program		ACP	CPDT
Teacher Program:		83.9%	91.3%
Certification Level:	Elem.	86.8	92.9
	Sec.	80.0	87.8
Gender:	Female	82.7	90.8
	Male	86.2	93.5
Age:	< 30	81.7	91.5
	31 – 40	85.5	92.7
	41 – 50	87.2	86.7
	51 – 60	100.0	84.2
ExCET Score:	70 – 79	91.4	92.2
	80 – 89	73.2	89.6
	90 +	60.0	80.0
Ethnicity:	Minority	91.2	92.7
	Non-Minority	71.6	78.9

Pearson’s product-moment correlation coefficients between the dependent variable, retention, and independent variables, type of teacher preparation program, level of certification, gender, age, ExCET score, and ethnicity were analyzed. Ethnicity and ExCET score had the highest correlation with retention, $r = .17$ and $r = .18$ ($p < .05$), respectively. Additionally, type of teacher preparation program and certification level yielded a correlation with retention, $r = .11$ and $r = .10$ ($p < .05$), respectively. Note that all four of these coefficients were also significant at the .01 level of significance. Table 3 displays the correlation coefficients for the interaction of the variables.

Table 3

Intercorrelation Matrix of Dependent and Independent Variables ($p < .05$)

Variable	Program	Level	Gender	Age	ExCET	Ethnicity
Retention	.11**	.10**	-.02	-.01	.17**	.18**

Note. Dependent Variable: Retention
 Independent Variables: Program, Certification Level, Gender, Age, ExCET Score, and Ethnicity

** Correlation is significant at the 0.01 level

There was evidence that teacher preparation program, certification level, gender, performance on the professional Development ExCET, and ethnicity were statistically significant with overall retention as illustrated in Table 4. The multiple regression coefficient between teacher retention and teacher preparation paths, level of certification,

gender, ExCET scores, and ethnicity was .25, $F = 13.11$ ($p < .05$) and R^2 of .06; however, effect size is weak. Age did not yield statistical significance with retention.

Table 4

Summary of Multiple Linear Regression Between Retention and Teacher Preparation Program, Level of Certification, Gender, Age, ExCET Score, and Ethnicity

R	R ²	Adjusted R ²	F	df	p
.25	.06	.06	13.11	6	.00

Educational Importance and Implications

Teacher retention throughout the nation has been an ongoing concern among educators and local, state, and federal policymakers. Due to a continuous shortage of teachers, many classrooms today are staffed with uncertified teachers or teachers that are teaching out of their field. Often this has resulted in a lack of confidence in the educational system and sometimes this is used as a measure that school children are not receiving a quality education. Since a quality education is perceived to be parallel with quality teachers, the retention of competent and certified teachers in the teaching profession is an important issue that must be continuously investigated for stakeholders involved in the education of our nation's children.

Based on the findings of the study, it is evident that a teacher preparation program is an important factor in teacher retention. Analysis of the data indicates that the design of the CPDT program had a positive impact on teacher retention and supports the idea that Texas has taken a step in the right direction in its efforts to improve retention among

beginning teachers with the movement towards Professional Development Schools.

Alternative Certification Programs, on the other hand, should be evaluated for effectiveness to improve overall retention, but special attention should be paid to non-minorities and individuals who score highest on the Professional Development ExCET who are leaving teaching at higher rates.

In order for teachers to remain in the teaching profession, the rewards must outweigh the frustrations (Darling-Hammond and Sclan, 1996). Once individuals have persevered through the challenging task of teacher preparation and certification, their future success in the profession depends on the support systems provided by the administration of the school districts where teachers find employment. Educational leaders who are committed to providing a quality education for all children must retain the eager, enthusiastic, and qualified teacher who walks into a classroom for the first time as a new school year begins.

Educational leaders must meet the needs of beginning teachers effectively to help them go through the stages of teacher development successfully and avoid losing their most precious asset. Investing a little more time, effort, and support to help beginning teachers experience success in the classroom will not only increase the human capital of that teacher, but will also close the gap between teacher supply and demand. Furthermore, retaining quality teachers will allow stakeholders in education to reap huge rewards in the long run, but most importantly, “every student will receive their educational birthright: access to competent, caring, qualified teaching in schools organized for success (Darling-Hammond, 1999).”

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