Classroom Teacher Hiring Practices in Pennsylvania[1]: 1997 and 2006

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American Education Finance Association
Spring 2008 Annual Research Conference

April 11, 2008
Denver, Colorado

Abstract

Recruitment, selection and retention of highly qualified teachers continues to be a challenge for urban school districts. Central to the success of recruiting is a well articulated and executed teacher induction process. This paper reports first results of a Fall, 2006 survey of Pennsylvania school superintendents, school board presidents, and local union presidents of teacher recruitment practices, and compares these results to a 1997 survey of the same universe of stakeholders in the teacher recruitment process. Knowledge and opinions about how the interview list is generated, the pool narrowed, and final selection determined are measured for each group of stakeholders. Reasons for requesting waivers are elicited, as are attitudes towards working conditions.

[1] This paper is part of a multiyear project on teacher preparation, recruitment, selection and retention in Pennsylvania and the effects of these activities on student achievement for the Pennsylvania State Board of Education. We wish to thank Dr. Richard Pitcock, Robert Baldis, Craig Von Behren, Darlene Von Behren and Dan Mercer for critiquing the 2006 hiring practices survey instruments. We also wish to thank DJ Pavuscko, Regan Lee, Ying Chen, Todd Eichel, Ji Yang, David Mirsky, Jessica Willie and Sara Willie for their assistance in preparing, soliciting, and entering the survey data. Financial support from the Heinz Endowments and the William Penn Foundation is gratefully acknowledged. Responsibility for any errors rests with the authors.

1. Introduction

1.1. General Importance of Turnover, Recruitment and Hiring Decision

Any organization that seeks to sustain or grow itself must replenish its line and management employees who may leave for voluntary and involuntary reasons. Service industries, as contrasted with manufacturing industries are more labor intensive, have fewer opportunities for the substitution of capital for labor, and are thus more exposed to interruptions in productivity should voluntary departures occur unexpectedly.

Voluntary and involuntary employee turnover is quite substantial in the US economy. Over the past seven years, the total rate of separation[2] in the private non-farm sector averaged 3.3% per month of total employment, while the rate of hiring in the private non-farm sector averaged 3.4% per month. Annualized, the total rate of separation averaged 39.6% per year, while the total hiring rate averaged 41.4% per year. [3]

The state and local sector, of which public education is a portion, has considerably lower voluntary and involuntary employee turnover rates than their private sector counter-parts. Total involuntary monthly separation rates in the state and local sector as measured by the US Bureau of Labor Statistics (BLS) averaged .4% per month and 7.6% per year, while total voluntary monthly separates averaged .6% and 7.5% per year. Total separation rates for the state and local sector averaged 15% per year compared to 39.6% per year in the private non-farm sector.[4] [5]

National data on separations rates for public school teachers are not reported by BLS. The "Education Services Sector" is the closest industrial counterpart, and includes professional and non-professional occupations. These separation rates are considerably higher than those for the state and local sector, although below the private non-farm sector discussed above. The total rate of separations in the education services sector as reported by BLS averaged .9 % per month or 10.6% per year, while the total rate of voluntary separations averaged about 1% per month or 11.6% per year. The total separation rate in the education services sector thus averaged 1.9% per month or 22.2% per year while the average monthly hiring rate was 2.2% per month or 26.6% per year over the period 2001-2007.[6]

Focusing on just classroom teachers in Pennsylvania, Chen, Liu, and Strauss(2007)[7] found that total *annual* withdrawal rates varied from 3.8% to 8.6% across Pennsylvania's public schools from 1990-1 to 2004-5. However, these statewide annual withdrawal rates masked substantial intra-state variation; the 2004 annual withdrawal rate for classroom teachers in the Philadelphia metropolitan area was 13.0%

[2] Separations are defined by the US Bureau of Labor Statistics as the sum of voluntary separations (quits) and layoffs and discharges (firings).
[3] See Table 1.
[4] See Table 2.
[5] Employment in the state and local sector is typically protected by state civil service laws and in many states also by collective bargaining agreements. These forms of job security are likely traded off against higher wages but less certain employment in the private non-farm sector. For a discussion of the theory of compensating wage differentials, see Ehrenberg and Smith (2002), 231-257.
[6] See Table 3
[7] See Table 4.

while the annual 2004 withdrawal rate for the Altoona metropolitan area was 4.7%, and district by district withdrawal rates showed even greater variability.[8]

Given such high turnover rates, school district personnel managers must devote a considerable amount of time to recruiting, selecting, and developing lists of candidate teachers for their elected school board to consider, since state law requires elected local school boards to cast public record votes on each contract to be offered. In many states, including Pennsylvania[9], elected school board members are prohibited from voting on employment offers to blood relatives, and most states prohibit an employee in a district from serving as an elected school board member.[10]

Table 1
National Average Annual Turnover Rates (%) in the
Private Non-Farm Sector of the US Economy

Calendar Year	Total Nonfarm Layoff + Discharge Rate	Total Nonfarm "Other" Separation Rate	Total Nonfarm Involuntary Separation Rate	Total Nonfarm Voluntary Quit Rate	Total Separation Rate	Hiring Rate
2001	15.1	2.9	18.0	23.4	41.4	41.4
2002	14.6	2.9	17.5	20.6	38.1	38.1
2003	15.2	2.8	18.0	19.1	37.1	37.9
2004	15.3	2.8	18.1	21.3	39.4	41.6
2005	15.0	2.8	17.8	23.1	40.9	43.0
2006	13.8	3.1	16.9	23.6	40.5	43.5
2007	14.3	2.8	17.1	22.6	39.7	42.0
Mean Rate	14.8	2.9	17.6	22.0	39.6	41.1
Monthly	1.2	0.2	1.5	1.8	3.3	3.4
source: http://data.bls.gov/cgi-bin/dsrv						

The success with which fully certified teachers are recruited has become more important in recent years since there are now federal funding consequences, under the federal No Child Left Behind statute, should local districts not employ sufficient numbers of completely certified or "highly qualified" classroom teachers. Moreover, having properly trained and certified teachers undoubtedly impacts on student performance which one might reasonably expect to be of concern to elected school board members, their appointed superintendent, related administrative staff, parents and students.

[8] At the school level in Pennsylvania, the maximum total separation rates varied from 17.4% to 100% across the period 1991-2004.

[9] Under Section 1111 of the Pennsylvania School Code, a board member may not vote on the employment offer to a father, mother, brother, sister, husband, wife, son, daughter, stepson, stepdaughter, grandchild, nephew, niece, first cousin, sister-in-law, brother-in-law, uncle or aunt. An elected board member who becomes employed as a teacher in the district must first resign his position on the board and be hired by a 2/3 vote of the board.

[10] See Severino and Strauss (2005), Table 1 for a state by state summarization of state laws governing direct and indirect self dealing of elected school board directors.

Table 2

National Separation and Employment Rates (%) for State and Local Government

Annual	S&L Gov Layoff + Discharge Rate	S&L Gov "Other" Separation Rate	S&L Gov Involuntary Separation Rate	S&L Gov Voluntary Quit Rate	Total Separation Rate	Hiring Rate
2001	4.3	2.5	6.8	7.8	14.6	20.0
2002	4.5	2.9	7.4	7.2	14.6	18.3
2003	5.1	2.7	7.8	6.6	14.4	17.0
2004	5.3	2.6	7.9	7.4	15.3	18.0
2005	5.1	2.5	7.6	7.5	15.1	18.8
2006	5.4	2.5	7.9	8.0	15.9	20.1
2007	5.0	2.6	7.6	7.7	15.3	19.2
Mean Rate	5.0	2.6	7.6	7.5	15.0	18.8
Monthly	0.4	0.2	0.4	0.6	1.3	1.6
source: http://data.bls.gov/cgi-bin/dsrv						

Table 3

National Separation and Employment Rates (%) for Education Services

Calendar Year	Ed Services Layoff + Discharge Rate	Ed Services "Other" Separation Rate	Ed Services Involuntary Separation Rate	Ed Services Voluntary Quit Rate	Total Separation Rate	Hiring Rate
2001	6.0	2.3	8.3	11.2	19.5	27.3
2002	7.9	1.9	9.8	11.8	21.6	22.2
2003	10.6	1.8	12.4	10.9	23.3	26.9
2004	9.1	1.4	10.5	11.0	21.5	25.8
2005	8.4	1.5	9.9	12.5	22.4	25.4
2006	9.3	1.5	10.8	12.5	23.3	29.0
2007	11.2	1.4	12.6	11.5	24.1	29.9
Mean Rate	8.9	1.7	10.6	11.6	22.2	26.6
Monthly	0.7	0.1	0.9	1.0	1.9	2.2
source: http://data.bls.gov/cgi-bin/dsrv						

1.2 The Nature of Teacher Licensure and Hiring

Because children in school are the legal responsibility of each state during regular school hours, there is considerable regulation surrounding who may teach a child under state school law. In all states, a public school teacher must be licensed by the state to be employed, and only licensed teachers may be placed in the classroom to instruct students. Licensure or certification typically involves several discrete acts by a

prospective teacher. Then, the college or university must forward approval to endorse the prospective teacher to the state licensure agency. Subsequently, action by the state licensure agency itself must be taken through the awarding of the teaching certificate which can then be presented to a local education agency hiring official.[11]

Virtually all states require that a prospective, full time teacher[12] earn a bachelor's degree from an accredited four year institution of higher education, take and pass some general coursework in pedagogy, take and pass a series of courses in a specialty area of teaching, and many require the prospective teacher to have significant field experience in practice or supervised teaching. Most states further require that the prospective teacher pass the general and specialty standardized competency examinations developed and sold by Educational Testing beyond a predetermined minimum level of competency or cut-score[13], and all states require the potential employer to conduct background checks of the candidate through the state police and FBI. Upon receiving and/or authenticating that the above credentials have been successfully achieved, the state licensure agency issues an initial teaching certificate that is valid from 3 to 5 years. During the probationary period, teachers are expected to continue their professional development through a minimum set of required courses and/or professional development workshops, and upon successful completion of this probationary period and further endorsement by the employing school district, a more permanent form of licensure can be awarded.

The practical implication of this process is that in the spring of a prospective teacher's senior year in college, she will be taking required Praxis exams in math, reading and writing, and one or several specialty areas, completing her student teaching, and attending regional job fairs that begin in March and typically occur no later than the end of May.

1.3 The General Process of Determining Next Year's Teaching Needs

In late fall of any given year, school principals begin informally asking existing staff, especially those eligible for early or regular retirement, about their retirement plans which take effect in the following summer. Child accounting specialists in each district examine enrollment projections as well to determine teaching needs based on demographic projections. In states whose school teachers are permitted under state labor and/or school code law to collectively bargain, current employed teachers are obligated under the collective bargaining agreement to notify the district by a given date in the spring, typically March 1

[11] For state by state information relating to state certification requirements for classroom teachers, see the web site of the National Association of State Directors of Teacher Education and Certification, http://www.nasdtec.org. For a comparison of Pennsylvania's teacher program approval and certification standards, see Robert P. Strauss et al. (1998, chapter 4) or online at: http://www.andrew.cmu.edu/user/rs9f/root98.pdf.

[12] States vary considerably in their credentials requirements for substitute and short-term teaching assignments.

[13] Cut or minimum passing scores are typically set by state departments of education, and are displayed on the ETS/Praxis web site: http://www.ets.org. Since there is no penalty for guessing in the scoring of the multiple choice Praxis examinations, the passing or cut scores can be transformed into percent correct needed to pass by the formula: (minimum passing score – minimum score)/(maximum score-minimum score). This reduces to simply: points earned/points possible. Two types of tests are available under Praxis, the called Pre-Professional Skills Tests (PPST) of Reading, Writing and Mathematics, and various content knowledge tests in areas such as Art K-12, Chemistry, Early Childhood Education etc. Passing PPST scores for Reading, Writing, and Mathematics in Pennsylvania are currently set at 55 to 56% correct. Pennsylvania's passing scores for various content knowledge tests are considerably lower. Both patterns are comparable to other states' decisions on passing scores with the exception of Virginia which requires PPST passing scores of 70% correct. For a discussion of passing scores on ETS's earlier National Teacher Exam (NTE) scores, see Strauss, Bowes, Marks and Plesko (2000).

or April 1 of the current school year, of their intention to retire in the following school year. Requests for sabbatical and maternity leave also follow set timetables in collective bargaining agreements.

With known vacancies projected for the next school year, collective bargaining agreements typically require that current teaching staff, based on seniority and appropriate certification viz. a viz. these new vacancies, be permitted to change their current position in terms of subject, grade and school to the open or vacant position *before* the vacancies are publicly advertised and filled by teachers not currently employed by the district. The vagaries of student demographics, and especially student mobility in large, urban districts, make the interplay between the workings of the internal vacancy chain and the recruitment and selection of new teachers challenging. Throughout the spring of a given school year, recruitment plans need to be developed in conjunction with school budgets which are, with a few exceptions, on a July 1-June 30 fiscal year basis.

Since teacher markets are typically regional in character, it is not uncommon for those who have signed a contract with an urban district, and who are in a queue for positions in higher paying and more attractive suburban districts, to breach their contract if a better offer from a suburban district is realized just before the opening of the school year around Labor Day. Such unexpected departures can precipitate last moment hiring or the employment of long-term substitutes, and typically have no consequence for the teacher who breached the original employment contract.

Staffing uncertainties can be further magnified by tardy collective bargaining negotiations which can radically change incentives to retire at the last minute as well as the absence of any penalties for those who elect to retire well after notification dates in collective bargaining agreements.[14]

Finally, in addition to replacing retiring teachers or those who are leaving to pursue jobs outside the district in public education or who are seeking a long-term leave of absence, district managers are also involved in filling teacher positions for short-term purposes due to illness, bereavement, jury duty or other personal reasons.[15]

1.4 Changes in Pennsylvania's Teacher Preparation and Certification Requirements

Over the past decade, most states including Pennsylvania strengthened their program approval and teacher licensure rules. Moreover, in 2001, the federal renewal of the Elementary and Secondary Education Act of 1965 led to enactment of No Child Left Behind (NCLB). In 1999 and 2000, the Pennsylvania State Board of Education adopted a series of changes to its teacher preparation program approval standards that required that high schools students demonstrate a B or better grade point average for admissions purposes, pursue a true college major in the teacher preparation specialty area, graduate with a 3.0 average, and score materially higher on the basic Praxis tests than had been the case. Under NCLB, states are required to obligate that their school districts have very high percentages of "highly qualified" teaching staff, where "highly qualified" means that these teachers have entirely completed their teacher certification and in fact held provisional instructional certificates as contrasted, for example, being

[14] See Ferguson, Strauss and Vogt(2006) for the specification and econometric estimation of the classroom teacher retirement decision.

[15] For an analysis of the market for substitute teachers in South West Pennsylvania, see Strauss and Strauss(2004).

hired on an emergency basis or through processes that can waive certification requirements for one or several years.[16]

1.5 Context and Research Questions for Paper

The above-mentioned reforms in Pennsylvania's program approval and teacher certification standards built on an earlier study by one of the authors[17] that included an extensive hiring practices survey of public school superintendents, union leaders, and public school board presidents that was conducted in July, 1997.[18] At the invitation of the Pennsylvania State Board of Education at the close of 2005, a major project to evaluate the effects of these reforms was undertaken, and a second hiring practices survey planned to ascertain if changes had taken place since the reforms were put in place in 1999 and 2000.

The 1997 and 2006 surveys of school district hiring practices in Pennsylvania were structured to elicit both quantitative and normative information about the stages of the hiring process. Questions were asked dealing with the following aspects of the recruitment and hiring process:

1. position notification and recruitment,
2. selection process: generating an interview list and interviewing
3. the first interview
4. narrowing the list after the first interview and the second interview
5. approval of candidates
6. special hiring circumstances
7. collective bargaining agreement, offers and salaries
8. current teacher information, and
9. written procedures and the role of the Pa. Department of Education

Questions were devised to elicit facts and views about process: who participated in each stage of the hiring process, and views on factors considered important in identifying and narrowing the list of applicants. In this paper we will excerpt from the rather extensive empirical information developed from the two surveys, and report and compare survey results about hiring practices for public school districts in Pennsylvania in 1997 and 2006 and relate these observed practices and procedures to student achievement results in 1997 and 2006. We will concentrate primarily on reporting and analyzing superintendents' responses to the 1997 and 2006surveys.

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[16] For example, in 1997 the Pennsylvania General Assembly, in conjunction with its takeover of the Philadelphia School District and replacement of the Philadelphia School Board with a state-appointed School Reform Commission (SRC), enabled the Chief Executive Officer of the SRC to hire teachers without regard to teacher certification requirements in the Pennsylvania School Code. Predictably, the fraction of newly hired teachers who were fully qualified, which peaked at 78% in 1998, fell dramatically to just 42% in 1999, and has only reached 51% in 2005 with federal pressures under NCLB.

[17] The June 4, 1998 monograph for the Pennsylvania State Board of Education, *Teacher Preparation and Selection in Pennsylvania: Ensuring High Performance Classroom Teachers for the 21st Century*, can be found at http://www.andrew.cmu.edu/user/rs9f/root98.pdf and is summarized in Strauss, Bowes, Marks and Plesko(2000).

[18] See Chapter 10 in http://www.andrew.cmu.edu/user/rs9f/root98.pdf.

1.5 Plan of Paper

The paper is organized as follows. Section 2 discusses the general research methodology and mechanisms for soliciting the 1997 and 2006 surveys, along with the post-response weighting procedure utilized to create sampling weights. Section 3 reports basic frequency responses for respondents to the Superintendent surveys in 1997 and 2006. Section 4 reports selected comparative response information for 1997 and 2006 for superintendents, board presidents and local union leaders. Section 5 relates 1997 and 2006 superintendent survey responses to district level measures of student achievement in the two years. Section 6 summarizes the major findings of the paper, and indicates future avenues of research.

2.0. General Research Methodology

Since personnel procedures are complicated and sensitive, the solicitation of a survey to elicit the major characteristics of process and participation had to be perceived as even handed and complete. Sensitivity derives from the fact that in the market for classroom teachers in Pennsylvania, there typically is excess supply, especially for elementary school teaching positions. Thus upon receiving more applications than vacancies, a district must be careful in choosing not to violate state and federal employment laws.

The strategy for devising the hiring practices survey involved soliciting confidential responses from the three major local stakeholder groups: elected school board presidents, public school superintendents, and local union leaders representing teachers in the public school districts.[19] The original 1997 survey questions were devised through initial field meetings with personnel experts and local union leaders, and reviewed and critiqued by the stakeholder organizations. Comparability to the 1997 Survey was ensured by using most of the same questions and wording in 2006; however, additional questions were devised to elicit views by local union leaders on their evaluation of working conditions, and their perceptions of how their employer viewed the importance of various working conditions. The 2006 survey was also revised to reflect matters raised and documented by the Balter and Duncombe (2005) study for the New York State Council of School Superintendents and the New York Department of Education.

In both 1997 and 2006, paper surveys were mailed to the universe of each stakeholder group with an endorsement letter from the Pennsylvania State Board of Education, and each stakeholder group was informed that the other two stakeholders in the district were also being surveyed. Information, including a pin number, on how to use the online version of the survey was provided in the mailing.[20] The various

[19] In Pennsylvania, every local school district is organized by either the Pennsylvania affiliate of the National Education Association or the American Federation of Teachers.

[20] The interested reader may review each of the 2006 online survey instruments going to the web site: www.robertpstrauss.net . The superintendent survey can be directly accessed by: http://www.robertpstrauss.net/cgi-bin/rws3.pl?FORM=Superintendent_2006-7_Teacher_Selection_Survey and using a general survey password of: 212310. The local union leader survey can be directly accessed by: http://www.robertpstrauss.net/cgi-bin/rws3.pl?FORM=LocalUnionLeader_2006-7_Teacher_Selection_Survey and using a general survey pass word of 585109. The school board president survey can be directly accessed by: http://www.robertpstrauss.net/cgi-bin/rws3.pl?FORM=SchoolBoard_2006-7_Teacher_Selection_Survey and using a general password of 656270. Please note that each instrument is copyrighted, so that if you wish to use any instrument, you must obtain written permission from Professor Robert Strauss.

statewide associations were asked to notify their membership of the impending surveys, and emailed follow up reminders to encourage participation. The range of local education agencies surveyed was broadened in 2006 from the 501 local public school districts surveyed in 1997 to include charter schools, intermediate units and area vocational schools. Overall, 719 LEA's were surveyed for each of the 3 stakeholder groups. Table 4 below displays the local education agencies surveyed in 1997 and 2006.

As in 1997, respondents were provided a contact phone number at the University in the event questions arose during their completion of the survey, and a return, stamped

Table 4

1997 and 2007 Surveys of LEA
Hiring Practices Response Rates

LEA Type	2006 Universe Number of LEAs	2006 Total Respondents	2006 Respondents			1997 Total Respondents	1997 Respondents		
			Superintendent / Executive Director	Union Leader	Board President		Superintendent	Union Leader	Board President
Area Vocational/ Tech Schools	73	40	22	10	8	NA	Not Sampled	Not Sampled	Not Sampled
Charter	116	19	14	1	4	NA	NA	NA	NA
Intermediate Units	29	23	14	6	3	NA	Not Sampled	Not Sampled	Not Sampled
School Districts	501	421	234	121	66	456	291	108	57
Total	719	503	284	138	81	456	291	108	57

Source: authors' tabulations of hiring practices survey databases.

Table 5
1997 and 2007 Surveys of LEA
Hiring Practices Response Rates

LEA Type	Total 2006 Response Rate	2006 Respondents			Total 1997 Response Rate	1997 Respondents		
		Superintendent/ Executive Director	Union Leader	Board President		Superintendent	Union Leader	Board President
Area Vocational/Tech Schools	18.3%	30.1%	13.7%	11.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled
Charter	5.5%	12.1%	0.9%	3.4%	NA	NA	NA	NA
Intermediate Units	26.4%	48.3%	20.7%	10.3%		Not Sampled	Not Sampled	Not Sampled
School Districts	28.0%	46.7%	24.2%	13.2%	30.3%	58.1%	21.6%	11.4%
Total	23.3%	39.5%	19.2%	11.3%				

Source: analysis of Table 1 above.

envelope was provided to encourage participation. A web site was developed to permit each respondent to complete the surveys through electronic responses.

Table 5 (above) displays the final response rate in 1997 and 2006 for the various stakeholder groups. In 1997, 291 of 501 superintendents or their delegates in public school districts responded to the survey, while in 2006, 234 superintendents or their delegates in public school districts responded, corresponding respectively to 58% and 47% response rates; however, in both years, superintendents in the two largest districts in the state declined to participate.

Post-survey weights were devised in both 1997 and 2006 by tabulating the universe of school districts by five family income groups and five total student enrollment groups. Appendix 1 displays the 2006 weighting matrix. Two of the 25 cells, accounting for 7 districts, did not contain any responses. Throughout our discussion below, we report results based on using the weights derived from Appendix 1 for the 2006 data, and counterpart weights derived from a similar weighting matrix reflecting 1997 enrollments and household incomes.

3. Basic Empirical Results: 1997 vs 2006: Frequency Responses in 1997 and 2006

3.1 What internal and external mechanisms are used to advertise vacant teaching positions?

Recruitment begins by getting the word out both internally and externally. It is evident from the 2006 survey that there have been a number of substantial changes in advertising strategies. First, use of local newspapers has jumped from a rare event (70.1% reported rarely using them in 1997, with only 22.2%

reporting them often used) to a frequent mechanism (78.6% reported often using them in 2006.) This corresponds remarkably close to Balter and Duncombe (2008) who found that 79.6% districts in NY State used local newspapers to advertise vacant teaching positions. Local posting on district bulletin boards was rarely used by Pennsylvania districts in 1997 by 82% of school districts but in 2006 it was often used by 62.3% of districts.

Use of website technology has become another mechanism by which Pennsylvania school districts have advertised vacant teaching positions. Fully 60% of districts in 2006 indicated that their own website now advertises vacant teaching positions, compared to 18% in 1997[21], and 33% in 2006 reported advertising vacancies through PA-Educator.net which is a teacher employment web site run by an intermediate unit in South West Pennsylvania. This site is free to prospective teachers, and the license fee is charged on a break-even basis. (See table 6)

Table 6
Mechanisms for Advertising Teaching Positions: 1997 and 2006

	Advertisement Media used to Recruit Teachers							
	Percent							
	Never		**Rarely**		**Sometimes**		**Often**	
Method of Advertising	**1997**	**2006**	**1997**	**2006**	**1997**	**2006**	**1997**	**2006**
PSBA-ILS Bulletin	20.4	15.5	36.7	23.4	10.1	33.8	32.8	27.2
Other Education Publications	53.0	53.8	7.1	24.8	25.9	16.9	14.0	4.4
District Hotline or Phone line	75.4	73.9	10.8	6.7	8.0	5.5	5.8	13.9
District Bulletin Board	13.3	21.9	82.3	4.8	0.8	11.0	3.6	62.3
Local Newspaper	3.4	1.3	70.1	2.7	4.4	17.4	22.2	78.6
Other Newspaper	14.3	13.1	53.9	5.3	7.9	24.3	23.9	20.3
Ed. School Placement Office	17.1	21.1	41.5	17.9	11.8	40.7	29.6	20.3
Job Fair	55.9	41.1	17.9	19.5	13.1	22.3	13.9	17.1
Word of Mouth	8.1	6.0	56.6	8.6	8.6	31.2	26.6	54.2
PSEA Website		83.9		8.3		4.8		3.1
LEA Internet/Website		17.5		5.7		15.4		61.4
PA-educator.net		39.7		13.3		13.7		33.3
Generic Internet	63.9		6.9		11.6		17.6	

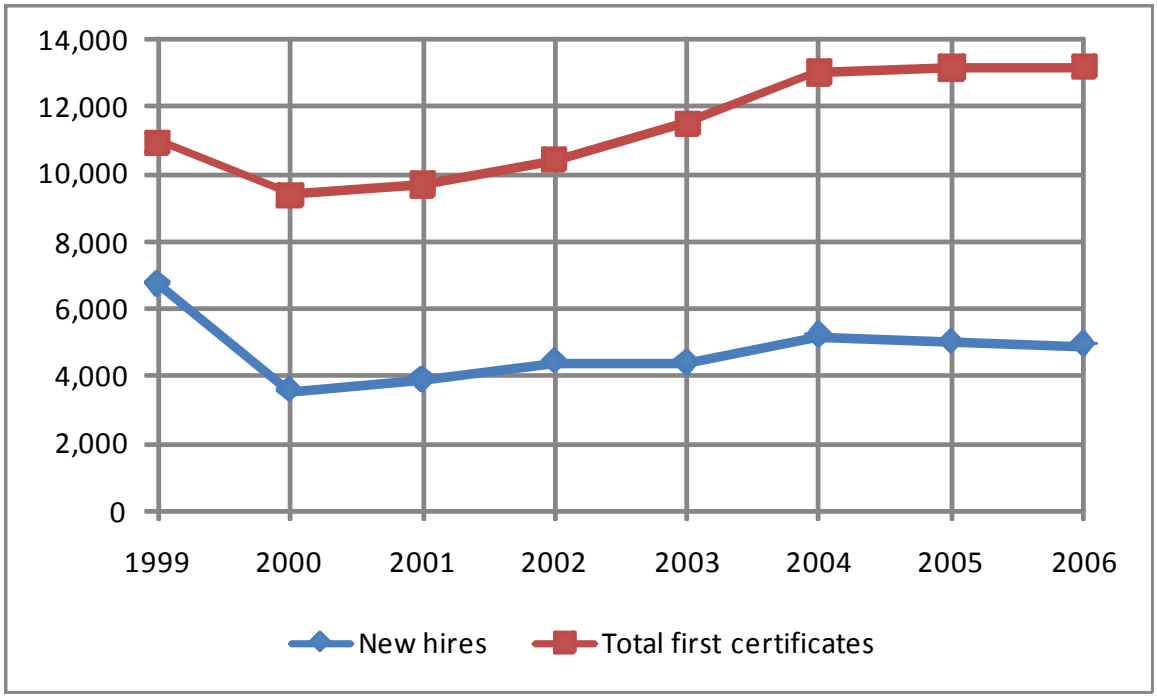
3.2 What certification areas have districts found easy to fill, and what certification areas have districts found difficult to fill?

It is well known that Pennsylvania is a net exporter of teachers to other states and regions whose population and k-12 enrollments are growing rapidly. In a companion paper for this conference, Strauss, Tucci and Yang (2008) indicate that the initial employment rate of new certified teachers produced by Pennsylvania's 95 teacher preparation programs has been less than 50% over the past several years. Figure 1 contrasts the total production of new certificates, which now numbers about 13,000/year to the

[21] Balter and Duncombe(2008) report a 70% of NY State districts announce vacancies on their own web site, and about 40% use other teacher recruitment web sites.

number of newly trained teachers, which numbers no more than about 5,000/year. For Pennsylvania's publicly supported teacher preparation institutions, the three state-related and the fourteen members of the state system of higher education, the median employment rates have remained at less than 35% for those newly minted teachers out two years or less.[22]

Table 1
Number of Annual Statewide New Hires in Pennsylvania Local Education Agencies
and the Total Number of First Certificates: 199-2006



Source: Strauss, Tucci and Yang(2008), Figure 8.

In 2006, 87% of the superintendents stated that certified elementary teachers were easy to locate, and this view was echoed by 77% of local union presidents and 75% of local board presidents. There was also general agreement among the three types of respondents that certified social studies teachers were easy to locate. About 15% of superintendents and local union leaders identified certified English teachers as the next easiest certification area to fill. (See Table 7 below).

About 31% of superintendents and local union leaders also agreed that certified mathematics teachers were difficult to find. While certified special education teachers were thought to be hard to find by 26% of superintendents, only 14% of local union leaders thought in 2006 this was a difficult teaching area to fill. About 12% of superintendents and union leaders believed that certified chemistry teachers were difficult to find. Both also viewed office technologies to be difficult to find about 13% of the time. (See Table 8.)

[22] See Strauss, Tucci and Yang (2008), Figure 10.

Table 7
Easy Certification Areas to Find Teachers in 2006

	EASY RECRUITS		Pecentages of "Yes"		
Rank	Pa. Certification Code	Name of Certificate	Superintendent	Union	Board
1	2810	Elementary	**87.82**	**77.33**	**75.59**
2	8875	Social Studies	**19.13**	**24.22**	**20.14**
3	3230	English	**15.90**	**14.65**	**6.70**
4	2840	Early Childhood	**5.04**	**1.20**	**3.88**
5	4805	Health & Phys ED	**4.76**	**3.46**	**8.29**
6	9225	Special Education	**4.45**	**10.14**	**3.30**
7	1405	Art	**2.62**	**0.87**	0.00
8	1100	Elementary Principal	**1.24**	**5.50**	**2.55**
9	8825	Citizenship ED 7-12	**0.99**	0.00	0.00
10	4810	Health	**0.95**	0.00	0.00
11	1835	Elementary School Guidance	**0.88**	**5.80**	0.00
12	7205	Music	**0.82**	**3.59**	0.00
13	8865	Social Science	**0.67**	0.00	0.00
14	2860	Middle Level Mathematics	**0.53**	**0.58**	0.00
15	2850	Middle Level English	**0.45**	**0.58**	**2.55**

Table 8
Difficult Certification Areas to Find Teachers in 2006

	HARD RECRUITS		Percentages of "Yes"		
Rank	Pa. Certification Code	Name of Certificate	Superintendent	Union	Board
1	6800	Mathematics	**31.16**	**34.21**	**29.69**
2	9225	Special Education	**25.69**	**14.27**	**17.83**
3	8420	Chemistry	**12.69**	**12.08**	**5.32**
4	1658	Office Technologies	**12.61**	**15.61**	0.00
5	4410	French	**11.98**	0.00	**3.19**
6	4490	Spanish	**11.39**	**10.99**	**10.47**
7	9265	Speech & Language Impaired	**10.14**	**3.89**	**5.59**
8	5600	Family and Consumer Sci	**9.58**	**2.41**	**11.98**
9	1603	Business/Computer/InfoTech	**8.83**	**5.13**	**3.12**
10	8470	Physics	**7.87**	**10.56**	**11.95**
11	8450	General science	**7.41**	**12.24**	**11.02**
12	6075	Technology Education	**7.31**	**4.64**	**13.80**
13	4420	German	**6.36**	**1.46**	**6.96**
14	7650	Reading specialist	**4.94**	**1.72**	**1.64**
15	3230	English	**4.57**	**3.76**	**2.71**

3.3 What officials in a school organization are involved in the various stages of the hiring process?

Who chooses "contenders" from the applicants for first interview?

As those who have participated in any hiring procedure know, the central determinant of who gets hired entails not only how the pool is generated, e.g. forms of advertising and solicitation, but more importantly who makes the first determination about whom to invite for an interview. Table 9 tabulates the 1997 and 2006 surveys and displays the participation of various members of a local school district organization. In both years, school principals are involved about 90% of the time in what we characterize as "choosing contenders". In 1997, assistant principals and the district superintendents were the next most frequently mentioned administrators, and were involved 40% of the time in deciding who should be interviewed initially. Superintendents by 2006, however, were involved 52% of the time in the initial screening decision, while assistant principals were somewhat less frequently involved at 33%. Assistant superintendents were involved in initial screening about 28% of the time in 1997 and 2006, while department heads were involved 30% of the time in 1997 and 26% of the time in 2007. Surprisingly, personnel directors were involved only 19% of the time in 1997 and somewhat less (17%) in 2006. Teachers chosen by the school district were involved in the initial screening of applicants 23% of the time in 1997, and 16% of the time in 2006. Elected school board members were less frequently involved in 2006 (6.3%) than in 1997 (8.6%), while parents were involved less than 3% of the time.

Who is at the 1st Interview?

The participation of school principal, assistant principal, department head, and personnel director generally decreased in frequency throughout the hiring process in both 1997 and 2006. Thus, while principals were involved in the initial screening in 2006 some 89.6% of the time, they were involved only 54% of the time in terms of generating the final list for consideration by the board. Assistant principals, department heads and selected teachers were more frequently involved in the first interview than in the choice of contenders, but thereafter the frequency of their involvement declined by half or more. Department heads, involved 46% of the time in first interview, were only involved in generating the final list 14% of the time in 2006 and 13% of the time .

Who chooses continuing contenders?

After the first interview, participation of board members, superintendent, assistant superintendent and personnel directors remained about constant. That is, if they were in the interview, they were involved in the meeting to decide what to do next. On the other hand, assistant principals, department heads, and teachers involved in the interview were not involved as much in who to interview back. For example, assistant principals were involved in the first interview 46% of the time in 1997 but only 35% were involved in the decision of whom to invite back. More involved in 2006 in the first interview 55% of the time, only 44% were involved subsequently in choosing continuing contenders.

Who is at the 2nd interview?

Elected board member involvement in the 2nd interview jumped noticeable in both years. In 1997, only 8.4% of the time were board members in the meeting to decide continuing contenders but 20% of the time they were involved in the 2nd interview. The same jump in participation rates or involvement is evident in

2006, compare 13.2% in the meeting after the first interview to 24.8% involved in the 2nd interview. Superintendent participation jumped by 50% in both years. For example, in 2006, 41% of the time superintendents were involved in the decision about whom to invite to a second interview, but fully 68.6% were in the 2nd interview in 2006.

Who chooses the final list?

In 2006, elected board members were involved 21% of the time in developing the final list to be send to the full board for approval; superintendents were in that meeting 60.8% of the time. Principals were the other form of administration personnel most frequently involved.

Table 9
Participation of Stakeholders in Hiring Process in 1997 and 2006
(Percent of School Districts Reporting Participation of Stakeholder)

Form of Participation	Elected School Board Members		Superintendent		Assistant Superintendent		Personnel Director		
	1997	2006	1997	2006	1997	2006	1997	2006	
Choosing Contenders	8.6%	6.3%	39.6%	52.3%	28.7%	27.0%	19.0%	16.6%	
1st Interview	10.8	14.4	29.7	38.0	24.3	18.1	12.1	11.8	
Choosing Continuing Contenders	8.4	13.2	31.5	41.5	24.0	20.1	11.8	11.4	
2nd Interview	20.2	24.8	56.9	68.6	28.7	36.6	14.0	8.6	
Choosing Final List	15.7	21.0	52.6	60.8	23.2	30.8	10.4	11.2	

Form of Participation	Principal		Assistant Principal		Department Head		Teachers Chosen by LEA		Community Member (Parents)	
	1997	2006	1997	2006	1997	2006	1997	2006	1997	2006
Choosing Contenders	91.5%	89.6%	39.8%	30.9%	30.0%	26.1%	22.8%	15.5%	2.8%	1.5%
1st Interview	93.2	95.6	45.8	55.1	40.2	46.0	38.6	41.5	4.8	1.8
Choosing Continuing Contenders	82.6	86.0	35.1	43.8	31.1	30.9	24.6	27.6	3.5	1.0
2nd Interview	59.6	60.5	18.8	30.7	19.1	22.9	13.4	18.1	1.2	1.9
Choosing Final List	51.7	54.1	16.4	23.2	13.2	14.1	9.0	10.7	0.8	1.8

3.4 Factors Considered during the Hiring Process

We now turn to the importance of factors used by superintendents to narrow the applicant pool to a final list to be sent to the local school board. Recall that between 1997 and 2006, Pennsylvania materially raised the passing scores on all Praxis tests. Also, since 2000, certification required teacher candidates

complete coursework that was identical in the content area as majors had to complete. That is, math teachers had to take identical course work to those courses taken by math majors in the corresponding arts and sciences department. Table 10 tabulates the 1997 and 2006 survey and indicates the mean scaled importance respondents attached to the various factors that arise during the hiring process. The maximum importance that could be attached to a factor was 10.0, and the minimum was 1.0.

Interestingly, and perhaps not surprising was the de-emphasis placed on Praxis test scores throughout the hiring process in 2006. Note that the Praxis test was 32% *less* important in 2006 than in 1997 for initial selection, and 21% less important in arriving at the final list to recommend to the local school board in 2006 than in 1997. One explanation for this decreased importance is that with the higher cut scores being required, superintendents thought it was less crucial than it used to be in differentiating among applicants. Grade point average, on the other hand evidently has become increasingly important through the duration of the hiring process, so that by the end, overall QPA and QPA in the major was respectively 19.4% and 16.7%more important in 2006 than in 1997. Increased focus on academic preparation is also evidenced by the increasing importance attached to a major in the area the candidate would be teaching. Having a dual certification was far more important in 2006 than in 1997 at each stage of the hiring process, as was having an advanced degree and non-teaching work experience. On the other hand, the importance to favoring a current resident of the district, especially a teacher living in the district seeking employment in the district, displayed the largest increase in importance between 1997 and 2006. Resident status was fully twice as important in 2006 as in 1997.

Table 10

Mean Importance of Factors Used to Narrow Pool of Applicants: 1997 and 2006 (1 to 10 scale)

Factor Considered	Mean Importance of Factors used before 1st Interview to select candidates		% Change	Mean Importance of Factors used after 1st Interview to Narrow Pool		% Change	Mean Importance of Factors used after 2nd Interview to Recommend List		% Change
	1997	**2006**		**1997**	**2006**		**1997**	**2006**	
Experience	5.4	6.3	16.7%	6.4	7.6	18.8%	6.7	7.9	17.9%
QPA Overall	7.4	7.1	-4.1%	6.6	7.2	9.1%	6.2	7.4	19.4%
QPA Major	7.7	7.6	-1.3%	6.8	7.6	11.8%	6.6	7.7	16.7%
Dual Certification	6.0	7.1	18.3%	5.7	7.4	29.8%	5.6	7.4	32.1%
Past performance in teaching	8.2	8.2	0.0%	8.0	8.4	5.0%	8.0	8.5	6.3%
Written references	8.1	7.7	-4.9%	8.1	8.1	0.0%	7.6	8.2	7.9%
Major in teaching area	8.6	8.8	2.3%	7.6	8.7	14.5%	7.1	8.9	25.4%
Caliber of certificating institution	5.8	6.2	6.9%	5.0	5.9	18.0%	4.7	6.2	31.9%
Advanced degrees	5.1	6.1	19.6%	4.9	6.2	26.5%	4.7	6.3	34.0%
Essays	5.3	6.0	13.2%	4.9	5.7	16.3%	3.9	6.0	53.8%
Praxis test scores	5.9	4.0	-32.2%	5.1	3.5	-31.4%	4.8	3.8	-20.8%
Gallup test scores		4.1			3.7			3.8	
Kenexa Test scores		2.9			2.5			2.9	
Automated Phone Interview		3.7					3.8	6.0	
Community Involvement	5.8	5.7	-1.7%	5.6	5.0	-10.7%	5.6	6.2	10.7%
Willingness to Coach	5.7	5.7	0.0%	5.7	6.0	5.3%	5.6	6.2	10.7%
Non-teaching work experience	4.1	4.7	14.6%	3.9	4.9	25.6%	3.8	5.3	39.5%
LEA resident	2.8	4.4	57.1%	2.7	5.0	85.2%	3.8	5.3	39.5%
LEA teacher	3.0	5.3	76.7%	2.9	5.6	93.1%	2.8	5.6	100.0%
Veteran status		5.4			5.3			5.3	

4.0 Some Comparative Results on Hiring Practices Across Time and Stakeholders

4.1 Additional Characteristics of Hiring Process

In addition to eliciting recollections about what factors were important in making decisions during the hiring process, both surveys also collected facts documenting actual outcomes. In both years, stakeholders were asked to measure the fraction of teachers employed in their district who earned their high school diploma there. Remarkably, the mean percentage of own-educated teachers reported by superintendents was 40% in 1997 and 38% in 2006. Union leaders estimated the percentage to be 40% in 2006. Cooley (1989) reported that only 50% of Pennsylvania's school districts had written hiring policies; in 1997 the figure was 49%, and in 2006 it fell to 43%. Union leaders estimated the presence of written hiring policies to be much lower (23%) in 2006. This difference in percentage reporting the presence of a written hiring policy, typically referenced in collective bargaining agreements, is puzzling.
(See Table 11).

Table 11
Comparative Aspects of Teacher Hiring Process: 1997 vs. 2006

Hiring Practices Survey Results: 3 Perspectives						
Questions relating to Hiring of Classroom Teachers		**1997 Superintendent**		**2006 Superintendent**		**2006 Union**
Average percentage of current teachers in their district who attended high school in that district where employed		40%		38%		40%
Percentage of districts that have written hiring policies.		49%		43%		22%
Percentage of districts that advertise for teachers outside of the local district		83%		70%		47%
Percentage of districts that advertise for teachers outside of Pennsylvania		25%		23%		21%
Percentage of districts using more than one team to interview applicants		44%		57%		31%
Average interview length for 1st and 2nd interviews ranges		40-45 minutes		40-45 minutes		35-40 minutes
In the case of late or emergency hires during the school year, the percent offered full-time, contract positions that were offered		33%		25%		18%
Percentage of districts that do not use a separate personnel process for late/emergency hires.		83%		84%		35%

4.2 Attitudes towards working conditions

At the suggestion of local union leaders in South West Pennsylvania, a series of questions were devised to elicit attitudes towards working conditions of interest to union leadership, and at the same time to also obtain their interpretation of whether such issues were of equal, lesser or greater interest to school managers. Eleven areas were identified from a literature review and field testing, and the mean rank of the issues is displayed in Table 12. Six issues were materially more important to union leadership than they believe are viewed by school managers: class size, classroom discipline, frequency of standardized testing, pressure for academic achievement, mainstreaming of special education students, and student substance abuse. Four issues were viewed to be of approximate concern to both union leaders and school management: new teacher mentoring, special education class size, the teacher transfer process, and violence in the schools. Finally, sexual harassment is viewed as being of far more concern to school managers than to local union leadership.

Table 12
Local Union Leader Attitudes towards Working Conditions

	2006 Survey		
Issue	**Rank* of Importance to Teachers' Association**	**Perceived importance to School District**	**Gap = Association - District**
Class Size	7.4	4.8	2.6
Classroom Discipline	6.3	4.7	1.6
Frequency of Standardized Testing	8.0	5.4	2.6
New Teacher Mentoring Process	5.4	5.5	-0.1
Pressures for Academic Achievement	7.8	6.0	1.8
Sexual Harassment	2.6	5.6	-3.0
Special Education--Class Size	6.2	6.0	0.2
Special Education--Mainstream Integration	6.9	5.1	1.8
Student Substance Abuse	7.0	5.3	1.6
Transfer Process	4.8	5.5	-0.7
Violence in Schools	4.6	5.4	-0.7
* Ranking of 0.0 to 10.0 with 0.0 being a non-issue.			

5.0 Statistical Exploration of Hiring Practices and Student Performance Measures at 5th, 8th 11th grade in 1997 and 2006

5.1 Bivariate Analysis of Administrative Participation in the Hiring Process and Student Achievement

While there is an emerging literature on the evolution and importance of hiring practices on finding highly qualified teachers[23], especially in urban settings, there still is relatively little evidence on the complex relationship between teacher selection and student achievement. Here, we follow Strauss, Bowes, Marks and Plesko (2000), and explore a variety of bi-variate relationships between measures of student achievement and qualitative and quantitative aspects of the teacher hiring process described above.

Student achievement is measured by mean district performance in the Spring of 2006 on math standardized mathematics and reading examinations given to students in 5th, 8th and 11th grade throughout Pennsylvania. The complete set of bivariate correlation coefficients, discussed immediately below, are contained in Appendices 2 through 9 which relate these 6 measures of student performance in 1997 and 2006 to the role of various officials in the school district throughout the hiring process.
Note that there are 5 possible involvements that are measured (yes or no, e.g. 1,0) and are related to 6 measures of student performance. Thus there are 30 correlation coefficients for each year.

Table 12 and 13 summarize the 480 correlation coefficients for the various officials involved in the hiring process in the two years. Remarkably, the participation of school board members and superintendents display a rather consistent *inverse* correlation with 5th, 8'th and 11th grade math and reading achievement in both years. Out of 120 correlation coefficients, 109 are inverse. Of the 30 board member pearson correlation coefficients with student achievement in 1997, all 30 are inverse and 24 of 30 are statistically significant at the 5% level or better. The pattern for superintendents' participation and student achievement in 1997 is virtually identical to that for board members; all 30 correlation coefficients are less than zero, and 27 are statistically significant. In 2006, all 30 board member participation correlation coefficients are again negatively related to student achievement in that year; however only 19 of the coefficients are statistically different from zero. In 2006, 19 of the superintendent 30 correlation coefficients are less than zero; the other 11 are greater than zero. Of these 19 negative correlation coefficients between superintendent participation and student achievement, 10 are statistically significant at the 5% level.

The pattern of correlation coefficients for other officials and student achievement is more heterogeneous in terms of sign and generally less certain in terms of statistical significance. Perhaps the one consistent, positive relationships observed is between the participation of personnel officers and student achievement in the most recent period. After the 1st interview, we observe that the presence of the personnel director in subsequent meetings is always positive, and increasingly statistically significant. In 2006, when participation in choosing contenders, three of six positive correlations are significantly related to student achievement, and when in the second interview, 4 of 6 positive correlation coefficients are

[23] See for example Balder and Duncombe (2008), Goldhaber, and Brewer (2000), "Does teacher certification matter? High school teacher certification status and student achievement," *Educational Evaluation and Policy Analysis*, 22, 129-45.

statistically significant, and when in the discussion of choosing finalists, all 6 of the positive correlations between student achievement and the participation of the personnel director are statistically significant.

It is tempting to go beyond interpreting the observed correlations which are associations to perhaps causal interpretations. However, in the absence of well specified multivariate models of the hiring and process, this would be premature. None the less, the observed negative relationship between board participation and student performance and superintendent participation and student performance undoubtedly begs for further statistical exploration.

Table 13

Pattern of Correlations Among Board Members, Superintendents, Assistant Superintendents and Personnel Directors and Student Achievement

	School Board				Superintendent			
	1997		2006		1997		2006	
Type of Participation	Pearson R # R's < 0	# +- Significant 5% level	Pearson R # R's < 0	# + - Significant 5% level	Pearson R # R's< 0	#+- Significant 5% level	Pearson #R's < 0	# + - Significant 5% level
Choosing Contenders	6	4-	6	4-	6	6	6	4-
1st Interview	6	4-	6	4-	6	6	6	4-
Choosing continuing contenders	6	6-	6	4-	6	6	6	2-
2nd Interview	6	6-	6	5-	6	6	1	0
Choosing Finalists	6	6-	6	2-	6	3	0	0
	Assistant Superintendent				Personnel Director			
	1997		2006		1997		2006	
Type of Participation	Pearson R # R's < 0	# + - Significant 5% level	Pearson R #R's < 0	# + - Significant 5% level	Pearson # < 0	# +- Significant 5% level	Pearson R # R's < 0	# + - Significant 5% level
Choosing Contenders	2	0	0	0	0	5+	0	6+
1st Interview	6	1-	0	0	3	0	0	1+
Choosing continuing contenders	1	0	0	0	0	0	0	6+
2nd Interview	0	4+	0	6+	2	0	0	6+
Choosing Finalists	0	2+	0	6+	2	0	0	6+

Table 14

Pattern of Correlations Among Principals, Assistant Principals Department Heads and Teachers Chosen by LEA and Student Achievement

Type of Participation	Principal				Assistant Principal			
	1997		2006		1997		2006	
	Pearson R # R's < 0	# + - Significant 5% level	Pearson R # R's < 0	# + - Significant 5% level	Pearson R # R's< 0	#+- Significant 5% level	Pearson #R's < 0	# + - Significant 5% level
Choosing Contenders	6	0	6	2 -	0	0	4	0
1st Interview	6	0	6	1-	0	4+	0	1+
Choosing continuing contenders	0	2 +	3	0	0	4+	0	3+
2nd Interview	6	2-	0	4+	0	3+	0	5+
Choosing Finalists	1	0	0	5+	1	2+	0	6+
Type of Participation	**Department Head**				**Teacher Chosen by LEA**			
	1997		**2006**		**1997**		**2006**	
	Pearson R # R's < 0	**# + - Significant 5% level**	**Pearson R #R's < 0**	**# + - Significant 5% level**	**Pearson # < 0**	**# +- Significant 5% level**	**Pearson R # R's < 0**	**# + - Significant 5% level**
Choosing Contenders	1	0	3	0	4	0	3	0
1st Interview	0	5+	0	0	4	0	4	0
Choosing continuing contenders	0	2+	0	0	6	0	4	0
2nd Interview	4	0	0	6+	6	0	0	0
Choosing Finalists	0	1	0	1+	4	0	0	0

5.2 Bivariate Analysis of Factors Weighed in the Hiring Process and Student Achievement

Table 15 summarizes the 612 correlations between various factors reported by superintendents to be important with six measures of student achievement in 1997 and 2006. For each factor, there are 18 correlation coefficients per year. If we focus on the 2nd and 4th columns of Table 15, which indicate the number of statistically significant correlation coefficients (positive or negative), we find that the only factor that is consistently statistically significant is the inverse relationship between the additional importance throughout the hiring process given to applicants who are residents of the school district or former teachers who are residents in the district. In 1997, 16 of 18 resident correlations were negative and statistically significant, and in 2006, 18 correlation coefficients again were negative, and 13 of the 18 were statistically significant. Results for given additional weight to former teachers who resided in the school district were comparably inverse and statistically significant in 2006.

A number of factors in 1997 such as emphasizing the written essay and focusing on the GPA in the applicant's major were positively and statistically significant; however, only 4 correlation coefficients were positive and significant for both factors in 2006.

Table 15
Summary of Bivariate Correlations among Factors Weighed in the Hiring Process and Student Achievement

Importance of Factor Weighed in Hiring Process	1997		2006	
	# R's < 0	# + - Significant	# R's < 0	# + - Significant
Experience	4	0	4	1+
Overall GPA	0	9+	2	5+
GPA in Major	0	8+	7	4+
Dual Certification	12	0	5	0
Past Teaching Performance	4	6 +	1	3 +
Written References	1	3 +	4	0
Subject Matter of Major	4	0	7	0
Caliber of Institution	0	1	9	1+
Advanced Degree	4	3 +	3	1 +
Essay	0	13 +	4	4 +
Praxis Test	8	0	0	3+
Community Involvement	10	0	5	0
Willingness to Coach	12	0	16	0
Prior Non-Teaching Experience	5	0	7	0
Resident of SD	18	16 -	18	13 -
Former Teacher in SD	17	7 -	18	3 -
Veteran Status	NA	NA	18	0

6.0 Summary and Avenues for Future Research

The purpose of this paper has been to explore two extensive surveys of hiring practices of Pennsylvania school districts before and after major reforms to the standards governing program approval and teacher certification. School superintendents, local union leaders and school board presidents were surveyed using virtually identical instruments. This first comparative analysis of hiring practices focused primarily on superintendent responses, and explored questions of advertising mechanisms, certification areas that are easy and difficult to recruit from, who in the school organization is involved at the various stages of the hiring process that culminates in the recommendation of a list to the board for consideration, the factors considered to be important during the hiring process, and then the association between these structural and attitudinal characters with student achievement in 1997 and 2007.

A number of findings reported by Strauss et al. (2000) earlier from the 1997 survey persist. In 1997, an average district's teacher force in Pennsylvania was composed of 40% of its own high school graduates. In 2006 superintendents reported that this averaged 38%. Somewhat fewer (43%) of the districts in 2006 had written hiring policies compared to 1997 (49%), and a somewhat smaller percentage of districts (70%) advertised outside the district in 2006 than in 1997 (83%). On the other hand, the use of the internet to advertise and recruit has measurably grown. In 1997 about 60% of the districts reported rarely or never using the internet to recruit, while in 2006 about 60% placed vacancy notices on their school district web sites. Local union leaders rank class size to be far more important to their members than they estimate school district management to consider, and also are far more concerned about the frequency of standardized testing and student substance abuse than they believe school managers are so concerned. Local union leaders also are far more concerned about mainstreaming and integration of special education students than they believe school managers are concerned, and are similarly more concerned about student discipline than they believe school managers are concerned.

Bivariate correlation analysis of who participates in the hiring process and student achievement indicates that there is an inverse relationship between board member involvement and student performance, although this inverse relationship was stronger in 1997 than in 2006. Similarly, early involvement of the superintendent in the hiring process was also inversely related to student achievement. Generally, involvement in building level managers declines through the hiring process.
Involvement of personnel directors in the hiring process was not that frequent, yet in 2006 there were positive relationships between such involvement and student performance.

While the 1997 survey results showed a number of factors weighed during the hiring process to be positively related to student achievement in 1997, such correlations were not as strong in 2006. On the other hand, there was a persistent and statistically inverse relationship between giving extra consideration to local residents and former teachers residing in the district and student achievement.

The tabulations and correlations reported here are the beginnings of a more systematic structural analysis of how the structure and content of the hiring process in Pennsylvania school districts affects student performance.

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Appendix 1

Universe and Response Patterns to 2006 Hiring Practices Survey of Superintendents By Enrollment and Income Classes

Panel A School District Superintendent Survey Response	Income Enrollment	$21,500-$29,000	$30,000-$33,750	$33,751-$38,800	$38,801-$47,400	$47,401-$159,100	Total
	249-2,500	37	33	21	10	12	113
	2,501-3,300	3	17	15	17	9	64
	3,301-4,800	0	3	2	7	14	26
	4.801-7,400	1	2	2	11	9	25
	7,401-17,521	2	1	0	3	3	9
	Total	43	56	40	48	47	234
Panel B Universe	Income Enrollment	$21,500-$29,000	$30,000-$33,750	$33,751-$38,800	$38,801-$47,400	$47,401-$159,100	Total
	249-2,500	66	70	47	25	19	227
	2,501-3,300	11	22	32	34	17	116
	3,301-4,800	5	8	8	23	32	76
	4.801-7,400	4	5	4	17	22	52
	7,401-17,521	5	3	2	6	12	28
	Total	91	108	93	105	102	499
Panel C Response Rate	Income Enrollment	$21,500-$29,000	$30,000-$33,750	$33,751-$38,800	$38,801-$47,400	$47,401-$159,100	Total
	249-2,500	56.1%	47.1%	44.7%	40.0%	63.2%	49.8%
	2,501-3,300	27.3%	77.3%	46.9%	50.0%	52.9%	55.2%
	3,301-4,800	0.0%	37.5%	25.0%	30.4%	43.8%	34.2%
	4.801-7,400	25.0%	40.0%	50.0%	64.7%	40.9%	48.1%
	7,401-17,521	40.0%	33.3%	0.0%	50.0%	25.0%	32.1%
	Total	47.3%	51.9%	43.0%	45.7%	46.1%	46.9%
Panel D Sample Weight Inverse of Panel C	Income Enrollment	$21,500-$29,000	$30,000-$33,750	$33,751-$38,800	$38,801-$47,400	$47,401-$159,100	Total
	249-2,500	1.8	2.1	2.2	2.5	1.6	2.0
	2,501-3,300	3.7	1.3	2.1	2.0	1.9	1.8
	3,301-4,800	NA	2.7	4.0	3.3	2.3	2.9
	4.801-7,400	4.0	2.5	2.0	1.5	2.4	2.1
	7,401-17,521	2.5	3.0	NA	2.0	4.0	3.1
	Total	2.1	1.9	2.3	2.2	2.2	2.1

Appendix 2
Correlation between Elected Board Members Role (0,1) in Hiring and Student Achievement

Correlations Between Elected Members of School Board Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	8.64	**-0.1270**	**-0.1442**	-0.0710	-0.0804	**-0.1496**	**-0.1255**
		0.0411	**0.0149**	0.2312	0.1972	**0.0114**	**0.0339**
1st Interview	10.75	-0.1186	**-0.2335**	**-0.1641**	-0.0959	**-0.2145**	**-0.1766**
		0.0567	**<.0001**	**0.0054**	0.1238	**0.0003**	**0.0027**
Choosing Continuing Contenders	8.41	**-0.1450**	**-0.2090**	**-0.1912**	**-0.1527**	**-0.2044**	**-0.1770**
		0.0230	**0.0005**	**0.0015**	**0.0166**	**0.0007**	**0.0034**
2nd Interview	20.22	**-0.2918**	**-0.3234**	**-0.2064**	**-0.2680**	**-0.2849**	**-0.2609**
		<.0001	**<.0001**	**0.0015**	**<.0001**	**<.0001**	**<.0001**
Choosing Finalists	15.69	**-0.3451**	**-0.3407**	**-0.2864**	**-0.3375**	**-0.3218**	**-0.3288**
		<0.0001	**<0.0001**	**<0.0001**	**<0.0001**	**<0.0001**	**<0.0001**
Correlations Between Elected Members of School Board Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	6.27	-0.1140	**-0.1555**	**-0.1560**	-0.1007	**-0.1345**	**-0.1486**
		0.0818	**0.0173**	**0.0169**	0.1247	**0.0399**	**0.0230**
1st Interview	14.37	-0.0110	**-0.1756**	**-0.2166**	-0.0741	**-0.1338**	**-0.1689**
		0.8671	**0.0071**	**0.0009**	0.2592	**0.0408**	**0.0097**
Choosing Continuing Contenders	13.17	-0.0156	**-0.1919**	**-0.2364**	-0.0629	**-0.1518**	**-0.2190**
		0.8119	**0.0032**	**0.0003**	0.3381	**0.0202**	**0.0007**
2nd Interview	24.81	-0.1147	**-0.1484**	**-0.1686**	**-0.1353**	**-0.1658**	**-0.1822**
		0.0800	**0.0232**	**0.0098**	**0.0386**	**0.0111**	**0.0052**
Choosing Finalists	21.04	-0.0595	-0.1123	-0.1112	-0.0841	**-0.1475**	**-0.1279**
		0.3650	0.0866	0.0897	0.1999	**0.0240**	**0.0240**

Appendix 3
Correlation between Superintendent's Role (0,1) in Hiring and Student Achievement

Correlations Between Superintendent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	39.62	**-0.2321**	**-0.2457**	**-0.2321**	**-0.2542**	**-0.2755**	**-0.2812**
		0.0002	**<.0001**	**<.0001**	**<.0001**	**<.0001**	**<.0001**
1st Interview	29.67	**-0.3215**	**-0.3454**	**-0.2866**	**-0.3043**	**-0.3646**	**-0.3226**
		<.0001	**<.0001**	**<.0001**	**<.0001**	**<.0001**	**<.0001**
Choosing Continuing Contenders	31.51	**-0.3118**	**-0.3389**	**-0.2561**	**-0.3152**	**-0.3667**	**-0.3240**
		<.0001	**<.0001**	**<.0001**	**<.0001**	**<.0001**	**<.0001**
2ndInterview	56.85	**-0.1547**	**-0.1661**	**-0.1589**	**-0.1962**	**-0.1547**	**-0.1523**
		0.0239	**0.0111**	**0.0152**	**0.0040**	**0.0181**	**0.0201**
Choosing Finalists	52.60	-0.1065	-0.0997	**-0.1473**	**-0.1846**	-0.1075	**-0.1631**
		0.1344	0.1406	**0.0290**	**0.0091**	0.1119	**0.0154**
Correlations Between Superintendent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	52.26	-0.1029	**-0.1595**	**-0.1437**	-0.0819	**-0.2127**	**-0.1836**
		0.1166	**0.0146**	**0.0280**	0.2119	**0.0011**	**0.0048**
1st Interview	38.02	-0.1246	-0.1217	**-0.1527**	**-0.1100**	**-0.1616**	**-0.1680**
		0.0571	0.0630	**0.0194**	**0.0931**	**0.0133**	**0.0100**
Choosing Continuing Contenders	41.54	-0.0532	-0.1234	-0.1278	-0.0265	**-0.1381**	**-0.1394**
		0.4182	0.0594	0.0509	0.6868	**0.0347**	**0.0331**
2ndInterview	68.63	0.0163	-0.0156	0.0453	0.0251	0.0276	0.0160
		0.8037	0.8123	0.4902	0.7028	0.6746	0.8079
Choosing Finalists	60.76	0.1048	0.0323	0.1080	0.1101	0.0792	0.0899
		0.1099	0.6226	0.0995	0.0928	0.2274	0.1704

Appendix 4
Correlation between Assistant Superintendent's Role (0,1) in Hiring and Student Achievement

Correlations Between Assistant Superintendent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	28.66	-0.0567	0.0403	0.0081	-0.0078	0.0305	0.0343
		0.3632	0.4980	0.8922	0.9003	0.6084	0.5636
1st Interview	24.33	**-0.1472**	-0.0916	-0.0967	-0.1120	-0.1090	-0.0901
		0.0178	0.1230	0.1028	0.0719	0.0661	0.1285
Choosing Continuing Contenders	24.03	-0.0125	0.0094	0.0561	0.0201	0.0330	0.0662
		0.8459	0.8775	0.3571	0.7542	0.5882	0.2764
2ndInterview	28.69	0.1248	**0.1788**	0.1103	**0.1804**	**0.2512**	**0.1878**
		0.0692	**0.0062**	0.0931	**0.0083**	**0.0001**	**0.0040**
Choosing Finalists	23.16	0.0593	0.1198	0.0727	0.0933	**0.1751**	**0.1390**
		0.4053	0.0762	0.2827	0.1899	**0.0092**	**0.0394**
Correlations Between Assistant Superintendent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	27.03	0.0676	0.0688	0.0672	0.0993	0.0311	0.0757
		0.3028	0.2945	0.3061	0.1299	0.6355	0.2488
1st Interview	18.05	0.0064	0.0404	0.0729	0.0318	0.0207	0.0868
		0.9230	0.5385	0.2669	0.6290	0.7530	0.1859
Choosing Continuing Contenders	20.08	0.0838	0.0529	0.0807	0.1305	0.0621	0.1166
		0.2014	0.4203	0.2189	0.0462	0.3442	0.0752
2ndInterview	36.58	**0.1779**	**0.2045**	**0.2277**	**0.2190**	**0.2116**	**0.2548**
		0.0064	**0.0017**	**0.0004**	**0.0007**	**0.0011**	**<.0001**
Choosing Finalists	30.76	**0.1797**	**0.1818**	**0.1803**	**0.2172**	**0.1849**	**0.2073**
		0.0058	**0.0053**	**0.0057**	**0.0008**	**0.0045**	**0.0014**

Appendix 5
Correlation between Personnel Director Role (0,1) in Hiring and Student Achievement

Correlations Between Personnel Director Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	19.04	**0.1253**	**0.1600**	0.0532	**0.1952**	**0.2251**	**0.1776**
		0.0439	0.0068	0.3697	0.0016	0.0001	0.0026
1st Interview	12.11	-0.0611	-0.0174	-0.0070	0.0089	0.0322	0.0396
		0.3275	0.7696	0.9069	0.8870	0.5888	0.5051
Choosing Continuing Contenders	11.83	0.0303	0.0672	0.0091	0.1220	0.0980	0.0671
		0.6358	0.2704	0.8817	0.0560	0.1076	0.2700
2ndInterview	13.97	-0.0456	0.0312	-0.0154	0.0324	0.0598	0.0675
		0.5084	0.6362	0.8156	0.6379	0.3635	0.3052
Choosing Finalists	10.36	-0.0115	0.0247	-0.0022	0.0708	0.0432	0.0510
		0.8723	0.7156	0.9738	0.3205	0.5243	0.4518
Correlations Between Personnel Director Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	16.6	**0.2334**	**0.2850**	**0.2221**	**0.2072**	**0.2876**	**0.2568**
		0.0003	**<.0001**	**0.0006**	**0.0014**	**<.0001**	**<.0001**
1st Interview	11.75	0.1007	0.0948	0.1149	0.1084	0.0822	**0.1399**
		0.1244	0.1481	0.0794	0.0982	0.2105	**0.0325**
Choosing Continuing Contenders	11.36	**0.1725**	**0.1733**	**0.1723**	**0.1515**	**0.1687**	**0.1774**
		0.0082	**0.0079**	**0.0083**	**0.0204**	**0.0097**	**0.0065**
2ndInterview	8.59	**0.2172**	**0.2116**	**0.2197**	**0.2586**	**0.2097**	**0.2287**
		0.0008	**0.0011**	**0.0007**	**<.0001**	**0.0013**	**0.0004**
Choosing Finalists	11.22	**0.1787**	**0.1596**	**0.1838**	**0.2068**	**0.1539**	**0.1867**
		0.0061	**0.0145**	**0.0048**	**0.0015**	**0.0185**	**0.0042**

Appendix 6
Correlation between Principal's Role (0,1) in Hiring and Student Achievement

Correlations Between Principal Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	91.45	-0.0657	-0.0721	-0.0511	-0.0927	-0.0731	-0.0859
		0.2920	0.2252	0.3895	0.1368	0.2188	0.1473
1st Interview	93.18	-0.0747	-0.0884	-0.0543	-0.0876	-0.0761	-0.0925
		0.2310	0.1367	0.3599	0.1600	0.2005	0.1184
Choosing Continuing Contenders	82.64	**0.1319**	0.0646	**0.1425**	0.0744	0.0620	0.0816
		0.0388	0.2895	**0.0187**	0.2453	0.3091	0.1795
2ndInterview	59.64	-0.1186	**-0.1380**	-0.0759	-0.1229	**-0.1567**	-0.1126
		0.0842	**0.0352**	0.2485	0.0735	**0.0167**	0.0864
Choosing Finalists	51.71	0.0859	0.0941	0.0940	-0.0009	0.0720	0.0736
		0.2279	0.1641	0.1648	0.9903	0.2879	0.2769
Correlations Between Principal Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	89.57	-0.1146	-0.1094	-0.1251	**-0.1349**	-0.0508	**-0.1581**
		0.0803	0.0949	0.0560	**0.0392**	0.4396	**0.0155**
1st Interview	95.62	-0.1087	-0.0755	-0.1127	-0.1037	-0.0680	**-0.1457**
		0.0972	0.2498	0.0854	0.1135	0.3000	**0.0258**
Choosing Continuing Contenders	85.99	0.0658	-0.0142	-0.0032	0.0315	0.0755	-0.0311
		0.3165	0.8293	0.9611	0.6316	0.2502	0.6357
2ndInterview	60.46	0.0821	**0.1295**	**0.1390**	**0.1482**	0.0994	**0.1747**
		0.2109	**0.0478**	**0.0336**	**0.0234**	0.1296	**0.0074**
Choosing Finalists	54.09	**0.1849**	**0.1286**	**0.1344**	**0.2405**	0.0964	**0.1451**
		0.0046	**0.0494**	**0.0400**	**0.0002**	0.1414	**0.0264**

Appendix 7
Correlation between Assistant Principal Role (0,1) in Hiring and Student Achievement

Correlations Between Assistant Principal Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1996**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	39.79	0.0194	0.0410	0.0488	0.0568	0.0904	0.0879
		0.7560	0.4907	0.4112	0.3625	0.1280	0.1381
1st Interview	45.81	0.0668	**0.1408**	**0.1694**	0.1092	**0.1849**	**0.2006**
		0.2840	0.0174	**0.0041**	0.0794	**0.0017**	**0.0006**
Choosing Continuing Contenders	35.10	0.0727	**0.1128**	**0.1640**	0.0878	**0.1729**	**0.1985**
		0.2559	0.0637	**0.0067**	0.1701	**0.0043**	**0.0010**
2ndInterview	18.81	0.0772	0.0948	**0.1646**	0.0936	**0.1327**	**0.1744**
		0.2619	0.1493	**0.0118**	0.1733	**0.0430**	**0.0076**
Choosing Finalists	16.36	0.0004	0.0700	**0.1665**	-0.0135	0.1151	**0.1584**
		0.9959	0.3012	**0.0134**	0.8498	0.0887	**0.0187**
Correlations Between Assistant Principal Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	30.93	-0.0425	-0.0263	0.0197	-0.0525	-0.0143	0.0335
		0.5178	0.6895	0.7648	0.4243	0.8279	0.6100
1st Interview	55.11	0.0291	0.0668	0.1111	0.0315	0.0798	**0.1448**
		0.6580	0.3086	0.0899	0.6318	0.2243	**0.0268**
Choosing Continuing Contenders	43.78	0.0984	0.1122	**0.1616**	0.0676	**0.1618**	**0.1853**
		0.1333	0.0868	**0.0133**	0.3033	**0.0132**	**0.0045**
2ndInterview	30.69	0.1194	**0.1896**	**0.1985**	**0.1596**	**0.1684**	**0.2525**
		0.0684	**0.0036**	**0.0023**	**0.0145**	**0.0099**	**<.0001**
Choosing Finalists	23.18	**0.1660**	**0.1954**	**0.2250**	**0.1809**	**0.1728**	**0.2123**
		0.0110	**0.0027**	**0.0005**	**0.0055**	**0.0081**	**0.0011**

Appendix 8
Correlation between Department Head's Role (0,1) in Hiring and Student Achievement

Correlations Between Head of Department Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)							
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	29.95	0.0655	0.1028	-0.0124	0.0685	0.1728	0.0524
		0.2934	0.0832	0.8352	0.2723	0.0034	0.3771
1st Interview	40.20	**0.1489**	**0.1998**	0.0669	**0.1350**	**0.2208**	**0.1365**
		0.0165	**0.0007**	0.2595	**0.0299**	**0.0002**	**0.0209**
Choosing Continuing Contenders	31.08	0.1238	**0.1474**	0.0428	0.0980	**0.1680**	0.0760
		0.0524	**0.0152**	0.4821	0.1252	**0.0056**	0.2114
2ndInterview	19.05	-0.0221	0.0099	-0.0315	-0.0071	0.0402	-0.0167
		0.7480	0.8803	0.6321	0.9186	0.5412	0.7997
Choosing Finalists	13.15	0.0031	0.0804	**0.1382**	-0.0106	0.1179	0.0863
		0.9657	0.2351	**0.0405**	0.8819	0.0811	0.2023
Correlations Between Head of Department Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)							
	Frequency of Participation (%)	**Reading 5**	**Reading 8**	**Reading 11**	**Math 5**	**Math 8**	**Math 11**
Choosing Contenders	26.12	-0.0410	0.0081	0.0132	0.0192	-0.0670	-0.0229
		0.5323	0.9014	0.8410	0.7702	0.3078	0.7277
1st Interview	46.04	0.0761	0.1198	0.1273	0.0660	0.1158	0.0923
		0.2462	0.0673	0.0519	0.3150	0.0770	0.1592
Choosing Continuing Contenders	30.88	0.0479	0.0961	0.0720	0.0771	0.1256	0.0870
		0.4660	0.1429	0.2730	0.2401	0.0549	0.1849
2ndInterview	22.85	**0.1912**	**0.2462**	**0.2703**	**0.2595**	**0.2099**	**0.2565**
		0.0033	**0.0001**	**<.0001**	**<.0001**	**0.0012**	**<.0001**
Choosing Finalists	14.08	0.0689	0.1138	**0.1505**	0.1281	0.1235	0.1124
		0.2941	0.0825	**0.0213**	0.0504	0.0592	0.0864

Appendix 9
Correlation between Teacher Chosen by LEA Role (0,1) in Hiring and Student Achievement

Correlations Between Other Teachers Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	22.79	-0.0366	-0.0088	-0.0110	0.0119	0.0143	-0.0348
		0.5580	0.8821	0.8526	0.8489	0.8097	0.5580
1st Interview	38.60	-0.0230	0.0040	-0.0415	-0.0041	0.0168	-0.0276
		0.7121	0.9459	0.4844	0.9479	0.7781	0.6425
Choosing Continuing Contenders	24.62	-0.0735	-0.0253	-0.0521	-0.0655	-0.0395	-0.0698
		0.2505	0.6782	0.3924	0.3066	0.5177	0.2515
2nd Interview	13.38	-0.1062	-0.0966	-0.0538	-0.0848	-0.0760	-0.0942
		0.1223	0.1418	0.4134	0.2176	0.2481	0.1519
Choosing Finalists	8.95	-0.0226	-0.0224	0.0273	-0.0835	-0.0248	0.0014
		0.7516	0.7406	0.6873	0.2407	0.7143	0.9832
Correlations Between Other Teachers Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	15.5	-0.0428	-0.0042	0.0472	0.0109	-0.0034	0.0045
		0.5150	0.9494	0.4729	0.8678	0.9585	0.9457
1st Interview	41.48	-0.0857	-0.0526	0.0003	-0.0894	-0.0360	0.0066
		0.1914	0.4234	0.9964	0.1728	0.5842	0.9205
Choosing Continuing Contenders	27.61	-0.0467	-0.0722	0.0057	-0.0532	-0.0055	0.0392
		0.4770	0.2712	0.9310	0.4177	0.9329	0.5506
2nd Interview	18.07	0.0991	0.1116	0.1218	0.1111	0.0652	0.1084
		0.1306	0.0884	0.0629	0.0899	0.3204	0.0981
Choosing Finalists	10.70	0.1264	0.0781	0.1247	0.1045	0.0313	0.0802
		0.0535	0.2343	0.0569	0.1110	0.6342	0.2214

Appendix 10
Correlation between Community Member (Parents) Role (0,1) in Hiring and Student Achievement

Correlations Between Community/Parent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**1997**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	2.79	-0.0235	-0.0830	-0.0175	0.0096	-0.0706	-0.0136
		0.7063	0.1625	0.7680	0.8781	0.2349	0.8196
1st Interview	4.83	-0.0234	-0.0093	0.0271	0.0162	-0.0242	0.0246
		0.7080	0.8762	0.6478	0.7956	0.6837	0.6787
Choosing Continuing Contenders	3.54	-0.0735	-0.0837	-0.0091	-0.0387	-0.1094	-0.0502
		0.2509	0.1693	0.8815	0.5460	0.0721	0.4093
2nd Interview	1.19	0.0326	0.0201	0.0235	0.0087	0.0105	-0.0176
		0.6362	0.7600	0.7210	0.8999	0.8735	0.7896
Choosing Finalists	0.81	0.0816	0.0718	0.0505	0.0225	0.0678	0.0257
		0.2520	0.2888	0.4558	0.7522	0.3171	0.7045
Correlations Between Community/Parent Participation in Hiring Process and PSSA Scores							
(Correlation Coefficient and p-level)	**2006**						
	Frequency of	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	Participation (%)	**5**	**8**	**11**	**5**	**8**	**11**
Choosing Contenders	1.5	0.1158	0.0384	0.0854	0.0870	0.0479	0.0830
		0.0770	0.5587	0.1928	0.1849	0.4662	0.2059
1st Interview	1.82	0.0512	-0.0017	0.0174	0.0241	0.0153	0.0326
		0.4358	0.9795	0.7916	0.7141	0.8158	0.6194
Choosing Continuing Contenders	0.96	0.0621	0.0290	0.0521	0.0481	0.0771	0.0487
		0.3440	0.6587	0.4274	0.4639	0.2399	0.4580
2nd Interview	1.94	0.0673	-0.0535	0.0187	0.0556	-0.0159	0.0718
		0.3055	0.4155	0.7764	0.3976	0.8093	0.2744
Choosing Finalists	1.76	0.0341	-0.0447	0.0013	0.0378	0.0160	0.0549
		0.6033	0.4961	0.9837	0.5651	0.8081	0.4036

Appendix 11
Experience and Student Achievement

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0051	0.0508	0.1098	-0.0009	0.0018	0.0517
	0.9356	0.3977	0.0665	0.9893	0.9760	0.3887
After 1st Interview	-0.0074	-0.0169	0.0257	-0.0063	-0.0048	0.0113
	0.9125	0.7925	0.6874	0.9260	0.9401	0.8599
After 2nd Interview	0.0223	0.0594	0.0445	0.0276	0.1107	0.0660
	0.7701	0.4134	0.5404	0.7169	0.1262	0.3630
	2006					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0248	0.0473	0.0763	0.0577	0.0741	0.0746
	0.7149	0.4852	0.2596	0.3948	0.2739	0.2709
After 1st Interview	0.0521	0.0606	**0.1574**	0.0789	0.0525	0.1246
	0.4566	0.3863	**0.0238**	0.2596	0.4532	0.0742
After 2nd Interview	-0.0488	-0.0269	0.0543	-0.0519	-0.0319	0.0268
	0.5468	0.7398	0.5020	0.5211	0.6939	0.7407

Appendix 12
Overall GPA

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: GPA	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.16905**	**0.19716**	**0.16595**	**0.21200**	**0.20463**	**0.18642**
	0.0070	**0.0009**	**0.0054**	**0.0007**	**0.0006**	**0.0017**
After 1st Interview	0.0292	0.0681	0.1230	0.0763	0.0893	0.1190
	0.6651	0.2874	0.0535	0.2574	0.1626	0.0619
After 2nd Interview	0.10442	0.14140	**0.18212**	0.10116	**0.15927**	**0.14596**
	0.1691	0.0504	**0.0115**	0.1828	**0.0273**	**0.0434**
	2006					
Factor: GPA	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.15588**	**0.21086**	**0.17771**	0.12606	**0.15255**	**0.16098**
	0.0188	**0.0014**	**0.0073**	0.0579	**0.0215**	**0.0152**
After 1st Interview	0.05983	0.10750	0.07481	0.03092	0.08824	0.04238
	0.3988	0.1288	0.2912	0.6630	0.2129	0.5502
After 2nd Interview	-0.00496	0.02377	0.01360	-0.02385	0.03340	0.01593
	0.9526	0.7758	0.8706	0.7751	0.6890	0.8487

Appendix 13
GPA in Major

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: GPA Maj	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.1900**	**0.1726**	**0.1955**	**0.2334**	**0.1898**	**0.2087**
	0.0024	**0.0038**	**0.0010**	**0.0002**	**0.0014**	**0.0004**
After 1st Interview	0.0275	0.0751	**0.1249**	0.0782	0.0885	**0.1262**
	0.6837	0.2405	**0.0498**	0.2458	0.1663	**0.0476**
After 2nd Interview	0.0180	0.0425	0.1371	0.0141	0.0748	0.0976
	0.8127	0.5581	0.0580	0.8536	0.3024	0.1783
	2006					
Factor: GPA Maj	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.1557**	**0.1596**	**0.1645**	0.0896	0.1134	**0.1577**
	0.0189	**0.0161**	**0.0131**	0.1785	0.0884	**0.0174**
After 1st Interview	0.0647	0.0341	0.0154	0.0380	0.0345	-0.0271
	0.3638	0.6323	0.8293	0.5939	0.6287	0.7037
After 2nd Interview	-0.0097	-0.0649	-0.0561	-0.0492	-0.0478	-0.0473
	0.9069	0.4330	0.4981	0.5523	0.5638	0.5680

Appendix 14
Dual Certification

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Dual Cert	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0790	-0.0682	-0.0127	-0.0477	-0.0749	-0.0570
	0.2107	0.2565	0.8324	0.4500	0.2122	0.3422
After 1st Interview	-0.1262	-0.0371	0.0479	-0.0501	-0.0394	0.0038
	0.0604	0.5630	0.4534	0.4581	0.5386	0.9530
After 2nd Interview	-0.0785	0.0363	0.1042	-0.0204	0.0430	0.0456
	0.3017	0.6168	0.1502	0.7887	0.5541	0.5300
	2006					
Factor: Dual Cert	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0476	0.0727	0.0920	0.0469	0.0784	0.0506
	0.4824	0.2832	0.1740	0.4886	0.2469	0.4552
After 1st Interview	0.0461	0.0898	0.1172	0.0854	0.0573	0.0343
	0.5219	0.2118	0.1027	0.2354	0.4264	0.6344
After 2nd Interview	-0.0410	-0.0222	0.0376	-0.0502	-0.0299	-0.0328
	0.6186	0.7877	0.6480	0.5418	0.7165	0.6906

Appendix 15
Past Teaching Performance

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Past Perf	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.1362**	**0.1927**	**0.1476**	**0.1582**	**0.1806**	**0.1274**
	0.0303	**0.0012**	**0.0134**	**0.0117**	**0.0025**	**0.0332**
After 1st Interview	-0.0289	0.0348	0.3467	-0.0175	0.0745	0.0392
	0.6679	0.5865	0.5875	0.7953	0.2444	0.5395
After 2nd Interview	-0.0385	0.0398	0.0093	-0.0035	0.1002	0.0313
	0.6128	0.5835	0.8979	0.9636	0.1669	0.6668
	2006					
Factor: Past Perf	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0837	0.0832	**0.1543**	-0.0071	0.0521	**0.1384**
	0.2153	0.2178	**0.0218**	0.9168	0.4407	**0.0398**
After 1st Interview	0.0478	0.0934	0.1489	0.0551	0.0706	0.1213
	0.4960	0.1828	0.0331	0.4325	0.3143	0.0832
After 2nd Interview	0.0525	0.0556	**0.1764**	0.0349	0.0292	0.1402
	0.5204	0.4961	**0.0297**	0.6697	0.7206	0.0849

Appendix 16
Written References

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: References	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.1444**	**0.1193**	0.0872	0.1168	**0.1256**	0.0911
	0.0216	**0.0465**	0.1458	0.0636	**0.0360**	0.1285
After 1st Interview	0.0089	-0.0025	0.0366	0.0447	0.0666	0.0460
	0.8943	0.9695	0.5675	0.5079	0.2982	0.4716
After 2nd Interview	0.0733	0.0938	0.1040	0.0620	0.1117	0.0852
	0.3353	0.1956	0.1511	0.4149	0.1229	0.2399
	2006					
Factor: References	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0301	0.0064	0.0628	0.0320	0.0113	0.0909
	0.6512	0.9234	0.3456	0.6309	0.8648	0.1714
After 1st Interview	-0.0676	-0.0045	0.1155	-0.0630	-0.0352	0.0799
	0.3317	0.9483	0.0968	0.3660	0.6139	0.2511
After 2nd Interview	0.0062	0.0242	0.0888	0.0011	0.0339	0.0877
	0.9389	0.7657	0.2737	0.9891	0.6764	0.2795

Appendix 17
Subject Matter of Major

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Major	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0134	0.0314	0.0881	0.0072	0.0447	0.0678
	0.8325	0.6015	0.1416	0.9092	0.4573	0.2584
After 1st Interview	-0.1013	0.0291	0.1125	-0.0443	0.0180	0.0716
	0.1324	0.6488	0.0776	0.5115	0.7785	0.2620
After 2nd Interview	-0.0685	0.0530	0.0999	-0.0281	0.0587	0.0705
	0.3680	0.4657	0.1682	0.7125	0.4188	0.3315
	2006					
Factor: Major	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0147	0.0665	0.0847	0.0601	0.0668	0.0332
	0.8273	0.3219	0.2066	0.3709	0.3194	0.6217
After 1st Interview	-0.0443	0.0210	0.1128	0.0204	0.0043	0.0243
	0.5330	0.7678	0.1117	0.7747	0.9523	0.7326
After 2nd Interview	-0.0089	-0.0249	0.0940	-0.0068	-0.0029	-0.0051
	0.9150	0.7651	0.2575	0.9349	0.9727	0.9513

Appendix 18
Caliber of Endorsing Institution

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Caliber	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0559	0.0724	0.1172	0.0990	0.0990	0.0940
	0.3762	0.2281	0.0501	0.1161	0.0989	0.1167
After 1st Interview	0.0275	0.0177	0.1507	0.0735	0.0717	0.1152
	0.6842	0.7826	0.0178	0.2757	0.2626	0.0707
After 2nd Interview	0.0213	0.0373	**0.1499**	0.0395	0.0756	0.0601
	0.7794	0.6080	**0.0380**	0.6042	0.2972	0.4075
	2006					
Factor: Caliber	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0386	0.1319	**0.1447**	0.0384	0.1022	0.1109
	0.5740	0.0541	**0.0345**	0.5761	0.1363	0.1057
After 1st Interview	-0.0574	0.0135	0.0576	-0.0693	-0.0321	0.0005
	0.4390	0.8563	0.4374	0.3499	0.6650	0.9947
After 2nd Interview	-0.1619	-0.0922	-0.0278	-0.1580	-0.0884	-0.0730
	0.0597	0.2858	0.7481	0.0662	0.3061	0.3983

Appendix 19
Advanced Degree

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Adv Deg	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0206	0.0874	**0.1567**	0.0712	0.1033	**0.1193**
	0.7450	0.1455	**0.0086**	0.2594	0.0851	0.0461
After 1st Interview	-0.0746	-0.0414	0.1191	-0.0176	0.0318	0.0906
	0.2683	0.8225	0.0616	0.7947	0.6199	0.1557
After 2nd Interview	-0.0004	0.0723	**0.1757**	0.0279	0.1080	0.0867
	0.9958	0.3187	**0.0148**	0.7136	0.1359	0.2316
	2006					
Factor: Adv Deg	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0261	**0.1377**	0.1145	0.0090	0.0749	0.0848
	0.6991	**0.0409**	0.8945	0.2677	0.2094	0.2709
After 1st Interview	-0.0279	0.0967	0.0740	-0.0094	0.0418	0.0153
	0.7003	0.1809	0.3064	0.8969	0.5637	0.8331
After 2nd Interview	-0.0107	0.1010	0.1054	0.0040	0.0760	0.0663
	0.9012	0.2385	0.2185	0.9631	0.3759	0.4397

Appendix 20
Essay

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Essay	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**0.1632**	**0.1703**	**0.1788**	**0.2046**	**0.1607**	**0.1404**
	0.0093	**0.0043**	**0.0027**	**0.0011**	**0.0072**	**0.0188**
After 1st Interview	0.0969	**0.1401**	**0.1669**	0.1182	**0.13987**	**0.1458**
	0.1500	**0.0280**	**0.0086**	0.0788	**0.0283**	**0.0219**
After 2nd Interview	0.1069	0.1172	**0.1891**	0.1379	**0.1664**	**0.1597**
	0.1592	0.1055	**0.0086**	0.0688	**0.0210**	**0.0269**
	2006					
Factor: Essay	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0989	0.0102	0.0729	-0.0269	-0.0058	-0.0133
	0.1541	0.8832	0.2942	0.6992	0.9333	0.8490
After 1st Interview	0.0289	0.1344	**0.1608**	0.0724	0.0899	0.0660
	0.7135	0.0861	**0.0397**	0.3567	0.2523	0.4014
After 2nd Interview	0.0858	**0.2119**	**0.2448**	0.1533	0.1738	**0.1875**
	0.3642	**0.0236**	**0.0087**	0.1034	0.0644	**0.0458**

Appendix 21
Praxis

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Praxis	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0412	0.0510	0.0535	0.0760	0.0566	0.0150
	0.5146	0.3960	0.3728	0.2285	0.3464	0.8028
After 1st Interview	-0.0539	-0.0034	0.0787	-0.0391	-0.0111	0.0120
	0.4241	0.9572	0.2176	0.5623	0.8627	0.8516
After 2nd Interview	-0.0279	-0.0123	0.1342	-0.0542	-0.0096	0.0324
	0.7145	0.8653	0.0634	0.4763	0.8952	0.6558
	2006					
Factor: Praxis	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.2311	**0.3142**	**0.3710**	**0.2908**	0.2579	0.2560
	0.0810	0.0163	0.0041	0.0268	0.0507	0.0524
After 1st Interview	0.2243	0.2388	0.3337	0.2236	0.1664	0.1787
	0.1340	0.1100	0.0234	0.1352	0.2690	0.2346
After 2nd Interview	0.1779	0.1973	0.1970	0.1219	0.1390	0.0373
	0.3469	0.2960	0.2967	0.5210	0.4638	0.8448

Appendix 22
Community Involvement

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Comm	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0059	-0.0062	0.1051	0.0291	0.0016	0.0287
	0.9260	0.9176	0.0791	0.6456	0.9790	0.6322
After 1st Interview	**-0.1746**	**-0.1456**	-0.0025	**-0.1644**	-0.1237	-0.0758
	0.0091	**0.0223**	0.9691	**0.0142**	0.0528	0.2356
After 2nd Interview	-0.0919	0.0099	0.0522	-0.0998	0.0401	0.0075
	0.2264	0.8921	0.4719	0.1888	0.5811	0.9174
	2006					
Factor: Comm	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0298	0.0783	0.0922	0.0934	0.0314	0.0812
	0.6935	0.3001	0.2225	0.2161	0.6781	0.2829
After 1st Interview	0.0167	0.0378	0.0643	0.0819	0.0146	0.0306
	0.8257	0.6170	0.3955	0.2786	0.8476	0.6857
After 2nd Interview	-0.1271	-0.0126	0.0154	-0.0273	-0.0466	-0.0303
	0.1466	0.8860	0.8614	0.7560	0.5959	0.7299

Appendix 23
Willingness to Coach

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Coach	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0982	-0.0198	0.0452	-0.0657	-0.0348	-0.0571
	0.1191	0.7424	0.4508	0.2980	0.5631	0.3413
After 1st Interview	-0.1120	-0.0851	0.0408	-0.1027	-0.0727	-0.0304
	0.0960	0.1835	0.5235	0.1271	0.2562	0.6347
After 2nd Interview	-0.0142	0.0664	0.1474	-0.0303	0.0704	0.0949
	0.8520	0.3599	0.0413	0.6907	0.3322	0.1905
	2006					
Factor: Coach	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0306	-0.0058	-0.0309	-0.0559	-0.0346	-0.0370
	0.6623	0.9337	0.6593	0.4250	0.6218	0.5971
After 1st Interview	-0.0277	0.0151	0.0326	-0.0226	-0.0223	0.0029
	0.7056	0.8369	0.6561	0.7571	0.7609	0.9689
After 2nd Interview	-0.1236	-0.0536	-0.0028	-0.1454	-0.0848	-0.0355
	0.1516	0.5357	0.9747	0.0913	0.3261	0.6817

Appendix 24
Non-Teaching Experience

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Non-Teach	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0111	0.0739	0.0913	0.0458	0.0669	0.0490
	0.8605	0.2183	0.1274	0.4684	0.2654	0.4145
After 1st Interview	-0.0726	0.0321	0.0705	-0.0609	0.0181	0.0422
	0.2813	0.6164	0.2696	0.3664	0.7782	0.5096
After 2nd Interview	-0.1047	0.0227	0.0346	-0.1046	0.0028	-0.0442
	0.1678	0.7548	0.6334	0.1685	0.9693	0.5426
	2006					
Factor: Non_Teach	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	0.0105	0.0883	0.1298	0.0381	0.0149	0.0871
	0.7149	0.4852	0.2596	0.3948	0.2739	0.2709
After 1st Interview	-0.0337	0.0396	0.1587	-0.0372	-0.0225	0.1206
	0.6604	0.6060	0.0375	0.6282	0.7701	0.1152
After 2nd Interview	-0.0947	-0.0388	0.0766	-0.1211	-0.0859	0.0322

Appendix 25
Applicant is SD Resident

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**-0.2559**	**-0.2631**	**-0.1888**	**-0.2799**	**-0.2953**	**-0.2933**
	<.0001	**<.0001**	**0.0015**	**<.0001**	**<.0001**	**<.0001**
After 1st Interview	**-0.2071**	**-0.2347**	-0.5515	**-0.2351**	**-0.2416**	**-0.1809**
	0.0019	**0.0002**	0.3881	**0.0004**	**0.0001**	**0.0044**
After 2nd Interview	**-0.1834**	**-0.1799**	-0.1097	**-0.2355**	**-0.1617**	**-0.1740**
	0.0151	**0.0126**	0.1299	**0.0017**	**0.0250**	**0.0158**
	2006					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**-0.2267**	**-0.2322**	**-0.2385**	**-0.2245**	**-0.2370**	**-0.2441**
	0.0039	**0.0031**	**0.0024**	**0.0043**	**0.0026**	**0.0019**
After 1st Interview	**-0.2391**	**-0.2417**	**-0.2128**	-0.1629	**-0.1925**	**-0.2361**
	0.0046	**0.0041**	**0.0119**	0.0554	**0.0232**	**0.0051**
After 2nd Interview	-0.1329	**-0.2259**	-0.1909	-0.1255	-0.1749	**-0.2476**

Appendix 26
Applicant is SD Teacher (Former)

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**-0.1234**	-0.0981	-0.0936	**-0.1585**	**-0.1213**	**-0.1454**
	0.0500	0.1019	0.1180	**0.0116**	**0.0430**	**0.0149**
After 1st Interview	**-0.1362**	-0.0908	0.0087	**-0.1862**	**-0.1230**	-0.679
	0.0427	0.1559	0.8925	**0.0054**	**0.0540**	0.2875
After 2nd Interview	-0.1226	-0.1172	-0.0567	-0.1672	-0.1092	-0.1289
	0.1060	0.1053	0.4348	0.0270	0.1316	0.0748
	2006					
Factor: Experience	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	**-0.1707**	-0.1141	-0.1207	-0.1462	-0.0883	-0.1142
	0.0274	0.1422	0.1201	0.0594	0.2564	0.1416
After 1st Interview	**-0.1934**	**-0.1748**	-0.1183	-0.1038	-0.1259	-0.0927
	0.0257	**0.0442**	0.1752	0.2346	0.1489	0.2884
After 2nd Interview	-0.0719	-0.1424	-0.1414	-0.1426	-0.0983	-0.1250
	0.4841	0.1641	0.1670	0.1636	0.3380	0.2225

Appendix 27

Applicant is Veteran

Correlations of Characteristics considered important to examine in prospective teaching candidate with ultimate PSSA Scores						
(Pearson R and p-value)						
	1997					
Factor: Veteran	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview						
After 1st Interview						
After 2nd Interview						
	2006					
Factor: Veteran	**Reading**	**Reading**	**Reading**	**Math**	**Math**	**Math**
	5	**8**	**11**	**5**	**8**	**11**
Before 1st Interview	-0.0651	-0.1106	-0.0456	-0.0810	-0.0748	-0.0830
	0.4119	0.1624	0.5656	0.3072	0.3457	0.2950
After 1st Interview	-0.0534	-0.0981	-0.0357	-0.0372	-0.0908	-0.0618
	0.5296	0.2471	0.6744	0.6612	0.2842	0.4669
After 2nd Interview	-0.1136	-0.1309	-0.0969	-0.0656	-0.1010	-0.1019
	0.2330	0.1689	0.3093	0.4919	0.2893	0.2848