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Ability of the Urban Teacher Selection Interview to Identify Teachers Who Are Likely to be Retained in the Buffalo Public Schools

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Abstract

The rate of teacher turnover appears to be higher than employee turnover in many other occupations. What is currently perceived as a teacher shortage may in reality be a problem of teacher retention. This study examined the use of the Urban Teacher Selection Interview, developed by Martin Haberman, Ph.D., as a tool for choosing teachers for urban districts.

Almost 36% of those teachers eligible for employment in Buffalo refused employment. This compares favorably with a national average of 40% of teachers who choose not to teach.

In general, the higher the interview scores the longer a teacher was retained in the district after being hired. There was no significant difference between those teachers who received a passing score under the alternate scoring procedure used in Buffalo and the traditional method of scoring the interview. As a group, pupil personnel support teachers scored highest on the interview followed by humanities, math/science and vocational teachers.

Math/science teachers were retained in the District longer on average than were other groups. Average retention rates for other groups were, in descending order: humanities, vocational education, and pupil personnel support teachers. The Urban Teacher Selection

Interview provided a viable method of identifying teachers who were likely to continue teaching in urban Buffalo schools after being hired.

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Doctoral Candidate, **Patricia Frey**, has successfully defended and made the required modifications to the text of the doctoral dissertation for the **Ed.D.** during this **Fall** Semester **2003**.

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Table of Contents

List of Tables

Table of Figures

CHAPTER I

Introduction, Problem and Purpose

Introduction

The Buffalo Public Schools, a typical urban system, the largest city in New York State (NYS) outside of New York City, had been required under NYS Education Law §2573 to produce ordered hiring lists from which all teaching appointments were made. This changed on August 29, 2001, when the governor signed a bill that annulled the part of §2573 requiring Buffalo to produce and hire from ordered hiring lists. The data from the current study was collected during the 2002-2003 school year, relevant to the hiring lists created in August 1999.

The Teacher Selection Procedure, subsequently called the Procedure, which generated the ordered hiring lists, has varied over time under the direction of the Board of Education. During the 1970's and early 1980's, the Procedure consisted of a content-area multiple-choice exam worth 40% of the total score and a non-standardized content-area-based interview representing 60% of the total

score. During the mid- 1980's, the District was under a federal court-mandated hiring order to promote desegregation and therefore did not use the Procedure for hiring. In 1995, the Procedure consisted of a lesson plan and a non-standardized content-area interview. In 1999 the Procedure consisted of a written segment, scored twice - once for demonstrated knowledge in the content-area and a second time for writing skills and a second segment, the Urban Teacher Selection Interview (UTSI), developed by Dr. Martin Haberman, Professor Emeritus, of the University of Wisconsin at Milwaukee. It is this Procedure, which is the focus of the current study.

The Buffalo Public Schools (BPS) assigned the Bureau of Human Resource Services (BHRS) to develop the specifics of the 1999 Teacher Selection Procedure within the guidelines set forth by the Buffalo Board of Education (BOE). The BOE required the BHRS to use district parents, current teachers recommended by the teachers union and administrators as interviewers. The BHRS staff trained all interviewers in the use of the UTSI. Training individuals for the interview teams promoted collegiality and equality of status among team members. Payment for interviewing provided psychological support by demonstrating expressed value for services rendered to the BPS.

The Problem

Teaching is a large occupation. It represents 4% of the entire civilian workforce (Ingersoll, 2002). The rate of teacher turnover appears to be higher than in many other occupations. One in five new teachers leaves the profession after three years (Billups, 2000). During the 1994-95 school year, 7% of all teachers changed careers and after the first 5 years of teaching, 39% had left the field, according to the National Commission on Mathematics and Science Teaching (Ingersoll, 2000). The constant "revolving door" of teachers leaving every year creates several concerns: (a) the annual recruitment and placement of new teachers is costly and time-consuming; (b) teachers hired to replace those who have left are less qualified in terms of teaching experience; and (c) the yearly induction of new faculty is disruptive to instructional programs until the new teachers are fully assimilated into faculty (Boe, Bobbitt, Cook, Whitener, & Weber, 1997).

The "revolving door" has been a concern for the BPS. The 1995 BPS Procedure resulted in 685 teachers placed on eligibility lists. A survey of directors and supervisors of non"Title I tenure areas in BPS in November 1998, indicated that only 472 teachers accepted employment. Of

those hired only 400 remained in the District as of October 1998. Only 58.3% of the 685 canvassed for hiring still worked in the District three years later.

The situation has not improved much since Charters (1956) wrote, "forty percent of those qualified to teach never take public school jobs and of those who enter the profession, half of them have dropped out after two years of teaching" (p.253). In response to these issues, Ingersoll (2000) stated, "The problem isn't teacher shortages, the problem is teacher turnover. The solution isn't recruitment, it's retention" (p.7).

Rationale and Significance of the Study

Despite the data and conclusions such as those by Ingersoll (2000), there is currently little research-based information relative to the characteristics of teachers retained in urban districts. The purpose of this study was to determine the effectiveness of the UTSI, used as a part of the 1999 BPS Procedure, to identify teachers who have a high probability of continued employment in the BPS, an urban system.

The continual demand to hire new teachers and the resulting "revolving door" when large numbers of teachers leave for reasons other than retirement result in the

perceived ongoing teacher shortage. "It's not that too few teachers are entering our schools, it's that too many are leaving" (Blair, 2003, p.5).

Another aspect to the perceived shortage involves the deployment or allocation of teachers. Although the average number of students per teacher in the United States has declined from 22.4 in 1971 to 15.8 in 2001 (*USA Today*, 2003, August 28), the actual class size is significantly higher. School districts in the United States utilize teachers in numerous instructional support positions, such as coordinators or reading and math specialists (Organization for Economic Cooperation and Development, 1995). Assignments of teaching personnel to non-classroom duties or to quasi-administrative positions also have an impact on the perceived ongoing teacher shortage.

Most U.S. companies expect 6% of their employees to quit each year, while many high-tech companies can easily lose up to 30% of their employees annually. The 1998 Bureau of National Affairs reported the average turnover in non-teaching occupations as about 11% per year (Zumwalt, 2000). Over the past 15 years, the annual teacher turnover has been between 12% and 15%. "Some studies have found that as many as 25% of teachers leave the profession after only one year, and that only 50% remain after five years of

service (Norton, 1999, p.52). Specifically, in recent years, relatively high teacher turnover rates of 15% in 1988-89, 13.2% in 1991-92 and 14.3% in 1994-95 have been experienced (Ingersoll, 1999, p.13).

In a time of perceived teacher shortage when experienced and competent teachers are needed, it is especially important to keep teachers in district. Turnover is expensive. "If people aren't around for three years, then you lose your return on investment because they're not around long enough for you to recoup the costs of training to bring them up to speed" (Prince, 2003, p.9). Replacing workers costs about 25% of their salary in addition to the incalculable "loss of intellectual capital" (Ettorre, 1997, p.51). Consider the lose of 6% of the BPS 2002-2003 teaching force of 3900, earning at least $32,500 per year. This would yield at least an annual 1.9 million dollar replacement cost for the District.

High levels of employee turnover are both a cause and an effect of problematic conditions and low performance in organizations. "Rapid turnover of staff destroys continuity of program and can quickly lead to low staff morale" (Silzer, 1981, p.6).

A stable situation is needed to promote commitment, communication, and a sense of belonging or community among

faculty in schools. This sense of community, social solidarity and social integration is noted as one of the most important indicators of successful schools (Ingersoll, 1999).

Teachers grow as professionals when they are in a stable situation. Professional growth increases the quality of instruction, thereby positively affecting student achievement. Students of less experienced teachers have lower achievement than do students of more experienced teachers (Zumwalt, 2000). Sergiovanni and Starratt (1988) stated that teacher job satisfaction and the conditions that produce it are "linked to improvements in student achievement" (p. 157). Therefore, the longer that teachers are retained in a district, the greater the job satisfaction of those teachers and the greater the likelihood of their staying in the district. Educational theory holds that one pivotal cause of low school performance is the inability of schools to staff classrooms adequately with qualified teachers (Ingersoll, 2002). If a higher percentage of teachers hired were retained in a district, money that otherwise would be spent on recruitment and orientation of new teachers would then be available for increases in staff development initiatives or for class size reduction, both of which have been shown to increase student achievement. Money currently spent on

recruitment and orientation of new teachers could be available for schools to develop long-range plans and to move emphasis from teacher evaluation to teacher supervision (Silzer, 1981).

Questions Guiding the Present Study

The following questions guided the present study of teacher hiring and retention in the BPS, 1999 through 2003.

1. How does the retention rate for teachers selected with UTSI compare to the general rate of teacher retention in the United States during the same period?
2. What is the relationship between the certification tenure area and the total score earned on the UTSI for the teachers in this study?
3. What is the difference in retention rates between those whose certification areas that lie in the humanities and those that lie in the sciences?
4. What is the relationship between the scores of those teachers who did not earn zeros on the UTSI and their retention in district?

Limitations

The prescribed use of the UTSI dictates that a score of zero on one of the questions automatically disqualifies a prospective teacher from hiring consideration. In Buffalo, a cutoff score of two standard deviations below the population mean score was established as a breakpoint for hiring consideration. This decision provided continuity in the scoring method with those methods used in previous selection procedures. It was therefore possible for prospective teachers to be successful in the BPS use of the UTSI and still earn a zero on one or more of the interview questions. This non-standard scoring may limit the generalization of the results to other districts.

Because of intensive scrutiny of the hiring process by the local newspaper, many prospective teachers were aware of the source of the interview instrument, although they were not aware of either the precise questions or the expected responses. There was a perception by the public that "If you read Martin Haberman's book "Star Teachers of Children in Poverty" (1995c), you had a greater chance of being successful on the interview." However, there were numerous instances when prospective teachers informed BHRS that they had "read the book" and did not understand how they had "failed" the interview segment. Although reading

"the book" may not have much impact on the success of individual participants, this general awareness is listed as a potential limitation. As argued by Haberman (Hart & Rowley, 1999, p. 204), "one can not simply take what Star teachers do and create a list of 10 easy steps for novice teachers to follow." "However, for those teachers willing to buy into the ideology of the Stars, the functions may prove a source of insight and guides to action" (Haberman, 1995b, p.2).

Interviewing took place over a period of several months. The same questions were used for each participant. It was possible for prospective teachers interviewed later in the process to discover the essence of questions. However, the developers of the instrument claim that knowledge of the questions does not influence the scoring, as participants do not know what the interviewers are rating. (Deliah Stafford, President, Haberman Education Foundation Spring, personal conversation, March 1999). Therefore, this is an empirical question as no data has been presented either in support or against their position.

A teacher lay off during the period covered by the study was a further limitation affecting retention. During December and January of the 2001-2002 school year, the District laid off 182 teachers as a cost-cutting measure to

balance the budget. Laid off teachers were those who had most recently been hired and therefore likely to appear on the 1999 eligibility lists. As openings occurred throughout the remainder of the year, these laid off teachers were contacted for rehiring. If they were rehired, the length of service or retention was computed without a deduction for the break in service. If teachers accepted re-employment, it was assumed that they would most likely have continued with the District if cost cutting measures had not been necessary.

Finally, the United States data regarding teachers presented in this paper include all types of districts. Information relative to urban districts was not disaggregated.

Definition of Terms

Attrition - the number of teachers in one year who are no longer teaching the following year.

Buffalo Teacher Selection Procedure (BTSP) - hiring process to produce ordered hiring lists, which were mandated by New York State Education law.

Canvassing - the process of making probationary and temporary teaching appointment offers to candidates listed

on the ordered hiring lists produced by Teacher Selection Procedures.

Gallup Teacher Perceiver Interview (TPI) - a standardized interview developed by the Gallup Organization to select teacher candidates who will be effective teachers.

Myers-Briggs Type Inventory (MBTI) - a method of describing an individual's personality type based on Jungian psychology

Ordered hiring lists - ranked lists of teacher candidates in each tenure area produced as the outcome of a Teacher Selection Procedure. Ordered hiring lists are also referred to as eligibility lists.

Retention - continued employment of the same teacher in the same district over a period of time.

"Star" Teacher - term used by Haberman and the UTSI to describe the most effective teachers for urban schools

Urban - large city.

Urban Teacher Selection Interview (UTSI) - a 15-question standardized interview developed by Haberman to identify prospective teachers who will be effective with urban children and youth.

Summary and Preview

What is perceived as a teacher shortage is in reality a problem of teacher retention. Chapter II provides a literature and research review that assisted in formulating and supporting the present study. In Chapter II both opinion and research data are summarized to present an informed view of the arena in which the study was conducted.

CHAPTER II

Review of the Literature

The literature and research review related to this study is categorized under three subheadings: teacher selection, teacher attrition and retention, and the Urban Teacher Selection Instrument or UTSI.

Teacher Selection

"The nation needs to recruit 2.2 million new teachers by the end of the decade, including 200,000 specialists in mathematics and science" (Hoff, 2000, p. 7). This need was supported by Darling-Hammond (1994) who stated that more than 200,000 new teachers will be needed annually in response to teacher retirements and rising student enrollments at a time when teacher-education preparation programs are only producing 100,000 to 150,000 new teachers per year. The Council of Great City Schools indicated that there is an immediate demand for new teachers in urban schools in almost every teaching area, and especially for

teachers of color and language minorities (The Urban Teacher Collaborative, 1996).

William Sanders, statistician, speaking before the Metropolitan School Board of Nashville Tennessee in January 2001, opined about the importance of choosing an effective teacher for urban classrooms. He stated, "… of all the factors we study - class size, ethnicity, location, poverty - they all pale to triviality in the face of teacher effectiveness" (Holland, 2001, p. 37). The difference between an outstanding teacher and an average teacher over a couple of decades can be immensely significant to a school district (Norris & Richburg, 1997). Therefore, the selection of teachers who match the needs of the district becomes a high stakes enterprise.

According to Chapman's (1984) model of the influences associated with teacher attrition, the most basic reason for attrition is personal characteristics. Therefore, it would be important to make hiring decisions with reference to a teacher's personal characteristics. The number one characteristic elementary and middle school principals look for in new teachers is a love of learning and a love of children. Do they have commitment? Have they come to contribute to the learning community?

A number of characteristics have been identified in effective teachers. Teachers should be friendly, helpful and congenial. They should be able to empathize with students, understand their world and listen to them (Wubbels, Brekelmans, van Tartwijk, & Admiral, 1999). The establishment of an atmosphere of caring, warmth and understanding is essential to effective teaching. Students perceive teachers who are responsive and assertive as caring. Teacher assertiveness is viewed as the ability to focus on the necessary tasks while maintaining a positive relationship with students (Teven, 2001). Not only did effective urban teachers possess the requisite academic knowledge and pedagogical strategies but they also possessed a belief system that was more sensitive to the specific needs of the students (Williams, 1999).

A review of the literature cited by Stronge (2002) listed the following four teachers' affective characteristics as related to their effectiveness and perceived effectiveness. Social interactions with students give teachers the opportunities to demonstrate caring, fairness and respect which assists in cultivating a positive learning environment and promoting student achievement. Effective teachers demonstrate caring by listening, understanding and knowing their students.

Enthusiasm for learning, teaching and subject matter supports positive relationships with students and encourages student achievement. Finally, a teacher's dedication to students and the job of teaching provides evidence that the teachers view themselves as responsible for the success of their students.

According to Collinson's (1994) literature review, three characteristics of an exemplary teacher appear across the literature. Exemplary teachers have "a love of learning, an ethic of care, and commitment to teaching" (p. 2). Teachers who see themselves as having a positive capacity to cope with stress may be less likely to suffer from burnout than those who approach stress negatively. These teachers' professional renewal was supported by a disposition to seek alternatives, to take an active role in adapting curriculum and learning about their students, and by a deep belief that they could make a difference and that education is important.

In a three-year project funded by the Philadelphia Education Fund researchers interviewed urban students about a number of topics including the type of teachers that students desired (Wilson & Corbett, 2001). The results indicated that students wanted teachers who 1) pushed them to complete their assignments, 2) maintained order, 3) were

willing to offer help and support whenever and as long as it was needed, 4) went the extra mile to explain assignments and concepts, varying activities to accomplish this goal, and 5) respected the students and their world out-of-school. They wanted teachers for whom there was no acceptable reason for giving up on their students. "The onus was on the teacher to devise alternative means of reaching out to those students" (Wilson & Corbett, 2001, p. 65). Teachers should believe, and nurture the belief in their students, that they can all become successful learners. Believing that teachers cared for them did more than just make students feel good about themselves. The caring that teachers transmitted to their students flowered into an academic self-confidence.

In 1990, children of color represented approximately 30% of the United States school population and approximately 70% of the school population in the 20 largest school districts (Ladson-Billings, 1994). Ladson-Billings called for "culturally relevant teaching" to meet the needs of school children of color. Culturally relevant teaching is characterized by: 1) a basis of concrete experience as a criterion of meaning, 2) the use of dialogue, 3) an emphasis on caring, and 4) an emphasis on personal accountability (p. 155). Dialogue implies talk or discussion between two

individuals, not a one-way flow of information from teacher to student. Culturally relevant teachers believe that their students are capable of excellence and assume the responsibility for ensuring that their students achieve excellence.

Culturally relevant teachers provide the instructional "scaffolding" to allow students to move from what they know to what they need to know. Connections are made between the students' everyday lives and their classroom experiences. These successful teachers may be viewed as "mavericks" because they are unwilling to give in to societal pressures, which do not support success for their students. They demonstrate connectedness with their students and encourage the same connectedness among their students. "The teacher-student relationship is fluid, humanely equitable, extends to interactions beyond the classroom. ... The teacher encourages a community of learners" (Ladson-Billings, 1994, p.55).

Treadway (1999) indicated that urban teachers should examine their attitudes, teaching practices and their affect on students instead of blaming students when handling complex classroom issues. She cited other research indicating prior work experience, a conscious choice to pursue teaching, advocacy experiences relative to social justice, diversity and morality issues as desirable

for urban teachers. Urban teachers must be able to visualize what their classroom will look like and envision how they will participate in the process of educational transformation. Both Haberman's Urban Teacher Selection Interview (UTSI) and Gallup's Urban Teacher Perceiver (TPI) are standardized interviews that probe for evidence of these criteria.

Student teaching assessment (100%), recommendations of previous employers (100%) and structured interviews that assess candidates' aptitudes and characteristics (87.1%) are listed as the most valuable selection criteria by respondents to a Council of Great City Schools survey (The Urban Teacher Collaborative, 1996). The use of more than one interviewer tends to improve predictions (Bolton, 1973). Interview panels are more objective than individual interviewers because there is less personal interaction. More in-depth responses are gathered because panel members will continue to probe after an initial response to a question. The assessment of the individual is more accurate and consistent, because the panel is using the same information to make the assessment (Cochran, Cochran, & Yale, LLC, 2003).

Both structured and branched-format employment interviews are effective in differentiating between strong

and weak teachers (Emley & Ebmeier, 1997). Two structured interviews purport to identify teachers for urban schools. The two interviews are the UTSI and the TPI. Both interview developers have researched an extensive personality profile of a successful urban teacher. Trained interviewers look for key things during the interview process (VanHorn, 1999). The Gallup TPI focuses on the following themes (a) commitment, (b) dedication, (c) individualized perception, (d) caring, (e) involver, (f) empathy, (g) positivity, (h) initiator, (i) stimulator, (j) input and (k) concept (Gallup Organization, 1993). The Haberman UTSI addresses similar themes. Table 1 lists the broad topics covered in the 15-question UTSI interview.

The Myers-Briggs Type Indicator (MBTI) is one of the most highly regarded instruments used to identify personality preferences. Myers formed a procedure for determining type in individuals, and consequently opened the theory of types to further research, much of it by the Educational Testing Service of Princeton. This study refers to the behaviors evident in effective prospective teachers and their underlying characteristics. Therefore, the MBTI is another interesting tool to discuss as an alternative tool for identifying prospective teachers who possess the characteristics of effective teachers.

Table 1

Characteristics Addressed by UTSI

Question Number	Characteristic
1	Persistence
2	Response to authority
3	Application of generalizations
4	Approach to at-risk students
5	Personal vs. professional orientation to teaching
6	Burnout
7	Fallibility

Note. (Haberman, M., Stafford, D., & Dill, V. 1993). Copyright 1993 by the Haberman Educational Foundation, Inc. Reprinted with permission from the author.

Based on her analysis of the UTSI, the Gallup TPI, Praxis III Teacher Performance Assessment and the Myers-Briggs Type Indicator (MBTI), Ryan (1999) found many commonalities. All four instruments may be used to identify characteristics that are evident in the relationship between teacher and student and that are critical to learning. A sense of efficacy and professionalism is clearly important. A mission to improve

society, a reported belief in student growth, an investment in the success of students and satisfaction from that growth, a drive to completion, a perfectionist with the student being first and empathy are all elements found in the successful urban teacher, according to Ryan' analysis. The MBTI uses four pairs of psychological type preferences to describe an individual's personality type as listed in Table 2.

Table 2

MBTI Psychological Type Preferences

Does the person's interest flow mainly to the	
EXTRAVERSION (E)	INTROVERSION (I)
Outer world of actions, objects and persons	Inner world of concepts and ideas
Does the person prefer to perceive	
SENSING (S)	INTUITION (N)
The immediate real, solid facts of experience	The possibilities, meanings and relationships of experience
Does the person prefer to make judgments or decisions	
THINKING (T)	FEELING (F)
Objectively and impersonally, analyzing facts and ordering them, in terms of causes and effects	Subjectively and personally weighing values for the importance of choices for oneself and other people
Does the person prefer to live	
JUDGMENT (J)	PERCEPTION (P)
In a planned, orderly way, aiming to regulate and control events	In a flexible, spontaneous way, aiming to understand and to adapt to events

Note. (Mamchur, C., 1996, p.4). Copyright 1996 by Association for Supervision and Curriculum Development. Reprinted with permission from the Association for Supervision and Curriculum Development.

The Myers-Briggs preferences were apparent in Ryan's matrix (1999, p.7). There was almost a two-to-one occurrence of J and F types as compared with other types. The F-type referred to a preference for the way one makes decisions - based on feelings (F). Decisions of F-types are generally subjective, based upon their personal values and the importance of the choice for themselves and other people. The following descriptors are often associated with this type of person: sympathizing, subjective, personal, appreciative, participant decides using values and an immediate view (Team Technology, 2001). Table 3 includes a portion of Ryan's analysis of three of the instruments (TPI, UTSI and MBTI).

Table 3

Summary of Ryan's Data Analysis of Characteristics Investigated by TPI, UTSI and MBTI

Gallup TPI	UTSI	MBTI
Intrapersonal		
MISSION: improve society; belief in student growth and self-actualization	#5	SJ
INVESTMENT: success of students; satisfaction from growth	#5	F
FOCUS: professionally purposeful; have models and goals	#5, #3, #6	N NJ
Interpersonal		
EMPATHY: accepts and responds	#5, #4	F
RAPPORT DRIVE: sees self as friendly	#5	
LISTENING: answer within other person	#4	
OBJECTIVITY: respond to total after getting all information	#2, #1?	TP
Extrapersonal		
INDIVIDUAL PERCEPTION: knows needs and individualizes program to meet needs	#1, #4, #5?	
INPUT DRIVE: seeks and uses ideas	#1, #4	
ACTIVATION: success is key to help the	#1, #3	

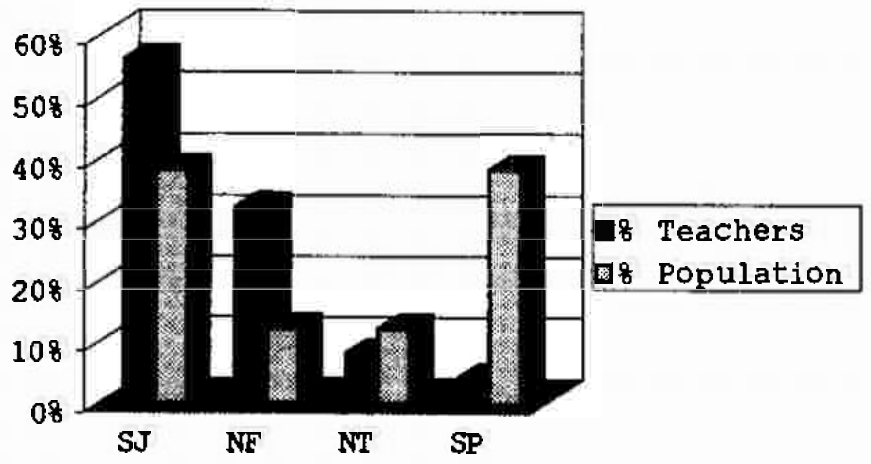
student learn; uses many ways to involve students in learning		
INNOVATION: new approaches; actively involves students	#2, #3, #5	
GESTALT: drive to completion; perfectionist with student being first	#5, #2?	TJ FJ

Note. (Ryan, P. M., 1999, p.7). Copyright 1999 by ERIC. Reprinted with permission of the author.

The Promethean Achiever, the NT, is named after the Greek god Prometheus that mythology asserts taught us truth and science. The NT types are inventive, curious, analytic, and determinedly follow their logical thinking. They are visionaries and have a competitive nature; they often are science, mathematics or technology teachers. Their thirst for knowledge often leads them into a career in education. However, they typically stay only a few years in the classroom. They move on to become curriculum developers or superintendents. Perhaps this is the reason why some studies, such as Murnane's (Stevenson, Dantley, Holcomb, 1999), state that math and science majors have a shorter retention rate than the general teacher population. An NT type who can develop an open, positive communication style, likely will become a brilliant teacher. Lectures,

tests, compositions, projects and reports are the NT types' most commonly used instructional techniques. Although NT types compose 12% of the general population, they represent only 8% of teachers.

The free-spirited, impulsive SP types make up only 4% of the teaching population even though they are 38% of the general population. They are usually found in the arts, physical education, and drama or music departments. The SP types will do whatever it takes to get the job done. Their troubleshooting skills make them valuable members of any school committee. They create classrooms that are resourceful and easygoing, with students actively involved in learning for which they can see an almost immediate practical use. Unfortunately, a desire for spontaneity and freedom may cause the SP type teacher to leave the classroom after a short stay. This may account for the small representation, 4%, of SP's in the teaching population. Figure 1 illustrates the distribution of MBTI types for both teachers and the general population.



	SJ	NF	NT	SP
% Teachers	56%	32%	8%	4%
% Population	38%	12%	12%	38%

Temperment Types

Figure 1. MBTI temperament distributions for teachers and for the general population. (Mamchur, C., 1996). Copyright 1996 by Association for Supervision and Curriculum Development. Reprinted with permission from the Association for Supervision and Curriculum Development.

Results of a 1984 study by Garden (1985) support the concept that personality type is related to teacher burnout, an area investigated in question #6 of the UTSI, which the author is unable to reveal. Although Garden's study was restricted to the "Thinking" and "Feeling" dimensions of the Myers-Briggs Type Indicator, the study found that psychological type does influence the manner in which burnout manifests itself. Negative reactions to others as a symptom of burnout were found primarily for "Feeling" types. "Feeling" types have visible emotional reactions. The public sees this type as warmer and capable of deeper feelings than "Thinking" types, who may experience intense emotions but tend to keep them inside instead of showing them. Thinking types were more positive than negative in their interactions with others when experiencing burnout.

Barrett (1991) compared various MBTI personality types with observable teaching behaviors of high school vocational education teachers. SFP teachers, referred to as "sculptors" (Team Technology, 2001), consistently had higher teaching effectiveness scores as measured by the Classroom Observations Keyed for Effectiveness Research (COKER), a low inference, sign instrument currently used in

several states to measure teaching effectiveness based upon 24 competencies.

SFP's are supporters, who demonstrate positiveness in their interactions with others and with the environment. SP types scored highest for eight of the twenty-four competencies. The eight competencies were "demonstrating enthusiasm for teaching", "demonstrating proper listening skills", "maintaining an active learning environment", "providing positive feedback", "demonstrating patience, empathy, and understanding", "helping students recognize progress and achievement", "providing examples of how tasks were to be completed", and "allowing for individual differences in evaluation" (Barrett, 1991, p.5). S teachers were better at recognizing when students did not comprehend a concept, unlike N teachers who were more likely to repeat themselves.

Attrition and Retention

Recruiting and maintaining qualified teachers have become a national concern. According to the National Commission on Teaching and America's Future (Rebora, 2003), the United States does not actually have a shortage of qualified new teachers. The real school-staffing problem is retention. Qualified teacher shortages stem from teachers

either leaving or moving from their jobs (Ingersoll, 1997). Approximately one third of America's new teachers leave teaching sometime during their first three years of teaching; almost half leave during the first five years (Rebora, 2003). Private schools have a higher turnover rate (12%-16%) than do public schools (8%-9%). Public and private schools under 300 enrollment have higher turnover rates, 17%, than do schools with larger enrollments, 9.3%. Public schools with half or more of their students receiving free lunch have a higher turnover rate, 10%, than do schools with a lower concentration of students receiving free lunches, 8% (Ingersoll & Rossi, 1995).

According to human capital theory, a decision to stay or leave a job or career is often based on how much a person has invested in it. An individual who stays in a profession accumulates specific human capital that is relevant to that profession only. The greater the amount of specific human capital the less likely the individual will consider leaving the profession. Therefore the more complex the initial training and the longer a person has held a teaching position, the less likely they are to see leaving as an option (Kirby& Grissmer, 1993; Benham & O'Brien, 2002). The Southern Regional Education Board found that "After about the

seventh year, as teachers gain experience, the rate at which they leave the classroom starts to level off" (Rebora, 2003).

Marso and Pigge (1996& 1997) followed 551 teachers for seven years after they commenced their teacher preparation program. They found that 49% were not working as teachers and that 29% of the class of candidates had made a successful transition to full-time teaching seven years after beginning their teacher preparation. Compared to female teachers, male secondary teacher candidates were more likely not to enter the teaching profession and less likely to remain if they began teaching. Teacher candidates who were very certain or almost certain about becoming teachers upon commencement of teacher preparation were almost twice as likely to actually teach. "According to some estimates, the best and the brightest stay in teaching an average of five years before changing careers" (Boles & Troen, 2000).

Table 4

Percentages of Teachers Who Stayed in Teaching

Age in Years	Under 30	30-50	50-55	Over 55
1993-94 NYS Secondary Teachers	7.50%	63.10%	18.40%	10.90%
1993-94 National Secondary Teachers	10.30%	63.70%	15.40%	10.60%
1993-94 NYS Elementary Teachers	11.20%	63.00%	14.60%	11.10%
1993-94 National Elementary Teachers	11.50%	64.60%	12.40%	11.50%
1999-2000 NYS Teachers	16.70%	49.20%	23%	11.10%
1999-2000 National Teachers	16.90%	53.80%	18%	11.40%

Note. (National Center for Educational Statistics, 1995).

Teacher Magazine (2002) described the average teacher as a 42-year old, white female, with 15 years of teaching experience. This statement is supported by data found in *The 1993-94 Schools and Staffing Survey: Selected Results*

(National Center for Educational Studies, 1995), as illustrated in Table 4, and the *Schools and Staffing Survey: 1999-2000* (National Center for Educational Studies, 2002). SASS 1999-2000 reported percentages of teachers who stayed in teaching, disaggregated by age, for each state. In most cases teachers under 30 years of age were the most likely to leave teaching when compared with other age groups. According to Boe et al. (1997), leaders in districts that are attempting to improve teacher retention should hire experienced teachers, aged 35 to 55, who have dependent children over age 5.

According to Andrew (1998), long-term studies have shown a higher rate of entry and retention of teachers from programs without undergraduate majors in education. Human capital theory also supports the concept of retention being related to the length and complexity of the training. Only 10% to 12% of the extended program graduates quit within five years as compared to twice that amount of four-year program graduates. Most of the four-year graduates who quit do so within the first two years. Self-selection based upon commitment may explain this retention discrepancy. Those who are committed to teaching are more likely to stay in teaching longer than individuals without a commitment to teach (Miller, Brownell & Smith, 1999).

The Urban Initiative Project of the George Washington University's Graduate School of Education and Human Development uses the UTSI as part of the entrance requirements to their graduate education program. The program requires a full-year internship, or student teaching experience, in an urban setting as opposed to the common two placements in a 15-week period. The extended placement should allow student teachers to develop the skills and experiences that form a strong foundation to support them in their early teaching careers. The Urban Initiative Project has produced graduates with the characteristics identified by both the UTSI and the Gallup TPI. The four-year retention rate for the members of the first cohort of George Washington University program is 87.5%. After three years teaching 73.7% of cohort two members remained and 100% of cohort three remained in teaching two years after graduating.

Among the top five requests for additional information, teacher retention appeared in 77% of the responses to the Council of Great City Schools 1994-95 survey (The Urban Teacher Collaborative, 1996). Murnane's study (as cited in Stevenson, Dantley & Holcomb, 1999) relating to teacher attrition and retention indicated that older female teachers new to the profession tended to remain in teaching longer, while younger female teachers were more likely to leave.

Elementary teachers had the lowest attrition rate while Chemistry and Physics teachers had the highest. Teachers with high scores on qualifying or credentialing exams were more likely to leave earlier than were teachers whose scores were low or average. Teachers from large urban districts tended to have shorter teaching careers than did those who worked in smaller suburban districts. African American teachers were less likely to leave teaching than were European American teachers. When placed in diverse schools, teachers who are not committed to a multicultural competence, as needed in urban classrooms, reported that they did not enjoy their jobs and generally left teaching within the first two years (Haberman & Post, 1998).

Chapman's (1984) study indicated personal characteristics as his primary variable influencing teacher retention. Chapman's personal characteristics included gender, race/ethnicity and socioeconomic status. Females tended to be more satisfied overall with a teaching career than males. Teachers from low socio-economic backgrounds were proportionally more likely to remain in teaching than were their more well off colleagues. Teachers who received positive recognition from their families and teachers whose spouses also taught were more likely to stay in teaching, than those who did not receive recognition. When both

spouses taught, there was a greater probability of both teachers staying in the profession.

The 1997 National Center for Educational statistics study (as cited in Stevenson, Dantley & Holcomb, 1999) concluded that when personal reasons such as age, retirement, poor health, family relocation, and pregnancy/childrearing were eliminated from the reasons for leaving teaching, dissatisfaction with teaching as a career was listed third, accounting for 8.7% in 1987-88 and 8.3% in 1990-91. This dissatisfaction may be in part because of a non-alignment of characteristics for success with the teaching locale or profession.

One of the few large studies of the teacher characteristics and school conditions related to retention and attrition has been produced by the Texas Educational Agency (TEA) (Texas Education Agency, 1995). According to that report, 19% of new teachers in Texas during 1992-93 left teaching during their first year. Of those who remained, 12% left after their second year and by the fifth year almost half of those original new teachers had left the classroom. Nationally, about 20% leave after one year of teaching, another 13% leave by the end of the second year. By the end of the fourth year, a little over half of the teachers had left teaching. Only a third of a cohort

will teach continuously for ten years (Kirby & Grissmer, 1993).

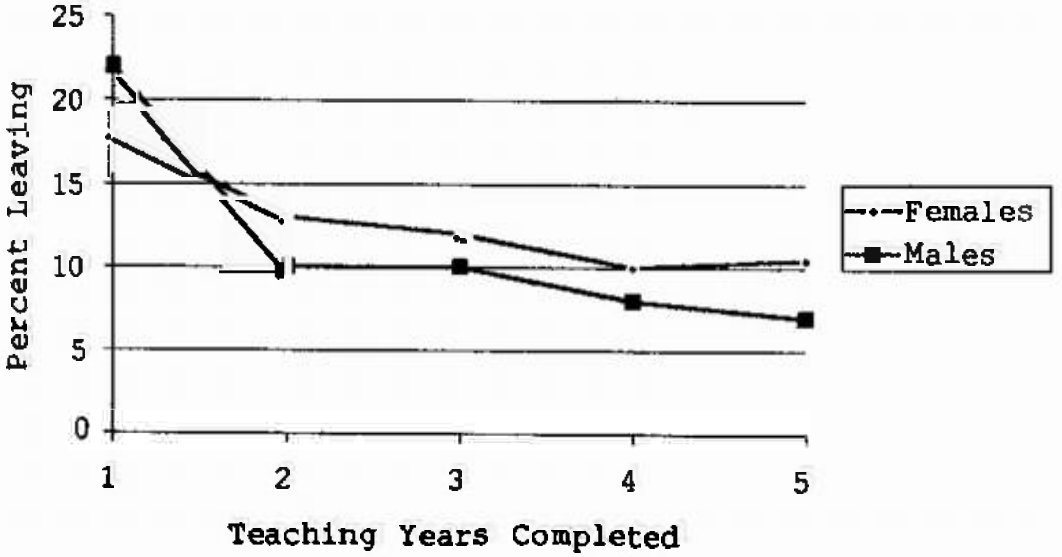


Figure 2. Texas teachers' risk of leaving teaching in the first five years, by gender. (Texas Education Agency, 1995, p.3).

In the Texas study, female teachers left at slightly higher rates than did males during the first five years, except for the first year when the risk of leaving was slightly higher for males. Nationally males have nearly a 25% lower rate of attrition than females do (Kirby & Grissmer, 1993). Although the first years in teaching are riskiest for everyone, females under 30 are especially likely to leave. After the initial five-year period, teachers of both sexes tend to have low attrition rates for the next 10 to 20 years. Figure 2 is a visual portrayal of the gender differences in teacher retention in Texas.

A comparison of the Texas rates to the national attrition rates showed that teachers in Texas tended to leave teaching at slightly higher rates during the first five years of teaching than did teachers in the national sample (NCES, 1995). Nationwide, teachers at the beginning of their careers, and with less than one to three years of experience, tended to leave at much higher rates than did those who had been teaching for 4-9 years or more; those with 25 years or more of experience, who also leave at high rates, presumably did so to retire. Table 5 illustrates this trend by comparing rates in Texas, 1992-93, with national data, 1990-1991.

Table 5

Texas and National Attrition Rates (%) by Experience.

Full Time Teaching Experience	Attrition Rates	
	Texas 1992-93	National 1990-91
Less than 1 Year	15.8	17.2
1 Year	10.6	8.4
2 Years	9.7	7.2
3 Years	9.9	6.9
4-9 Years	7.9	5.2
10-19 Years	5.2	2.5
20-24 Years	5.6	3.4
25 Years or more	12.2	11.0

Note. (Texas Education Agency, 1995, p. 5-6).

When attrition rates for Texas teachers were disaggregated by ethnic groups, American Indian and Asian new teachers left at 13.3% and 10.5% respectively. White and African-American new teachers left at approximately 8%. New Hispanic teachers left at the lowest rates, 6.7%. Several researchers have found that African-American and Hispanic teachers have higher survival rates than did white teachers (Adams, 1996, p. 268). Table 6 shows the

attrition rates for all Texas teachers by ethnicity for 1992-93.

Table 6

Texas Teacher Attrition Rates 1992-93.

Teacher Ethnicity	Number of Teachers	Attrition Rate
American Indian	279	13.3%
White	172,430	8.3%
Asian	775	10.5%
African-American	18,496	7.7%
Hispanic	31,102	6.7%

Note. (Texas Education Agency, 1995, p.4).

A display of national attrition rates by age forms a U-shape, with higher attrition rates for teachers under age 30 and over age 60. Table 7 gives the both the national attrition rates for 1990-91 and Texas attrition rates for 1992-93. The higher attrition rates for teachers under age 30 generally are attributed to both dissatisfaction with teaching and pregnancy or child rearing leaves for females.

Table 7

National and Texas Attrition Rates by Teacher Age

	Attrition Rates	
	National	Texas
Teacher Age	1990-91	1992-93
Under 25	9.1	11.3
25-29	9.0	10.0
30-39	4.2	6.9
40-49	2.0	4.7
50-59	6.7	4.1
60-64	26.8	3.9
65 or more	40.8	5.2

Note. (Texas Education Agency, 1995, p.5).

As the average age of a beginning teacher rises (Kirby & Grissmer, 1993), we may assume that there may be fewer new teachers who leave for reasons of pregnancy and child rearing early in their careers. Presumably, the high attrition rates for those teachers over 60 are related to retirements. The main reason given for leaving for teachers 40-49 years old was to pursue another career. Texas teachers under the age of 30 were more likely to leave than those aged 30 to 59. Of those teachers who

remained in teaching, teachers in schools located in urban areas who moved to suburban areas to teach accounted for 52.1% of the movement in a five-year period from 1988-89 through 1993-94. A longitudinal study of Indiana teachers, 1965-1987, indicated that older teachers tended to stay in teaching much longer than did younger teachers (Kirby& Grissmer, 1993, p. 19). Individuals who enter teaching later in life may have made deliberate decisions regarding their career choice, and possibly tried another career before entering teaching, thereby having a greater human capital investment at the beginning of their teaching careers than did teachers who begin immediately after completing college.

Murnane's study (as cited in Stevenson, Dantley & Holcomb, 1999) suggested that science and mathematics teachers, particularly those teaching chemistry and physics, are more likely to leave teaching than those teaching other subject areas. In contrast, the data from the *1992-93 Schools and Staffing Survey* (NCES, 1995) indicates that the subject taught does not influence teacher attrition.

Clearly, certain groups of teachers are particularly vulnerable to attrition. "Young, inexperienced teachers, experiencing the demands of teaching without a clear prior

knowledge of such demands, and subject to changes in family status and residential location, will have higher rates of attrition than any other group" (Kirby & Grissmer, 1993, p. 48).

Urban Teacher Selection Interview (UTSI)

Teacher attrition has been credited in part to shortsighted recruitment and selection processes. School leaders tend to narrowly focus on selecting a qualified candidate to fill a vacancy (Norton, 1999). Is there a match between the candidate's personal characteristics and philosophy and those of the district?

To increase the likelihood of retaining newly hired teachers, the district leaders should assure that the values of the district's population and the applicant match. Dooley's 1994 study (as cited in Stinett and Karr-Kidswell, 1999) conducted in rural West Virginia found that many students could not relate to the middle-class values, perceptions and expectations of their teachers. This is often an issue in urban areas as well, where culturally diverse, minority students are taught largely by middle class majority teachers. Teachers for the poor should be carefully selected to ensure that there is a match between

the perceptions, values and expectations of students and teachers.

The Urban Teacher Collaborative report (1996) indicated support for innovative approaches to selection such as urban teacher interview instruments and other experience based criteria. Eighty-seven percent of the Council of Great City School Districts that responded to the 1994-95 survey indicated that structured interviews that assessed aptitudes and characteristics were very useful as teacher selection criteria.

There is a general agreement that the "highly qualified" teacher referred to in the "No Child Left Behind" Act of 2001 must possess the subject-matter knowledge and the experience to influence student achievement positively (Ansell & McCabe, 2003). But what personal characteristics will assist teachers in transmitting that subject-matter knowledge to students and to staying in the teaching profession?

Haberman stated that only teachers who possess a particular set of attributes and ideology could successfully offer urban students the multicultural curriculum and support that they need (Haberman & Post, 1998). He has developed and refined an instrument that purports to identify seven important characteristics. The

characteristics, also known as mid-range functions, are (a) persistence, (b) response to authority, (c) application of generalizations, (d) approach to at-risk students, (e) personal versus professional orientation to teaching, (f) burnout and (g) fallibility (Haberman et al., 1993). The instrument does not discriminate against any ethnic or gender group. However, the instrument does tend to sort out individuals who are immature, unfamiliar with poverty or who lack resilience (Haberman, 1991).

The ability to develop interpersonal relationships and the communication skills developed by teacher candidates with extensive life experiences enable them to exhibit several of the characteristics enumerated by Haberman as necessary in effective urban teachers. Although age is not a factor, candidates who have greater life experience tend to score higher on the UTSI (Haberman, 1995b).

"The primary goal of a successful urban teacher is to teach pupils effectively whether such pupils are lovable or not" (Haberman, 1987, p.47). The mantra of the effective urban teacher should be "I defy you to prevent me from coming up with tasks that you will be successful at" (Haberman, 1987, p.42). This attitude exemplifies persistency and a professional orientation towards teaching on the part of the teacher. These teachers must believe

that they can make a difference in the lives of their students. This belief causes them to approach their work differently than those who believe that "the locus of control over their efforts and their students' learning resides outside themselves" (Haberman, 1987, p.24). Haberman contends that the strategies and efforts that result from this factor are often the difference between the success and failure of an at-risk student.

A teacher's response to authority is comprised of a critical set of behaviors that illustrate a teacher's willingness to work in, with and around the school authority, doing whatever is required to ensure the success of the students. This may, at times, require an innovative approach to problem solving and a "never give-up" attitude. A teacher's definition of at-risk students and an understanding of how they become at-risk is critical to what a teacher thinks that he can do to teach effectively. A teacher who believes that students from a low socio-economic background are not as capable academically will not put forth the efforts required, or not respond appropriately, to ensure the success of these students. Teachers who are able to see the applications of generalizations, principles and research findings will be able to translate abstract concepts to their students in a

concrete format. They will be able to create multiple examples from generalizations. Both of these techniques allow urban students to examine concepts at multiple levels and from various points of reference from within their lives, while gaining a more complete understanding of the concept.

Summary

The nation needs to recruit a great number of teachers over the next decade. According to the literature, in order to fill the vast numbers of teaching vacancies, districts should examine the characteristics valued by their building administrators and design their selection procedures to identify individuals who demonstrate these characteristics. The most commonly recognized characteristics include: a love of learning, the ability to transmit that they care about their students, fairness and enthusiasm, a dedicated commitment, and high expectations supported by the instructional scaffolding needed to reach those expectations. In addition, successful urban teachers must be persistent, make a conscious choice to pursue teaching and be comfortable with diversity and morality issues.

There are two standardized interviews that purport to identify teachers who meet the afore-mentioned criteria: the Gallup TPI and the UTSI. Similarities evident in both instruments become apparent when they are cross-referenced with MBTI types.

Approximately 1/3 of teachers leave teaching sometime during the first three years of teaching. Attrition rates vary somewhat by type of school, district and state. Many personal characteristics have an impact on the decision to leave teaching or to leave a district. According to Boe et al. (1997), leaders in districts that are attempting to improve teacher retention should hire experienced teachers, aged 35 to 55, who have dependent children over age 5.

Haberman stated that only teachers who possess a particular set of attributes and ideology could successfully teach urban students (Haberman & Post, 1998). The UTSI, developed by Haberman, purports to identify such teachers.

This study investigated the relationship between the retention rate for those who received employment offers from the 1999 BPS ordered hiring lists and the results of the UTSI applied to the applicant pool. Chapter III describes the methods and procedures used in this study.

CHAPTER III

Methodology

As a review of the literature produced a limited amount of information and empirical evidence with respect to the UTSI, the researcher initiated this study to advance the information available. This chapter describes the methods and procedures used to conduct this study. After the introduction, the chapter is organized in the following subsections: Study Design, Participants, Instrument, Training and Scoring, and Analysis Steps.

Introduction

The "revolving door" of teachers entering and leaving the profession has created the perception of a teacher shortage when in reality the problem is retaining teachers. The purpose of this study was to determine the ability of the UTSI to identify prospective teachers who will accept positions in and continue to teach in an urban district. In particular, the following questions were addressed.

1. How did the retention rate for teachers selected with UTSI compare to the general rate of teacher retention in the United states during the same period?
2. What was the relationship between the certification tenure area and the total score earned on the UTSI for the teachers in this study?
3. What was the difference in retention rates between those whose certification areas lie in the humanities and those who lie in the sciences?
4. What was the relationship between the scores of those teachers who did not earn zeros on the UTSI and their retention in district?

Design

In 1999, the BPS Procedure consisted of an application, the standardized UTSI and a written component, scored twice. Two different pairs of raters scored the written segment. One pair of raters, the administrator and a teacher of the tenure area tested, scored the paper for knowledge of the subject area and appropriate pedagogy. A second team of an English Language Arts teacher and an administrator scored the paper for demonstrated ability in the use of written English language. Each type of scoring

used a rubric that was provided to the teacher candidates in advance of the May 8, 1999, written examination date.

To be placed on an ordered hiring list, also known as eligibility lists, a candidate must have been successful on all three segments of the Procedure: Writing Skills, Content-Area knowledge and the UTSI interview. Each segment was weighted: 20% for the Writing Skills, 40% for the Content Area knowledge and 40% for the UTSI. A candidate's total score on all three segments determined the candidate's rank on any ordered hiring list on which he was placed.

After the January 1999 approval of the BPS Procedure by the Buffalo Board of Education, the BHRS contracted with the Haberman Foundation to provide training for interviewers in the use of the UTSI. In mid-April, five two-day training sessions were held to accommodate approximately 35 persons per session. Approximately 150 administrators, teachers and district parents of diverse ethnicities attended the training seminars. Instruction provided an in-depth background of each of the seven mid-range functions, how each might manifest itself in a "Star" teacher and the types of responses expected from "Star" teachers during an interview. Prospective interviewers

were required to attend both days of training and to pass a performance assessment using the UTSI.

After the completion of the training, BHRS assembled three-person interview teams, consisting of a parent, a teacher and administrator and balanced by ethnicity and gender, from among the successfully trained interviewers. During a three-month period beginning in May, all teacher candidates were interviewed. Interviews lasted approximately 30 minutes and were scheduled in 45-minute intervals. The additional 15 minutes allowed interview team members to total their scores, discuss their individual results with the team or to refer to the audio taped interview to verify the basis for their scoring decisions.

Teacher candidates received three scores for each question. Each response to the 15 interview questions earned a score from 0 to 3 in half-point increments from each interviewer. Thus, the maximum number of zeros that a participant could earn was 45. The highest possible score was 135. Most participants scored above zero on all the questions. These candidates generally ranked higher than did those candidates who scored one or more zeros on the interview questions.

Interviewers' scores were scanned into the database, which recorded a candidate's scores for each individual question as scored by each of the three interviewers as well as the total scores. BHRS kept records of job offers made from the 1999 BPS Procedure, the dates that individuals were hired and left the District, and the tenure areas in which the teachers worked. Tenure area records were important in determining the employment variable because many teachers declined employment in one tenure area but accepted employment with the District in another tenure area.

Participants

During the 1999 TSP, 1670 individuals submitted applications for the BPS Procedure. Some candidates (n=1309) participated in both the written and the interview segments. Scheduling for the interview segment occurred after candidates completed the written segment on May 8, 1999. The results of the written segment were not known at the time of the interview. Completing the written segment was a prerequisite for scheduling an interview. Those who did not complete the written segment were not scheduled for an interview.

For each segment, a score of two standard deviations below the mean was identified as the cut-point used to determine whether individual participants were successful on each segment. Passing all segments of the Procedure was a requirement for placement on an eligibility list. Of the 1309 candidates who participated in all segments, 91.6% placed on eligibility lists in 73 tenure areas. Those teachers who were successful on all three segments of the 1999 BPS Procedure form the target group for this study.

Instrument: The UTSI

The Urban Teacher Selection Interview (UTSI), developed by Haberman is an extension of the work of David G. Ryan, which described some elements of a good teacher (Haberman, 1995b). Ryan referred to his conclusions as a teacher's personal characteristics. Robert Merton, a sociologist, advocated that each profession develop mid-range functions of groups of behaviors that effective practitioners in the field would demonstrate.

During the approximately 30-minute interview, candidates are asked two questions, which may be followed by additional probing questions, to address each of seven mid-range functions. "Each of the seven mid-range functions comprises a chunk of several teacher behaviors

which combine into behavior patterns" (Haberman, 1993, p.2).

By observing 124 student teachers in New York City schools from 1958-1961, Haberman identified eight mid-range functions for teachers. From 1962-1965, he developed and refined interview questions that would allow prospective teachers for the National Teacher Corps Program to demonstrate all but two of the mid-level functions. continued refinement of the interview questions occurred while he worked with uncertified first-year Chicago teachers in 1966-67.

From 1990 through 1992, the instrument was used to interview prospective uncertified teachers in the Milwaukee Public Schools. Teachers interviewed and hired were categorized in two groups. Group A, those hired in September 1991, did not receive on-site coaching from mentor teachers. Those hired in September 1992, Group B, received on-site coaching from district master teachers. The study compared the interview's predictor results with the final evaluations of the supervising principals. This comparison yielded a rank order correlations of $R_A = 0.87$ for Group A and $R_B = 0.79$ for Group B (Haberman, 1987). In other words, over 75% of the time the interview ratings agreed with the principal's final evaluations. In general,

the interviewees who ranked in the top half of their group for the interview results were also in the top half of their group for the principal evaluations. All members of both groups were still teaching in the Milwaukee Public Schools 2.5 years after they were first hired.

According to Haberman (personal communication [fax], September 23, 1998), each city using the interview keeps its own records. The UTSI provides a construct validity among trained raters of 95%, meaning that those interviewees who avoid scoring a zero on all questions have ratings of satisfactory or higher by school principals 95% of the time. Alternately stated, there is a 5%, or 1 in 20, chance of hiring a teacher who will be a quitter or a failure (Haberman, 1995b).

Five of the seven mid-range functions addressed by the interview can be observed in a teacher's practice. Therefore, variations in an interviewee's performance can be predicted from his or her interview scores. A teacher's approach to at-risk students accounts for 21% of the success observed in a teacher's performance. Persistence accounts for 13% of a teacher's total score and 34% when persistence and approach to at-risk students are combined. Together the five mid-range functions listed in Table 8 account for 59% of a teacher's success. Table 8, a display

of the results of a multiple regression analysis of performance predicted by the UTSI, lists the most powerful predictors of an interviewee's success and its cumulated variations.

Table 8

Multiple Regression Analysis of Interview Scores as Predictors of Performance

Mid-Range Function	Variance	Cumulative Variance
#4 Approach to at-risk students	0.21	
#1 Persistence	0.13	0.34
#2 Response to authority	0.12	0.46
#7 Fallibility	0.08	0.54
#6 Burnout	0.05	0.59

Note. From M. Haberman, personal communication [fax], September 23, 1998. Reprinted in full in Appendix A with the permission of the author.

As reported by Haberman (personal communication [fax], September 23, 1998), there are no significant differences between the passing rates of males and females and no difference in the distribution of their scores. Age is a statistically significant discriminating factor. Those

interviewees under 25 have a pass rate of 1 in 10, while those over 30 have a 1 in 3 rate of passing. There is no statistical difference between the passing rates of majority and majority interviewees. Specifically, European Americans have a pass rate of 51% while 60% of African Americans pass the interview. Southeast Asian and Hispanic culture groups have been specifically tested to determine possible test bias and none has been found. During the hiring period for the 1998-99 school year in San Francisco 59% of the minorities and 50% of the Caucasians passed the interview (W. Tang, personal communication [fax], October 5, 1998). Because of the shortage of certified teachers in California, all applicants who possessed at least a bachelor's degree were interviewed.

The UTSI does not address a candidate's subject-matter knowledge or basic skills. All interviewers must be trained in the use of the instrument in order to be effective. As a result of the training, Haberman states that 5 out of 6 interviewers, over 83%, will score a candidate within one point of each other (Haberman, 1995a). Reviews of the interview scores produced by the 1999 BPS Procedure by the BHRS during the 1999 Procedure and by this researcher support his statement of high inter rater validity.

Training and Scoring

The BPS leaders arranged two full days of training in the use of the UTSI instrument for all interviewers to familiarize themselves with the UTSI, to reduce any bias that may have existed and to ensure the accurate use of the rating scales for each question.

Haberman, the developer of the interview instrument, and the staff of the Haberman Research Foundation conducted the training. Opportunities to view videotapes of "Star" teachers demonstrating mid-range functions related to the interview questions, afforded participants real-life practice. Instructors used videotapes of teacher candidates responding to the interview questions to practice scoring interview question responses. To provide practice in developing the probing follow-up questions used in the interview and to give participants the opportunity to interact as interviewers on an equal footing, practice teams were assembled during training sessions. This was important as many of the teachers and parents lacked prior interviewing experience. Prospective interviewers who were not able to pass a performance evaluation administered by the trainers did not interview.

After each interview was completed, the interview team had approximately 10 minutes to discuss members' ratings and total their individual scores. This allowed interviewers to verify scores with their colleagues and to replay the audio-taped interview. Haberman claims an 85% inter-rater reliability within 2 points on each question (Haberman, 1995b).

Analysis Procedure

Personal data collected from the applications were disaggregated by gender and ethnicity. Human Resources staff recorded whether candidates accepted or declined employment offers. The employment variable (E) indicated those teachers who have declined employment offers generated from the 1999 eligibility lists with a "0" and those who accepted with a "1". A "2" indicated teachers who accepted employment in another tenure area for which they tested. Tenure-area directors and supervisors supplied data regarding the employment status, as of June 2003, of teachers from the 1999 eligibility lists. The retention variable (R) indicated employment length in the BPS in increments of 0.1 for each month employed. Total interview scores and the number of zeros scored on the

interview were recorded for each participant at the time of the 1999 BPS Procedure.

National statistics regarding the number of teachers who choose not to teach were compared with the percentage of teachers who declined offers of employment. The percentages of teachers who leave BPS after 1 year, 2 years, 3 years, were compared with national statistics for the same periods. Relationships that exist between a teacher's interview scores and the retention variable were determined using the Spearman rho correlation. In addition, the study examined the correlation, if any, between the number of zeros scored on the interview and retention in the District.

Analysis of variance (ANOVA) was used to investigate the differences, if any, between the candidate's tenure area and his/her total interview score and between his/her tenure area and retention. Based upon the outcome of the ANOVA analysis, further investigation to determine if the interview was biased toward those individuals with a humanistic background was accomplished by application of a one-tail independent group t-test. Additionally a 2-tailed independent group t-test was used to determine the significance of any observed differences between teachers

with a humanistic or scientific background and number of months employed in the District.

Chapter IV provides the results of the study.

CHAPTER IV

Data and Analysis

1999 Teacher Selection Procedure Candidates

There were 1670 applications submitted for teacher candidates in 1999. The total number of teacher candidates who participated in all parts of the 1999 BTSP was 1309. There were 1200 successful teacher candidates or 1414 placements on tenure-area lists. Some candidates were ranked in more than one tenure area (see Table 11). Of the total applicant pool, 71.86% were placed on lists for future canvassing.

Table 9 reports the ethnicity and gender of the teacher applicants. More than two-thirds of applicants, 69.34%, were female. There were only 260 (15.56%) minority applicants, although the Human Resources (HR) department was unable to determine the ethnicity of 392 or 23.47% of the applicants. The HR department was disappointed with the lack of minority interest in teaching in the Buffalo Public Schools (BPS). Even if all of the unidentified applicants were minorities, the representation of minority

applicants would not be equal to their proportion of the local Buffalo population, approximately 50%.

Table 9

Ethnicity and Gender of Teacher Applicants

Gender	Majority	Minority	Unknown	Totals	
Female	679	201	278	1158	(69.34%)
Male	334	59	110	503	(30.12%)
Unknown	5	0	4	9	(0.54%)
Totals	1018	260	392	1670	
	60.95%	15.56%	23.47%		

The Interview Segment

Interviews were scheduled from May through July 1999 after candidates had completed the written segment of the Procedure. Interviews were conducted both during school hours and on Saturdays from 8:30a.m. to 4:00p.m. at a variety of school sites. Teacher candidates participated in only one interview regardless of the number of tenure areas for which they completed the written segments. A single score for the UTSI was used in the scoring process for all tenure areas for which a teacher candidate

participated. Candidates could participate in up to three tenure areas. Over 95% of those interviewed passed the interview. Table 10 gives a breakdown of the number of candidates who passed and who failed the interview.

Tenure Area Eligibility Lists

Placement on an eligibility list required a teacher candidate's scores for all three segments (the Interview, the Content-Area, and the Writing Skills) to be passing scores. In addition, the teacher candidates in all Bilingual tenure areas and both Music tenure areas must have completed and passed a performance assessment in the area.

Table 10

Passed/Failed Status of Candidates Interviewed

	Participants	Passed	Failed
N	1309	1250	59
Percent	100	95.5	4.5

A component consisted of an interview score, a writing score and a content-area score. There were 1667 tenure area components taken in all tenure areas. Most candidates, 1066, participated in only one tenure area

component. Candidates who participated in two tenure area components numbered 33, and 45 teacher candidates participated in three tenure area components. Of the 1667 components, consisting of an Interview score, a Content-Area score, and a Writing Skills score, there were 1414 placements on lists. Many teacher candidates were successful in more than one tenure area and placed on more than one list as illustrated in Table 11.

Table 11

Candidate Distribution by Placements on Lists

Tenure Areas Participated	Participants	
	Number	Percent
1	1066	93
2	33	3
3	45	4
Total	1144	100

Table 12

Ethnicity of Candidates Placed on Lists

Ethnicity	N	Percent
Caucasian	1126	79.63
African-American	136	9.62
Hispanic	74	5.23
Asian	5	0.35
Native American	3	0.21
Pacific Islander	1	0.07
Unknown	69	4.90

Females placed on eligibility lists numbered 1011, or 71.5% of the total placements, while males accounted for 390, or 27.81%. Of those candidates placed on tenure-area lists 1126, or 79.63%, were Caucasian. Minorities included African-American, 9.62%; Hispanic, 5.23%; and Asian, Pacific Islander and Native American at less than 1% each as listed in Table 12. Tenure areas with a greater than 10% representation of minorities included: Attendance, 40%; Bilingual Elementary, 76.9%; Bilingual Special Education, 71.4%; Biology, 15%; Business & Distributive Education, 21.7%; Chemistry, 20%; Elementary Education, 13.1%; English, 13.6%; English as a Second Language, 26.7%;

French, 100%; Library Media Specialist, 16.7%; Music, 21.9%; School Psychologist, 13.8%; Spanish, 61.1%; Special Education, 15.4%; and Technology, 15.8% (refer to Appendix B.). High percents of minority placements on eligibility lists occurred in tenure areas in which local minority students are generally successful. Chemistry was the exception. A low N of 20 most likely influenced the high rate of minority representation on the Chemistry eligibility list.

Teacher Candidates Who Were Hired

Of the 1414 placements on eligibility lists, 905 individuals, 64% of the placements on tenure-area lists 75.41% of the individuals on the lists, were hired during the two-year life of the lists. There were 411 individuals, who declined employment with the District or who were on lists that were never fully canvassed for employment. Certain tenure areas, such as School Guidance Counselors and School Social Workers, produced a larger quantity of successful individuals than could be offered employment opportunities during the two-year life of the lists. They are included in the count of 411 individuals, or 29.07%, who were not hired. Of the 905 hired, 98 individuals were offered employment in more than one tenure

area but accepted in only one area. A total of 25.42% of the individuals on the tenure area eligibility lists did not accept employment within the BPS as compared with the national average of 40%.

Some individuals were canvassed for employment but were unable to accept because they did not possess a New York State teaching certificate in the tenure area for which employment was offered. Others did not accept offers because they were not Buffalo residents and they did not wish to move into the city. Buffalo has a policy of making offers of employment for probationary positions only to teachers either who live in the city or who are willing to move into the city within six months of their probationary appointments.

Academic tenure areas hired 876 teachers, 63.94% of the total placements on academic lists, while the vocational tenure areas accounted for 29 acceptances of employment or 65.91% of the eligible teachers. Although the overall acceptance rate was 64% of the placements on the eligibility lists, the rate of acceptance varied widely among the tenure areas (see Appendix C). In tenure areas with lists of ten or more individuals, a 90% or higher acceptance rate occurred in the areas of Bilingual Education, Attendance and Chemistry. An 80% to 89.9% rate

of acceptance occurred in the areas of English as a Second Language, School Psychologists and Library Media Specialists. In most tenure areas between 50% and 79.9% of the eligible teachers accepted employment. In the tenure areas of Reading, Guidance Counselor, Business & Distributive Education and Hearing Impaired, fewer than half the candidates placed on eligibility lists accepted employment.

Although individuals were placed on the Health Education and Chemical Technology eligibility lists, no one from these lists accepted employment in those tenure areas. Of the five persons on the Health Education list, two were hired in another tenure area, two declined employment offers in Health Education and one declined employment offers in all three areas for which she was eligible. The individual placed on the Chemical Technology list was unable to produce the required state certification or evidence of eligibility to obtain it; so could not be hired.

Interview Scores

Candidates received scores from three interviewers, ranging from 0.0 to 3.0, on 15 questions during the interview. Traditionally any interview score that included

a rating of zero on one or more questions was considered failing. The HR department accepted any score at or above the cut point, 104, of two standard deviations below the mean interview score, 115, as passing regardless of whether they included one or more 0 scores. Therefore, candidates who scored from 104 through 135 on the interview segment passed that segment. Consequently, 207 individuals, or 22.87% of those employed, were hired from eligibility lists and would not have passed the interview if the normal rating procedure had been followed. Of the 905 individuals hired, over 77%, or 698 teachers, earned total scores that did not include a zero.

A Chi Square test for interview score and tenure area was not significant, probably due to the extremely large number of tenure areas (73) tested. However, when the tenure areas were separated into academic and vocational groups, at-test of independent groups returns at-value of 2.14, which was significant at the 0.03 level. The mean interview score for academic tenure areas was 115.20 with an N of 1320. Vocational tenure areas, with an N of 94, had a mean interview score of 112.08. The average academic teacher scored higher than did vocational teachers on the interview.

A sorting of academic teachers into two independent groups of humanities-based tenure areas and math/science-based tenure areas yielded at-score of 2.69 that was significant at the 0.01 level. In general, teachers of humanities scored slightly higher on the interview than did math/science teachers. The mean interview score for humanities teachers was 115.39, while the mean score for math/science teachers was 112.17. These results were for an N of 1414 and therefore included all teachers placed on eligible lists and not just those hired. Table 13 illustrates these results.

Table 13

Interview Scores by Tenure Area Types

Category	N	Mean	Std. Deviation	Std. Error
PPS	202	116.45	15.571	1.096
Humanities	975	115.39	13.174	.422
Math/science	143	112.17	14.435	1.207
Vocational	94	112.08	12.837	1.324
Total	1414	114.99	13.700	.364

A one-way ANOVA, detailed in Table 14, comparing the interview scores of four types of tenure areas yielded

similar results. Pupil personnel support (PPS) teachers scored the highest on the interview with a mean score of 116.45, followed by humanities, math/science and vocational teachers. The absolute difference in the means was small, 4.37. The analysis of variance produced an F-value of 4.51 with a significance of .00. Tables 13 and 14 display this information.

Table 14

ANOVA - Interview Scores by Tenure Area Types

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2518.751	3	839.58	4.51	.00
Within Groups	262692.460	1410	186.31		
Total	265211.210	1413			

Retention

A total of 905 teachers were hired from the 1414 placements on the 1999 eligibility lists. The average retention for the 698 teachers hired without a zero score on the interview was 3.30 years. The 207 teachers hired who scored one or more zeros on the interview were retained for an average of 3.15 years. A Spearman rho correlation

between the number of zeros scored and the retention of those teachers hired was -0.09, but significant at $\rho \leq .01$. The fewer the number of zeros scored on the interview the longer a teacher was likely to stay in the District after being hired. A positive correlation of 0.13 existed between retention and the interview score, and was significant at $\rho \leq 0.00$. The higher the interview score the longer the teacher was likely to stay in the District. Both correlations were low but statistically significant.

At the close of the 2002-2003 school year 628, or 69.39%, of the 905 teachers hired remained employed in the District. During the first year, 106 teachers left, including one individual who left at the end of the first day. At the end of year two, 56 additional teachers had left the District. By the end of the 2001-2002 school year, 273 of the original 905 teachers hired had left. During the 2002-2003 school year, four additional teachers left the District. Table 15 illustrates this data.

Table 15

Annual Attrition of Those Hired from 1999 Lists

Retention in years	No. Left	% Left Annually	No. Remain	% Retained of Total Hired
0.1-1.0	106	11.71	799	88.29
1.1-2.0	56	7.01	743	82.10
2.1-3.0	111	14.93	632	69.83
3.1-4.0	4	0.42	628	69.39

Table 16

Annual Attrition by Gender

During Years	Females Left	Males Left
0.1-1	77	29
1.1-2.0	36	20
2.1-3.0	80	31
3.1-4.0	4	0

A higher percentage of teachers who left were male than were female (see Table 16). At-test returned an F-value of 0.07, which was not significant. The mean retention for females was 3.26 years and for males 3.28.

Therefore, there is no significant difference in the retention of males and females in this study. This result is contrary to the outcomes reported by Kirby and Grissmer (1993), who stated that nationally males have an approximately 25% lower rate of attrition than do females.

A Chi Square test for retention and tenure area was not significant due to the extremely large number of tenure areas (573). However, when tenure areas were sorted into four types, humanities, vocational, pupil personnel support and math/science, significant results were reported for those teachers hired. Math/science type teachers were retained an average of 3.94 years. Humanities teachers stayed an average of 3.38 years, while vocational teachers mean retention was 3.17 years. Pupil personnel support teachers, which included school psychologists, school social workers, attendance teachers, and guidance counselors averaged only 2.06 years in the District. The analysis of variance produced an F-value of 75.89, significant at $\rho \leq 0.00$. The specifics are listed in Tables 17 and 18.

Table 17

Retention of Teachers Hired During This Study

	N	Mean	Std. Deviation	Std. Error
Math/science	98	3.94	0.049	0.005
Humanities	628	3.38	0.988	0.039
Vocational	70	3.17	1.286	0.154
PPS	109	2.06	1.030	0.099
Total	905	3.27	1.080	0.036

Table 18

ANOVA - Retention of Teachers Hired

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	212.514	3	70.84	75.89	.00
Within Groups	840.988	901	.93		
Total	1053.502	904			

Answers to Questions Posed for this Study

1. How does the retention rate for teachers selected with UTSI compare to the general rate of teacher retention in the United States during the same period?

   Teachers hired using the UTSI as part of the selection process had an average retention of 3.27 years for the first four years of employment. Nationally over one third of teachers hired left within the first three years as compared with Buffalo's 30% attrition rate over four years.

2. What is the relationship between the certification tenure area and the total score earned on the UTSI for the teachers in this study?

   Although the relationship could not be determined for individual tenure areas, in general, the average academic teacher applicant scored higher on the interview than did the vocational teacher applicants.

3. What is the difference in retention rates between those whose certification areas lie in the humanities and those who lie in the sciences?

   On average, math and science teachers were retained almost 6 months longer than were humanities teachers, over 7 months longer than were vocational teachers and

over a year more than were pupil personnel support teachers.

4. What is the relationship between the scores of those teachers who did not earn zeros on the UTSI and their retention in district?

The lower the number of zeros scored on the interview the longer a teacher was likely to remain in the District. The higher the interview score the longer the teacher was likely to stay in the District. There was little difference between the length of service of those teachers who earned zeros on the interview and those who did not score a zero on any question.

A discussion of the implications of these results and suggestions for further research follows in Chapter V.

CHAPTER V

Discussion, Educational Implications, and Future Research

Study Design Based on Current Literature

The current perception of a teacher shortage is in reality a problem of teacher retention and the uses of teachers in the elementary and secondary educational systems of the United States. Teacher education programs are producing fewer teacher than are needed in many fields. We must retain our current teachers in order to enable our students to meet the challenges imposed by the new standards evident in most states. If districts were able to hire teachers who would be willing to stay in the district for many years, there would be a sufficient number of well-qualified teachers for our schools.

Effective urban teachers must possess not only the requisite content knowledge and pedagogical skills but also a belief system that makes them more sensitive to the needs of the urban student. How do we identify individuals who are well matched to a district and likely to be retained by the district over several years? This question is

especially relevant for urban school districts. The UTSI claims to be able to identify teachers who have the characteristics needed to be successful as an urban teacher. The study was designed to utilize the UTSI under the premise that if teachers were identified as having the potential to be successful in an urban setting, once they accepted positions, they would be more likely to stay in the district.

Review of Findings

Of 1200 individuals, who accounted for 1414 placements on the 1999 Buffalo eligibility lists, 905 teachers were hired over the two-year life of the lists. A total of 25.42% of the placements did not result in employment as compared with the national average of 40% of trained teachers who do not enter the teaching field. The rate of acceptance varied widely among the tenure areas with no clear pattern being evident.

The HR department accepted as passing scores from 104 through 135 on the interview regardless of whether a score included a rating of "0" on one or more questions. In general, academic teachers scored higher than vocational teachers did. This may be partly due to certification requirements. Academic teachers must have at least a

bachelor's degree as well as specialized coursework to be eligible for state certification. Vocational teachers need only an associate's degree and proof of a specified amount of experience in their area to obtain state certification. Pupil personnel support (PPS) teachers scored the highest on the interview, followed by humanities teachers, math/science teachers and vocational education teachers. PPS teachers include school psychologists, school social workers, attendance teachers and guidance counselors. Many of these certifications require advanced coursework past the bachelor's level and specifically in psychology. This may account for the higher average interview score for this category.

The average retention rate for the 905 teachers hired was 3.27 years. In general, the higher the interview score the longer the teacher was likely to be retained. There was no significant difference between the mean retention of those hired with interview scores that included zeros, 3.15 years, and those hired with interview scores that did not include zeros, 3.30 years. Therefore, the lower the number of zeros scored on the interview the longer the teacher was likely to be retained in the District after being hired. Contrary to the outcomes reported by Kirby and Grissmer

(1993), there was no significant difference between the retention of males and females in this study.

Vocational education teachers were retained at a slightly higher rate, 3.44 years, than academic teachers, 3.26 years. The results were different, however, when academic teachers were separated into three categories and compared with the vocational teachers. Math/science teachers were retained an average of 3.91 years, while humanities teachers stayed in the District an average of 3.38 years. The high retention rate of the math/science teachers differs from the research. A possible explanation could involve their certification. Some may have been teachers holding a temporary certificate issued by the state for shortage tenure areas. Because the temporary certificates must be applied for and renewed through the district, teachers who may have wished to move to a suburban district were discouraged from doing so. PPS teachers were retained on average only 2.16 years. Many of the PPS positions are dependent upon funding from grants. The time-period covered by a grant may be only one to two years. In addition, in times of budgetary crisis, these positions are often among the first cut because they are not a mandated service.

Although PPS teachers on average scored the highest on the interview, they were the least likely of the four categories to be retained in the District. This mirrors the results of Murnane's study (Stevenson, Dantley, Holcomb, 1999), which states that teachers with high scores on qualifying or credentialing exams were more likely to leave earlier than their lower scoring colleagues

Annual teacher attrition rates in this study were lower than national rates with the exception of the third year. Refer to Table 19. An attrition rate of 30.61% after four years compares favorably with the national average of 39% to 50% attrition in the first five years (Ingersoll, 2000).

Table 19

Comparison of Annual Attrition Rates

Attrition in Years	BTSP %	National%
0.1-1.0	11.71	25.6
1.1-2.0	7.01	7.2
2.1-3.0	14.93	6.9
3.1-4.0	0.42	5.2

Note. Compiled from Tables 5 and 15.

A layoff due to budget constraints occurred during the third year in December 2001, and January 2002. It affected approximately 200 teachers and may have had an effect on retention in the third year. Although the researcher considered the employment continuous if the teacher returned to the District as vacancies occurred, some laid off teachers found other employment. These teachers were not available when they were offered an opportunity to return to work over the following twelve months. Some laid off teachers were never recalled due to budgetary restraints.

In general, the UTSI provided a viable method of identifying teachers who were more likely to be retained in the District. Contrary to Murnane's study (Stevenson, Dantley, Holcomb, 1999), there is a significant difference between the retention of math/science teachers and other academic teachers. In the broad sense, this study also contradicts the findings of the National Center for Educational Studies (1995) research that states that subject area does not influence attrition rate.

Limitations

While the results of this study are valid, several matters may have affected the results. First, the BPS did

not score the UTSI in the manner prescribed by its developers. A cut-point was set at two standard deviations below the mean. The cut-point was used to determine whether individual participants were successful on the interview. In this study, it was therefore possible for a participant to pass the interview who would not have passed under the prescribed conditions. However, there appeared to be no significant difference in their retention rates. Those teachers hired without zeros in their interview scores averaged 3.30 years retention in district. Those teachers hired with zeros in their interview scores averaged only slightly lower, 3.15 years retention in district. In addition, some participants passed the interview but were unsuccessful in the writing segment and/or the content area segment. Although they only numbered 56, they may have influenced the retention rate if they had been hired.

Second, the eligibility lists from which all hiring was done were not published until mid July. This gave tenure area directors and supervisors a very limited time span in which to contact prospective teachers and to offer employment. Many teachers who had participated in the BTSP had accepted positions in other districts or in other states, because they could not afford the possibility of

being without a position at the start of the school year. This affected both the percent of teachers declining employment offers and the length of retention, as many teachers were not hired until October or November. Length of retention was computed from the Board of Education meeting date on which a teacher was appointed from an eligibility list.

Third, Buffalo has a residency policy that requires newly hired teachers either to be city residents or to move into the city within six months of a probationary appointment. This policy affected both the number of teachers accepting employment and the number of teachers who left after their first year or less. Teachers who are not city residents may be employed only as a temporary teacher. Appointments of temporary teachers are for one year or less. Although their appointments may be renewed indefinitely, temporary teachers have no guarantee of returning each year. Although the retention of teachers was based on their length of service to the district only, being a temporary teacher made annual reemployment less likely. Therefore, the residency policy may have been the cause of some attrition.

Finally, the BTSP was open to anyone who claimed to be eligible for New York State certification. Some of the

participants had not completed their coursework or state testing requirements for certification when they were canvassed for employment and had to decline. Others did not complete the state requirements to maintain their certification and had to be laid off at the end of the third year of employment. All of these cases negatively impacted the retention rate.

Questions Answered

1. How does the retention rate for teachers selected with UTSI compare to the general rate of teacher retention in the United States during the same period?

   Teachers hired using the UTSI as part of the selection process had an average retention of 3.27 years for the first four years of employment. Nationally over one third of teachers hired left within the first three years and about half after five years (Kirby & Grissmer, 1993) as compared with Buffalo's 30% attrition rate over four years.

2. What is the relationship between the certification tenure area and the total score earned on the UTSI for the teachers in this study?

   Although the relationship could not be determined for individual tenure areas, in general, the average

academic teacher applicant scored higher on the interview than did the vocational teacher applicants.

3. What is the difference in retention rates between those whose certification areas lie in the humanities and those who lie in the sciences?

   On average, math and science teachers were retained almost 6 months longer than were humanities teachers, over 7 months longer than were vocational teachers and over a year more than were pupil personnel support teachers.

4. What is the relationship between the scores of those teachers who did not earn zeros on the UTSI and their retention in district?

   The lower the number of zeros scored on the interview the longer a teacher was likely to remain in the District. The higher the interview score the longer the teacher was likely to stay in the District. There was little difference between the length of service of those teachers who earned zeros on the interview and those who did not score a zero on any question.

Conclusions

The most basic reason associated with teacher attrition is personal characteristics (Chapman, 1984).

Respondents to a Council of Great City Schools survey listed structured interviews in the top three selection criteria (The Urban Teacher Collaborative, 1996). The UTSI purports to identify potential teachers who possess the characteristics needed by successful urban educators (Haberman, personal communication [fax], September 23, 1998). This study attempted to identify teacher candidates who possess the personal characteristics to become successful long-term urban teachers. The teachers in this study were retained at a rate of over 69% after 4 years as compared with over half of new teachers leaving during their first 4 years nationally (Kirby & Grissmer, 1993). Therefore, the results of this study support the UTSI claim to be able to identify teachers whose personal characteristics lead to increased retention in districts.

According to the *1999-2000 Schools and Staffing Survey* (NCES, 2002), new teachers under the age of 30 years of age were the most likely to leave teaching when compared with other age groups. The UTSI is biased in favor of experienced individuals or those over 30 years of age (Haberman, personal communication [fax], September 23, 1998), therefore, supporting the recommendation of Boe et al (1997) to hire experienced teachers, aged 35 to 55 years of age in order to improve teacher retention. Therefore

using the UTSI interview score as the basis for hiring teachers would consequently improve retention.

The results of this study contradict the *1992-1993 Schools and Staffing Survey* (NCES, 1995), which indicates that the subject taught does not influence attrition rates. In this study pupil personnel support teachers, including school psychologists, school social workers, attendance teachers and guidance counselors, scored the highest on the interview but recorded the lowest retention rate as compared with other groups of teachers in this study. Their retention rate was over one year less than other groups. As previously mentioned, the impact of layoffs on this group of teachers may have had an impact on their retention rate.

The study's results also contradict Murnane's study (as cited in Stevenson, Dantley& Holcomb, 1999). Murnane suggests that math and science teachers are more likely to leave teaching than are teachers of other subjects. Math and science teachers in this study were retained at a significantly higher length of time than were teachers of other areas.

The UTSI claims no bias based upon ethnicity (Haberman, personal communication [fax), September 23, 1998). The results of this study support this claim.

Minorities and majorities were represented in approximately the same ratios in both the lists of candidates and the final eligibility lists representing those who were successful. Further, this study produced no significant difference between the retention of males and females. This may be in part due to the age bias of the UTSI, which tends to allow those over age 30, presumably past the usual childbearing period, to score higher on the interview.

Educational Implications

A sense of community, social solidarity and social integration is noted as one of the most important indicators of successful schools (Ingersoll, 2000). Stability promotes commitment, communication and a sense of being part of a community of learners which research tells us promotes learning and a sense of well-being. Stability of a workforce allows for more advanced professional development thereby increasing student achievement.

It is well established (Adams, 1996; Andrew, 1998; Boe at al, 1997; Chapman, 1984; Kirby & Grissmer, 1993; Miller et al, 1999; NCES, 1995; Texas Education Agency, 1995) that personal characteristics have an impact on the decision to leave a district or to leave teaching altogether. Urban districts should consider making hiring decisions based

upon information provided by the UTSI and possession of state certification. For hiring in high need tenure areas, districts should consider hiring persons with high interview scores and then, if necessary, work with them to obtain alternate certification and to provide staff development through the first years of teaching. Because of the support and the high interview score, the teachers are less likely to be hired away by competing districts.

Discussions

Cost-Benefit of UTSI.

The UTSI was expensive to implement in the manner utilized by the BPS. The training of 150 potential interviewers for a pool of less than 1600 candidates was a large expense. In addition, administrator and teacher interviewers were paid their daily rate as most of the interviewing occurred on Saturdays or school holidays. Parent interviewers were paid fifty dollars for each day they trained or interviewed. All 1309 applicants who completed the written segment of the TSP were interviewed.

Following several guidelines could have substantially reduced the number of applicants interviewed and therefore the associated costs for the number of interviewers trained and for the daily rates paid to the interviewers. First,

only those who were successful on the written segment should have been allowed to interview. This is especially true for tenure areas such as Elementary Education and Guidance Counselors, where there was an overabundance of qualified applicants. Second, only those applicants who would have been considered "highly qualified" under the "No Child Left Behind" legislation should have been interviewed. Other applicants would not have been eligible for probationary appointments. Some of those not eligible for probationary appointments may have obtained temporary appointments of one year or less with the BPS, but the monetary outlay required to utilize the UTSI for temporary personnel does not seem justified to the author.

UTSI Scoring Differences - Buffalo vs. Traditional.

The BPS did not follow the proscribed manner of determining the passing or failing status of interviewees. The general view of HRS held that there might be too many unsuccessful candidates if the traditional scoring method was applied, thereby giving rise to costly lawsuits. Therefore, the BPS set a passing score at or above 104 of a possible 135. This cut-point was set at two standard deviations below the mean score of 115. This decision was

in line with past administrations of the TSP that did not include the UTSI.

This author believes that the adjustment in the scoring method was not necessary. The traditional scoring of the UTSI required that a candidate who scored a "0" on any question fail the interview. This condition is not as harsh as it might seem. Interviewers were trained to continue to ask probing questions to clarify the candidate's responses after each question. Thus candidates were afforded multiple opportunities to express acceptable responses. Because the district made probationary appointments to successful candidates, it seems reasonable that a district would desire to make those offers only to the most qualified applicants whose characteristics matched those desired by the district.

UTSI and Teacher Education.

It is the opinion of this author that "Star" teachers are born or at least formed by the experiences of their lives. Some individuals are capable of demonstrating the qualities of a "Star" teacher at the beginning of their careers. Potential "Star" teachers may demonstrate many of the characteristics of effective teachers in their early years in the profession. Nevertheless, most "Star"

teachers do not enter the profession as fully developed effective teachers. They grow through study and experience in their profession, eventually becoming a "Star" teacher.

The United States needs more teachers than there are likely to be "Star" teachers available. In order to fill teacher openings most districts will find it necessary to hire non-"Star" teachers. These teachers may improve their craft by studying and emulating the best practices demonstrated by "Star" teachers. Although they may not become "Star" teachers, these teachers will become more effective, thereby enabling their students to achieve at higher levels. According to Hart and Rowley (1999, p.205), "Haberman's insights into what star teachers believe and do are compatible with research on teacher behavior and student learning." Consequently, districts and universities should consider providing staff development and networking opportunities with "Star" teachers that would assist other teachers in improving their practice.

Teacher education programs might find it worthwhile to utilize the UTSI in selecting students for their teacher education programs. The UTSI is an effective selection tool especially if the majority of the program's graduates will work in urban teaching situations. Programs such as the Urban Initiative Project of the George Washington

University's Graduate School of Education and Human Development, where student selection is at least partly based upon the results of the UTSI, have provided evidence of the success of its graduates in urban schools (Treadway, 1999). Haberman's work at the University of Wisconsin at Milwaukee and in the Milwaukee Public Schools represents another model of blending selection and training to redesign a teacher education program (Hart & Rowley, 1999).

Future Research

Researchers wishing to replicate this study should consider possible modifications. Using the prescribed method of determining passing interview scores would enable the researcher to determine if the relationship between interview score and length of time retained in district is maintained or strengthened.

As reported by Kirby and Grissmer (1993), there exists a bimodal relationship between a teacher's age and attrition. Collecting data regarding the age of those hired would provide a basis for deciding if there is any relationship between age and retention when hiring is based upon the UTSI.

Further investigation of the relationships, if any, among personality types, as determined by the MBTI, the

interview score and retention in district should be investigated. An additional benefit of administering the MBTI during the hiring process is the ability to use the results for planning professional development and for decisions regarding placement.

A comparison of the interview scores and retention rates of those teacher candidates with undergraduate education majors with those of teacher candidates from graduate education programs would further the study of the influence of human capital theory on retention.

Finally, teacher retention is proclaimed by Sergiovanni and Starratt (1988) to lead to increased student achievement. Additional research is needed to verify whether this relationship exists when teachers are hired using the UTSI instrument.

Summary

If urban districts are to meet the demands of the "No Child Left Behind" federal legislation of 2001, they will need to retain their teachers. They must change their current practices of narrowly focusing on selecting qualified candidates to fill a vacancy (Norton, 1999). Instead they need to broaden their search to identify candidates who are not only qualified but also have the

personal characteristics and belief systems that indicate success in this particular urban setting. It is possible for teachers to learn the content knowledge and the pedagogical skills needed, but it is not an easy task to develop the personality characteristics and belief system necessary to become a successful urban educator.

As indicated earlier, "If people aren't around for three years, then you lose the return on your investment because they're not around long enough for you to recoup the costs of training to bring them up to speed" (Prince, 2003, p.9). Money spent on annual recruitment of large numbers of teachers to replace those lost can be better spent, especially in times of budgetary constraints.

"The difference between an outstanding teacher and an average teacher over a couple of decades can be immensely significant to a school district" (Norris& Richburg, 1997). Imagine the impact if the twenty largest urban districts based their hiring decisions on the outcomes of the UTSI instrument. What would that mean for the future of our children, the United States and its schools?

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APPENDICES

M. Haberman Fax

Criterion Related Validity:

Those who pass the interview with any score, that is they avoid a zero on all seven factors, are rated satisfactory or higher by school principals 95% of the time.

Multiple Regression Analysis:

Variations in the interviewee's scores can be predicted because five of the seven factors on the interview can each be readily observed in teachers' practice. The most powerful predictors of interviewees' success and its cumulated explanation of variation in scores is as follows:

Item	Variance	Cumulated
IV	0.21	
I	0.13	0.34
II	0.12	0.46
VII	0.08	0.54
VI	0.05	0.59

Minority Subgroups:

No significant differences between males and female interviewees in pass/fail rate or distribution of scores. Age does discriminate. 1 in 10 interviewees under 25 pass the interview. 1 in 3 interviewees over 30 pass the interview.

Ethnicity:

60% of African Americans pass the interview. 51% of European Americans pass the interview. Southeast Asian, Hispanic and other culture groups have been specifically tested to determine possible test bias. None has ever been identified.

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[Source: Fax received from M. Haberman on September 28, 1998.]

Appendix B

Teacher Candidates Placed on Lists by Tenure Area

	Ethnicity			Gender			
Tenure Area	Minority	Majority	Unknown	Male	Female	Unknown	Total
Art	1	30	1	8	24	0	32
Attendance	8	10	2	9	11	0	20
Bilingual Elementary	10	0	3	1	10	2	13
Bilingual Russian	0	1	0	1	0	0	1
Bilingual School Social Worker	1	0	0	0	1	0	1
Bilingual Special Education	5	2	0	3	4	0	7
Biology	6	30	4	20	20	0	40
Business & Distributive Education	5	13	5	8	15	0	23
Chemistry	2	7	1	6	4	0	10
Corrective Mathematics	2	16	2	2	17	1	20
Earth Science	1	24	3	15	13	0	28
Elementary Ed (PreK-6)	56	308	62	44	378	4	426
English	9	46	11	18	48	0	66
English as a Second Language	4	11	0	1	14	0	15
French	1	0	0	1	0	0	1
Guidance Counselor	3	47	28	16	60	2	78
Health	0	3	2	2	3	0	5

	Ethnicity			Gender			
Tenure Area	Minority	Majority	Unknown	Male	Female	Unknown	Total
Hearing Impaired	0	10	1	1	10	0	11
Home& Careers	0	8	0	1	7	0	8
Italian	0	2	0	0	2	0	2
Library Media Specialist	3	12	3	3	15	0	18
Music (Instrumental)	3	9	1	7	6	0	13
Music (Vocal)	4	14	1	9	10	0	19
Physical Education	3	38	4	30	15	0	45
Physics	0	5	1	4	2	0	6
Reading	3	29	5	2	35	0	37
Remedial Speech	1	18	4	1	22	0	23
School Psychologist	4	20	5	9	19	1	29
School Social Worker	4	20	15	12	27	0	39
Secondary Mathematics	2	34	3	18	21	0	39
Social Studies	12	71	16	64	33	2	99
Spanish	11	6	1	5	13	0	18
Special Education	24	110	22	23	133	0	156
Technology	3	15	1	14	5	0	19
Theater Arts	0	1	0	0	1	0	1
Visually Impaired	0	1	1	1	1	0	2
Vocational Areas							
Automobile Mechanics	0	2	1	3	0	0	3

	Ethnicity			Gender			
Tenure Area	Minority	Majority	Unknown	Male	Female	Unknown	Total
Building Trades	0	3	1	3	1	0	4
Cabinet Making	0	1	0	1	0	0	1
Carpentry	0	4	1	4	1	0	5
Chemical Technology	0	1	0	0	1	0	1
Computer Systems Technology	0	1	1	2	0	0	2
Cosmetology	1	0	0	0	1	0	1
Drafting Occupations	0	3	0	2	1	0	3
Electricity/Electronic	0	6	0	5	1	0	6
Food& Nutrition	1	4	0	5	0	0	5
Horticulture	0	0	1	0	0	1	1
Machine Tool Operation	0	6	0	5	1	0	6
Nurse Assistant	0	1	0	0	1	0	1
Practical Nursing	0	3	0	0	3	0	3
Public & Private security	0	0	1	0	1	0	1
Sheet Metal Technology	0	1	0	1	0	0	1
Totals	193	1007	214	390	1011	13	1414

Appendix C

Average Retention by Tenure Area

Academic Tenure Areas	Retention	No. Hired	% Hired of Those Ranked
Art	3.3783	23	71.88%
Attendance	3.9167	18	90.00%
Bilingual Elementary	2.8417	12	92.31%
Bilingual Russian	4.0000	1	100.00%
Bilingual School Social Worker	3.9000	1	100.00%
Bilingual Special Education	3.5667	6	85.71%
Biology	3.1083	24	60.00%
Business & Distributive Education	3.7889	9	39.13%
Chemistry	3.0444	9	90.00%
Corrective Mathematics	2.1667	12	60.00%
Earth Science	3.0471	17	60.71%
Elementary Ed (PreK-6)	3.2671	255	59.86%
English	3.3244	41	62.12%
English as a Second Language	2.8000	12	80.00%
French	3.9000	1	100.00%
Guidance Counselor	3.1636	33	42.31%
Health Education	N/A	0	0.00%
Hearing Impaired	3.6500	4	36.36%
Home& Careers	3.2400	5	62.50%

Academic Tenure Areas	Retention	No. Hired	% Hired of Those Ranked
Italian	3.4000	2	100.00%
Library Media Specialist	3.7200	15	83.33%
Music (Instrumental)	3.3000	7	53.85%
Music (Vocal)	3.6333	15	78.95%
Physical Education	3.4121	33	73.33%
Physics	1.8000	4	66.67%
Reading	3.3875	16	43.24%
Remedial Speech	3.4556	18	78.26%
School Psychologist	3.6292	24	82.76%
School Social Worker	3.1875	24	61.54%
Secondary Mathematics	3.1884	26	66.67%
Social studies	3.2359	64	64.65%
Spanish	3.3231	13	72.22%
Special Education	3.0828	116	74.36%
Technology	3.6214	14	73.68%
Theater Arts	4.0000	1	100.00%
Visually Impaired	2.0000	1	50.00%

Vocational Tenure Areas	Retention	No. Hired	% Hired of Those Ranked
Automobile Mechanics	3.9500	2	66.67%
Building Trades	3.8500	2	50.00%
Cabinet Making	3.0000	1	100.00%
Carpentry	3.7000	1	20.00%
Chemical Technology	N/A	0	0.00%
Computer Systems Technology	3.9000	1	50.00%
Cosmetology	3.9000	1	100.00%
Drafting Occupations	3.9500	2	66.67%
Electricity/Electronics	3.2333	6	100.00%
Food & Nutrition	3.9250	4	80.00%
Horticulture	3.9000	1	100.00%
Machine Tool Operation	3.8500	4	66.67%
Nurse Assistant	3.9000	1	100.00%
Practical Nursing	2.7000	1	33.33%
Public & Private Security	1.0000	1	100.00%
Sheet Metal Technology	3.8000	1	100.00%
Academic Totals	3.2592	876	63.94%
Vocational Totals	3.4448	29	65.91%
Overall Totals	3.2670	905	64.00%

Appendix D

Sample of Data Collected

ID#	Subject	Rank	Sex	Race	E	R	I	Z
1137	Art	1	M	W	1	3.9	121.0	0
2461	Art	2	F	W	0	0.0	120.5	0
811	Art	3	M	W	1	3.9	114.5	0
1991	Art	4	F	W	0	0.0	110.0	0
2360	Art	5	F	W	0	0.0	100.5	3
2031	Art	6	F	W	1	4.0	111.0	0
1592	Art	7	F	W	1	0.8	131.5	0
2265	Art	8	F	W	1	2.8	110.0	0
1140	Art	9	F	W	1	3.9	81.5	5
2658	Art	10	F	W	0	0.0	127.5	0
2111	Art	11	F	W	0	0.0	119.0	0
270	Art	12	F	W	1	3.8	95.5	3
810	Art	13	F	W	1	3.8	130.0	0
926	Art	14	M	W	1	3.8	98.5	6
2146	Art	15	F	W	1	3.0	128.5	0
2484	Art	16	M	W	1	4.0	107.5	3
1144	Art	17	M	W	1	3.8	105.5	0
1334	Art	18	F	W	1	1.8	128.5	0
815	Art	19	F	W	1	3.8	117.5	0
2719	Art	20	F	W	1	3.8	116.0	2
602	Art	21	F	W	0	0.0	119.5	0

ID#	Subject	Rank	Sex	Race	E	R	I	Z
19	Art	22	F	W	0	0.0	102.5	0
813	Art	23	F	W	1	4.0	125.5	0
1139	Art	24	F	W	1	1.0	129.0	0
1776	Art	25	F	W	1	3.8	121.0	0
817	Art	26	F	B	1	3.8	130.5	0
1978	Art	27	M	W	1	3.7	125.5	0
1143	Art	28	F	W	1	3.8	119.5	1
2219	Art	29	F	U	0	0.0	99.5	2
1906	Art	30	M	W	0	0.0	91.0	0
478	Art	31	M	W	1	3.8	92.5	2
383	Art	32	M	W	1	2.9	86.0	0
142	Attendance	1	F	W	0	0.0	128.5	0
824	Attendance	2	F	W	1	3.9	127.5	0
128	Attendance	3	M	W	1	3.9	111.0	6
827	Attendance	4	M	B	1	3.9	134.5	0
2286	Attendance	5	F	W	1	3.9	115.0	2
300	Attendance	6	M	W	1	3.9	108.0	3
2117	Attendance	7	F	B	1	3.9	101.0	3
2678	Attendance	8	M	W	1	3.9	90.5	
119	Attendance	9	M	W	1	3.9	123.5	0
826	Attendance	10	F	S	1	3.9	92.5	9

ID#	Subject	Rank	Sex	Race	E	R	I	Z
822	Attendance	11	F	B	1	3.9	121.0	0
825	Attendance	12	M	W	1	4.0	120.5	3
2153	Attendance	13	M	B	0	0.0	122.0	0
821	Attendance	14	M	W	1	3.9	103.0	0
823	Attendance	15	M	W	1	3.8	78.5	8
1762	Attendance	16	F	B	1	4.0	80.0	9
2193	Attendance	17	F	W	1	2.0	86.5	7
2784	Attendance	18	F	A	1	4.0	84.0	6
2779	Attendance	19	F	B	1	3.9	127.0	0
2331	Attendance	20	F	B	1	3.0	109.0	0
2511	Auto Mechanics	1	M	W	1	4.0	126.0	1
1280	Auto Mechanics	2	M	W	1	3.9	105.0	0
1865	Auto Mechanics	3	M	W	0	0.0	97.0	3
2400	Bilingual Elementary	1	F	S	1	3.9	134.0	0
2211	Bilingual Elementary	2	F	W	2	0.0	129.5	0
2313	Bilingual Elementary	3	F	S	1	0.9	119.0	0
1362	Bilingual Elementary	4	F	S	1	1.0	131.0	0
1346	Bilingual Elementary	5	F	S	1	3.7	107.0	0
1360	Bilingual Elementary	6	F	S	1	4.0	129.0	0
835	Bilingual Elementary	7	F	S	1	0.6	128.5	0
2350	Bilingual Elementary	8	F	W	1	3.7	125.0	0

ID#	Subject	Rank	Sex	Race	E	R	I	Z
832	Bilingual Elementary	9	F	S	1	2.0	118.5	0
1343	Bilingual Elementary	10	F	S	1	3.7	120.5	0
1338	Bilingual Elementary	11	F	S	1	3.7	130.0	0
1337	Bilingual Elementary	12	M	S	1	3.0	104.0	2
833	Bilingual Elementary	13	F	S	1	3.9	133.0	0
1354	Bilingual Russian	1	M	W	1	4.0	125.5	0
2202	Bilingual Sch Soc Wkr	1	F	S	1	3.9	87	2
803	Bilingual Special Ed	1	F	S	1	2.9	129.5	0
809	Bilingual Special Ed	2	M	S	1	3.9	124.0	0
800	Bilingual Special Ed	3	M	S	1	2.9	130.5	0
1387	Bilingual Special Ed	4	F	W	0	0.0	115.5	0
798	Bilingual Special Ed	5	M	W	1	3.9	127.0	0
799	Bilingual Special Ed	6	F	W	1	3.9	125.5	0
807	Bilingual Special Ed	7	F	S	1	3.9	111.5	3
1615	Biology	1	F	W	1	3.9	127.5	0
2570	Biology	2	F	W	0	0.0	126.5	0
872	Biology	3	F	W	1	3.9	128.5	0
867	Biology	4	F	W	1	0.3	124.0	0
1495	Biology	5	M	W	2	0.0	109.0	0
871	Biology	6	M	W	2	0.0	126.0	0
897	Biology	7	F	W	2	0.0	127.5	0

ID#	Subject	Rank	Sex	Race	E	R	I	Z
881	Biology	8	F	W	1	3.9	125.0	0
873	Biology	9	F	W	0	0.0	126.5	0
1749	Biology	10	F	W	2	0.0	111.0	0
2772	Biology	11	M	W	1	3.1	120.5	0
2670	Biology	12	F	W	1	4.0	103.5	0
880	Biology	13	F	W	0	0.0	115.5	0
1748	Biology	14	F	W	0	0.0	117.0	0
888	Biology	15	F	W	1	3.9	114.0	0
892	Biology	16	F	S	1	3.9	132.5	0
895	Biology	17	F	W	1	1.0	121.5	1