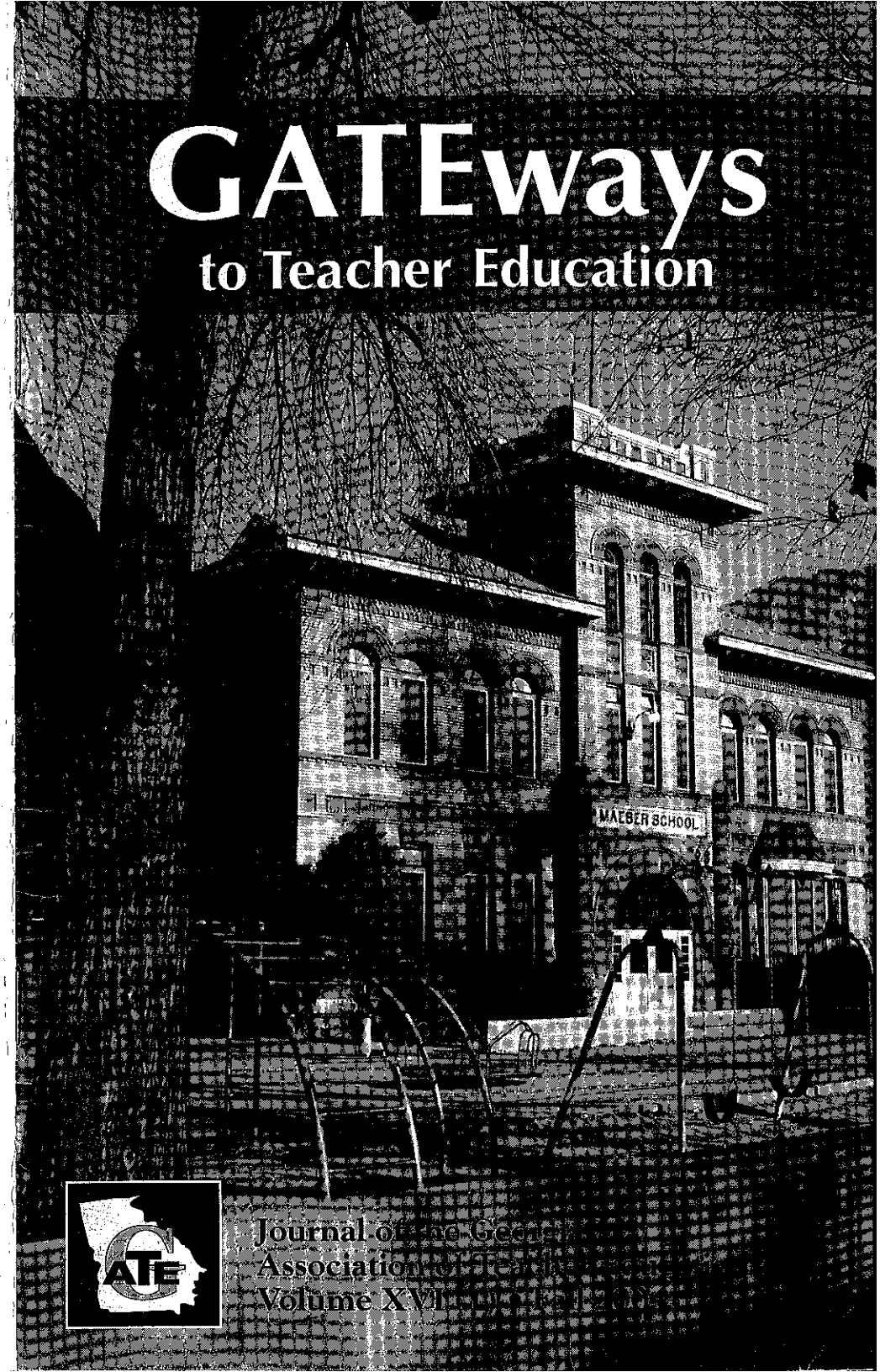
GATEways
to Teacher Education



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Appreciation

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These are the types of people every editor seeks, the types of friends we wish for; and the types of professional colleagues we all wish we had.

Please vist the new Georgia Association
of Teacher Educators website at www.gaate.org

Note: GATEways cover from *Teaching Literature* (cover), by Ethna R. Reid and Reid Associates, 1989, Salt Lake City, Utah: Cove Publishers.

CONTENTS

How Does the Checkpoint System Work in Safeguarding the Success of Leadership Program Graduates?

T. C. Chan, Charles Bowen, Linda Webb, Eric Tubbs, and Anthony Arasi

Kennesaw State University

Responding to the guarantee of education graduates extended by the Georgia Board of Regents to the public schools, one new educational leadership program develops its curriculum in compliance with the Regents' Principles. To ensure the quality of program candidates, the program has initiated a checkpoint system to monitor their academic progress. Four checkpoints, Admission Check, Transition Check, Exit Check, and One-Year Check, are established at different stages of the program to examine if candidates are achieving at the professionally acceptable level. The Checkpoint System is standard driven, outcome oriented, application proven, mentorship involved, remediation structured, and continuous improvement featured. It is most significant in setting stages of safeguarding candidates' success and documenting for accountability and National Council for Accreditation of Teacher Education (NCATE) accreditation activities.

The Georgia Board of Regents has extended to public school systems its guarantee of the quality of education graduates: teachers, counselors, and administrators in the University System of Georgia (Board of Regents of the University System of Georgia, 2003; Chan, 2000; Goldman, 1992). At the same time, the *Regents' Principles* (Board of Regents of the University System of Georgia, 1998 & 2001) provide directions to all public higher education institutions that prepare educators to align their education programs to the established quality outcomes. Responding to the Georgia Board of Regents' call, one new educational leadership program develops its curriculum in full compliance with the Regents' Principles. In addition, to ensure the quality of the program candidates, the program has initiated a checkpoint system to monitor the academic progress of program candidates (Bowen, Chan, & Webb, 2004). Four checkpoints are established in the entire duration of the

program to examine if candidates are achieving at the professionally acceptable level. The four checkpoints are *Admission Check*, *Transition Check*, *Exit Check*, and *One-Year Check*. Activities of each checkpoint are briefly described in the following:

Admission Check

The program faculty believes that the program applicants' quality is highly associated with the program graduates' quality. Therefore, the faculty places stringent criteria on admission screening to select best quality applicants. All applicants are required to submit the following minimum qualification documentation: (a) three years of full-time teaching experience; (b) two recommendation letters from supervisors of current employment; (c) GPA of 2.75 for both graduate and undergraduate programs; and (d) a T-4 teaching certificate. All four areas are rated with a point system to determine the strongest candidates with the highest rating. Bonus points are awarded to applicants with leadership activities, a record of presentation or publication, and delivery of training sessions or workshops. Since the program usually has a long applicant waiting list, admission to the program is highly competitive. Occasionally, collaborating school systems work with the faculty to recommend their best potential administrators to form a leadership cohort (Laing & Bradshaw, 2003) for both intensive and extensive training.

Transition Check

Each starting cohort is assigned a professor as cohort advisor who closely monitors the academic progress of the program candidates in that particular cohort. By the end of the candidates' second semester into the program, a candidates assessment committee consisting of all full-time faculty members will be organized to conduct a transition check of all candidates' progress. Checking criteria include: (a) satisfactory ranking (either Levels 3 or 4 of a 4-level scale) of candidate performance using a college-designed *Candidate Performance Instrument* (CPI); and (b) maintenance of a minimum of 3.0 GPA in the program. The end of the second semester is selected for the Transition Check to take place, because by that time the candidates would have completed at least one semester's practicum experiences in schools. Evaluation of candidates from field mentors could be included into the overall checking activities (Kraus, 1996). The end of the second semester is about the mid-point of the entire program. The Transition Check would allow time to initiate remedial work with candidates who are identified with areas that need improvement.

Exit Check

Exit Check is placed at the end of the program to see if all the program requirements have been met and the candidates have the leadership knowledge, skills, and dispositions to perform in school administrative positions. The Exit Check closely follows the same procedure as the Transition Check. Candidates' GPAs are checked and their performance rating on the Candidate Performance Instrument are also examined to see if they meet the required standards.

Three other measuring instruments are used to assess candidates' overall leadership capability: (a) The *Portfolio Rubric* is designed to check on candidates' responses to their overall leadership experiences in the program; (b) The *Survey of Graduates* assesses the candidates' satisfaction levels at program completion; and (c) The *Impact on Student Learning* is developed to evaluate the extent to which the candidates' learning in the program has impacted student learning in their classrooms. As a checkpoint before graduation, Exit Check calls for these measuring instruments to serve a good purpose of cross checking candidates' readiness for assuming the first leadership position in their career (Brogan, 1994).

One-Year Check

Program graduates are surveyed one year after they take their first leadership position. The survey's purpose is to identify leadership areas where candidates still need improvement. One year as an administrator gives program graduates ample opportunities to assume real world responsibilities and assess their leadership competencies, both strengths and weaknesses (Henderson, 2002). The faculty can continue to offer assistance for continuous improvement. Supervisors of program graduates respond to the same survey. They check if the program graduates perform satisfactorily. Areas of concern are shared with the program graduates. Action is taken to seriously address the concerned areas at an early stage (Barr, 1985; Hartzell, Williams, & Nelson, 1994).

Special Features of the Checkpoint System

The *Checkpoint System* is structured around the basic understanding that production error could be minimized using a criterion-referenced procedure of repeated inspection. A review of the Checkpoint System has indicated the following special features:

1. Standards driven—The Checkpoint System is developed with associated measuring instruments. It is in alignment with the *National Council for Accreditation of Teacher Education (NCATE)* and *Professional Standards*

Commission (PSC) Standards (Gupton, 1998; Shipman, Topps, & Murphy, 1998) along with the *College of Education Conceptual Framework* (Kennesaw State University, Professional Teacher Education Unit, 2004). The associated measuring instruments are the Candidate Performance Instrument, the Portfolio Rubric, the Survey of Graduates, and the Impact on Student Learning.

2. Outcome oriented—The Checkpoint System focuses on examining candidates' acquisition of professional knowledge and skills evidence.
3. Application proven—The Checkpoint System calls for acquired knowledge and skills demonstration in the field.
4. Field mentor/supervisor participation—The success of the Checkpoint System depends to a great extent on the input from field mentors and supervisors during the candidates' practicum and the graduates' beginning years as administrators (Ganter & Halsall, 2003; Kraus, 1996; Lovette, 1997).
5. Remediation opportunities—The Checkpoint System schedule allowed time in between checkpoints to initiate needed remedial work.
6. Continuous improvement—The Checkpoint System sets up time and criteria to check candidates' progress. The system also promotes continuous improvement beyond the Checkpoint System.

Checkpoint System Significance

The Checkpoint System is generating evidence to meet the standards of professional accreditation agencies such as NCATE and PSC. Measurement instruments, such as Candidate Performance Instrument, Portfolio Rubrics, Impact on Student Learning, and Survey of Graduates, are used to document program effectiveness at different checkpoints.

The Checkpoint System systematically analyzes data collected during the checking process. As a result of data analyses, candidates' needs are identified. Candidates work with faculty members about these needs. Remedial work including case studies and additional reading assignments are scheduled to allow time for improvement in between checkpoints. Candidates' remedial work is reviewed at the end of the semester to see if satisfactory progress has been made.

In an educational accountability age, the Checkpoint System is an effective tool because it creates structured opportunities to provide documentation of problem diagnosis, option exploration, weighed decisions, and best actions related to candidates' learning. Program accountability is achieved with accumulated evidence of best practices.

Checkpoint System works for the benefit of program candidates. It puts pressure on both the faculty and the candidates to work toward improved performance before the next checkpoint. It provides meaningful self-evaluation and continuous improvement assistance to candidates.

Remedial Plan

A remedial plan is part of the Checkpoint System. It is developed using data analyses to meet the particular needs of individual students. The plan includes goals and objectives, strategies, implementation, and evaluation. Detailed procedures are used:

1. Schedule individual conference with advisor.
2. Identify areas that need improvement.
3. Identify professors with area specialization to work with candidate.
4. Develop a one-semester action plan to improve on identified areas.
5. Evaluate the outcome of the action plan at the end of the semester.
6. Document actions taken in the remedial process.

Sometimes, candidates may need more than one semester for improvement. The faculty with area specialization will ensure that improvement is made. Focus is on preparing candidates with the skills needed to locate related resources for continuous improvement. Field mentors contribute to the remedial plan by providing candidates needed field experiences.

Beginning Administrators' Mentoring Program (BAMP)

A provisional plan is developed to mentor *Educational Leadership (EDL)* graduates during their first two years as administrators. The purpose is to ensure the program graduates' success by providing support in their beginning years as school administrators. This is a proactive measure to meet the requirements of the *Georgia Teacher/Administrator Warranty Plan*. The following components are with the Beginning Administrators' Mentoring Plan for Educational Leadership Program Graduates:

Communication network. A communication network will be established to include all EDL graduates so that their school employment status is closely tracked and updated. This will start with an EDL graduate survey followed by a database establishment. This will help locate EDL graduates.

Mentoring system. A mentor from the educational leadership faculty is assigned to a graduate during the first two working years. The mentor works intensively with the EDL graduate ensuring that he or she manages the responsibilities assigned by the supervisor. Contacts with EDL graduates are

, telephone conversation, correspondence,
he faculty will examine the graduates periodi-
y performance. EDL graduates will seek
issues or situations they have difficulties in

y will work with the supervisors of the EDL
ıates' performances. A survey form to high-
rning as performance outcomes will be used.
will be most useful for the faculty to continue
improve their performances.

). An annual administrative workshop is
ill return to campus to review school adminis-

ual electronic publication is proposed to keep
ecent happenings in their home department
dership.

kpoint System

oint, carries the sense of checking. The
ve as an inspection function for the candi-
r services to candidates were added later as
rk such as individual instructions, additional
l visitations is arranged between the faculty
ıake-up activities. Therefore, the Checkpoint
serves both the diagnostic and treatment

; different phases of the program: the admis-
exit phase, and the practice phase. It is
afeguard candidates' success. The One-Year
work during the first year of practice is
chool leadership issues that may or may not
e Checkpoint System in the last phase helps
dministrative experiences.

es current school administrators supervising
cum activities. Input from the Survey of
um experiences could be improved by

involving the school administrators. More specific guidelines and assignments will help school administrators better supervise and assess candidates' performance outcomes.

Now, the Checkpoint System is using the standard college designed instruments, such as Candidate Performance Instrument, Impact on Student Learning, and Survey of Graduates to measure candidates' performances in the Educational Leadership Program. Future Checkpoint System development needs to design measurement instruments specifically for the Educational Leadership Program.

Finally, installation of the Checkpoint System results in adding more responsibilities to the current faculty schedule. If the Checkpoint System includes the mentoring of beginning school administrators, then, additional faculty will be needed to relieve the current faculty heavy workload.

Conclusions

The fully implemented Checkpoint System success is in checking the candidates' learning status, and providing resources that support the remedial work needed to ensure the program candidates' and graduates' successes. Create accurate candidates' learning profile involves valid and reliable checking instruments. The *Beginning Administrators' Mentoring Program (BAMP)*, a long awaited powerful initiative, will ensure that program graduates experience success in their first administrative assignment. It is recommended the Checkpoint System, including its essential component, BAMP, be used as a regular program operating system funded by a solid revenue source.

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Pedagogy Wars: Do Education Degrees Improve Student Achievement and Teacher Quality?

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Through a presentation of arguments for and against traditional teacher preparation programs, this analysis of student achievement in Georgia suggests that certain teacher characteristics that raise student achievement are associated with coursework in pedagogy. Although a degree in pedagogy alone was not identified as a predictor, when combined with advanced coursework in pedagogy, characteristics such as the quality of the teacher preparation program, socioeconomic status, personality qualities, verbal ability, minimal teacher turnover in the school, years of teaching experience, training in child development, knowing how to use instructional materials and teaching observations did significantly raise student achievement. Finding that those most likely to raise student achievement will continue to come from traditional teacher preparation programs offered by colleges and universities, the push for states to pass legislation which certifies teacher candidates through an examination is scrutinized.

James Koerner (1963) in his book, *The miseducation of American teachers*, made a scathing attack on pedagogy when he wrote that teaching preparation is not an academic discipline because it lacks sufficient empirical data to add to intellectual advancement. Koerner (1963) found teacher education deserves its bad reputation because, in his words, "courses are puerile, repetitious, dull and ambiguous (p. 18)... vague, insipid, time wasting adumbrations of the obvious, and probably irrelevant to academic teaching" (p. 56). Koerner explains in different ways that coursework in pedagogy is a repulsive activity for an academic mind to endure. Sharing similar sentiments as Koerner's, that teachers are steeped in pedagogy yet under-prepared academically, Ravitch (2002) elucidated the Department of Education's position quite clearly during her presentation at the 2002 White House Conference on Preparing Tomorrow's Teachers:

> Teachers today have more degrees than ever in our history; the bachelor's degree is ubiquitous, and about half even have a master's degree. We do, however, have a problem in the academic preparation of teachers: only a minority—39%—have a bachelors or graduate degree in ANY academic field. The majority of teachers today have a degree in education, and many have both a B.A. and an M.A. in pedagogy (Ravitch, 2002, ¶ 3).

Drawing blood in the battle waged against teacher preparation programs in the Annual Report on Teacher Quality, the United States Department of Education (USDOE) under the direction of Secretary Rod Paige, has officially shifted the blame for poor student achievement squarely on the issue of pedagogy (USDOE, 2002). The Secretary of Education substantiates his position on the subject of pedagogy in the Annual Report on Teacher Quality (USDOE, 2002) where he cites a Goldhaber and Brewer (1998) study about students' scores on twelfth-grade standardized mathematics and science tests which investigated the relationship between certified teachers and test scores. In Goldhaber and Brewer's (1998) opinion:

> We find that having a degree in education has no impact on student science test scores and, in mathematics, having a B.A. in education actually has a statistically negative impact on scores in math. This latter result may seem counter intuitive, but it is not surprising when one considers the fact that most college students selecting education majors tend to be drawn from the lower part of the ability distribution. Given this, "major in education" may serve as proxy for teacher ability, which has been shown to have an important impact on student achievement. (p. 94)

Goldhaber and Brewer's (1999) assertion that a major in education is a proxy for low ability does not bode well for validating a degree in pedagogy. Goldhaber and Brewer's 1999 research supports an earlier study done by Ehrenberg and Brewer (1994) which found that teachers with high general cognitive ability produce higher test scores.

The Secretary of Education also weighed in on the subject of Master of Education degrees when he wrote, "Research has not always produced consistent results on the effects of teachers having a master's degree, but in the better designed studies the effects are weak, at best" (USDOE, 2002, p. 8). The Secretary of Education cited a Grismer, Flanagan, Kawata and Williamson (1998) study which found that a higher percentage of teachers

with master's degrees do not have higher student achievement scores. Alluding that the primary reason why teachers obtain a master's degree is to earn more money, Grismer et al. (1998) situates blame on the current compensation system for encouraging teachers to seek pedagogical credentials over other types of coursework which could presumably show significant effects on achievement. Grismer et al. found,

> For universities and colleges, providing teachers with master degrees produces significant income but seems to have little effect on improving teachers' abilities to raise achievement. Teachers themselves are motivated to spend significant time and money on pursuing such degrees largely because of the structure of the current compensation system. It is arguably one of the least-efficient expenditures in education. (p. 105)

Joining his boss' bashing of advanced courses in pedagogy, Assistant Secretary of Education Grover J. Whitehurst presented a paper at the 2002 White House Conference on Preparing Tomorrows Teachers which, in part, stated,

> Many districts and states provide incentives for teachers to return to the classroom to obtain advanced degrees in education. The bulk of evidence on this policy is that there are no differential gains across classes taught by teachers with a Master's degree or other advanced degree in education compared to classes taught by teachers who lack such degrees. (p. 7)

Using the research of Greenwald, Hedges and Laine (1996), Goldhaber and Brewer (1998) and Ehrenberg and Brewer (1994), along with an Abel Foundation funded compendium of selected studies done by Walsh (2001), Assistant Secretary Whitehurst urges policymakers to adopt reforms based on studies which suggest that the most important influence on student achievement is the teacher's general cognitive ability. In an attempt to break the monopoly that higher education-based teacher preparation programs possess, the United States Department of Education has drawn a line in the sand by proclaiming that earning college credits in pedagogy has little effect on student achievement (Whitehurst, 2002).

Relying heavily on the 1994 study by Ehrenberg and Brewer (1994), the USDOE has embraced research which suggests that the primary characteristic which raises student achievement is the verbal ability of the teacher, a characteristic found predominately among teacher graduates from highly

selective colleges. Ehrenberg and Brewer's (1994) study "found that the average 'selectivity' of the undergraduate institutions that teachers in a school graduated from has an important influence both on students' gain scores and their base year test scores" (Ehrenberg & Brewer, 1994, p. 14). From the perspective of the United States Department of Education, why bother with coursework in pedagogy if the most important influence on student achievement is the teachers' general cognitive ability?

Looking at the Data from Georgia

From an analysis of student achievement determined by a statewide fourth, sixth, and eighth grade criterion referenced competency test (CRCT) given in Georgia in 2002 (Georgia Department of Education [GADOE], 2002a), there seems to be no discernable difference between student achievement and teacher degree level. Over half the teachers in Georgia possess a master degree (51%) (Georgia Professional Standards Commission [GAPSC], 2002). When all one hundred and fifty-nine counties were analyzed, there was very little variance between state mean and each respective county evidenced by a minute standard deviation of .09 of one percent (sd= .09). Thus, almost all of school districts in Georgia have about half of their teachers credentialed with master's degrees. Even the outliers do not suggest a relationship between degree level and student achievement. For instance, small, rural, and poor Quitman County has a large proportion of its teachers holding master degrees, yet they have very low student achievement (GADOE, 2002a; GAPSC, 2002). On the other end of the distribution, small, rural, and poor Warren County had the smallest number of teachers with master degrees coupled with very low student achievement (GADOE, 2002a; GAPSC, 2002). When the best performing county in terms of CRCT scores were analyzed, Fayette County reported that only fifty-three percent of its teaching faculty had earned master degrees (GADOE, 2002a; GAPSC, 2002). Fifty-three percent is not a figure which would convince most that the master degree alone is a predictor that will raise student achievement in a significant way.

Two qualifications must be stated about this analysis between teacher educational attainment and student achievement. First, from the available statewide data, there is no reason to suggest a relationship between degrees in pedagogy and student achievement. Second, it may be also worthwhile for future inquiry to analyze high performing schools versus low performing schools in relationship to the colleges that the teachers attended, as well as the number of years of experience and educational attainment of the teaching faculty.

Because stakeholders differ on how much, in the way of resources, should be channeled to improving teacher quality, it is fair to ask if higher salaries that accompany the attainment of a master's degree significantly improves student achievement. This question was addressed through a statewide survey. Sixty-one Georgia counties, out of a possible 159, representing a diverse socioeconomic population, responded to a survey which asked about teacher salaries at the school district level for entry level teachers holding the bachelor's degree as well as information about entry level teachers holding a master's degree. It is important to note that Georgia tries to level the playing field through a state minimum salary scale. The starting salary for an entry level teacher holding a BS degree was $28,338; a master's degree was $32,586; a specialist degree was $36,826; and a doctorate degree was $40,877 (GADOE, 2002b). Many counties sweeten the state's base salary pot with supplemental money from local revenues. Although affluent metropolitan Atlanta suburban counties pay the best, most local districts across the state do add additional money from local revenue sources. Those counties that do not supplement local revenue to the state minimum salary scale were predominately the poor, rural counties located in the state's black belt (Livingston & Livingston, 2002).

When the salary data from the responding counties were paired with the percent of students failing the sixth grade CRCT in reading, language arts, and mathematics, it was found that a moderate negative correlation was found between salaries and failure rates for both bachelor's and master's degree salaries. Thus, when salaries go up, the rate of failure goes down, but not by much. Given the similar scores for both the bachelor's and master's degrees, data presented in Table 1 suggest there is little difference between bachelor's and master's degree salaries and student achievement outcomes. Given that most school teachers are hired at the bachelor's level and the master's degree is attained while working as a teacher, the question that begs to be answered is, does paying more for the master's degree alone make sense or is the master's degree merely a stepping stone toward more compensation?

Table 1. Correlation Between Teachers Salaries to Failing Rates on 2001-2002 CRCT Test

Educational Level	Reading	Language Arts	Mathematics
Bachelor's Degree	-.44	-.44	-.42
Master's Degree	-.44	-.46	-.34

Counter Point: Pedagogy Does Matter

Although Walsh (2001) cites seven research studies which suggest that the college a teacher attended helps to predict his or her students' performance (p. 6), efforts to associate the selectivity of the teacher preparation program with student achievement is suspect because teaching quality depends on a number of factors other than the college which the teacher attended. In the words of Best and Kahn (1993) one must consider such variables as the "quality of scholarship, socioeconomic status, personality qualities, types of nonschool experiences, attitudes toward the teaching profession, and a host of others have possible relevancy" (p. 124). Ranked as the third most important factor, behind verbal ability and years of teaching experience, Ferguson (1991) found that the master's degree in pedagogy significantly raised student achievement. Specific to younger learners, Ferguson's findings about elementary school achievement revealed that teachers with a master's degree produced moderately higher scores in grades one through seven and those with master's degrees who teach the youngest learners, primary school teachers, appear to be particularly important for establishing the reading foundation on which students depend upon in later years. Ferguson also suggests that poor districts should be allotted the funds to pay higher salaries because, "more and better teachers raise standardized test scores and higher salaries attract more and better teachers, money matters for raising test scores" (Ferguson, 1991, p. 489). Monk (1994) confirms Ferguson's study with the finding that "course work in pedagogy also contributes positively to student learning, and, on several occasions, had more powerful effects than preparation in the content area" (p. 142). Addressing elementary school teachers specifically, Berliner (1986) cites more qualitative characteristics of teachers that combine to raise standardized tests scores such as the teacher's reputation and experience.

As a response to a perceived teacher shortage, many states have rolled out alternate certification options that promise to track individuals into the classroom in a matter of weeks. Yet, there seems to be no long-term benefits of fast track programs for student achievement when teachers are not prepared in critical areas such as child development, learning theory, curriculum development, and teaching methods (Darling-Hammond, 1999). Another critical factor which appears to improve student achievement is a stable teaching force that has very little turnover (Darling-Hammond,1997; Grismer, 1998). Grismer (1998) reports that an increase in student achievement on standardized tests is related to minimal teacher turnover. High teacher turnover is most likely among those most under-prepared to teach. Lack of preparation combines to create a school environment where success

is difficult to achieve because a critical mass of effective teachers is never realized. Richard Ingersoll's (NCTAF, 2002) analysis supports this view with evidence that teachers are half as likely to leave the profession when they are trained in child development, know how to use instructional materials, and are observed while teaching. Using Ingersoll's data, it can be argued that student achievement suffers when teachers leave the profession in droves because they are not prepared to teach. As reported by the Georgia Professional Standards Commission (2002), 36.6% of Georgia's teachers leave within the first three years and an additional 19.7% leave before five years for a total attrition rate of 56% in just five years. Out of the 13,084 new teachers hired in FY 2002, 8,303 were teachers who replaced those who quit. Only 4,781 were hired due to population growth or because of class size reduction mandates (GPSC, 2002). Thus, answers to the student achievement riddle may be found through efforts that retain the better teachers (NCTAF, 2002).

The Push Toward No Program Certification

Miffed about an eleventh hour addendum to the No Child Left Behind legislation (NCLB, 2001) which reaffirms the state's role in establishing the teacher preparation rules for licensing and certification, anti-pedagogy forces have begun to introduce legislation in a dozen states which would equate the passage of an examination with the completion of a state approved teacher education program (Imig, 2003). With Florida and Pennsylvania signed on, this legislation will make it possible for anyone with an earned bachelor's degree to become a teacher simply by passing a test (ABCTE, 2003). It will not be long before similar legislation will be introduced in Georgia (Imig, 2003). As another gift from the anti-pedagogy camp to the private sector, "No Program Certification" legislation will surely encourage Kaplan and Princeton Review style teacher test preparation as the only criteria needed to work with children in the classroom.

Shocking as this may seem to those who understand what preparation is necessary to be an effective teacher, "No Program Certification" will make it possible for individuals to be certified without having been observed for teaching proficiency. Equally as important, these individuals will never have been observed over time to assess the teacher candidate's probity and moral character. Because we know that teachers with more training are less likely to leave the profession, recruitment strategies which rely on "No Program Certification" will not be cost effective in the long haul. Teachers with little preparation are much more likely to quit teaching before they learn how to become effective with children (National Commission on Teaching and America's Future, 2002).

If we need new teachers quickly, the fastest tracks into the teaching profession which meet high teacher preparation standards are master's degree programs aimed at attracting higher ranking professionals from other occupations. These preparation programs tend to attract the most academically able recruits (Darling-Hammond, 1999). If our aim is to sustain teaching as a profession, schoolteachers require more than can be assessed through a paper and pencil examination. Quality teachers are those who have been prepared in child development, curriculum, teaching methods, and professionally observed in clinical settings. Because those most likely to stay in the profession will continue to come from traditional teacher preparation programs offered by colleges and universities, it is imperative that these programs attract high ability college sophomores and juniors as well as those from other occupations. As much as professional prestige and salaries influence aspiring teachers, high ability candidates recruited to the profession must also believe that teaching is a way to make a difference in the world. It is these three factors (1) teaching as a calling, (2) teaching perceived as a respected profession and (3) competitive salaries as compared to other professions which will attract higher ability teacher candidates (Darling-Hammond, 1999). College and university trained teachers will be much more prepared and committed to the teaching profession—characteristics which are bolstered through continuing education in both pedagogy and in the teacher's subject area. No pedagogy required through "No Program Certification" is not a realistic answer to teacher shortages and is most assuredly not a way to raise student achievement in our schools. Legislation such as this will only perpetuate turnover, making our children the biggest losers in the scheme to unbraid effective teaching programs.

When the research about teacher quality is examined objectively, it becomes clear that teacher educational attainment is associative with low teacher turnover, an indicator found to improve student achievement (Darling-Hammond, 1997). While there is no strong evidence that a degree in pedagogy alone produces higher student achievement, the pedagogy degree has been shown to be an additive characteristic which benefits students because its attainment may improve a teacher's ability and motivation (Rowan, Chiang, & Miller, 1997). Thus, making the decision to hire a teacher should be based on a basket of characteristics, not a single criterion such as an examination. By circumventing teacher preparation programs with the passage of "No Program Certification" legislation, our elected representatives will make the decision that our children do not deserve quality teachers.

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Subtle Changes in Pre-Service Teachers' Beliefs About Teaching Mathematics

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A 22-item survey was used to measure pre-service teachers' beliefs about teaching mathematics and determine whether those beliefs were in agreement with the National Council of Teachers of Mathematics' Principles and Standards for School Mathematics (NCTM, 2000). The same instrument was used to measure the 35 students' beliefs at the beginning of the semester and at the end of the semester. Students' beliefs stayed the same or moved more in agreement with the standards on 17 out of 22 items. The researcher documents how the changes in beliefs are hard to bring about by highlighting the struggles pre-service teachers had related to the concept of alternate algorithms and allowing students to find their own ways of performing operations. The author suggests the need to have pre-service teachers experience multiple opportunities to challenge their beliefs that the methods by which they learned are best. To finally arrive at a point of accepting and appreciating other methods will represent a profound change in pre-service teachers' thinking.

Pre-service teachers bring with them to their teacher education programs beliefs that they hold about mathematics and education that have been formed over twelve or thirteen years of schooling. Mathematics teacher educators attempt to bring those beliefs in line with the recommendations of the *National Council of Teachers of Mathematics* (NCTM, 1989, 2000). Zollman and Mason (1992) devised the *Standards Belief Instrument* (SBI) to measure the agreement of teachers' beliefs with the NCTM standards for school mathematics that were published in 1989. The SBI has been used in studies of middle grades teachers and principals in Georgia (Futch & Stephens, 1997) and by another researcher in Georgia (Hart, 2004) in studies of elementary teachers who have participated in alternative preparation programs. Moldavan, Sparks, and Mullis (1998) also used the SBI to study beliefs of pre-service and in-service teachers in the Northwest Georgia area.

Futch and Stephens (1997) found no significant differences between teachers' and principals' beliefs for the collection of items and no significant differences among teachers grouped by grades taught. Their interpretation of educators' agreement with the standards stated: "The representative standards that are more likely to require changes in classroom practice are largely rejected, although the standards that are general enough to embrace without change are affirmed" (p. 247). Hart (2004) concluded that the teachers in her study "maintained a strong reform perspective in their beliefs, but they were unable to consistently implement pedagogy that was consistent with those beliefs" (p. 79).

Moldavan, Sparks, and Mullis (1998) gathered data using the SBI from students at four different institutions. For all four institutions the same four items were consistently rated with the lowest levels of agreement. These items dealt with not learning math by absorbing information through repeated practice; teaching computation and word problems together and using them together; mathematics' being more than a collection of concepts, skills, and algorithms; and giving decreased emphasis to use of clue words to solve problems. The beliefs of preservice teachers were found to differ according to the level of the teachers' completion of their mathematics/mathematics education courses. Participating in these courses brought higher agreement with several of the beliefs advocated by the standards.

Method

Instrument

For the present study the researcher developed a 22-item survey, *The Survey of Beliefs About Mathematics Education*, with items related to the revised standards published in 2000, the *Principles and Standards for School Mathematics* (NCTM, 2000). Sixteen of these items were either direct quotes from *PSSM* or clear paraphrases of the principles and standards. Six items were worded to be in opposition to *PSSM*, but their scoring was changed so that the numerical results would indicate the respondent's approval level of the beliefs espoused in *PSSM*. The survey is shown in Table 1 along with specific references from *PSSM* from which the items are drawn. The items receiving adjusted scoring were numbers 2, 3, 9, 11, 13, and 20. In addition to the quantitative data obtained from the 22-item instrument, qualitative data about students' beliefs were obtained from a writing assignment in which students reacted to an article from *Teaching Children Mathematics* (Torrence, 2003).

Participants

The survey was administered on the first day of class in fall, 2003, to a Mathematics for Teachers P – 8 class at a small, private college in Northwest Georgia. There were 35 students in class that day, all of whom filled out the survey. Of the 35 students responding, 46% indicated they would like to teach in Pre K through grade 2, 34% in grades 3 through 5, and 17% in grades 6 through 8. One student indicated a desire not to become a teacher. The students were typical college-aged students, with 22 less than twenty years old, 11 between 20 and 24 years old, and only two students over 24 years old. Forty percent of the students were from the metropolitan Atlanta area and another 31% from Northwest Georgia. Only two students were from outside the state of Georgia. The students had relatively strong mathematics backgrounds in high school. Almost all of them had had Algebra II and Geometry, and almost half of them had taken a calculus class in high school. Their self-reported SAT math scores had a median of 580, although six students did not give their scores. The students who did not give their scores either did not remember them or did not take the SAT (may have taken the ACT instead, for example).

Results

The survey was given again at the end of the fall semester. Although students had added the course to produce a total enrollment of 38, two students had withdrawn, leaving 36 students actively participating in the course at the end. One student was absent the day the survey was given at the end of the semester, leaving 35 respondents. One student who added the course late also withdrew from the class, so he did not respond at either time to the survey.

Table 2 shows the percent of students in agreement with the standards at the beginning of the semester and at the end of the semester as indicated by their responses to each survey item. Also indicated is the change in the percent of students in agreement with the standards on each item from the beginning of the semester to the end of the semester. On 17 of 22 (77%) items there was either no change or a change reflecting more agreement with the standards.

Some of these positive changes represent only a difference of one student on the numbers responding in agreement to the standards. On the other hand, there are several changes of more than 10%. Overall, students show high agreement with the standards. At the end of the semester, on 16 out of 22

items (73%) at least 70% of the students were in agreement with the NCTM positions manifested by the items. The items with which less than 50% of the students endorsed the NCTM position were items 2, 11, and 13.

To fully understand why students respond the way they do would require qualitative data such as written explanations or interviews. It could be, for example, that in responding to item 2 related to addressing every topic every year, students have in mind the state requirements to cover the *Quality Core Curriculum*. For item 13, students may have fully "heard" and bought into the message about the process standard of connections, yet still see mathematics as a collection of separate content strands. After all, the standards are composed of and organized by content strands.

Qualitative Data

In the remainder of this article, qualitative data will be cited and explained in relation to item 11, related to whether all methods of problem solving have equal merit. The qualitative data cited also relates to item 18: "Students in grades 3 – 5 should understand that many methods for multiplication and division exist." The qualitative data suggest that subtle changes are occurring in students' beliefs, but that those changes are very difficult in coming.

At the beginning of the semester there were already 92% of the students who stated agreement with item 18. At the end of the semester, 97% of the students agreed. Exactly how students interpreted the question is not known. They could, for example, have in mind that division could be modeled as repeated subtraction, as set partition, or as the inverse of multiplication. On the other hand, they could be considering alternate algorithms. In either case, their responses could be closely tied to item 11 ("All methods of solving problems have equal merit.") On item 11 at the beginning of the semester 42% of the students rejected the notion that all methods of solving problems have equal merit, while only 22% rejected the notion at the end of the semester. While this represents a movement away from the NCTM position, if students are applying this principle to alternate algorithms, their change could actually be construed as a positive one. The intention of the item may be to note, for example, that for a particular problem, solving an equation might be a "higher" approach than trial and error. However, if the students have in mind that left-to-right addition serves a student as well as right-to-left, then their responses may actually indicate acceptance of approaches that they at first were uncomfortable doing.

In the Mathematics for Teachers P- 8 course the treatment of multiplication and division includes alternate algorithms such as Egyptian (doubling) method, Russian peasant method (duplation and mediation), lattice method, and scaffolding. Also students encounter alternate methods for addition and subtraction, such as left-to-right and equal additions. Many students are very surprised when they are presented with other algorithms besides the ones they were taught in school. As one student wrote, "I honestly never really knew that other methods existed to solve problems until this year."

Students were equally surprised when they watched a videotape titled *Double Column Addition: A Teacher Applies Piaget's Theory* (Kamii & Knight, 1987) in which second-graders in Alabama find their own ways to add and subtract double-digit numbers and justify their procedures. Because some students had shown strong reluctance to accept alternate algorithms when these were presented in class, the instructor followed up by assigning that the students read *Learning to Think: An American Third-Grader Discovers Mathematics in Holland* in the October issue of *Teaching Children Mathematics* (Torrence, 2003).

The students' written reflections on the article revealed their doubts. One student admitted, "When we were first introduced to the idea that students should work out a math problem in a way that works for them in class, I didn't think it was a good idea." Another student seemed to be swayed by what he had seen and read, as he wrote:

I really liked this article, and I will admit that it helped to sway a skeptical minded student to believe that teaching different math algorithms at a young age might be worth trying . . . Nonetheless, the article was interesting and insightful towards people who might be stubborn in their ways, like myself.

One student confessed that she still preferred the methods she had been taught. She wrote:

> Despite what this article has said about the positive aspects of this method of mathematics, the child must come back to American math and the troubles that ensues. Personally, and I don't really understand why, I prefer the way I learned math.

Another student expressed her concern in terms of future expectations, revealing in the process that she still considered "her" methods the "correct" methods:

> I can only think of one problem with the system, is it an effective way to teach if one is expecting to learn higher forms of mathematics? I mean, is it sensible to write out all that extra work when you get into high math learning? I believe that the way we learn mathematics in the US is very effective because it prepares you for higher level math, but does the Netherlands method, or should I say a child's personal method, prepare them for higher level math?... I agree totally with the RME (Realistic Mathematics Education) method as long as it prepares children for the future... But I will also be sure to show my students the 'correct' way, which is algorithms and carrying, just to make sure that they are prepared for middle school, high school, and even college level mathematics.

The concerns of another student to an extent echoed the comments above, but they also focused on the aspect of students' getting confused:

> I agree with the children coming up with their own ways of solving mathematical equations. However, I also am very American and get confused easily when someone tries to show me another way other than the regular algorithms. I like the way I have learned math, and it is very hard to learn another way. I think that children learning and coming up with their own ways of solving problems will help them at the time. However, once they reach a certain level of mathematics it will be hard if they have not learned the fundamental basics of algorithms.

One student espoused a view of teaching students an algorithm first but then allowing them to use other methods. She stated:

> I believe that it is important to teach a uniform way of solving math problems, but once a child understands enough to create his or her own way of working out the problems, I believe the teacher can know that the child truly understands the process.
> Her beliefs were the opposite of what she had observed in the videotape in which the narrator, Constance Kamii, holds that teaching children algorithms destroys their thinking.

Kamii's view was recognized by one student as she reflected: "The idea that a child can understand a problem and is motivated to try and solve it rather than having a certain method or algorithm required to do it was something new and interesting to me." A final student comment talks about this new idea as she recognizes that "...having only learned to work problems right to left using the algorithm I never considered that there was another way of looking at problems."

Conclusions

Although mathematics teacher educators enjoy a fair amount of success in bringing their students to an appreciation of the NCTM standards, that success does not come overnight. The experiences of an entire semester—reading the Principles and Standards for School Mathematics, watching videos of classrooms that incorporate those standards, reading articles about students' mathematical thinking, and learning new mathematical content in the form of other methods for arithmetic operations—are insufficient for removing all doubts in students' minds. Being cognizant of this should enable teacher educators to look for multiple opportunities to create experiences that will challenge the long-held beliefs about mathematics learning and teaching. The changes that occur in pre-service teachers' beliefs about mathematics and pedagogy may be subtle, but they are profound.

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Table 1

Survey of Beliefs About Mathematics Education

For each statement darken the number corresponding to your thoughts.
Leave blank any item you consider confusing.
1 or A means strongly agree.
2 or B means agree.
3 or C means disagree.
4 or D means strongly disagree.

1. All students should learn important mathematical concepts and processes with understanding.
2. School mathematics programs should address every topic every year.
3. Technology is not essential in teaching and learning mathematics.
4. There is not one "right way" to teach.
5. From a young age, children are interested in mathematical ideas.
6. Assessment should be an integral part of instruction that informs and guides teachers as they make instructional decisions rather than merely a test at the end of instruction.
7. By the end of grade 2, students should know the basic addition and subtraction combinations and should be fluent in adding two-digit numbers.
8. Algebraic competence is important in adult life.
9. Not all students should learn algebra.
10. There are many problems that are interesting and fun but that may not lead to the development of the mathematical ideas that are important for a class at a particular time.
11. All methods of solving problems have equal merit.
12. Allowing students to grapple with their ideas and develop their own informal means of expressing them help them develop an appreciation of the need for precise definitions.
13. Mathematics is a collection of separate content strands, such as number theory, geometry, and algebra.
14. Practice to develop fluency with basic number combinations should focus on thinking strategies and knowledge of number relationships.
15. The use of mathematical symbols should follow, not precede, other ways of communicating mathematical ideas.
16. Students in grades 3 – 5 should explore numbers less than zero.
17. Students in grades 3 – 5 should frequently use calculators to solve complex computations involving large numbers or as part of an extended problem.

18. Students in grades 3 – 5 should understand that many methods for multiplication and division exist.
19. Discourse should not be a goal in itself but rather should be focused on making sense of mathematical ideas and using them effectively in modeling and solving problems.
20. The value of a mathematical task depends on whether it has a real-world context.
21. Students can effectively learn mathematics in heterogeneous groups.
22. Middle grades and high school students should be expected to spend a substantial amount of time every day working on mathematics outside of class.

Quotes from *Principles and School Mathematics* related to each of the above items, along with page numbers on which they are located, are given below:

1. "The recommendations in it (PSSM) are grounded in the belief that all students should learn important mathematical concepts and processes with understanding" (p.ix).
2. "School mathematics programs should not address every topic every year" (p. 7).
3. "Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning" (p. 11).
4. "Teachers have different styles and strategies for helping students learn particular mathematical ideas, and there is no one 'right way' to teach" (p. 18).
5. "From a young age, children are interested in mathematical ideas" (p. 21).
6. "Assessment should be more than merely a test at the end of instruction to see how students perform under special conditions; rather, it should be an integral part of instruction that informs and guides teachers as they make instructional decisions" (p. 22).
7. "By the end of grade 2, students should know the basic addition and subtraction combinations, should be fluent in adding two-digit numbers, and should have methods for subtracting two-digit numbers" (p. 35).
8. "Algebraic competence is important in adult life, both on the job and as preparation for postsecondary education" (p. 37).
9. "All students should learn algebra" (p. 37).
10. "There are many, many problems that are interesting and fun but that may not lead to the development of the mathematical ideas that are important for a class at a particular time" (p. 53).
11. "Moreover, since not all methods have equal merit, students must learn to examine the methods and ideas of others in order to determine their strengths and limitations" (p. 63).

12. "However, it is important to avoid a premature rush to impose formal mathematical language; students need to develop an appreciation of the need for precise definitions and for the communicative power of conventional mathematical terms by first communicating in their own words. Allowing students to grapple with their ideas and develop their own informal means of expressing them can be an effective way to foster engagement and ownership" (p. 63).
13. "Mathematics is not a collection of separate strands or stands, even though it is often partitioned and presented in this manner. Rather, mathematics is an integrated field of study" (p. 64).
14. "Practice should be purposeful and should focus on developing thinking strategies and a knowledge of number relationships rather than drill isolated facts" (p. 87)
15. "The use of mathematical symbols should follow, not precede, other ways of communicating mathematical ideas" (p. 131)
16. "In grades 3 – 5 all students should explore numbers less than 0 by extending the number line and through familiar applications" (p. 148).
17. "Although the expectation is that students develop fluency in computing with whole numbers, frequently they should use calculators to solve complex computations involving large numbers or as part of an extended problem" (p. 155).
18. "The conventional algorithms for multiplication and division should be investigated in grades 3 – 5 as one efficient way to calculate. Regardless of the particular algorithm used, students should be able to explain their method and should understand that many methods exist" (p. 155).
19. "The discourse should not be a goal in itself but rather should be focused on making sense of mathematical ideas and using them effectively in modeling and solving problems" (p. 194).
20. "The value of a mathematical task is not dependent on whether it has a real-world context but rather on whether it addresses important mathematics, is intellectually engaging, and is solvable using tools the learner has or can draw on" (pp. 201 – 202).
21. "Students can effectively learn mathematics in heterogeneous groups if structures are developed to provide appropriate, differentiated support for a range of students. Structures that exclude certain groups of students from a challenging, comprehensive mathematics program should be dismantled" (p. 269)
22. "All middle-grades and high school students should be expected to spend a substantial amount of time every day working on mathematics outside of class, in activities ranging from typical homework assignments and projects to problem-solving in the workplace" (p. 371).

Table 2

Percent of Students in Agreement with NCTM Standards on Survey Items

(Both the pretest and the posttest were administered to 35 students.)

Item No.	Pretest	Posttest	Change
1	100	100	0
2	28	47	19
3	72	72	0
4	94	97	3
5	64	83	19
6	100	100	0
7	100	100	0
8	86	86	0
9	89	94	5
10	86	75	-11
11	42	22	-20
12	92	89	-3
13	42	39	-3
14	92	94	2
15	64	78	14
16	83	89	6
17	28	50	22
18	92	97	5
19	97	97	0
20	44	61	17
21	97	89	-8
22	42	64	22

Politically Activating Pre-Service Teachers

Dara Wakefield

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Are new teachers prepared to use their political voices? The purpose of this study was to introduce and evaluate a strategy for teaching political activism to pre-service teachers. In this case study, 75 Georgia pre-service teachers became politically active and helped shape their state's future.

Are new teachers prepared to use their political voices? The purpose of this study was to introduce and evaluate a strategy for teaching political activism to pre-service teachers. With the advent of politically motivated educational reform, teachers have been placed on notice—focus on test scores or find another career! Educators can ill afford to remain silent when the foundations of the teaching profession are at stake. Encouraging pre-service teachers to practice responsible citizenship and develop their political voices is essential and raises significant challenges for teacher educators.

Over the past few decades the teaching has been repositioned away from holistic education. The use of testing as a means of holding schools accountable grew throughout the 1990s. Texas emerged as a leader in test-centered educational reform with the *Texas Assessment of Academic Skills (TAAS)*. In 1998, Congress passed the *Higher Education Act*, in which Title II mandated annual state reports on teacher preparation and licensing.

During the 2000 presidential elections, education was one of the most important issues addressed by candidates (Lieberman, 2003). President Bush's *No Child Left Behind* (NCLB) educational reform legislation virtually federalized public education in the United States, with high-stakes testing as the centerpiece. Most educators rejected the use of high-stakes tests, but lacked political organization or a viable political voice (Gage and Berliner 1998; Kohn 2000).

After the election, political rhetoric became law as "No Child Left Behind" and a rash of state-level education reforms were enacted. In 2001, the *Michigan Education Report* declared education a prominent issue in elections throughout the country (Mackinac, 2001). President George W. Bush described his "No Child Left Behind" Act of 2001 as the "cornerstone" of his administration (US Department of Education, 2002). President Bush's well-meaning legislation fulfilled campaign promises, but also resulted in an unprecedented federal invasion of public education—usurping rights and responsibilities formerly held by states and local communities. Though the federal government was a presence in US classrooms, NCLB rewrote the mission statements of most, if not all, public schools. *A Nation at Risk* (US Department of Education, 1983) suggested such actions are tantamount to an act of war.

Donald Gratz (2003), an educational consultant, suggested the irony of "No Child Left Behind" is that it assures that many children will, in fact, be left behind. Despite federal claims to the contrary, children and schools are not equal and cannot be measured by the same yardstick. As education reforms have been enacted the public has slowly come to realize what many educators knew from the beginning—quality is relative to the individual. Furthermore, the individual needs of students transcend academic performance to encompass life as a whole. The expectation that *all* students will perform identically on a given task defies nature and reality. Native ability and socioeconomic contexts limit educational outcomes.

In recent years many political candidates have discovered they can ride into office on promises of educational reform. Politicians are rarely qualified to make foundational educational decisions and often turn a deaf ear to education professionals. Despite numerous problems inherent in quantifying learning, these politicians have called for children to submit to high-stakes testing (Kohn 2000; Sacks 1999). Educators, a potentially significant political constituency, should keep this issue in the political arena.

Teachers as Political Activists

The notion that educators must justify themselves in Washington and state capitals comes from reform advocates, often education outsiders, promoting a particular vision of change (Shipps & Firestone, 2003). These advocacy groups typically do not see the educational and emotional needs of an extremely diverse population, but only success or failure based upon the outcomes of high-stakes tests (Wyatt, 2002). With virtually no opposition, these groups dictate reform in Washington and our states' capitals. Though

educators are not accustomed to viewing themselves as political guardians of public education, they are increasingly called upon to protect their students from the consequences of political reform.

Professional education publications advocating political activism are rare. An ERIC search using a variety of keywords yielded less than a dozen pertinent publications. Most addressed specific issues, such as bilingual, minority or gender issues. *You Can Make a Difference* tells of three teachers' political activism when a program in their schools was threatened by budget cuts (Kersey, O'Leary & Dale, 1998). These politically engaged teachers provide would-be activists detailed steps for successful political action, researching solutions, gaining support, evaluating plans and securing funding. Teachers are encouraged to defend effective school programs and develop strong public relations through networking. To protect and promote effective education teachers must imitate political leaders by creating a focus, providing leadership and speaking publicly (Kersey, O'Leary & Dale, 1998).

John Dewey (1938) clearly expressed a need in public education for teachers who model democracy and citizenship. Shor (1999) suggested a need for active citizen-teachers who model democracy through student-centered instruction, power sharing, collaboration and political engagement. Educators often find themselves working *against* politicians and public school systems to increase learning among their students. Public education in the United States has grown into a political bureaucracy which attempts to control teaching and learning from the top down. True educational reform results when active citizen-teachers find allies among parents, colleagues, students and teacher organizations (Shor, 1999).

Treatment: Politically Activating Pre-Service Teachers

Nearly a century ago Martha Berry started a Sunday School for children in the foothills of northwest Georgia's mountains which grew into one of the premier private colleges in the South. "Not to be served, but to serve" was Martha Berry's motto. Committed to educating the head, heart and hands, Martha Berry's vision captured the hearts of presidents, philanthropists, and a nation. The growth of her Sunday School into Berry College is chronicled in Kane's *Miracle in the Mountains* (1956).

Martha Berry's commitment to work, active citizenship and personal service continues to guide pre-service teachers in the Charter School of Education

and Human Sciences at Berry College. In this study, 75 pre-service teachers in Integrated Arts and Cultures courses spent their fall semester exploring the *National Council for the Social Studies Standards* (NCSS, 1994) under the leadership of four professors.

In anticipation of November elections and eventual consideration of NCSS Standard X (civic ideas and practices), a political activism unit began. Students analyzed NCSS Standard VI (power, authority and governance). Students reviewed recent educational reforms and the agendas of political candidates. The final session on Standard VI ended with students and professors "webbing" and discussing the relationships between public schools, local, state, and national governments, testing agencies, certification agencies, and schools of teacher education. The issue of high stakes testing and the increasing absence of the arts in education took center stage as students voiced their concerns about educational reform.

In October students began discussing NCSS Standard X (civic ideals and practices). While considering a teacher's civic responsibilities, students read Kohn's *The Case Against Standardized Testing* (2000) and viewed *Beyond the Standards Movement* (2000). At this point professors surveyed the students, asking if any were active in political campaigns, boycotts, protests, lobbying or letter writing. Kohn's arguments against testing galvanized students and set the stage for brainstorming sessions on educational issues and ways pre-service teachers might influence voters and policy-makers.

As it became clear that students and schools would be the losers in the new test-driven system, the students began to search for their political voices. Students debated teacher passivity since most teachers avoid confrontation and respond to criticism by quietly reflecting, talking with other educators and then doing what is in the child's best interests (Barton, 1999). They also considered State teachers' organizations and the notion that politicians rarely view teachers as a formidable block of voters (Reynolds, 2002).

Students were required to research an issue of their choice then draft a letter or editorial. "Targets" included the President, First Lady, Governor Barnes, legislators, state and local boards of education, the Georgia Professional Standards Commission, newspapers, magazines, and radio programs. Topics included high-stakes testing, teacher salaries, professional recognition, certification issues, the abandonment of recess in the curriculum and the decline of fine arts study in elementary and middle schools. The majority questioned Georgia's governor on his educational views and test-centered reforms.

The resulting letters and editorials to various "targets" were peer reviewed, read by professors and finally submitted for mailing prior to November elections. Over 90 letters and editorials were mailed. Some of the students wrote more than one letter or editorial. Approximately 30% of students captured editorials in Georgia newspapers while the remainder received responses from the individuals to whom they wrote. Less than five percent failed to receive a response or editorial publication from their "targets". The success of the mail campaign increased the level of excitement among participants with regard to their political issues and raised their interest in the upcoming elections.

On November 5, 2002, Roy Barnes, the "Education Governor" of Georgia lost the governorship in spite of a seven point lead in the polls. Many attribute his loss to Georgia's 190,000 teachers (Wyatt, 2002). Bob Cribbs, a top official for the Georgia Association of Educators, said teachers were insulted when Barnes blamed them for all the problems in public schools (Wyatt, 2002). Barnes went into the 2002 election with the polls predicting a comfortable victory, but rural Georgia voters came out in record numbers and more than half the counties that voted for Barnes in 2000, voted against him in 2002 (Blevins, 2002). In the aftermath of the election Georgia educators hoped their new governor would emphasize education and become a champion for students and teachers (Tofig, 2002). The participants in this project believed they helped shape history through political activism.

The concluding activity involved participants in completing informal pre- and post-activity surveys to evaluate the effectiveness of the political activism activity and collect recommendations for the following year (Cozby, 1993). The surveys required students to self-evaluate their knowledge on variety political issues. The surveys also asked about overt political activism, civic responsibilities of teachers and the need to be well informed. The final section of the post surveys consisted of questions evaluating NCSS standards and input for improving the political activism activity.

Participants and Methodology

The participants in this study were a non-random sample, including all early childhood and middle grades pre-service teachers at Berry College from 2001-2003. The average participant was female, 20 years old, had an SAT score in excess of 1000 and came from an above average socioeconomic setting. Of the 75 participants, only two were male.

A survey approach was selected for this study because surveys are an easy and effective means of gathering information and identifying prevalent attitudes or beliefs (Weisberg, Krosnick & Bowen, 1995, see Appendix A). These quasi-experimental pre- and posttests sought to identify areas of growth among participating students with regard to their knowledge base, political attitudes, NCSS standards and satisfaction with the political activism activity (Cozby, 1993). The surveys included closed- and open-ended questions. Students were supplied definitions of key terms to establish a common frame of reference (Converse & Presser, 1986). Surveys were completed anonymously so students would be free to respond without fear of repercussions, thus individual correlations were not possible. The pre- and posttests were correlated to see if they were significantly different (Weisberg, et al., 1995, Cozby, 1993).

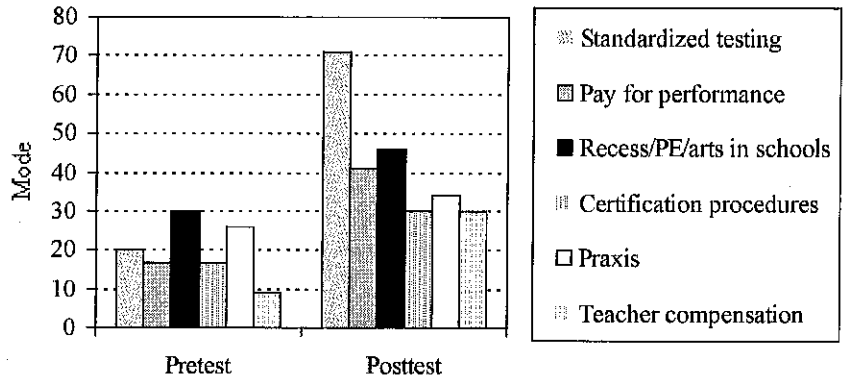
The survey had three sections, consisting of two checklists and 10 open-ended items organized according to four general topics: knowledge base, political attitudes and behaviors, NCSS standards and unit evaluation. Checklists provide easily quantifiable data while the open-ended questions provided qualitative data (Judd, Smith & Kidder, 1991). Validity issues were addressed informally. Face, content and construct validity were verified as participants discussed and used the terms in the survey. The author's stated intent for surveying was to ascertain the effectiveness of the political activism project and receive critical feedback to improve future performance. Reliability was evaluated through parallel questioning and split-half correlations. Survey responses were randomly divided into two groups and their responses of the two groups were compared. The results approached unity. Sets of questions addressing particular issues or behaviors were compared and found to correlate in a significantly positive manner.

The first section was a checklist requiring students to indicate whether they did or did not feel well-informed on six educational issues: standardized testing, pay for performance, recess/PE/arts in schools, state certification procedures, Praxis testing and teacher compensation. The second section asked students to respond if they had written a political letter or editorial, taken a stand on an educational issue among peers, considered their civic obligations as teachers, kept up-to-date on educational issues, felt it was their civic duty to speak out, or had a recent change in attitude toward politics and education. The final section contained 10 open-ended questions about NCSS standards and teaching methods.

Findings

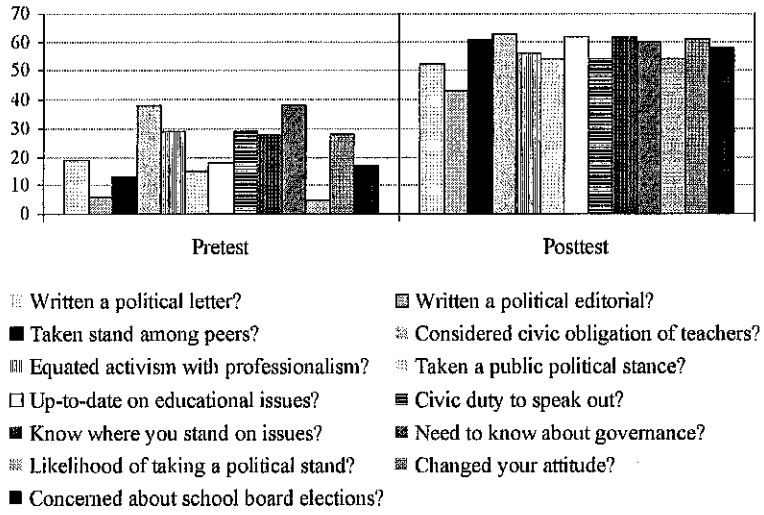
The survey return rate was 95%, or 71 out of 75. Responses to the first section checklists indicated significant growth in all areas (see Chart 1). The greatest growth occurred in the area of standardized testing where .72 reported increasing their knowledge, meaning 51 of the 71 respondents moved from "uninformed" on the pre-test to "well-informed" on the post-test. The area of least growth was Praxis with .11 claiming an increase in knowledge.

Chart 1: Knowledge Base Section Pre- and Post Survey Responses



The second section regarding attitudes and behaviors revealed significant growth in all areas (see Chart Two). All questions indicated growth factors of .31 to .69. The greatest increase was in the likelihood of the student taking a political stand—49 responses (.69) changed from "no" to "yes." The area with the least growth was the student's need for information about educational governance.

Chart 2. Attitudes and Behaviors Section Pre- and Post Survey Responses



In the open-ended question section students indicating all NCSS standards were addressed in the activity, however standards IV, V, VI and X appeared to have been best represented. Standard VI (power, authority and governance) and Standard X (civic ideals and practices) were perceived as the primary focuses, followed closely by Standard V (individuals, groups, and institutions).

Participants reported the activity supplied needed information, forced self-evaluation, resulted in publications or responses from targets and increased awareness of educational issues. Suggestions for the future included additional information on salaries, an expanded list of issues, more discussion time and a classroom portfolio of letters and publications. Participants suggested omitting peer review procedures, salary and Praxis issues and the Kohn video. Of those participating, .88 suggested nothing be omitted.

In Their Own Words

"This unit made me realize that if we don't become active against the wrongs in the system nobody will and things will never change. I just always thought that someone else would fight my battles for me."

"This lesson got me fired up!"

"It made me realize that it does not take much for one voice to be heard. I was very surprised at how soon and how easily some of the people in our class got published."

"I had my eyes opened to the important issues involving education—I formed an opinion on an issue I had not previously known much about."

"It teaches them not only that they have a voice, but that they have a responsibility to use that voice."

"Before, I was very skeptical about political activism and was very doubtful that my voice would be heard, however I was wrong. My voice was heard as noted through a personal response I received from the Governor himself. I learned that I can make a difference and how important that is in the world of education."

"I didn't realize that I had such a strong opinion and such worthwhile things to say until I was forced to flesh out my ideas and present them in my letter."

"I believe that most teachers are blind to the fact that they have a voice that is much needed to make change in education for the benefit of the students."

Conclusions

Walt Kelly's Pogo said, "We have met the enemy and he is us." (1982). Students involved in this study would certainly agree. They suggested political apathy and inaction were luxuries future educators can ill afford. Pre-service teachers at Berry College were alarmed as politicians and policy-makers rushed to reform education according to political, not educational agendas. Study participants felt educators have a duty to become politically active to influence the policy-making process.

Marginson (1998) suggests the United States global position requires education become a federal issue. Granting the importance of education in the global community; federal control does not equate to high, uniform performance among the nation's students. Even pre-service teachers suspect the unequal funding of schools in unequal communities staffed by unequal faculties will produce less than uniform test scores. Pre-service teachers expect federal and state governments to seek professional guidance in education and to do more than mandate tests. Our students felt governments should assist parents and communities overcome regional economic, historic

and social hurdles as they educate their children. Kennedy (2000) suggests educators nurture political contacts and become active in legislative battles, yet educators show signs of "learned helplessness" as they assume their educational destinies are beyond their control. Dweck and Goetz (1978) found that students who consistently experienced academic disappointment began to assume failure was not their fault, but their destiny. It appears educators have come to accept political reform as their destiny and fail to see personal political activism as an effective alternative.

No Child Left Behind disregards considerable regional, rural, urban, and suburban educational differences (Hickok, 2002). Expecting impoverished children in the "Black Belt" of the South, non-English speaking children in the Southwest and suburban children in Northeast to perform similarly on standardized tests is plainly illogical (Livingston, 2002). Decades of research indicate testing fails as an efficient or fair means of measuring student learning (Hilliard, 1975; Hauck, 1985; Hedges & Friedman, 1993; Sacks, 1999; Sadker & Sadker, 2000; Orfield & Kornhaber, 2001; Tanner, 2001). Pre-service teachers seriously ponder who will defend children from tests that generate anxiety, destructively label schools and become self-fulfilling prophecies (Linn and Gronlund, 2002).

The author feels preparing future teachers to use their political voices is important for at least three reasons. First, the fate of public schools will be decided in political arenas. Second, politicians are writing job descriptions for our nation's nearly 3 million teachers with little regard to the realities of their situations or students' needs. Finally, over 45 million children will pay the price for legislation that deprives them of a well-rounded education.

Educators should encourage each other to speak and vote. Teacher education programs should consider adding a component blending the teaching profession with civic duties. This study suggests that students who use their political voices are more open to speaking out again. One student who participated in the political activism activity returned the following semester to have the author proofread an editorial on educational policy that she later had published in a local newspaper.

Perhaps, if educational reform becomes politically dangerous, politicians will leave it to educators. The fate of local, state and national education very likely depends upon educators finding their voices. Teachers have the power to generate a political base that politicians ignore at their own peril. Georgia's November 5, 2002 election should serve as a wake-up call to

politicians across the country. Educators can be instrumental in dethroning "Education Reformers" who had the audacity to embrace high stakes testing, attack teachers, discount teacher education and destroy school morale.

One of the goals for this study was for pre-service teachers to associate political engagement with professionalism. The author believes this goal was accomplished. Students experimented with their political voices and were surprised and encouraged by the results. Their voices appeared to have an effect as a governor was swept out of office by the votes of disgruntled shareholders in education (Morris, 2002). Georgia's Governor Barnes belatedly discovered that educators, indeed, represent a significant voting block. Perhaps *No Child Left Behind* will galvanize educators into a formidable political constituency that will hold elected officials accountable for the current crisis in public education.

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Appendix A

Political Activism Survey

1. Are you well-informed about the following?

Yes	No	Item
☐	☐	Standardized testing
☐	☐	Pay for performance
☐	☐	Recess/PE/arts in schools
☐	☐	State certification procedures
☐	☐	Praxis
☐	☐	Teacher compensation

2. Have you...

Yes	No	Item
☐	☐	ever written a political letter to a person in authority?
☐	☐	published an educational editorial or commentary in a magazine or newspaper?
☐	☐	taken an active political stand among your peers on an educational issue?
☐	☐	considered your political and civil responsibilities as a teacher?
☐	☐	connected political activism with being a conscientious professional?
☐	☐	publicly voiced your concern about the direction education is headed in your state and nation?
☐	☐	kept up-to-date on controversial issues in education?
☐	☐	thought you had a civic duty to speak out about educational issues?
☐	☐	known where you stood on the issues considered in class?
☐	☐	felt a need to be informed about the governance of education?
☐	☐	been involved in any political activism for education?
☐	☐	defined your responsibilities with regard to political activism and teaching?
☐	☐	given much thought to school board elections?

3. What NCSS standards were addressed in this activity?
4. How did you benefit from this activity?
5. What would you add to this lesson to make it better?
6. What would you omit to make the lesson better?
7. What did the professors do that inspired you?
8. What did the professor do that discouraged you?
9. How did the political activism unit change you?
10. How could you revise or adapt this assignment for use in a social studies classroom?
11. In a sentence or two express your view on teachers and political activism.
12. In one word, how would you describe this lesson?
13. Why might you consider doing a similar lesson with your students?
14. Will you vote in the upcoming election?

Comments: