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From the Editor ...

Every day poses a new challenge. Every day offers a new way of doing, of hearing, of acting, and of thinking. Every day promises to be different from the one before. Every day, change occurs. While we usually are quite comfortable with the status quo, we all know that change is inevitable. This year marks the beginning of another change for Eastern Education Journal.

More than forty years ago, a tiny ripple of change trickled through what was then known as the School of Education at Eastern Illinois University. Robert V. Shuff, along with the help of Ron Leathers and others, developed and first published a small booklet entitled *Eastern Education Journal*. The primary mission and purpose of the publication was to serve as a forum for scholarly discourse, dissemination of contemporary information, and exchange of ideas. Early copies of the *Journal* were approximately 5x4 inches in size and generally consisted of three to four articles. Several years ago, Ron Leathers recalled: "An office secretary typed it, and about a hundred copies were produced on a mimeograph machine with a construction paper cover, printed by volunteer graphic design students."

As time went by, other changes at the University took place. The School of Education was renamed the College of Education and the *Journal* changed as well. Leathers continued: "Commercial typesetting and printing services, addition of pictures, new cover designs, and larger paper sizes greatly enhanced the overall appearance and reader appeal, and attracted more readers and author submissions."

Perusing several decades of *Eastern Education Journal* publications is a breathtaking look at recorded history. The *Journal* has witnessed impressive tenures of University Presidents - Quincy Doudna, Gilbert C. Fite, Martin Schaefer (acting), Daniel Martin, Stan Rives, David L. Joms, Carol Diann Surles, and Lou Hencken. The *Journal* has also witnessed the accomplishments of School of Education, College of Education, and College of Education and Professional Studies deans - Martin Schaefer, Leroy Peterson, Harry J. Mergis, Frank Lutz, Charles Joley, Ron Leathers (acting), Elizabeth J. Hitch, Charles A. Rohn, and Diane H. Jackman. Change occurred and the *Journal* documented that change.

Throughout the decades, *Eastern Education Journal* continued to document change - in teacher education, curriculum, classroom strategies, innovative programs, diverse assessment, accountability, and pages of research on professional development schools, technology, field experiences, cooperative learning, and much, much more. The *Journal* reflected the pendulum tide of reforms, both at the state and national level. Continuously, the *Journal* provided a research base for topics dealing with issues in education.

In terms of format and style, the *Journal* also changed. In the beginning, the University Seal (60s) graced the cover page of the *Journal*. The seal was followed by an artistic rendition of Old Main, fondly known as the Castle (70s through middle 90s). This long-lasting image subsequently gave way to "less is more" - simple, high tech text (late 90s). Obviously, the number of articles has changed; from three to four articles, the *Journal* began to publish ten, twenty, and, at times, even more. Regional readership and article submissions changed to reflect a nationwide audience and authors from across the nation. Ron Leathers noted that during an accreditation visitation and evaluation of teacher education programs at Eastern, "NCATE singled out the *Journal* and cited it as a special 'strength' of our unit."

Clearly, change is certain, and the *Journal* has mirrored change through the decades. Some things, however, have not changed. First, the mission and purpose of the *Journal* has not changed. From its inception to today, it continues to provide a forum for scholarly discourse reflecting contemporary issues in education, to encourage original points of view, and to offer an exchange of ideas. Second, the importance and integrity of publishing a refereed *Journal* has not changed. From the very beginning, the *Journal* was a refereed publication, with a small editorial board. Today, it continues to maintain its refereed status, with nine persons serving on the Editorial Board. Third, the commitment to reach out to educators has not changed. When the *Journal* was launched, Ron Leathers described: "It was designed as an outreach document ... to bring together the
best and most current thoughts in modern education." Today, the Journal continues to seek out new audiences and new authors from across the nation, as well as the world.

For fourteen years, I have served as Editor of Eastern Education Journal. I have sincerely enjoyed chatting with each of you. I have looked forward to your newly scripted manuscripts, your comments, and your communications. Whether by telephone or in person or via email, it has always been a pleasure to touch base with you. Your scholarly contributions, your feature articles, your personal points of view, and your guest editorials have greatly contributed to the success and stature of Eastern Education Journal as a premier, state-of-the-art publication. For fourteen years, I have also thoroughly enjoyed working with you, the members of the Editorial Board. Your commitment, expertise, and timely input have helped create a superior journal. In addition, for fourteen years, I have worked closely with the University and the Deans of the College of Education and Professional Studies. Your resources and support have been highly instrumental in maintaining a quality publication.

Today, ripples of change are at the forefront, and this Spring 2007 issue of Eastern Education Journal is my last one. Soon, another editor will take my place. In a note written years ago, Robert V. Shuff commented: "Having planted the seed, watered, cultivated, and pruned the fledgling plant – the Eastern Education Journal – it’s nice to know it’s being cared for as it matures." Thank you, Robert Shuff and Ron Leathers, for giving me the privilege to serve as caretaker of Eastern Education Journal.

Veronica P. Stilp

In This Issue ...


The Research section begins with "Privatization in Education: NCLB Does It All" by James C. Moses and Amy C.M. Torres. The authors examine the hypothesis that there is a connection between the current administration legislation, No Child Left Behind, and the strong endorsement of privatization by various think tanks and corporate America. The following article – "An Investigation of Portfolio Selection by Teacher Candidates in Two Elementary Science Methods Classes" – scrutinizes pre-service students’ self-selected content for portfolio inclusion. In this study, author Lloyd H. Barrow investigates if artifacts included in portfolios reflect "a sameness" of selection. The next article by Jane Strawhecker – "Preparing to Teach Elementary School Mathematics: The Integration of a Hands-On Experience" – describes how one university developed and sustained a hands-on field experience for mathematics.

What is differentiated instruction and how does it apply to students from different cultures, languages, abilities, personalities, and learning styles? Authors Max Fridell and Rebecca Newcom Belcher chronicle the success of a young man with autism in "Differentiated Instruction for the Autistic Child: A Case Study." Nancy Gaylen in "Concept-Based Approach Helps Students Improve Math Scores" next describes a different way of teaching mathematics. This study, a collaborative action-research project between a university and a K-8 magnet school, investigates the effects of a concept-based interdisciplinary approach to teaching mathematics and student-involved assessment on test scores. In the following article, "Bullying in Schools: A Different Perspective," principals from fifty schools in the central United States were surveyed concerning their perceptions of bullying behaviors. Authors Ken Nelson, Marlene Kuskie, and Joan Reznicek discuss the data collected and provide recommendations for successful bullying intervention programs.

In "Beginning Conversations about Social Justice and Financial Education: Exploring Music’s Role," Thomas A. Lucey argues that social justice represents a financial education issue and advocates implementing classroom conversations about this connection. He encourages the use of art and music to stimulate such conversations. Next, Donna J. Cole, James Tomlin, and Charles W. Ryan describe a study dealing with teacher education policy and personal engagement in democratic education. They also provide recommendations for improving teacher preparation programs.

The Features section includes a selection of research on special interest topics. It begins with "Literacy Methods Preparation of Pre-Service Teachers: Illinois Reading Council’s (IRC) Student Members’ Perspectives" by Elaine Pierce Chakonas. The intent of this study was to identify the needs of pre-service
This issue of the *Eastern Education Journal* marks an ending and a new beginning. Dr. Veronica Stephen, who has been the journal editor for the past 14 years, is retiring this spring. She has done an excellent job as editor and was zealous in her duties to maintain the academic integrity of the journal. To many people, she is the *Eastern Education Journal*. Dr. Stephen has left a legacy of excellence that will be used as our benchmark in the future. She will be missed by all who work with the journal, but we know that she has many exciting opportunities on the horizon.

As with any ending, there are new opportunities and beginnings. As with many refereed publications, the decision has been made to begin publishing this journal electronically. This will allow the journal to be read by more educators, both K-12 and higher education. This move will allow us to reach a worldwide audience. As the move is made to publish electronically, many new opportunities are on the horizon and we are limited only by our imagination. Electronic submissions, electronic reviews, searchable databases are only some of the possibilities we see for our future. Our hope is that we will be able to put previous issues of the journal online, again making our journal more accessible to everyone who is interested in education.

If you want to make sure you are on the list to receive notification of future issues of the *Eastern Education Journal*, please forward your e-mail address to cepsalum@eiu.edu. Information on manuscript guidelines and submission requirements can be found in this issue or online. We look forward to working together as we chart a new and exciting future for the *Eastern Education Journal*. 

Fond Farewells - Exciting New Beginnings

Diane H. Jackman, Dean
College of Education and Professional Studies
Recently, I attended a workshop, which focused on experience-dependent neural plasticity (Kleim & Jones, 2006). A summary of recent research based on animal models was presented, and learning principles derived from the findings were summarized. This presentation was followed by a series of studies with neurogenic communication disorders based on these principles. Findings from the communication studies yielded results about learning consistent with those suggested from the basic science research.

As a speech-language pathologist, I work primarily with children and adults who have atypical neurology, either developmental or acquired. The animal-based learning principles discussed, and the similar findings for the communication studies led me to think about how the principles applied to my own therapeutic approaches, and to student learning in general.

**Principle 1: Age matters.**

The brain is responsive to learning experiences at every age. However, young brains appear to change in response to learning experiences at a faster rate than older brains. This seems to indicate that early learning programs are valuable for young children, and should probably be available for all children. I think readiness to learn is the key. Education is age-based, and children's brains are ready to learn at differing ages. Students with atypical neurology perhaps function more like those with older brains and may not be ready for the same types of learning experiences at the same age as students with typical neurology. Goodwin and Judd (2005), in their recommendations for novice teachers, suggested that instruction should be differentiated within a classroom according to student learning styles and readiness. The use of rating scales for student characteristics and authentic assessment were suggested as tools a teacher can use to determine individual differences in students.

**Principle 2: Use it or lose it.**

If the brain isn’t actively involved in learning, its ability to learn diminishes. This principle suggests that students who aren’t learning with traditional methods must be challenged with nontraditional learning formats. All children are able to learn, and it is important for later development that they demonstrate learning in some manner. Goodwin and Judd’s (2005) suggestions for new teachers included structuring each lesson to tap into at least four of Gardner’s multiple intelligences. Teachers of young children routinely incorporate these elements into their teaching, but how often are these methods utilized with older children and adolescents? Furner, Yahya, and Duffy (2005) suggested teaching math using manipulatives and drawings to help visualize word problems. Additional suggestions included having students write original word problems related to daily life activities, and rewriting word problems in simple terms.

**Principle 3: Use it and improve it.**

The student must be actively engaged in order to learn. Goodwin and Judd (2005) advised new teachers not to do all of the work. It is important that students become engaged in order to learn, and they must spend time demonstrating that they have mastered the skills taught. Practicing a skill and skill acquisition are two components of learning. Only demonstrated acquisition will result in the depth of learning that will allow the basis for skill building.

**Principle 4: Repetition matters.**

Students must not only acquire a skill, but must continue to practice the skill over time. A skill is more likely maintained if the student is placed in situations where he or she must initiate as well perform the acquired skill. For atypical learners, it is especially important that skill acquisition be extended to functional contexts. Without this, generalization may not take place. Furner et al., (2005) suggested relating learned skills to prior knowledge and background, and making interdisciplinary connections with the subject matter to increase the intensity of repetition. Learning is not a single, measurable event. Consolidation of memories for learned skills stabilizes over time.

**Principle 5: Salience matters.**

Information is encoded when the learning experience has some importance to the student. Salience is associated with a good grade for many
students. However, for other learners, the salience of a task comes about through activities that increase the learner’s attention, motivation or emotional connection with the skill to be learned. Salience is neurologically mediated, and may not be a decision made by the student. Goodwin and Judd (2005) suggested that new teachers never stop looking for new resources to help make teaching relevant to each student. Consulting with experienced teachers or forming a monthly study group to brainstorm ideas are options.

**Principle 6: Transference.**

Learning is contagious; it leads to more learning. Successful learning makes the brain ready to learn more. It is important for teachers to acknowledge every successful learning experience for two reasons. First, the student needs to make an emotional connection with each classroom success. This will increase the learner’s motivation and the salience of the next learning experience. Second, teachers are in the most stressful profession in today’s society. Recognizing each classroom success helps put your career in perspective. Keep a journal of those special rewarding accomplishments and share them with others.

**Principle 7: Interference.**

The brain will learn. If it isn’t learning what is intended, it will learn something else. A student who does not have successful learning experiences will compensate by developing skills that are easier to acquire than the academic subject matter. Once acquired, these compensations will interfere with future learning opportunities.

So, it seems that whether we’re talking about students, communication disorders, or animal models, learning is neurologically based and is somewhat predictable. It is always beneficial to review our current practice from alternate or collaborating views.

**References**


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*What comes easy is soon forgotten.*

*What causes effort and torment is remembered all the days of one’s life.*

_Leonardo Covello*_
Privatization in Education: NCLB Does It All!

James C. Moses and Amy C. M. Torres

James C. Moses, Ph.D., graduated from Loyola University of Chicago with masters and doctoral degrees. He has served as high school English teacher, dean, principal, and superintendent in the Catholic school systems of Northern Illinois. Dr. Moses has served as Chair of the Education Department, Chair of the Educational Leadership Department, and Certification Officer at Lewis University in Romeoville, Illinois. He currently serves as Professor in the College of Education at Lewis University. Dr. Moses is a recipient of the Brother Louis De LaSalle Seiler Award for Ministry in Teaching from Lewis University for 2006.

Amy C. M. Torres graduated in 1990 from Lawrence University in Appleton, Wisconsin with a Bachelor’s degree in Sociology/Anthropology. She has earned a Master of Arts degree from DePaul University, with specialization in Reading and Learning Disabilities. Amy Torres recently received a Certificate of Advanced Study degree in Educational Leadership from Lewis University. After working for several years as a paralegal, Amy joined the Chicago Public Schools as a special education teacher. She currently serves as reading specialist. In the fall of 2006, Amy was a recipient of the DRIVE award for excellence and innovation in education from the Chicago Public Schools. Amy serves on the Teacher Advisory Council to Arne Duncan, CEO of the Chicago Public Schools.

ABSTRACT

The authors examine the hypothesis that there is a connection between the Bush administration legislation, No Child Left Behind, and the strong endorsement of privatization in education by the neo-conservative think-tanks and the forces of corporate America. The article explores the interlocking directorates which include politicians, corporate boards, researchers, and publishers. A specific case study examines the “scientifically based research” behind the report of the National Reading Panel, and the consequent surge in profits for textbook companies and for the providers of standardized tests and test preparation materials (often the same companies.) The authors urge readers to see the “big picture” which includes the intended destruction of public education and the replacement of the current system with a profit driven educational enterprise.

Introduction: school reform in the third millennium

Anyone who has spent a significant amount of time in our nation’s schools has probably spent a lot of that time thinking about the problems that abound. It is fascinating human study to listen to teachers at large conferences talk about their respective schools. The conversations evolve into a competition of sorts. The one-upsmanship goes back and forth until a blue-ribbon winner is found: the teacher at the “worst school.” You must be some great teacher if you can teach in that kind of a school. When the talk turns to what needs to be done to solve a school’s problems, the ideas are as varied as the causes. Maybe it’s the parents. Maybe it’s school funding. Maybe it’s teacher preparation. Leadership. Too much testing. Low standards. Standardized curriculum. Maybe it is all of that and more.

One of the concerns of experienced teachers is that these problems of our public schools have been taken away from us by the leadership in the political and business sector of society. The attitude of the political-business complex is that you teachers had all these many years to improve your “product.” You failed to do it, and now we will fix your institutions. One of the ironies of this current situation is that educators – teachers, administrators, and college professors – all of whom have a vested interest in improving the schools—have never proposed that we should do more testing to improve education, or that private corporations should be more involved in our schools. Yet, these are the issues that dominate the current discussion about school reform today.

The Bush administration has turned the education world on its head with the No Child Left Behind Act (“NCLB”). With one large act, the federal government has found a way to implement a reform program that costs them very little, will identify most of our nation’s schools and teachers as failing, and will implement a “choice” program and open the door for privatization of public education. The law has drawn criticism from educators across the country—several school districts and at least two states have opted out of the program even at the cost of federal dollars. The reasons for criticism of NCLB are as varied as the authors who present them, but the most ethically challenging criticism revolves around the fact that the sweeping requirements provide the opportunity for huge direct and indirect profits to private enterprises, some of which are intimately connected to the Bush administration.
Alfie Kohn would say that we as teachers need to take a good hard look at current ideas about school reform in order to see how all the pieces (standards, testing, tutoring, teacher preparation, and NCLB) are actually part of one large puzzle (Kohn, 2004). Then we can stop blindly marching our system of public education toward one of privatization.

**Background: a history of conflict**

In order to fully understand school privatization issues, it is necessary to take a look at the purpose and the history of public schools in the United States. As a social institution, our schools both reflect and shape our society. Part of the purpose of education is to create an educated citizenry. Most of us view an education as a means of achieving equality of opportunity in life. Educated citizens participate in a democratic way of life; they are able to participate to the fullest extent. An educated citizen spends more money. Educating citizens is a means of insuring that more wealth is created which insures investment which creates more wealth (Brimley & Garfield, 2002). In our society, education and economics are inextricably linked with one another.

While early schools were expected to teach students to read the Scriptures, public schooling soon had a new ideological mission. Our rapidly industrializing nation needed a means of socializing immigrants to the American way of life, of lifting the poor out of their miserable existence and of educating workers. Educators such as Horace Mann saw schooling as a means of creating equality of opportunity (Stevens, Wood & Sheehan, 2002). Rising inequality between the poor and the middle class led to a re-examination of the educational system and its relationship to capitalism during the early 1900’s. Social reformers were not successful in changing the view of the role of schooling. After a time, it was determined that schools were to focus on equipping students for the future. This meant that any inequalities that existed were the result of an individual not taking full advantage of the opportunities offered. Very little was done to reduce barriers to political or economic equality, instead, the idea was to maintain the status quo (Stevens, et al., 2002).

What a person expects schools to do largely depends on the position one holds in our society. Some see education as the "great equalizer" - as a means of leveling the playing field and opening up the same doors of possibility to all citizens. Others view education as a tool for socializing citizens, sorting them into roles and maintaining the social order. Those who hold the latter view are likely quite comfortable where they are and have a vested interest in maintaining the status quo. There is a fine line between reflecting differences among social groups in our country (which schools undoubtedly do) and perpetuating inequality - especially when the inequality is along racial, ethnic and economic lines (which schools may, arguably, do). That is the main argument of those against current views of school reform as proposed by our national government.

**Privatization: educational panacea**

Privatization in the latter twentieth and early twenty-first centuries has mostly revolved around the issue of choice as it relates to vouchers and charter schools. Since the 1960's there have been various calls to allow for more choice in education. Voucher programs are supported heavily by Republicans and other wealthy, conservative politicians and think tanks. Supporters argue that the free market and competition will make schools more accountable (Stevens, et al., 2002). In fact, a close look at the research suggests the opposite. Benveniste, Camoy and Rothstein (2003) have studied vouchers and closely analyzed the results of achievement studies done on voucher programs. They found that when socio-economic factors were controlled for, there was little difference between the achievement of public and private school children. Vouchers are also criticized because they are not practical means of improving public schools. As a matter of fact, they are a way of side-stepping real reform. A voucher proponent might argue that a child would achieve more if he or she were to transfer schools, but the voucher mechanism solves only the problem of that individual student and leaves unanswered the question: what about the greater number of students that were not able to transfer? Vouchers do not do much for them. Vouchers are also impractical in urban and rural areas (where most of our students live) because there are not enough schools to house all of the students that could be eligible for such programs – or the schools are too far away to allow a student to attend. Also, in order to take advantage of vouchers and provide transportation, a parent would have to be very involved and active about pursuing such options. For parents who do not read very well, single parents, parents of large families or working parents, voucher programs offer little real help (Kozol, 1991).

Then there is the thorny issue of separation of church and state. Should public money be used to provide tuition to parochial school children? To what extent should private and private religious schools be allowed to participate in a program which involves the distribution of public tax revenues. Conservatives do not seem to have a problem with involving religious schools to drive school reform, and their calls for opening up the process have reached the Supreme Court of the United States. In Zelman v. Simmons-Harris (2002), the Court upheld an Ohio school voucher program which included the participation of several thousand children attending parochial schools. While some states have more restrictive church-state provisions in their constitutions than Ohio, Zelman v. Simmons-Harris seems to invite the establishment of more voucher programs across the country.

**Charter schools**

All eyes are on the charter school movement. It
is difficult to lump all charter schools together in one group, as there are many different models and purposes for charter schools. Some are groups of educators who support innovations that do not fit within the traditional school model. Some are religious groups that want to provide a values-based education, while others are private for-profit enterprises. Traditional wisdom (pre-Zelman v. Simmons-Harris) would seem to indicate that charter school programs should not allow churches and other faith-based organizations to operate public schools with public money. Nor should they allow public money to profit private enterprise. However, some educators, desperate for reform have thrown up their hands and said "Why not? Let's see if it works. What have we got to lose?"

For-profit enterprises

Chris Whittle founded the Edison Project in 1992. Edison Schools are for-profit enterprises that seek to make school management and administration more efficient. Whittle’s philosophy is that, if a business model of management could be applied to schools, then waste would be eliminated, all efforts would be directed toward the same goal and a better product could be created. Those who believe in such a model consider that schools are places of wastefulness, that profit and incentives work better than teacher education programs at producing qualified educators, and that students can be viewed as passive receptacles of information. During the 2004-2005 school year 66,482 students were enrolled in the 98 schools that Edison manages, which is a decrease of 3,959 from the approximately 70,441 students enrolled in the 2003-2004 school year (Molnar, et al., 2005). Edison schools report that they are making striking achievement gains. However, a report by a watchdog group called CERU (Commercialism in Education Research Unit) at Arizona State University reveals that many of the schools managed by Edison continue to fall short of the NCLB’s measures of academic achievement. Whether the schools perform well or not, however, they make a profit. Where, then, is the incentive to perform well? During the 2002-2003 school year, a charter school in Pennsylvania fell nine percent below the lowest performing school in the district, yet made a profit of $813,000 (Molnar, et al., 2005). Low performance may lead to cancellation of a contract for future management, however, this has not been an issue for Edison Schools. Under NCLB, "failing" schools are a large potential market for EMOs. It has not gone unnoticed that political figures such as William J. Bennett have founded educational services providers. Bennett founded "K12," a supplemental services provider that benefits greatly from doing business at "failing" schools. The fact that political figures have been among the investors in EMOs creates a potential for self-dealing and influence peddling (Molnar, et al., 2005).

Education-Business Partnerships

Corporate America enters into our schools in other ways that are more insidious than the overt commercialism of the Edison Schools. An article by Molnar (2005) entitled "ivy-covered malls and creeping commercialism" reports on the phenomenon of "sweetheart deals" in schools. He notes that schools and corporations partner with each other for very different reasons. Schools are willing to trade some advertising for the funds and programs that can help to supplement school revenue. Corporations work their way into schools "because they covet the youth market" (Molnar, 2005). While community goodwill may be part of the equation, the bottom line is finding customers. Molnar quotes a representative of a large chemical corporation as saying "I think there was a time when we would agree to sponsorships and not look for an ROI [return on investment]. But these days you have to get it. You just have to." Molnar divides school commercialism trends into 8 different categories: sponsorship of programs and activities, exclusive agreements, incentive programs, appropriation of space, sponsored educational materials, electronic marketing, privatization, and fundraising. Pizza Hut and Great America both sponsor reading incentive programs in schools that are extremely popular. Students receive coupons for free pizza and free admission to the theme park in exchange for meeting goals. It is clearly expected that the students will develop brand loyalty and even more likely that their parents will spend even more money in the restaurant or park when they come along with their children.

Sponsored educational materials are curriculum materials produced by a corporation for use in schools. This might include materials such as "Pick Protein" materials co-sponsored by U.S. pork producers that advocates consumption of pork as part of a healthy diet (Molnar, 2005). Any time that we allow someone with interests other than education of children to provide curriculum materials, prizes, or present content, we must do so extremely carefully. To
not be fully aware of the motivations behind such programs will undermine what we set out to do. Does the making of a profit genuinely reflect and serve the interests of students? (Stevens, et al., 2002). Leading educational philosophers are coming to the belief that mixing profit with education is like one rotten apple in the barrel: it spoils everything.

This kind of commercialism can be viewed as an indirect form of privatization - the "creeping commercialism." Then there is the indirect benefit that our entire economy receives when general levels of education rise: the more educated we are the more we spend (Brimley & Garfield, 2002). The current state of education in this country under NCLB involves both direct and indirect forms of profit through privatization of educational services.

**Ethical dilemmas and conflicts**

Joel Spring, author of *Conflict of interests*, explains how the conflict of interests that exists in our country gives rise to the peculiar state in which we find ourselves. He explains that there is a complex web of groups and organizations that influence education - each with a different interest in education. It is the push and pull between politicians, administrative politicians, school boards, and special interest groups (teacher's unions, the corporate sector and private foundations) that shapes public schooling. Spring argues that our country's pursuit of global economic dominance is behind the interests of the corporate sector and that the world of big business has an open door to top policymakers (Spring, 2005). In addition, Tom Siebold of the group Teacher Professionalism in Minnesota, sketches a fascinating diagram of the connections between large private foundations, politicians, conservative think tanks, and the corporate sector. In doing so, he shows that they are largely composed of the same people. (See Appendix A for an excerpt of the information.)

As a result, educational recommendations made in the last several years look very good for business. Business interests revolve around maximizing revenues while keeping costs low. Corporations need good workers yet want low taxes. It should come as no surprise that they support having state standards and standardized testing as well as loss of funds for non-compliance or non-achievement. Standards and testing are a low-cost means of side-stepping real reform. Withholding funds saves even more money.

**Left behind**

The *No Child Left Behind Act* should be viewed as a mechanism for "greasing the skids" for school privatization (Bracey, 2003; Kohn, 2004; and Siebold, 2005). Bracey makes the most colorful argument: "NCLB is a trap. It is the grand scheme of privatizers. NCLB sets up public schools for the final knockdown" (Bracey, 2003). But it is Siebold's argument that is most cogent. He argues that the far right is made up of the secular (corporate) right and the religious right. It is in recent years that the two have combined into one powerful force. The secular right is outraged by social changes over the years and seeks to roll back social programs, reduce big government, bolster American global interests and privatize government services. Their numbers are small but their finances are great. The religious right is concerned that liberal America is undermining core values by promoting homosexuality, sexual freedom, and multiculturalism. According to Siebold, when you join the religious right whose numbers are great and whose voting power is enormous with the secular right, you have a powerful team with overlapping interests in education. Together, they seek to privatize education by implementing school choice and charter schools. Siebold explains their five main objectives: build an educational system around a business model, open up public education to private profit, ensure that [conservative] "American values" are taught, shake public confidence in public education and weaken or eliminate resistance in the form of unions, school associations, and college education departments (Siebold, 2005). His flow chart of funding and research shows how funding from conservative foundations, individuals and the religious right flows through five of the largest philanthropic organizations into causes that support their interests. He points out that many of the same foundation and philanthropy members sit on the boards of the institutes that provide much of the research that supports their causes, a classic illustration of the "interlocking directorates" theory of social control. Siebold's "four horsemen of school privatization" are: the Hoover Institute at Stanford University, the Fordham Foundation, the Manhattan Institute, and the Program of Educational Policy & Governance at Harvard University (PEPG). The game plan is simple: establish high standards, test schools, proclaim failure, fire teachers, transfer students, close schools, redistribute tax dollars, rush in private enterprise, and enjoy the billions of funds that are spent on education.

**Case in point: the National Reading Panel**

Reading, the most fundamental educational skill, is receiving the most attention under federal plans for reform. In 1997, the National Institute of Child Health and Human Development conceived of a panel of experts who would perform a meta-analysis of reading research in order to make definitive statements regarding the most effective means of teaching reading. The National Reading Panel (NRP) published its findings in 2000. Since publication of the full report and the summary report, there has been a firestorm of criticism of the findings. It has only intensified since districts have worked to satisfy the requirements of Reading First (the reading arm of NCLB, based on the findings of the NRP report). Most notably criticized are the relationships between members of the panel and members of the educational publishers that benefited from the findings of the panel. Elaine Garan and Richard Allington, both Reading researchers, have detailed the relationships...
(Garan, 2002; Allington, 2002). Revelation of a profit motive, whether direct or indirect, should render the findings of research immediately suspect. The relationships between two members of the panel, the federal government, and the "independent" National Reading Panel reveal just such a profit motive. Yet that does not seem to have slowed down or impeded the progress of the Reading First Initiative in any way. (See Appendix B for details about relationships.)

Another criticism of Reading First is in its crushing paperwork and documentation requirements. Schools receiving funding under Reading First agree to use reading materials and implement instructional approaches that are "scientifically-based" as defined in the NRP report. States and local districts have rushed to create Reading First departments to facilitate compliance with the requirements. Schools have received funding to hire a Reading First coordinator on-site, also to facilitate implementation and compliance with requirements. What has resulted largely is a mountain of paperwork, often-arbitrary deadlines and creation of documentation to prove that methods and materials are "scientifically-based." An interview with a Reading First coordinator in one of Chicago Public School's elementary schools, Jennifer Letcher, provides some insight as to who benefits from Reading First (personal communication, March 17, 2005). Her school purchased the then-current Houghton Mifflin Reading series during the first year of Reading First, as the publisher was identified as using "scientific" research in their development. A year later, in order to continue to receive funding, the school was forced to purchase the newest Houghton Mifflin Reading edition "The Nation's Choice," because only that edition was considered to be scientifically-based. The coordinator explained that the only discernible difference between the two series is that the most recent edition prominently featured the words "scientifically-based" and there was one additional story in the 2nd grade edition. One needs only to ask the question "Who benefits?" from such charades to see the thinly veiled motives behind such initiatives. The school spent approximately $30,000 twice in the span of two years to purchase two sets of reading materials that are virtually identical. It could not be argued that teachers or students benefit from such game playing. Alfie Kohn (2004) would argue that as long as we educators comply with such requirements, we allow political and corporate interests to drive education.

Conspiracy theory

It is important to ask questions about schools today: Are they failing? How are they failing? Whom are they failing? How can these failures best be fixed? In their comprehensive work on the prevention of reading difficulties in children, the National Research Council, in 1998 noted that "most children learn to read fairly well" and that "current difficulties in reading largely originate from rising demands for literacy, not from declining absolute levels of literacy (Snow, Bums, & Griffin, 1998). The committee for the study was established by the National Academy of Sciences at the request of the U.S. Department of Education and the U.S. Department of Health and Human Services. It seems strange that this seminal (nationally funded) work is known only to reading teachers and researchers while the report of the National Reading Panel has become so "celebrated" by the public. Perhaps it is because there is nothing in it to benefit those who are now in power. As a matter of fact, it only serves to undermine their entire argument that American schools are failing. Allington (2002) reports that the National Assessment of Educational Progress (NAEP) data show that reading achievement has remained relatively stable for thirty years. He argues that we should be focusing on the rich/poor reading achievement gap instead. His argument is strengthened by the research of Benveniste et al., (2003) who found that socio-economic status is a greater predictor of achievement than attendance at public or private schools.

Susan Ohanian published a scathing attack on the standards movement, another cause championed by conservatives, entitled One size fits few: The folly of educational standards. In it she argues that equal standards for all is an empty impossible goal, one that exists only to benefit those who publish the tests to measure them (standards). In embarrassingly plain language, she points out how we educators have been led into the trap of standards. Because it is difficult to stand up and say that one is against high standards for students, teachers do not. It would be foolish to do so. However, having high expectations for all students and having the exact same expectations for all students are two distinctly different things. Ohanian tells the story of a boy in her special education class whose educational expectations first included only that he read for half an hour and not utter profanities. She argues that is what schools should be about: having a curriculum flexible enough to serve the needs of students (Ohanian, 1999). The idea that all students should meet the exact same standards reflects a distinctly middle/upper-middle class view of success. What is successful is someone who is at least average, if not above, in fundamental school subjects. The fact that it is not possible and might not be desirable to have 100% of our students achieving average or above in the exact same subjects seems to have escaped the "standardistas", as Ohanian calls them. In arguing against standards, Ohanian makes a clear argument against standardized curriculum, standardized testing, merit pay, vouchers, and corporate involvement in education. Her argument, essentially, is that the same standards for all is not possible or desirable and is simply a means of identifying schools as failing in order to benefit private interests.

Joining Ohanian in the battle against one single set of standards is Theodore Sizer and his "Coalition of Essential Schools," whose motto is one size does not fit all. Sizer (2004) states, "The idea that there might be several worthy "fashions" and multiple sets of
equally worthy "standards and assessments," any one of which is likely to serve committed families well, has become unpopular." And, Sizer adds, "The temptation of state authorities to overreach their mandates appears to have been irresistible."

**Standardized tests: bane or blessing**

Standards and testing are opposite sides of the same coin. In looking at standards and testing in states throughout the country, it is important to remember that NCLB has left decisions about setting standards and selection of assessments up to the individual states. This fact makes it very difficult to compare results across states. States could select high standards and run the risk of having large numbers of schools fail. Or a state could lower the standards and have more schools that pass. Raising and lowering standards will do nothing to improve student achievement. Most estimations of schools that will fail NCLB hurdles fall between eighty-eight and ninety percent of our nation’s schools. Many schools to be identified as failing have been singled out in recent years for making progress on a variety of measures (Bracey, 2003). A look at preliminary results of 2002 in Michigan and Arkansas reveals some of the problems with standards. Michigan (with higher standards) had 1513 failing schools, while Arkansas (with lower standards), had none. However, on the NAEP assessment (which remains stable across states and throughout time), fourth grade results showed that Michigan out-performed Arkansas (Bracey, 2003). Creation of the NCLB hurdles or sub-groups only serves to insure that high schools serving populations with large numbers of low-income, special education, and limited-English speaking populations will find it impossible to meet national requirements.

**The textbook industry**

It has been said by several critics that the main benefactors of NCLB are those companies that provide goods and services to public schools. It is no surprise that publishers of educational textbooks are moving into the testing industry. Now schools can purchase instructional materials, test prep materials and standardized tests from the same companies. Since everyone knows that when instruction matches what gets tested, students perform better, it makes sense to purchase materials from the companies that will be testing students. Publishing companies advertise that they offer a wide variety of solutions to help schools meet the NCLB requirements (Spring, 2005). Harcourt owns the Psychological Corporation, which publishes the Metropolitan Achievement Test, the Stanford Achievement Test, the Wechsler Intelligence Scale and 100 other titles. Houghton Mifflin markets 35 major tests and McGraw Hill owns the California Test Bureau. Spring expresses the impact of such ownership bluntly: "Operating with the primary motive of profit-making, the testing industry affects students’ feelings of self-worth, administrators’ and teachers’ ratings, students’ access to college, professionals’ entrance into many fields, and instructional content in many elementary and secondary schools" (Spring, 2005). The Government Accountability Office estimates that states will have to spend between $1.9 billion and $5.3 billion over the next six years to comply with testing requirements. The top three players, CTB/McGraw-Hill, Harcourt, and Pearson hold a 75% market share. It is little wonder they are scrambling for state and district testing business (Olson, 2004), since the No Child Left Behind game will provide them with several billion dollars revenue over the next half decade.

**SES**

A relatively new means of privatizing educational services, is through the supplemental education services (SES) provision of the NCLB. Denis Doyle (2003) says that SES is either the most powerful provision of the federal legislation or a crafty Trojan Horse. Services can include tutoring, remediation and other academic interventions provided outside the regular school day. Edison schools, Score (Kaplan’s tutoring programs), Sylvan and Huntington Learning are some of the big players that have benefited from SES. An article in the New York Times reports that the federally financed tutoring industry has doubled in size each of the last two years. It has the potential to become a $ 2 billion a year industry. The article documents the growing concern that such a huge industry is virtually without regulation or oversight (Saulny, 2005). Michael Petrilli, of the U.S. Department of Education, speaking at a business meeting of tutoring providers, said that "we want as little regulation as possible so the market can be as vibrant as possible" (Saulny, 2005). It has been noted that NCLB requires public school teachers to be "highly qualified," but this criterion patently does not apply to SES providers. It seems as though SES is a not-so-thinly-veiled attempt to steer public funds into private hands. Combination of this steering of public funds into selected private firms is found in the September, 2006, report of the Inspector General of the U.S. Department of Education. (The Reading First Program’s Grant Application Process). The New York Times reported that in the Reading First process, "...officials improperly selected the members of review panels that awarded large grants to states, often failing to detect conflicts on interest." (Dillon, 2006)

**Conclusion: buyer beware**

It was not without broad support from both liberals and conservatives that the *No Child Left Behind Act* was passed. In hindsight, it seems as though Alfie Kohn (2004) is right. The plan to privatize education was supported unwittingly by educators who largely bought into the high standards talk without critically examining "how all the pieces of the puzzle fit together." NCLB has brilliantly pulled together a plan to provide school choice, provide both direct and indirect profit to owners of large corporations, and open up a largely unregulated private tutoring business. This constitutes a great loss for believers in public education, and we appear have embarked on what Presi-
dent Kennedy used to call “the long twilight battle.” The vigil we keep to preserve the democratic values of public education is not a battle which will be won in a short time nor without great effort. Theodore Sizer has described our desperate situation clearly, “By the end of the twentieth century, both education policy and practice in several states were being shaped in detail by small numbers of mostly appointed—not elected—bodies, often with a self-righteously ideological as well as political bent.” (Sizer, 2004). With the implementation of No Child Left Behind, the sellout of democratic public education is almost complete.

Appendix A
Who’s Who: A gallery of friends and enemies
The move toward privatization

Fordham Foundation
Chester Finn (co-authored book with Bennett)
Diane Ravitch

Manhattan Institute
Jay P. Greene

Hoover
Paul E. Peterson
Chester Finn
Jay P. Greene
Diane Ravitch

Program of Educational Policy & Governance
@Harvard (PEPG)
Paul E. Peterson
Jay P. Greene

The Heritage Foundation
Dr. William J. Bennett, Distinguished Fellow

K12, Inc.
William Bennett
Chester Finn (serves on Board of Directors)

Edison Schools
Chris Whittle
Chester Finn (original co-founder)

Brookings Institute
Diane Ravitch

(Siebold, 2005 and Garan, 2002)

Appendix B
Who’s Who: A gallery of friends and enemies
The National Reading Panel (NRP)

McGraw Hill
Marilyn Jager Adams co-author of Open Court
McGraw Hill donated materials to researcher Barbara Foorman who reviewed them positively and profited from the research
Harold McGraw III (Board member Barbara Bush Foundation) and friend of Bushes
5 authors selected by George W. Bush to guide Texas Reading Initiative
Rod Paige (former Secretary of Education)
Had tremendous gains in revenue after publication of the NICHD/NRP report, partially co-authored by McGraw Hill authors that touted Open Court and was promoted heavily by friend Rod Paige as then Secretary of Education (Garan, 2002).

U.S. Government
Marilyn Jager Adams (NRP member – gov’t sponsored researcher) authored report Beginning to Read
George W. Bush selected Adams and 4 other McGraw Hill authors to guide his Texas Reading Initiative
Rod Paige: former superintendent for Houston; launched system of charter schools used McGraw Hill materials extensively; awarded Harold W. McGraw Jr. Educator of the Year Award for “service”; proponent for NICHD research filled with McGraw Hill authors.

National Reading Panel
Marilyn Jager Adams
Co-authored phonemic awareness program with Barbara Foorman (NRP member)
Co-author of Open Court (McGraw Hill)
Government researcher, authored Beginning to Read
Barbara Foorman
Primary researcher for phonemic awareness report that touts success of Open Court (McGraw Hill) (co-authored by Adams, her co-author on Phonemic Awareness in Young Children)
Author of Scholastic Spelling (funded by NICHD grants – same organization that funded NRP)
(Garan, 2002)

References


If you study the past and use it to understand the present, then you’re worthy to be a teacher.
- Confucius
An Investigation of Portfolio Selections by Teacher Candidates in Two Elementary Science Methods Classes

Lloyd H. Barrow

Lloyd H. Barrow is a Professor of Science Education at University of Missouri-Columbia. He has taught elementary science methods for over twenty years in various institutions. He has also conducted extensive professional development programs on a variety of science topics for K-6 teachers of science.

Abstract

Portfolios are becoming a common component in teacher education programs. The majority of portfolio research has focused upon program and accreditation, with limited research on portfolios within a course. Potthoff et al. (1996) reported that portfolios developed to evaluate a pre-service program had a "sameness" in the content selected. This study compared portfolios submitted by two separate elementary science methods classes. Each portfolio was to address four broad categories: standards and elementary science, attributes for successful science teaching, instructional strategies/models, and science curricula. A list of artifact topics from the course was compared for two semesters using frequency of selection. This study found statistically significant variation in self-selected artifacts for some of the categories, which refutes Potthoff's et al. claim of "sameness" of the selections.

According to Dutt-Doner and Gilman (1998), pre-service students have difficulty determining what to include in their portfolios. Potthoff, Comol, Anderson, Attivo, and Kear's (1996) reported that their teacher candidates' portfolio had a "sameness" of content. Prior experience with using portfolios caused this author to doubt this claim. The purpose of this research study was to determine whether two different sections of elementary science methods students selected similar artifacts for their course portfolios or not. The use of class portfolios reviewed in this study allowed teacher candidates to document their learning for specific categories related to the teaching of elementary science.

The great majority of research articles examining portfolios in higher education have focused upon how portfolios are used, why they are used, and ways they are assembled (Vavrus & Collins, 1996; Anderson & De Meulle, 1998; Herman & Winters, 1999; Wade & Yarbough, 1996). Delandshere and Arens' (2003) research focused upon faculty and students of three education programs. They noted that "students do not regard the development of teaching understanding as a primary purpose of the portfolio" (p.61). More than half of their focus group members considered the purpose of their portfolios was to facilitate their search for a teaching position. Delandshere and Arens concluded that there is a lack of empirical evidence to support the quality and value of portfolios in teacher education programs. Cushman (1999) agreed with the faculty of Anneberg Institute of School Reform Faculty that portfolios provide routine opportunities, for individuals to become reflective.

Types and Uses of Portfolios

What is a portfolio? According to Collins (1992), portfolios are evidence that is collected and organized to document learning. She identified four categories of evidence that were useful in constructing portfolios. They were: artifacts, reproductions, attestations, and productions. Artifacts are selected by the developer as evidence of their learning. Reproductions are documents about typical events of the developer. Attestations are documents produced by others (faculty, practicing teacher, or other individuals who can attest to some professional aspect of the portfolio developer). She specified that each production which is prepared for the portfolio must include a goal statement, caption (brief explanation that describes how this particular piece of evidence contributes to the portfolio) and reflections with a caption. Collins also recommended that each portfolio should include a table of contents that provides a focus and overview as well as a reflective statement at the end of the portfolio summarizing the learning, growth, and development documented by the portfolio. Subsequently, Dana and Tippins (1998) collapsed artifacts and reproductions into one category called artifacts (evidence of the products of teaching).

Reetz (1998) and Swicegood (1994) described several types of portfolios including: (a) showcase (collection of developers' best work), (b) reflective (focuses upon specific dimension of learning), (c) cumulative (collected over a period of time) and (d) goal-based (established objectives). Besides documenting learning, portfolios can be used for authentic assessment, employment, and program evalua-
tion (Barton & Collins, 1993; Anderson & DeMeulle, 1998; Wolf & Dietz, 1998). Generally, a learning purpose portfolio is a personalized collection that illustrates student's accomplishments which should include reflections. Assessment portfolios are student's efforts to meet structured guidelines set by professional organizations, state agencies, or schools which can include Praxis scores, formal evaluation and letters of recommendation. Employment portfolio (Mosely, 2005) are used to secure a teaching position and would contain a resume, letters of recommendation, transcripts, teacher's philosophy and samples of teacher/student work (e.g. classroom management plan, lesson plan, parent communication, etc.). Mosley's (2005) survey of principals concluded that a portfolio provides additional information they would use in hiring. Earlier, Theel and Tallierico (2004) reported that principals doubted the trustworthiness of the portfolio as an indicator of a teacher's knowledge and abilities.

Anderson and De Meulle (1998) surveyed 24 teacher education programs in California and reported the major uses of portfolios were: 1) to encourage teacher candidates to be reflective about their work in greater depth and more thoughtful ways, 2) to require teacher candidates to take greater responsibility for their learning, and 3) to assist teacher candidates in preparing for a job interview. In addition, there were three unrecognized benefits for faculty who used portfolios: 1) the instructor became more student-centered, 2) the instructor increased his/her use of professional standards, both state and national, and 3) the instructor used personal reflection in his/her own teaching. Anderson and De Meulle concluded that the purpose of a portfolio influences the structure, content, and audience.

Selection of Materials for Portfolios

Bartell, Kaye, and Morin (1988) consider that there are many ways for individuals to structure their portfolios and "many forms of evidence or artifacts that are appropriate" (p. 7). Dutt-Doner and Gilman (1998) and Copenhagen et al. (1997) consider the data reduction process to be important as the teacher candidate personalize their portfolio so it is representative of them.

Portfolio developers must make numerous decisions about selections to assess their knowledge, skills or dispositions (Dana & Tippins, 1998). The process of selecting items requires the developer to become more reflective (Anderson & DeMeulle, 1998) as they organize their portfolios; thereby, providing documentation about the preservice students growing knowledge, skills, and/or disposition. Long and Stansbury (1994) report that portfolios provide more information about the developer's application of knowledge of content and/or teaching.

Pothoff's et al. (1996) study of 127 portfolios at Wichita State University reported a "sameness" in the entries in portfolios. In addition, they wanted to examine the degree of integration of language arts, reading, mathematics, and science curriculum, instruction, management, and technology (major emphasis of the program) in teacher candidates' exit portfolio. The data (586 self-selected entries) reflected a sameness. They based this "sameness" upon "The consistency between types of lesson or unit plans submitted by pre-service teachers" (p.56). They reported that 47% were lesson/unit plans and 65% were cultural awareness activities, management plans, or assessment activities. Pothoff et al. concluded there was little evidence of integration in the portfolios except from entries related to a joint science-mathematics class. The possible reasons identified were: 1) identical program for all developers, 2) teacher candidates interacted with peers which could have resulted in a group rather than individual portfolios, and 3) limiting a total of 4-6 entries could have restricted the teacher candidates' freedom, 4) limited creativity, 5) assignment was faculty generated, 6) questionable whether the teacher candidates felt ownership of their portfolio, and 7) few explicit connections between college courses and K-6 field experiences.

Course Portfolios

Bartley (1997) in his pre-service elementary science methods class utilized assignments that he considered valuable, while at the same time, contributed to the underlying structure of a portfolio. These assignments and subsequent discussions facilitated the pre-service students' potential growth as teachers of science and enabled them to consider possible artifacts for their portfolios. Each portfolio entry was to have a caption that explained the selection in relation to the total portfolio. Bartley encouraged a concise timeframe with adequate time for pre-service students to think and reflect about their learning. The students' involvement in designing the scoring guide plus the above strategies allowed Bartley to consider his use of the portfolio assessment to be valid. It should be noted that Bartley's study was only on one section of elementary science methods class and no synopsis on what artifacts were selected.

Author (1993) reported four categories that pre-service elementary science methods students were to address in their reflective portfolios. They were: competency in elementary science, attributes for successful science teaching, hands-on science instructional strategies/models, and attributes for K-6 science curricula which promoted learning. The evidence had to be organized and presented to document the individual's growth about teaching K-6 science. Creativity was demonstrated by items selected (Author, 1993; Dana & Tippins, 1998). However, substance was more important than presentation, since a portfolio encouraged the developer to be reflective and demonstrated additional insight about effective science teaching.

Issues Regarding Portfolios

Portfolios have emerged as a powerful assessment tool to supplement or replace traditional
assessment practices in teacher education programs. Wolf (1994) believes portfolios capture the complexities of teaching while still being robust and flexible. Copenhaver et al. (1997) recommended the use of portfolios prior to the start of student teaching. They summarized how their program found portfolios facilitated the transition from student to teacher in methods courses.

Issues about the use of portfolios in teacher education programs were noted by Sparapani et al. (1997). These issues included: faculty members’ time to evaluate the portfolio and provide feedback, establishing reliability and validity, and "authenticity" of the portfolio assessment itself. Borko et al. (1997) noted teacher candidates view portfolios as aid for securing employment and teacher educator considered them for professional development and assessment purposes. Zeichner and Wray (2000) also reported this conflicting purpose of teacher educators and their students. Dutt-Doner and Gilman (1998) also noted that the end of the semester is very hectic in a student's life and hesitancy on the part of the developer to include previously criticized work, especially if not a high quality. Meyer, Tusin, and Turner (1996) studied 20 elementary education majors from their methods courses, as they went out to student teaching, and reported none used portfolios when working with K-6 students.

Context

Population:
This study involved two separate elementary science method sections. One section was offered during the winter semester (Group A) and the other section in the subsequent fall semester (Group B). Group A consisted of 29 third year teacher candidates (25 females and 4 males) who were enrolled in a three-semester hour elementary science methods course (Ed 327). The subsequent fall semester of Ed 327 consisted of 28 fourth year preservice students (27 females and 1 male). Both Groups A and B were members of the same cohort class. The cohort consists of 57 individuals where Group A completed courses in science, mathematics, and literacy/integration during winter semester and social studies, fine arts, and literacy/integration during fall semester. Group B completed the courses in the reverse order. The program requires each teacher candidate to have at least one laboratory based biology course and one laboratory based physical science course. Therefore, it was assumed that the teacher candidates had limited backgrounds in science concepts since these courses are used to meet general education requirements. There are no science courses specially designed for preservice elementary education students. The cohort consisted of traditional undergraduates - no members were married or had children. All teacher candidates completed their student teaching in the subsequent winter semester.

Setting:
Ed 327 met five hours per week for the 15 week semester with an additional 15 hours of field placements throughout the semester. These field placements were predominantly with elementary science specialists. A constructivist orientation (as described by the teaching standards of the National Science Education Standards (NSES) (National Research Council, 1996)) was modeled throughout Ed 327. The portfolio assignment occurred in the last half of Ed 327. In this study, Author’s (1993) original category (competency in elementary science) was replaced with “standards and elementary science.” This modification represented the use of the NSES as one of the textbooks. The first five chapters of NSES were stressed plus inquiry as a science content. (pp. 121-3, 143-8).

Methodology
Both sections of Ed 327 were taught by the same instructor using the same resources. Both courses were taught in the same sequence and same manner. Only vacation time periods resulted in modification of course assignments. The same numbers of instructional days were provided for each course component. Each of the categories (standards, successful teaching, instructional strategies/models and science curriculum) addressed the major goals of Ed 327. It is acknowledged that minor variations occurred due to different students having different experiences and orientation toward science. Individually, Ed 327 teacher candidates selected artifacts from all aspects of the course. Each selection was to include a rationale for why that selection (as recommended by Davies and Willis (2001)) documented their learning on how to teach K-6 science. There was to be only one selection for each of the four categories. Individuals could use the same artifact for more than one category. Since this was the students’ first attempt at designing a portfolio so Author (1993) was mentioned on the assignment sheet.

A listing of all Ed 327 assignments was prepared following Bartley’s (1997) methodology of listing all course activities/topics. Each Ed 327 teacher candidates’ submissions were tabulated for each category. The portfolio was due the week before finals. An absolute pair difference for each artifact within each category was computed. Since there are uneven numbers in Groups A and B, there will always be at least 1.0 difference between the groups. The mean and standard deviation for each category was calculated to test for “sameness” to determine the variance. The one-tailed ANOVA was calculated for each combination of the categories for the paired differences. The formula used was $\text{df} = (\text{SD larger})^2/(\text{SD smaller})^2$ as recommended by Kanji (1997).

Results
The categories and student frequencies are listed for Group A (Table 1) and Group B (Table 2). Regarding the standards and elementary science category, there was greater consistency for Group A than Group B. The mode topic for Group A was a concept map (76%) illustrating the relationships between NSES teaching and professional development standards. In contrast, the mode topic for
Group B was lesson plans (43%). Only four individuals (14%) from Group B selected their concept map for this category.

For the attributes for successful teaching category, the Group A teacher candidates' mode was their constructivist paper (31%) while the Group B teacher candidates had two topics – constructivist paper and questioning strategies, each being 25%. Questioning strategies was the second highest for Group A with 21% selecting this artifact for this category. Hands-on instructional strategies/models artifacts were both activity packets. The long-term seed project was selected as the artifact by 28% of the Group A teacher candidates. For Group B, 50% of the teacher candidates chose a short-term activity packet on electricity. For both groups, there was greater consistency for this category where the second highest artifact was the top selection for the other semester.

The mode artifact selected to illustrate the attributes of K-6 science curriculum were curriculum reports for both Group A (17%) and Group B (25%). For both sections, the artifacts for this category were the most diverse with 11 and 15 different artifacts selected for Group A and B, respectively. In this study, the same artifact was used frequently in more than one category. For example, the Wisconsin Fast Plants artifact was selected by at least one member of Group A for each of the four categories. For Group B, two artifacts – pendulums and magnets were used for each of the four categories. The same artifact (magnets, electricity, lesson plans, and curriculum reports learning cycle and inquiry in content) was used for three categories by Group A. In contrast, Group B had only three artifacts (seeds, lesson plans, and task groups) used for three of the categories.

The frequency of artifacts, the mean and standard deviation for absolute pair difference between Groups A and B are reported in Table 3. The mean for standards and elementary science category was considerably higher than the other three categories. Table 4 contains the F ratio for the comparison between each of the categories. All categories were significantly different except for attributes for successful science teaching with both hands-on science instructional strategies/models and attributes of K-6 curriculum which promotes learning.

**Discussion**

This study refutes Potthoff et al.'s (1996) conclusion about "sameness" of portfolio contents, because there was statistical variation for most categories in teacher candidates self-selected artifact entries. In addition, the variation of teacher candidates' selection demonstrates their diverse personal evolution of elementary science teaching philosophy. This difference could be due to this study’s focus upon course portfolio while Potthoff et al.'s focus was program portfolio.

The statistical difference in selection of artifacts for the portfolios between Groups A and B could have been the result of the additional courses and experiences of Group B teacher candidates. The variation between groups could be also due to the courses taken by Group B teacher candidates during the winter semester since there were different instructors in the other courses. So at the end of the fall semester, both groups had completed the same courses but in a different sequence. Group B was finishing three semesters of methods courses; therefore, they had broader content expertise from which to select artifacts for their portfolio.

This study attempted to address some of the concerns by Potthoff et al. (1996) by allowing the teacher candidates free choice of any course component that addressed a specific category. The variation between semesters seems to illustrate that experiences from courses impacts teacher candidates in different ways. The four categories seem to have been interpreted differently by the developers. The lack of significant difference between attributes for successful science teaching with both hands-on science instructional strategies/models and attributes of K-6 curriculum which promotes learning could be explained by the close interaction of teaching, instruction, and curriculum.

Bartley's (1997) study of elementary science methods teacher candidates focused upon only one semester. Like Bartley's preservice students, this study found that both groups were able to provide personal evidence to document their learning. Their portfolios also demonstrated an overall orientation to the teaching and professional development standards of the NSES (National Research Council, 1996).

Teacher education faculty who are considering portfolios in their course need to be aware of several things. Teacher education faculty should consider suggestions by Bartley (1997) to provide adequate time for teacher candidates to be reflective. Learning is highly personal; therefore, the submission with rationale, as recommended by Collins (1992) will allow teacher candidates to document their personal growth. Portfolios are intended to allow their developers to demonstrate particular knowledge from their selection of the artifact and their personal rationale that accompanies the artifact. Teacher candidates without portfolio experience might be hesitant to individualize their efforts unless this is encouraged. Frequently, students might provide only what they think faculty wants. When faculty provides broad categories, like used in this study, teacher candidates need time to reflect upon what artifact best documents their learning. To demonstrate its value, the portfolio must be viewed as a significant part of the course grade. If teacher candidates have previously developed a portfolio, they need to be aware of various types of portfolios (e.g. showcase, reflective, cumulative, or goal-based) to be developed. This study focused upon course portfolios rather than program portfolios. Hopefully, the teacher candidates can see the value of using portfolios in their future teaching; thereby, changing the pattern of avoidance noted by Meyers, Tusin and Tumer (1996).
Futures studies should be conducted to determine whether other disciplines have the variations in artifacts chosen by students enrolled in the same course in different semesters/sections as was found in this study. Also, a case study could be conducted with in depth analysis of how teacher candidates decide, revise, and finalize their selection of artifacts for their portfolio. Teacher education programs could compare how class portfolios are utilized by teacher candidates in their exit portfolios. In addition, teacher education programs that use portfolios to evaluate their program need to examine the item selection and rationale to verify that several forms of evidence can be used to document personal growth of teacher candidates.

Table 1
Group A Frequency of Portfolio Entries for Categories, Winter (N=29)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Standards &amp; Elementary Science</th>
<th>Attributes for Successful Science Teaching</th>
<th>Hands-on Science Instructional Strategies/Models</th>
<th>Attributes for K-6 Curriculum which Promotes Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>Standards &amp; Elementary Science</td>
<td>Attributes for Successful Science Teaching</td>
<td>Hands-on Science Instructional Strategies/Models</td>
<td>Attributes for K-6 Curriculum which Promotes Learning</td>
</tr>
<tr>
<td>Operational definitions</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
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Table 2
Group B Frequency of Portfolio Entries for Categories, FALL (N=28)

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Table 3
Mean, Standard Deviation, and Variance of Absolute Pairs Values (N = 59)

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Table 4
Ratios for Variances of Absolute Value Differences

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References


Where education with dedication begins, greatness is always possible.

- J. H. Simon
Preparing to Teach Elementary School Mathematics: The Integration of a Hands-on Field Experience

Jane Strawhecker

Jane Strawhecker, Ph.D., is an Assistant Professor at the University of Nebraska at Kearney. Her responsibilities include teaching undergraduate and graduate level mathematics methods courses and supervising mathematics field experiences in K-8 schools. She holds a doctorate degree in Curriculum and Instruction with an emphasis on K-8 mathematics from the University of Nebraska at Lincoln. Her research interests include the mathematical preparation of elementary teachers, the role of discourse in mathematics classrooms, and problem solving.

Abstract

Although field-based teacher education programs are common, there is limited research describing specific field experiences linked to methods courses. This article describes how one Midwestern University developed and sustained a hands-on field experience for mathematics. The development was tri-partite, including an elementary school, as well as both the math and teacher education departments. Feedback suggests the structured, hands-on experience is beneficial to the school, the children, the University instructors and the preservice teachers.

DESIGNING THE FIELD EXPERIENCE

In response to various national reports on teacher preparation, such as the National Commission on Teaching & America’s Future (1996), teacher education programs have attempted to provide more authentic experiences for preservice teachers to equip them to meet the challenges, complexity, and diverse nature of current classroom situations. Our university committed to renewing the teacher education program in the late 1990’s. Seven key “rocks” guided the development of the renewed program, with one of the guiding rocks identified as a Field-Based program. Support from a tri-partite team comprised of faculty from K-12 schools, Arts and Sciences and Teacher Education led to what now exists as the Math Methods I Field Experience, a hands-on field experience working with children and hosted by one local partner school. Two other co-requisite courses are taken concurrently with the field experience, the methods course and also a mathematics content course. This one-semester mathematics block is followed with two more semesters of mathematics, a second content course and last, a second methods course linked to a 25-clock hour field experience.

One-on-one tutoring experiences have potential to provide positive learning opportunities for preservice teachers, particularly when preservice teachers are concurrently enrolled in a specific-subject methods course matched with the subject matter of the tutorial sessions (Hedrick, McGee & Hittag 2000). At this university, the mathematics block typically represents the preservice teacher’s first hands-on field experience working directly with students. For this reason, a one-to-one format was designed. Additionally, this design more readily provides opportuni-
ties for preservice teachers to focus intently on what the child says, thinks and does with regards to mathematics. When increasing the number of children, preservice teachers with limited classroom management skills tend to focus more on management issues rather than on the mathematical thinking of children. Additionally, the individualized time provides benefits for the child to fine-tune basic fact recall, solve challenging problems with assistance, and potentially clear up misconceptions about a particular math concept.

Over the course of one semester, approximately ten scheduled field experiences are arranged with the building principal and classroom teachers—always a Friday afternoon. The sessions are designed to be 45 minutes in length followed with half-hour class sessions with the preservice teachers and methods professor, who serves as the university supervisor. During the 45-minute sessions with the elementary children, tasks will vary by week with mathematical inventories aligned with the methods topics to the classroom teachers’ requested reviews of class content.

Providing preservice teachers with opportunities to apply what they are learning in the methods course is often a goal of teacher educators (Cooper 1996). Many preservice teachers have limited experiences with manipulatives and fail to understand how manipulatives impact student learning. After seeing firsthand how manipulatives benefitted his Math buddy, one methods student reflected, “When I was in elementary, the teachers stood at the board and wrote down the material and tried to explain it to us. This worked OK. However, with A.J. I had the opportunity to teach mathematics through the use of manipulatives. It worked much better. Several times I heard him say, “Oh, I get it.” It was very encouraging. In my future classroom, hands-on experience and manipulatives will be essential.”

Perhaps less obvious to the preservice teachers is the alignment of the mathematic content course topics with those in Math Methods. Conscious efforts to connect topics from both the methods and content courses are considered even though two different departments teach these courses. For example, when the preservice teachers are studying base five in their content course, the methods instructor introduces different proportional and non-proportional place value manipulatives. The end of the week allows for an application of this knowledge via the field experience opportunity. One university student commented, “It was interesting to learn about the framework for basic facts understanding in class and see it unfold during my sessions with my Math Buddy.” In a recent study, a positive correlation between significant learning by preservice teachers and structured field experience opportunities was noted (Wilson, Floden, & Ferrini-Mundy 2001). In our situation, both the methods and content professors also note an overall increase in preservice teachers’ motivation during on-campus class sessions.

In addition to the time spent working directly with elementary children, the math methods students have two planned opportunities, one at the beginning of the semester and one mid-semester, to talk directly with the classroom teacher about their assigned buddy’s progress and needs. The Spring 2005 schedule reflects the focus and variation of this field experience (see figure 1).

Another important consideration for combining a field experience with a university class emerges in the development of course assignments. Connections between university coursework and school classrooms place professors in an advantageous position, one where they can aid in preservice teachers’ understanding (Cooper 1996). At the end of the semester, the math methods students write a detailed case study of their Math Buddy, which is then shared with the classroom teacher. Additionally, self-selected artifacts from the field experience aligned with specific Math Methods course objectives are developed and submitted in math methods students’ electronic portfolios. With the individual selection of artifacts comes the opportunity to analyze children’s mathematical thinking (see figure 2).

**FIGURE 1 – Field Schedule for TE 313**

1. School visit with Principal; Meet your Cooperating Teacher
2. First one-to-one visit with Bryant Buddy / Topic: Getting to Know You
3. One-to-one session with Bryant Buddy / Topic: Inventory Problem Solving Process/Strategies
4. One-to-one session with Bryant Buddy / Topic: Meaning of the Operations inventory
5. *FRIDAY, FEB 18 Meet on campus / Topics: Lesson planning and Electronic portfolios
6. One-to-one session with Bryant Buddy / Topic: Basic Fact inventory
7. One-to-one session with Bryant Buddy / Topic: Place Value inventory
8. One-to-one session with Bryant Buddy / Topic: Place Value & Estimation
9. *Kindergarten Assessment Experience (blue group)* Cooperating Teacher Interview (blue group)
10. One-to-one session with Bryant Buddy / Topic: Children's Literature Problem-Based Lesson
11. One-to-one session with Bryant Buddy / Topic: Basic Fact strategies
12. One-to-one session with Bryant Buddy / Topic: Math Facts After School Club
13. Last One-to-one Session with your Bryant Buddy / Topic: Your choice

**Math Facts After School Club begins**

1. *Computer lab available*
2. Computation & Your choice
3. *Computer lab available*
4. Math Facts After School Club
5. Your choice

*FRIDAY, FEB 18 Meet on campus / Topics: Lesson planning and Electronic portfolios*

*Kindergarten Assessment Experience (blue group)*

*Computer lab available*

**FIGURE 2 – Topics Selected for TE 313**

1. School visit with Principal; Meet your Cooperating Teacher
2. First one-to-one visit with Bryant Buddy / Topic: Getting to Know You
3. One-to-one session with Bryant Buddy / Topic: Inventory Problem Solving Process/Strategies
4. One-to-one session with Bryant Buddy / Topic: Meaning of the Operations inventory
5. *FRIDAY, FEB 18 Meet on campus / Topics: Lesson planning and Electronic portfolios
6. One-to-one session with Bryant Buddy / Topic: Basic Fact inventory
7. One-to-one session with Bryant Buddy / Topic: Place Value inventory
8. One-to-one session with Bryant Buddy / Topic: Place Value & Estimation
9. *Kindergarten Assessment Experience (blue group)* Cooperating Teacher Interview (blue group)
10. One-to-one session with Bryant Buddy / Topic: Children's Literature Problem-Based Lesson
11. One-to-one session with Bryant Buddy / Topic: Basic Fact strategies
12. One-to-one session with Bryant Buddy / Topic: Math Facts After School Club
13. Last One-to-one Session with your Bryant Buddy / Topic: Your choice

**Math Facts After School Club begins**

1. *Computer lab available*
2. Computation & Your choice
3. *Computer lab available*
4. Math Facts After School Club
5. Your choice

*FRIDAY, FEB 18 Meet on campus / Topics: Lesson planning and Electronic portfolios*

*Kindergarten Assessment Experience (blue group)*

*Computer lab available*
It was interesting to understand how Allison began solving this problem. She wanted to add $3 + 3$ right away, and when I asked her why she said she thought it was an addition problem. I read the problem again and asked her if she could show me the information in the problem with the paper shirts and pants. As she dressed "Mr. X," she used tally marks to identify the possible outfits. When she had all the options determined, I asked her if she could write the information in another way. As you can see, she was able to write the algorithm $3 \times 3 = 9$.

This activity relates well with the Math Methods I Course Objectives 5, 7, and 10. Course objective 5 suggests using a problem-solving strategy appropriate to a given problem situation. It was a good idea for Allison to "act out" the possible outfits for "Mr. X." The application of the algorithm really suggests Adriana's understanding of the concrete aspect of the solution. Course objective 7 encourages the illustration of appropriate concrete models and corresponding methodology for conceptualizing whole number modeling and discussing a variety of problem situations related to the operations. The use of paper clothes really allows a child to see and understand which outfits have been created.

With the exclusive work with one particular elementary school, other Math Methods course goals are aligned with special-topics field experiences that involve working with different age groups at the school. For instance, when math methods students study early number sense and counting skills, we spend a Friday afternoon administering district performance assessments to kindergarten students. Methods students see firsthand what the expectations are for very young children in the areas of counting and prenumber concepts. It also provides a glimpse of what transpired early on in their older buddy's number sense development.

To provide opportunities for preservice teachers to work with multiplication and division skills, we also host a Math Facts Club to work with selected 4th and 5th graders at the end of the school day. Methods students are given the task of analyzing the children's basic fact errors and developing strategy-based lessons to tackle the obstacles. In the past, we have used a 2-to-1 ratio where two preservice teachers tutor one fourth or fifth grade student. The preservice teachers have especially valued this set-up because they find they can also gain methods and strategies shared from their peers. We are able to work with the school faculty to determine how our partnership can best benefit the needs of the school. Through these multi-aged experiences, some preservice teachers discover a new interest in other grade levels and/or endorsements. For example, last year alone one male student added an Early Childhood endorsement and another Middle Level English/Social Science major chose to add Elementary Education as another endorsement.

We believe the key to success with this field experience has been the collaboration that takes place between the university professor/supervisor, the math content professor and the elementary school faculty. A one-day summer workshop is scheduled annually. Since the field experience model was first conceptualized nearly three years ago, minor improvements and a shared vision has transpired.

**REFLECTION**

"Experience can be more powerful when it's considered through a lens of reflection, theory and research" (Ohana, 2003, p. 53). Most weeks, half-hour reflection sessions are scheduled immediately following the one-to-one sessions. During the planned reflection activity, the field supervisor is always present and on occasion, the building principal also takes part. Almost intuitively, the preservice teachers begin talking in small groups about what just transpired, such as how their Math Buddy approached the problem of the day or challenges they faced. Additionally, preservice teachers are encouraged to write about their experiences (see figure 3) and are given opportunities to talk in a large group discussion. The discussions give preservice teachers different insights into how other children learn and develop understanding. Purposeful experiences, with opportunities for reflection, can establish a more immediate need for knowledge, helping preservice teachers attend more carefully to what's important (McDermid, 1990).

**FIGURE 3 - Third Graders' Reflections about University Math Buddies**

My buddy helped me with multiplication and showed me that division is easy to do. I liked my Math Buddy and I know she liked me. (My buddy) taught me good strategies and she is good at teaching. I liked taking pictures outside of acute and obtuse angles. I learned that math can be fun to learn. She helped me on addition and subtraction. Now I am passing my addition.... My buddy taught me all different math skills and great strategies. (She) will be a great teacher. I liked the games we played. She taught me to figure out problems. I hope I get another Math Buddy. My buddy is like a teacher to me. We had a lot of fun.
BENEFITS FOR THE SCHOOL

Already mentioned are the benefits for the university’s preservice teachers, methods professor, and content professor. Comments collected from the partner school’s faculty, children and principal also suggest that the Math Methods I block is a resounding success. The partner school teachers unanimously feel positive about the program and note the positive effect on their students. The building principal also expressed her passion toward the program and its influence on her building. She notes both improved math skills and improved attitudes toward mathematics in a district where school improvement centers on literacy. Classroom teachers have the opportunity to observe the interaction between university students and the children. One elementary child commented, “My Math Buddy taught me to look at the problem in a different way. I loved playing and at the same time learning…..” Overall, the elementary-aged children view mathematics as fun and thrive on the one-to-one time spent with university Math Buddies (see figure 4).

FIGURE 4 – Example Reflection Writing Exercise

Today, I met with ________________________from _______________________ room, in _______ grade.
We spent our time together: (Please √ the activities that you completed.)
Δ Getting to Know You Activity (if needed from last week)
Δ Basic Fact Inventory (code chart & turn in)
Δ Making Flash Cards Folder
Δ ______________________________
Δ ______________________________

1- Describe the best part about today’s Buddy visit.

2- What did you learn about your Math Buddy by conducting the Basic Fact Inventory?

3- Describe what you learned about your kindergarten student’s ability to classify manipulatives.

4- How did the Conservation & Counting kindergarten experiences clarify or reinforce learning from our study of Chapter 7 (Early Number Sense)?

CONCLUSION

Developing effective field experiences is a major task and time commitment for all involved parties. The timing of one university’s renewal and the collaborative efforts of the tri-partite team have led to opportunities for sharing our field model for mathematics preparation. Much work remains. Continued research to determine more specifically what preservice teachers, cooperating teachers, and children learn through the field experience is recommended.

REFERENCES


Differentiated Instruction for the Autistic Child: A Case Study
Max Fridell and Rebecca Newcom Belcher

Max Fridell, Ph.D., is an Assistant Professor in the Educational Leadership Department at Northwest Missouri State University. For the past thirty plus years, he has served as K-12 teacher, high school language arts and speech arts teacher and department chair, university division and department chair, secondary assistant principal and principal, district administrator, education director, executive dean, and university professor. He has been recognized for his work with both minority student populations and student government organizations; he was awarded a grant for developing and implementing student success teaching strategies; and has presented as numerous local, state, national, and international conferences. Dr. Fridell was designated a master teacher, teacher of the year, and university educator of the year.

Rebecca Newcom Belcher, Ph.D., is the Director at Horace Mann Laboratory School located on the Northwest Missouri State University campus. For thirty-two years, she has been a public school teacher and administrator, as well as a college professor and administrator. She has taught K-12 grades in various geographic locations with diverse student populations, including Hispanic, African-American, Native American, and Caucasian. During her education career, she has written and administered many grants; delivered numerous presentations and workshops at international, national, state, and local conferences; and written curriculum for diverse learners. Dr. Belcher has also received many awards, including the Missouri Governor’s award for outstanding college teaching.

Abstract
For years the American educational scene has been slowly evolving into an educational system in which cultures, languages, abilities, personalities, and learning styles have become a vital component of instruction. The philosophical construct for this new educational system is differentiated instruction. The success of a young man with autism taught in a Midwestern laboratory school utilizing differentiated instruction is chronicled in this article.

African-American, American Indian, Asian-American, autistic, broken family, Hispanic, gifted, dyslexic, English as a second language, low socioeconomic status, religious diversity, sexual orientation, etc. These are many of the characteristics of students who fill the seats of classrooms across America. This is not anything new; these students have been in our classrooms for decades.

Traditional. Stolid. Rigid. These terms described the institutional authority of the American educational system for the first half of the twentieth century and prior. The intent was to teach one way for one type of student with little recognition for the need to identify or address student differences. Certainly, the focus was on instruction with little emphasis given to the individual learners.

So, herein, we have a great dichotomy, a great irony, a great chasm that separated the reality of the learning environment from the intent of instruction. For years since, the American educational scene has been slowly evolving from one steeped in the "It has always been done this way" to one in which cultures, languages, abilities, personalities, and learning styles have come to the forefront.

It is not uncommon for today’s learning leader to find her/himself preparing lessons for thirty different varieties of students all in one classroom. If the emphasis fails to shift from instruction to learning, then, in order to match the parameters established by the teacher, the student often finds him/herself in a situation that either forces an uncomfortable shift in their ability to grow academically or risk failure. The solution rests in a different view on the purpose of teaching, a different approach to instructional delivery, and more credence to varying abilities and learning styles. The approach needs to be differentiated within the classroom setting in order for teachers to provide an atmosphere whereby instruction is modified and students learn, regardless of ability level or pre-conceived conditions.

While solutions are found in classroom settings, by and large, the societal influences and governmental edicts converged on the American educational system, all supporting individual student accomplishment. From a social perspective, the call for teachers to address diversity in the classroom is an impetus to initiate differentiated instruction. The need to address state and local standards through testing that holds all students accountable provides the framework to bring differentiated instruction on board. The thrust for individual student success was also critical fodder for the federal government. Educational rights of students were gained in the court-houses and legislative chambers, and the recognition of these civil rights often paralleled the struggles of minorities in their efforts to gain their rights to edu-
cation. Case law such as Brown v. Board of Education of Topeka (1954), PARC v. Commonwealth of Pennsylvania (1971), and Mills v. Board of Education of Washington D.C. (1972) pushed the issue of providing quality education to all students; legislation solidified the intent of inclusion of education for all students through Section 504 of Public Law 93-112 (known as the Vocational Rehabilitation Act, a counterpart of the Civil Rights Act) and Public Law 94-142 (Education for all Handicapped Children Act). "These provisions forever changed the face of American education" (Gollnick & Chinn, 2006, p. 186). The push to provide quality instruction for all students was coming from a wide range of social and legislative strata.

The challenge at hand was, and remains, to meet the needs of each individual student so that equal and quality education can be ensured (Tomlinson, Brighton & Hertberg, 2003). Differentiation goes beyond a description of a particular teaching strategy and offers a basis for a mind-set, a philosophical construct that recognizes varying learning abilities, the need for teacher support, maximizing "the capacity of each student" (Tomlinson, 2000, p. 6), and vigilant assessment to determine student growth. The platform upon which all these elements rest is the understanding of students as individuals and evidence of the instructional skills to recognize readiness, springboard off of interests, establish a learning profile, and constantly be aware of the student’s affect, or variance of emotions or feelings (Tomlinson, 2003).

An illustration of successful differentiated instruction can be found in Student M who attended a laboratory school in the Midwest from third through sixth grades. At the lab school, the teachers, who hold masters degrees in education, are skilled in differentiated instruction. Teachers assess each student’s readiness and learning profile for each new learning experience through multiple avenues. Student interest is viewed as the resource for construction of their learning.

Student M was a young boy who had autism. He was provided inclusive special education services in third through fourth grade with only special education consultation services in fifth and sixth grades. Student M had modifications and accommodations of extended time to complete assignments; frequent reminders to refocus on the task at hand; a scribe who was the special education teacher, the classroom teacher, or a peer; and reduced length of assignments.

All of his classroom teachers provided all the modification and accommodations but they also provided him differentiated instruction in all curricular areas. The interests of Student M were used as the catalyst for instruction. Student M would focus on a specific topic which interested him, piqued his curiosity, and the teachers provided thematic instruction based on his current interests. Another successful teaching strategy was to expand his interests by exposing him to additional fiction and non-fiction through shared and group reading as part of the comprehensive literacy program utilized at the laboratory school.

Two examples of his success can be found in reading and writing. In the area of reading, his Developmental Reading Assessment (DRA) indicates that at the beginning of fourth grade he still had some trouble with engagement, rate of oral reading fluency, and comprehension skills/strategies especially in the area of interpretation. Fifth grade brought steady growth but he still was only half-way through the fifth grade skills by the end of the year. In Sixth grade, he completed all the sixth grade skills and moved into seventh grade reading. At the end of sixth grade, his DRA places him at the top of extending middle school with a score of 113 in fiction and a score 109 in non-fiction, both of which were at level 70. In addition, he completed the assessments without a scribe in the allotted time.

The developing writer’s assessment (DWA) administered in fourth grade identified him at the stage of a transitional writer at level 7. His own writing was very large, filled the paper, frequently outside of the margins, and filled with crossed out words or sentences. Here is an example of his writing.

This book is about Peter having a big war in his house against grampa Jack for Peter’s room. The first thing I am going to talk about is Billy and Steve tell Peter to attack his very own grampa Jack. The first supporting detail is that Billy and Steve say that he should throw bombs and use weapons. The second one is that Peter thinks he should not do what ideas they have. The third supporting detail is that after talking to Billy and Steve Peter decided to use his own ideas.

During three years of differentiated instruction, he moved to level 9 Transitional Stage, then level 10 Advancing, and finally to level 10.9 Advancing Stage at the end of sixth grade. Here is an example of a creative story he wrote in the sixth grade without a scribe or extended time.

The Exciting Adventures of Mysterious Marvin
In Search of the Mystic Pencil of Power

This is a story about me, Mysterious Marvin, in search for a powerful pencil, but I’m getting ahead of myself so let’s start at the beginning. My friends in this story are Dangerous Danny, Inventor Ross, and Knowledgeable Nep. Dangerous Danny knows almost practically everything. My next friend is Inventor Ross he can use the things around him to make almost anything into an invention. Then there’s Knowledgeable Nep, he can figure out any kind of obstacle course or obstacle. Finally, there’s me Mysterious Marvin. I’m a detective and an artist. But, me and my three friends must find the mystic pencil of power before my arch enemy Professor Doomsday gets it first.
An anemones person sent us a letter that showed a map in the far off African region where an ancient temple holds a mysterious power source. The power source which is called "the mystic pencil of power" on the letter is even powerful enough to destroy the world. The letter also said that in order to get rid of it we have to destroy it in its own obstacle course which is tricky and has a riddle to open the safe for the power source.

As soon as we read the message we headed to a plane in the airport for Africa. Soon after we were in the air for at least 2 days, someone named "Sneaky Spencer" hired by Professor Doomsday, killed the pilot and we didn't know until the plane started to go down. We all grabbed the wheel at the same time. Then we found an "emergency landing" button, then pressed it and before we knew it we were in front of the ancient temple where the mystic pencil of power was. But, we had to destroy it quickly because Professor Doomsday was hot on our tail!

Then, we had to push the giant doors in order to enter the ancient temple. First, they had to get past the obstacle course then they can destroy the pencil of power before Professor Doomsday gets it and conquers the world with it.

In conclusion, Mysterious Marvin's' 3 buddies are Dangerous Danny, Inventor Ross, and Knowledge-able Nep. Their arch enemy is Professor Doomsday. Which one will get the pencil of power first, can they get past the obstacle course and solve the riddle in time? Will Professor Doomsday get it first? Read chapter 2 and find out.

Student M was successful at the laboratory school and has moved onto seventh grade at his local middle school. Differentiated instruction provided him with the skills and strategies to become a successful student.

The results found in this case study are not atypical in the differentiated instruction classroom. The journey to redesigning instruction in order to address individual student learning styles is challenging, but made smoother with the understanding that the classroom environment being supported is one of understanding, cooperation, continual assessment, and, most importantly, a grasp of the individual student's readiness, interests, learning profile, and emotions.

No two schools are alike, no two classrooms are alike, and no two students are alike. Educators, now more than ever before, are awakening to the fact that their classrooms are made up of individual students who represent a wide array of abilities, attitudes, motivations, and insights. Differentiated instruction is an effective approach that recognizes and appreciates individual differences, and its inclusion in the classroom can draw the chasm closed that separates the reality of the learning environment and the intent of instruction. The responsibility rests with each individual educator to transform classrooms into student-centered environments that support quality education to all students. This is the challenge; this is the opportunity.

References

Knowledge is a process of piling up facts; wisdom lies in their simplification.
- Martin H. Fischer
Concept-based Approach Helps Students Improve Math Scores

Nancy Gaylen

In a pilot project for three pre-service teacher education students at Millikin University in Decatur, Illinois, who wished to see if their teaching strategies could affect student learning, 52 third grade students at Johns Hill Magnet School improved their math test scores. The design for instruction that was implemented was a concept-based curriculum. A concept-based curriculum helps students understand key concepts by interrelating the concepts through a variety of activities that cross disciplines.

The pilot study involved two third grade teachers, 52 third graders, and three elementary education pre-service candidates. The project took place within the third grade classrooms during the fall semester of 2003. The teacher education students were enrolled in an Elementary Math methods course that focused on how to affect student learning, particularly standardized math test scores, among at-risk, minority students.

Their research questions became:
1. How can teachers involve students actively in their assessments?
2. How can we teach mathematics using a concept-based interdisciplinary approach?

Background Literature Review

Standards-based educational practices and the assessments that accompany them require teachers to teach beyond the factual knowledge level. Students are required to demonstrate complex thinking, have deeper understanding of concepts and be able to show this understanding through performance tasks and statewide assessments. H. Lynn Erickson, in her book Concept-based curriculum and instruction (2002) explains how teachers need to learn to become more concept-process based in their teaching. Most teachers currently teach using topics and factual information. She says "providing a problem-solving context for actively engaging students in the thoughtful application of knowledge is an important variable in increasing learning." (pp. 7) This problem-solving process involves integrative thinking across related ideas. Erickson explains that helping kids learn at the conceptual level requires that patterns and connections be drawn between related facts, ideas, and examples. (pp. 8) In this classroom-based pilot project, two third grade teachers learned how to teach using a more concept-based approach. They designed interdisciplinary units that focused on key mathematics concepts so that students would see the math patterns across disciplines and see connections to everyday living. We predicted that teaching by the concept-based approach would result in an increased understanding of mathematics for students.

The view of how mathematics should be taught has undergone tremendous reform in the last decade. This reform goes along with the need to teach less topically and factually and more conceptually. The documents published by NCTM Professional standards for mathematics teaching (1991) state that learning mathematics must "shift from a process of accumulating facts and procedures to learning mathematics as an integrated set of intellectual tools for making sense of mathematical situations" (pp. 2). This pilot project proposed to show how teaching mathematics through interdisciplinary concept-based units could be one way of helping children make sense of mathematical situations in their world. Further, the children's understanding of mathematical situations and their ability to apply mathematical tools would be assessed using mathematics learning centers that were set up as student-involved performance tasks. It was our intention that the pilot project would show one way of affecting children's learning who had not been very successful in the past.

In the book Student-involved classroom assessment (2001) Richard Stiggins, states, "You can enhance or destroy students' desire to succeed in school more quickly and permanently through your use of assessment than with any other tools you have at your disposal." (pp. 36) Because we were working with at-risk, minority children who had already achieved at very low levels in mathematics, we wanted to utilize student-involved mathematics centers as a form of authentic assessment in hopes of increasing the students' motivation in learning math. These assessments were administered at the end of several months of learning through interdisciplinary concept-based units. We hoped that the mathematics centers would trigger a rewarding event for them and gradually increase their motivation to succeed at school.
Models of Delivery and Assessment for the Study

In order to answer the two research questions, several assessment tools were used to comprehensively evaluate the project. The project was set up using two third grade classrooms at the John Hill K-8 magnet school in central Illinois. The Spring, 2003 scores of the math section of the Iowa Test of Basic Skills (ITBS) were collected for 52 incoming third graders during the Fall of 2003. Of the 52 students, 17 scored below grade level and thus were identified as ‘at-risk’. Test scores were between 1.4 and 2.5 (first year, fourth month to second year, fifth month). 14 of the 17 ‘at-risk’ students were of minority populations. Although teacher education students would teach all 52 third graders, they were particularly interested in examining test results for the at-risk, minority students whose test scores were below grade level. Current methods of teaching and assessing mathematics had not been completely successful and their goal was to affect student learning. Although focusing on the at-risk students created a rather small target group, it was helpful to the teacher education students to be specific in their teaching goals and focus on how they would affect the learning of the most hard to reach students.

To begin, the third grade teachers learned how to teach mathematics concepts using a more interdisciplinary approach by studying Lynn Erickson’s book Concept-based curriculum and instruction. (2002) They created learning experiences for children where math concepts were applied within the subjects of reading, science, and social studies. During the months of September, October, and November 2003, teachers taught three different interdisciplinary units incorporating money, time, and multiplication applications. The units were taught to all 52 third graders.

Teacher education students learned how to design student-involved assessments and administer the assessments to all third graders in the two classrooms, not just the at-risk students. In the course, they learned methods of teaching and assessing utilizing centers. Teacher education students were required to build and facilitate a student-involved math center that could be used to assess mathematical concepts. The center had to include a concept that had been taught between September and November of 2003. The center also had to align to NCTM content and process standards, demonstrate the integration of other curricular areas, and include a plan for assessing the students that came to the center. Before taking the center to the third grade classroom, the teacher education students were required to explain how the center was going to be set up, what materials were needed, and how they were going to facilitate the optimum use of time. The professor would evaluate teacher education students on their application of the mathematics methods as the students evaluated the third grade children coming to their centers. This centers event became an authentic summative assessment for the elementary math methods course. Teacher education students demonstrated their understanding of how teachers involve students actively in their assessments, and how they can teach mathematics using a concept-based interdisciplinary approach.

Three teacher education students chosen for the pilot project classroom created three different centers. The centers were called The Buying Game, Multiplication Writing and Get In The Time Zone. Each of these learning centers emphasized a math concept that had been taught by the classroom teacher and integrated other curricular areas.

Description of the data collection and analysis methods to be used

After the third grade students had an opportunity to participate in the learning center activities, preservice teacher education candidates evaluated the learning of the students using rubrics. These rubrics measured the students’ knowledge of the mathematics concept at the interdisciplinary center while the student engaged in one final activity.

Mathematics scores from the April, 2004 administration of the Iowa Test of Basic Skills (ITBS) were also collected from the same group of students, after the concept-based interdisciplinary units and student-involved interdisciplinary mathematics centers assessments had been completed.

Any change in standardized test scores for the two administrations of the Iowa Test of Basic Skills (ITBS) was analyzed and the rate of success of students at the math centers as measured by the rubric was noted.

Results, Implications and Conclusions

Comparing Spring 2003 Iowa Test of Basic Skills (ITBS) scores with Spring 2004 ITBS scores, of the 17 students who were below third grade level, 13 were now above grade level. Three of the 17 still remained below grade level and one student moved away. Of the three students remaining below grade level, two of these students were from minorities. The other 35 children who were at or above grade level at the beginning of the school year, participated in the mathematics instruction, as well as the learning centers. Of these 35 children, all increased their math scores.

Although the sample size used in the pilot project was small, the outcome could imply that teaching methods tried in the project resulted in more effective teaching for elementary school teachers as well as for college professors. It is important to note that the third grade teachers stood firm in their belief that students would need lots and lots of practice in mathematic skills, such as multiplication, time, and money, if standardized test scores were going to be raised. They were not willing to eliminate this method of teaching in their classrooms. One is then led to ask: Was it the continued practice in mathematic skills that raised test scores or the concept-based units that were taught? They both agreed that the increase in practice by utilizing other subject areas and real-life problems was much more motivating for students than the use of only numerical practice
problems. Third grade teachers did concur that math instruction that is tied to other disciplines and everyday problems is more meaningful and motivating to students. Third grade students also responded positively to an assessment that involved hands-on problem solving. However, by having other methods of teaching besides concept-based in the instruction of mathematics, we cannot be sure that students’ test scores were affected only by this method.

The college professor teaching the Elementary Math Methods course was also able to see many positive results of this experience for pre-service teacher education students. Giving pre-service teachers an opportunity to actually administer authentic performance tasks helps them understand the power of student-involved assessments and shows them tangibly how they can affect student learning. One of the biggest realizations pre-service teachers had of teaching using student-involved assessments was that there were no motivation issues. Motivating students to learn math facts and concepts who may have not done very well in the past was a concern to the teacher education students. However, the third grade students wanted to do the activities and did not view it as ‘a test’ to pass or fail. The third grade students were engaged in solving math problems that had real-life meaning to them. The pre-service teachers reflected on their learning center experience through class discussions and writings. One challenge expressed in the reflective discussion was time management. Student learned how to be efficient with materials while observing students work in order to fill out a rubric on each participating child while they were at the center. Another pre-service student learned a lesson in being flexible as soon as we arrived to set up. Her pre-assessment activity consisted of problems to be loaded onto a computer. However, the computers did not have the updated software needed. So she quickly re-designed her pre-assessment activity.

Bringing classroom teachers together with teacher education students in an opportunity to help children be successful in math is always an experience worth doing. This was a very positive experience for pre-service teachers as it included the application of math theories and the practice of methods with actual children in an elementary classroom.

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What you think of yourself is much more important than what others think of you.
- Seneca
Bullying in Schools: A Different Perspective

Ken Nelson, Marlene Kuskie, and Joan Reznicek

Abstract

Principals from fifty schools in the central United States were surveyed concerning perceptions of bullying behaviors. Research has been reported on student perceptions of bullying in schools but data surveying principals is limited. Significant differences were found between the number of incidents at the elementary and secondary levels, between males and females doing the bullying and the location of where bullying incidents occurred. Components of successful bullying intervention programs are also addressed.

The emphasis and research on bullying within the school environment began over twenty years ago with studies in Norway, Italy, Great Britain, Spain, Sweden and Australia (Smith, M., Junger-Tars, 1999). Yet, it took the Columbine tragedy to truly bring the effects of bullying to the forefront in our American society. The primary emphasis of most research on bullying has been completed by surveys and not addressing the perceptions of school administrators. Garner (2003) surveyed teachers, counselors, and administrators regarding their perceptions of bullying, however, this research was completed in three urban districts. Research that has been specifically focused on the perceptions of administrators in rural schools has been limited.

Olweus (1993), an expert in the field of research on bullying, defined bullying as exposing a student repeatedly and over time, to negative actions on the part of one or more other students. Bullying behavior (Belsey, 2003) might take the following forms: physical violence and attacks; verbal taunts, name calling and put downs; extortion or stealing of money and/or possessions; and, exclusion from peer groups. Research studies have been completed which identify the various bullying components and outcomes of bullying (Altman & Forsyth, 2004; Crothers & Levinson, 2004; Guzick, Dorman, Groff). Espelage, Bosworth and Simon (2000) determined that such factors as family and adult influences (parental physical discipline and time spent with an adult), negative peer relations and distal contextual factors (neighborhood safety) are positively associated with bullying behavior. Thus, anti-bully efforts are more than an educational issue; they are a community concern. As Dennis Murphy (2004) explains in Counseling Today, nearly everyone as a child has experienced bullying at some level whether as a spectator, victim or bully. Students who have experienced bullying exhibit such behaviors as higher rates of absenteeism, lower academic performance and feelings of apprehension, loneliness and abandonment (Roberts & Coursol, 1996). The long-term effects of victimization have a significant impact on
society as survivors of bullying attain fewer years of post-secondary education, are less likely to be employed after graduation and make less money (University of Oregon, as cited by Murphy, 2004). Studies are beginning to document the long-term effects of childhood bullying on adults in the workplace. Adult survivors of bullying show evidence of behaviors indicative of shame-orientation (Lewis, 2004), post-traumatic stress (Matthiesen & Einarsen, 2004; Tehrani, 2004), depression (Dietz, 1994) and diminished health and well-being (Hoel, Faragher & Cooper, 2004).

The role of the school administrator in ameliorating harmful environmental conditions such as bullying must be accomplished in coordination with counselors, teachers and other school personnel. Since administrators have the power and are key to impacting the school environment, the school principal is an important ally of the school counselor and the classroom teacher in creating change. With these considerations, this study was conducted with a random sample of public school principals at both the secondary and elementary levels. School administrators in collaboration with teachers and school personnel, must be able to assess the potential for school violence and bullying behaviors within their own school and take steps to prevent it. Thus, various factors must be considered in the assessment. Questions such as "how often" and "where does bullying occur" in schools needs to be answered first and foremost. Banks (1997) found that middle school students experienced more bullying than either elementary or secondary students. Isernhagen and Harris (2004) findings supported Banks research in the four rural schools that they surveyed. They documented that nearly 22% of middle school students indicated that bullying happened "often" and nearly 70% indicated that it happened "sometimes" (Isernhagen & Harris, 2004, p. 7). Ma (2001) found that there are more incidents of bullying behaviors in small schools as compared to large schools. Surprisingly, research concerning administrator perceptions is limited even though they are the persons often held responsible and possess the influence to change the school environment. Since students rarely tell a counselor or teacher of bullying incidents (8-12% of the time for middle and secondary students), (Isernhagen & Harris, 2004; McCartney, 2005), administrator perceptions of bullying need to be identified. Interestingly, Iserhagen and Harris (2004) study of about 400 middle school students and over 400 secondary students found students that have been bullied only tell their friends 25-34% of the time with parents being told 10-28% of the time.

Another factor that administrators need to address is the location where bullying incidents occur and if there a different between bullying at the elementary or secondary levels? Iserhagen and Harris (2004) reported that 71-77% of middle school students indicated that bullying occurred in the lunchroom, recess/break locations, extracurricular locations and classrooms, in that order. However, 79% of

the secondary students (grades 9-12) reported bullying behaviors occurred in the classroom and 74% also reported bullying behaviors occurred at extracurricular locations.

Gender has also been considered in much of the bullying research (Batsche & Knoff, 1994; Rigby, 1996; and Olweus, 1996). Thus, this study focused on principal perceptions of how often bullying incidents occurred and principal reports of the number of average weekly bullying incidents, seriousness of bullying behaviors, gender of students bullying and the location of bullying. Olweus (1993) and Vail (2000) documented that bullying is generally not recognized, not reported and often minimized by adults.

Method

Participants

A random sample of fifty (50) public school districts in a Midwestern state with an average mean enrollment of 934 students were included in the quantitative survey.

Research questions

Four research questions were asked:

1) Do elementary and secondary differ in the average weekly number of reported incidences of bullying?

2) Do selected public school principals elementary and secondary principals differ in their ratings on a 7-point Likert scale (1 = not serious to 7 = very serious) of the seriousness of bullying in their schools?

3) Do selected public schools elementary and secondary principals differ in their reporting of the gender of those students most frequently involved in bullying?

4) Do selected public school elementary and secondary principals differ in their mean rankings of eight situations where bullying is most likely to occur on an 8-point Likert scale (1 = most likely to 8 = least likely)?

Instruments

Electronic surveys were sent to one elementary and one secondary principal in the selected districts. The survey instrument addressed demographic information from the participants and principals' perceptions concerning bullying behaviors in their school. After one week, a telephone contact was made with principals who had not returned the survey. Surveys were returned by 46 of the 50 (92%) elementary principals and 48 of the 50 (96%) secondary principals for an overall return rate of 94%.

Comparisons between elementary and secondary principals were made regarding: reports of average number of reported incidents of bullying; ratings of the seriousness of bullying in their school; reports on the gender of students most frequently involved in bullying; and, the ranking of seven locations where bullying was most likely to occur. In addition, correlations were analyzed between school district enrollments and the average number of weekly bullying incidents reported by all principals. School
district enrollments and principal ratings consisted of a Likert scale (1 = not serious to 7 = very serious) of the severity of bullying in their school were also analyzed.

**Results**

Analysis of the data using a t-test for independent measures indicated that there was not a significant difference (p > .05) between the mean number of bullying incidents per week as reported by elementary (2.304) and secondary principals (1.979), t (92) = 0.737, p > .05 (see Table 1). Further analysis using a Pearson Product Moment Correlation (0.224) and a t-test for correlation between school district enrollments and the average number of bullying incidents reported by principals determined that there was a significant correlation (t [91] = 2.189, p < .05).

### Table 1

**Table 1**

A Comparison Between Elementary and High School Principal Reports Regarding Average Weekly Number of Bullying Incidents

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Principals</td>
<td>2.304</td>
<td>2.367</td>
<td>46</td>
</tr>
<tr>
<td>High School Principals</td>
<td>1.979</td>
<td>1.843</td>
<td>48</td>
</tr>
</tbody>
</table>

*Note. The difference between the two means (2.304 vs 1.979) was not significant, t (92) = 0.737, p > .05.*

Analysis of principal perceptions of the seriousness of bullying incidents were analyzed for size of school and differences between elementary and secondary schools. A Pearson Product Moment Correlation Test produced a value of -0.085 and a t-test for correlation and indicated that there was very little relationship between school district enrollments and principal ratings of the seriousness of bullying (t [91] = -0.810, p > .05). However, there was a statistically significant difference between the ratings of elementary and secondary school principals concerning the seriousness of bullying incidents. Secondary principals ratings (M = 2.854) of the seriousness of bullying were higher than that of elementary principals (M = 2.370), and the t-test for independent measures determined that the difference between the ratings of the two groups was significant (t (92) = -2.268, p < .05) (see Table 2).

### Table 2

**Table 2**

A Comparison Between Elementary and High School Principal Ratings (1 = not serious to 7 = very serious) of the Seriousness of Bullying in Their Schools

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Principals</td>
<td>2.370</td>
<td>1.029</td>
<td>46</td>
</tr>
<tr>
<td>High School Principals</td>
<td>2.854</td>
<td>1.020</td>
<td>48</td>
</tr>
</tbody>
</table>

*Note. The difference between the two means (2.370 vs 2.854) was significant, t (92) = -2.268, p < .05.*

Other data analysis revealed that thirty-seven (37) of the forty-six (46) elementary principals indicated that boys were more likely than girls to be involved in bullying, whereas only twenty-three (23) of forty-eight (48) secondary principals reported that boys were more involved in bullying than girls. A chi square test indicated that the difference between the percentages of the two groups' responses was significant (80.4% vs. 47.9%, chi-square 1, N = 94, = 9.396, p < .05) (see Table 3).

### Table 3

**Table 3**

A Comparison Between Elementary (n = 46) and High School Principal (n = 48) Reports on the Gender of Students Most Frequently Involved in Bullying

<table>
<thead>
<tr>
<th>Group</th>
<th>Boys (%)</th>
<th>Girls (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>37 (80.4)</td>
<td>9 (19.6)</td>
</tr>
<tr>
<td>High School</td>
<td>23 (47.9)</td>
<td>25 (52.1)</td>
</tr>
</tbody>
</table>

*Note. The difference between the two percentages (80.4% vs 47.9%) was significant, chi-square (1, N = 94) = 9.396, p < .05.*

Another area of concern to school personnel is when and where bullying incidents occurred. Participants were asked to rank order seven situations (designated in other research literature) when bullying is most likely to occur (1 = most likely to 7 = least likely). Elementary principals reported that "On the way to school" was when bullying most likely occurred and the "In classrooms during the day" was the least likely situation. Secondary principals reported "In the hallways during the day" was most often cited as the location where bullying occurred and "In the classrooms during the day" was the least likely location for bullying to occur. A Spearman Rank Correlation Test determined that there was not a significant (p > .05) correlation (r = 0.143) between the mean rankings of the two groups (see Table 4).

### Table 4

**Table 4**

A Comparison of Elementary (n = 46) and High School Principals (n = 48) Mean Rankings (1 = most likely to 8 = least likely) of Eight Situations Where Bullying is Most Likely to Occur

<table>
<thead>
<tr>
<th>Situations</th>
<th>Elementary (M)</th>
<th>Secondary (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the way to school</td>
<td>2.98 (1)</td>
<td>4.17 (5)</td>
</tr>
<tr>
<td>During lunch break at school</td>
<td>3.57 (3)</td>
<td>3.06 (2)</td>
</tr>
<tr>
<td>At school before classes</td>
<td>4.16 (4)</td>
<td>3.68 (3)</td>
</tr>
<tr>
<td>At school after day is over</td>
<td>3.54 (2)</td>
<td>4.11 (4)</td>
</tr>
<tr>
<td>Classrooms during the day</td>
<td>7.14 (7)</td>
<td>6.13 (7)</td>
</tr>
<tr>
<td>Hallways during the day</td>
<td>4.77 (6)</td>
<td>2.55 (1)</td>
</tr>
<tr>
<td>School restrooms during the day</td>
<td>4.71 (5)</td>
<td>5.74 (6)</td>
</tr>
</tbody>
</table>

*Note. The Spearman Rank Correlations between the two groups of principals was not significant, r = 0.143, p > .05. Few principals in either group reported in “Other.”*
Summary

The purpose of the study was to compare public elementary and secondary principals in midwestern schools' data and perceptions concerning the observed weekly number of bullying incidents, the seriousness of the bullying in their school, whether boys or girls are more involved in bullying, and situations where bullying is most likely to occur. Correlations between school district enrollments and reported weekly averages of bullying incidents and ratings of seriousness of bullying were examined as well.

Statistically significant (p < .05) findings were as follows: (a) The correlation between school district enrollment and principal reports of the average weekly number of bullying incidents, with principals from larger districts reporting more incidents; (b) secondary principal mean ratings of the seriousness of bullying were higher than those of elementary principals; and (c) elementary principals were more likely than secondary principals to identify boys as being more involved in bullying than girls. Although elementary principals reported a greater average number of weekly bullying incidents, the difference was not significant (p > .05).

There was little relationship between school district enrollment size and principal ratings of seriousness of bullying in their schools, and there was not a significant (p > .05) correlation between elementary and secondary principals rankings of eight situations where bullying is most likely to occur. Elementary principals ranked "On the way to school" as the number one situation while secondary principals ranked "In the hallways during the day" as the number one situation. Both principal groups reported that "Classrooms during the day" was the situation where bullying was least likely to occur.

In summary, this research supports findings in the literature that bullying occurs in all school environments (Smith & Brain, 2000), urban and rural. Bullying starts in the elementary grades and boys are more likely than girls to be identified as bullies. But, older students become involved in more serious incidents of bullying as perceived by school principals.

Discussion

This research is particularly interesting in that rural school principal perceptions concerning bullying vary greatly from other research that has been conducted with students. This research documented that elementary principals in schools rated "on the way to school," "at school after day is over," "during lunch break," and "at school before classes" as four of the eight identified most common locations for bullying behavior at the elementary level. Isemhagen and Harris (2004) documented from their study that rural middle school students cited the lunchroom, recess/break, extracurricular and classroom in descending order as the most common locations for bullying. Secondary principals in this study reported that bullying most often occurred in "hallways during the day," "during lunch break," "at school before classes," and "at school after the day is over" (descending order). "Classrooms during the day" was the least often reported perception of where bullying occurred in rural secondary schools as reported by the principals in the study. This data contradicts Isemhagen and Harris' research on student responses from rural schools. Their research indicated in the classroom and at extracurricular locations was where bullying was most noticed. It can be concluded that student and school principal perceptions differ greatly in schools. Research on school administrator perceptions is not as extensive as those focusing on student perceptions, yet their perceptions are extremely important if true change in the school environment is going to be made.

Other conclusions from this research indicate that the seriousness of bullying becomes greater at the middle school level and continues to be a significant concern at the secondary level even though previously cited research indicates that bullying peaks in the middle school years. This study did not find a significant difference between the number of bullying incidents per week at elementary and secondary levels as perceived by principals. Principals reported that more boys than girls bully and this finding aligns with other research. Interestingly, this study of principals' perceptions reported proportionately more girls at the secondary level as compared to other research. The factor of being a rural school may or may not be an influence.

Conclusion

The role of the school administrator is very significant and school personnel must be catalysts and advocates of systemic change. School personnel can no longer tolerate bullying as 'typical' behavior and need to challenge the myth of bullying being an urban, large school problem. Bullying affects the well-being and achievement of all students whether urban or rural. Thus, it becomes the responsibility of all school personnel to make rural schools safe and provide an environment that respects all persons in their educational process.

References


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**You must give some time to your fellow men.**

**Even if it’s a little thing, do something for others – something for which you get no pay but the privilege of doing it.**

- Albert Schweitzer
Beginning Conversations about Social Justice and Financial Education: Exploring Music’s Role

Thomas A. Lucey

Thomas A. Lucey, Ed.D., is an Assistant Professor of Curriculum and Instruction at Illinois State University, Normal, Illinois. His research interests include financial literacy, multiculturalism, and social justice issues.

Abstract

The author argues that social justice represents a financial education issue and advocates classroom conversations about this connection. He presents literature supporting the use of art and music to stimulate related classroom conversations, and offers study findings about how teachers interpreted a musical activity designed to begin such dialogues.

According to national standards (Jump$tart Coalition, 2001) financial education (or personal finance) consists of four components: income, money management, savings and investments, and spending and credit. While these areas relate to a curriculum for acquiring, managing, and developing spending resources, they do not address the financial disparities that persist in the United States. Between 1967 and 2001, the average income of the lowest quintile of the population declined from 9.06% to 6.94% of the average income of the highest quintile (US Census Bureau, 2001). As the financial gap between rich and poor widens, teacher educators must consider the long-term effects of existing financial education processes and reflect on the relevancy of initiating dialogues about social justice as part of financial education efforts. Conversations about this relationship are necessary to dissolve the misconceptions about bases for financial inequities and to begin the meaningful dialogues about long-term solutions towards their elimination.

Research supports the presence of contextually related processes in financial socialization. For example, Moschis (1985) identifies patterns of family influences on children’s consumer behavior development. Varcoe et al. (2001) find that teens of diverse socioeconomic contexts expressed different financial education priorities. Developmental contexts relate to patterns of financial behaviors and learning. Rather than perpetuating practices that may continue or widen such differences, educators should initiate processes that sensitize students to these differences and begin processes for their abatement.

Research also indicates that financial differences relate to interpersonal judgments. For example, Hira and Mugenda (1999) find that self-esteem involves judgments about how much one owns compared to what others own. Trzcinski (2002) observes that adolescents make fun of peers who receive and use government financial support. A curriculum insensitive to students’ financial learning differences and the resulting judgments portends long-term societal consequences. Educators must recognize the long-term social challenges associated with conventional financial education curricula. As social justice issues relate to financial education, teacher educators should explore vehicles for beginning classroom conversations about related topics.

Based on review of literature concluding that interpretations of moral conduct differ among economic classes, Lucey’s (2004) survey of teachers in three southern school districts finds a high level of agreement with seven items framing a hypothetical moral financial education component for grades K-4. These items relate to behavioral expectations, equity ideas, and human values. The respondents’ agreement approximates the levels associated with three of the four generally accepted financial education areas (the study conducted no analysis of the fourth component due to the low inter-correlational reliability of the associated subscale). As practitioners recognize the importance of this area, additional research needs to consider associated pedagogical implications.

This paper considers music’s use as a tool to stimulate financial education conversations about social justice. It begins by describing the importance of fostering student-centered learning environments to commence awareness of different societal perspectives and bring about advocacy for social justice. Information about the aesthetic benefits of using art and music to stimulate these conversations and related assessment processes follows. Finally, it conveys a small group of students’ responses to a musical experience designed to stimulate conversations about social justice. The teacher education community should consider social justice’s relevancy to financial education and the importance of using multidimensional stimuli, such as music, to stimulate students’ understandings.

Literature Review

Stimulating creative conversations about equity issues requires employment of motivators that capture students’ attention, lower participatory resistance, and deepen societal awareness. Enabling students’ conceptualization of the various patterns of reality opens their minds to the possibilities of different societal understandings.
Art as a hook. Art represents a vehicle for fostering student receptivity to such ideas. In describing the relevancy of art to aesthetic education, Sampson (2005) mentions the importance of working directly with artistic material to enable fuller understandings of the world’s dimensions. Laney (2005) describes art as a vehicle for encouraging student thought and conversation about culture and its processes. Using Jacob Lawrence’s The Migration Series as an example, Laney (in press) points to art’s role in depicting interpretations of history and in beginning the conversations about topics that textbooks may patronize. The value of art not only lies within the large image presented on canvas (or other medium), but also the subtle techniques employed in its creation. Visual art provides basis for classroom dialogues about understated historical topics and their societal importance.

Music. Visual art represents a motivator for discussion because it depicts society in manners as direct or subtle as the artist determines. Likewise, music represents a vehicle for conveying blatant or understated societal views. To encourage classroom conversations about difficult or controversial topics, teachers must provide student-friendly environments that constructively release the inhibiting tensions and lower the barriers to meaningful dialogue. Such artistic endeavors offer highly pertinent stimuli for conversations about social justice.

Literature indicates that music provides an opportunity for classroom exploration of various social studies concepts. For example, Palmer (1998) advocates introducing social studies topics with appropriate music and Carter (2003) finds that music represented a vehicle for prompting pro-social attitudes. Literature generally touts music as an effective tool for teaching social studies.

Music also provides a vehicle to foster community development. LeCroy (1998) documents how large businesses historically employed musical groups to structure leisure gatherings of workers and their families. Cooper (2000) describes lyrics of select songs that stimulate personal reflection and foster relationship development. By drawing from these ideas, it is possible to foster stronger classroom communities that develop cooperative-minded reflective thinkers.

However, a simple musical presentation designed to set a mood or convey introspective conditions lacks consideration of the potential available dimensions music offers. Teachers must draw from all the components associated with musical stimuli to foster the depth of higher level thinking students need to consider complex topics. Such benefits may not be readily apparent at first. While Dotson (1996) describes the successes of discussing the lyrics of popular song with students and developing an anti-violence skit based on popular music, Kiehn (2003) notes that musical creativity relates to developmental levels of elementary students and points out that social pressure may impair performances. The History Alive curriculum (http://www.historyalive.com) employs both art and musical elements to foster simulations of historical events; however, as with many teacher editions of textbooks, this program fosters elements of text-dependency that may foster inaccurate or bias historical portrayals, such as those described by Loewen (1995). Not only must teachers employ effective tools, they must also be resourceful developing materials.

Teacher educators must prompt their candidates’ awareness of the connection between social justice and financial education. The use of musical stimuli allows opportunities to facilitate classroom discussions about patterns of social inequities and the responsibilities of good citizens towards them.

Activity

One activity (Lucey, 2000) consists of a teacher playing a piece of modern music and distributing its lyrics to the students. After playing the music, the instructor facilitates a class discussion about the song and the possible lyrical meanings. Following the debriefing, the students divide into groups to develop songs that express their ideas about economic patterns in society and the associated human consequences. After providing approximately 10 minutes to develop their songs, groups are invited to perform their compositions.

Teacher experiences. Facilitating this activity for preservice and practicing teachers allows them to feel, experience, and consider the classroom processes that their students may encounter. I conducted this activity with a group of four graduate students enrolled in a Teaching Money and Responsibilities in an Urban Setting: Grades K-12 course at a southern urban university. The lyrics of the song (Lamm & Van Eps, 1999) portray society as a deliberate process of economic sacrifice where consumers buy the temporary fads and ideas promoted by those controlling society’s resources.

Are you a civilized person
Is your life form advanced
Has tragedy avoided you
This is no accident
We all had our highs
The lows we can’t command
Sleeping through insomnia
It is more than you can stand

Got to get back to the truth
Hey hey yeah yeah
In a sacrificial culture
There’s an ornamental man
Place him in the center

All music is static
Every book is a line
There was no evolution
Only a flood there was no time
Got to get back to the truth
Hey hey yeah yeah
In a sacrificial culture
There's an ornamental man
Place him in the center

It's a sacrificial culture
You're an ornamental man
Placed into the center
Credit cards, crystal shards, no backyards
Blah Blah Blah
Empty trains, winter rains, see-thru brains
Blah Blah Blah

Bishops on the right
Queens to the left
The pawns will not advance
Pushed into the center

(\textit{Lamm & Van Eps, 1999, Sacrificial Culture})

\textbf{Student Responses}

Music may represent an expressive form requiring developmental encouragement. As such musical preferences may have some bearing on their interpretations of the activity. I present the respondents' identification with the musical content before explaining their responses to the activity.

\textit{Musical identification.} While responses differed based on students' listening preferences, respondents generally enjoyed the song's message ($\mu = 8.25$ out of 10), they varied in interpretations of its genre, labeling it as alternative, contemporary Christian, and Christian Rock. They also called it folksy, mixed, and rock. The song either had a combination of appealing elements to students or related to a musical style that students recognized.

The students' various categorizations of the song's genre did not inhibit their abilities to relate it to something familiar. When describing what music genre they listened to, students listed several categories: rhythm and blues, folk, jazz, and mixed. One respondent identified the song as a similar genre to what she listened to; however, the general nature (mixed) of the description impaired any meaningful analysis of this relationship.

\textit{Perceptions of learning and social justice.} Although respondents possessed marginally low confidence in their singing abilities, on a scale of zero to ten, they expressed positive perceptions about the concept of social justice ($\mu = 8.33$) and the general learning activity ($\mu = 8.00$). When asked to comment about their feelings upon first receiving the assignment to develop a song, one student initially considered the experience as a good communication opportunity. However, others expressed less appreciation: one described her initial feeling about the assignment as skeptical and another employed an expletive as her descriptor.

Nevertheless, students rated the experience highly as a general learning process. This situation points to the acceptability of short-term discomfort given the realization of long-term benefits. The lesson forced students out of their communication comfort-zones to share ideas about challenging issues in expressive manners.

The findings also raise the prospect that teachers may hold different standards and expectations for themselves and their students. If modeling represents an important learning tool, this finding represents an important result. While additional studies need to confirm or refute findings, this sample of students considered an expressive class activity about social justice as a desirable learning experience for their students, but may not have initially considered it comfortable for them.

\textit{Experiences, practice, and expectations.} After the activity, students reported stronger willingness to employ music for academic expression in their classrooms than they had experienced in their learnings. On a scale from 1 (lowest) to 5 (highest), the responding students experienced little encouragement of musical expression in their K-12 experiences ($\mu = 2.67$) and practiced even less in their classrooms ($\mu = 2.50$). However, respondents anticipated higher expectations of fostering their students' musical expression, ($\mu = 3.67$). While these findings may not be direct consequences of the activity, the results warrant that further research into these relationships.

\textbf{Conclusions and Implications for Practice}

The respondents saw the value of employing music to begin classroom dialogues about social justice issues and expressed some likelihood of employing this vehicle for stimulating related conversations. Additional research needs to consider the nature of musical content and instruction to better interpret the pedagogical issues involved with this finding. Using music that related closer to students and their tastes could have increased comfort with the activity. Additionally, the method of informing students about their musical performance assignment could have affected outcomes. Surprising students with an opportunity for impromptu musical performances invites spontaneous creativity, yet also fosters potential for emotional trauma for those lacking musical confidence. Additional research needs to explore these issues and their related pedagogical implications.

The research indicates that respondents experienced few academic opportunities for creative musical expression or social justice conversations during their developmental schooling. Yet, this group of students' willingness to employ music related instruction and discuss social justice issues in their classroom increased after experiencing this activity.

The findings bring attention to two important underemphasized curriculum and instruction areas: social justice and musical instruction. Educators need to recognize the importance of instructional methods that inspire creative expression to commence the dialogues about difficult social topics that our students must face. In an increasingly standardized environment that resists conversations about social justice, educators face a daunting environment for
fostering the conversations to increase students' awareness of these areas.

This educational challenge speaks to Oakes and Lipton’s (2003) characterization of teaching as a struggle. Social studies classrooms represent ongoing challenges to affect authentic and meaningful learning experiences against a background of standardized assessments. This tension represents a persistent challenge that will not disappear anytime soon. At the same time, this tension builds resolve to effectively educate all students using the instructional strategies needed to prompt student achievement. The benefit lies in pursuing the struggle at hand. Employing a Frostian motif, by encouraging our candidates’ facilitation of the songs less sung, it may be possible to make the difference that brings about the social justice our children deserve.

References

The teacher’s job is limited to offering the materials and suffices if she demonstrates their use; after that, she leaves the child with his work.

Our goal is not so much the imparting of knowledge as the unveiling and developing of spiritual energy.

- Maria Montessori
A Study of Science and Mathematics Faculty Perception of Teacher Education - Via a Focus Group Process

Donna Cole, James Tomlin, and Charles W. Ryan

Abstract

This study was conducted to elicit opinions of content faculty from the College of Science and Mathematics as related to teacher education policy and personal engagement in democratic education. A focus group procedure secured opinions from these selected representatives of content faculty. The findings suggest that content faculty are concerned about the emphasis on testing and not on effective teaching at the national level. The study’s participants indicated that teacher preparatory programs suffer from the lack of a solid research base on the preparation of teachers. To strengthen teacher education at the national level will require a strong research base and continued development of a "Three Way Culture: Colleges of Education, Arts and Sciences, and pK-12 Partnerships."

As professional educators seek to impact the training and education of future teachers it is imperative that we continue to build bridges between faculty housed in Colleges of Science and Mathematics (COSM). These content specialist faculty’s perceptions reflect concern regarding qualitative issues related to teacher preparation and they are critical of colleges of education efforts. Professional shifts within the United States suggest that the preparation of teachers be a tripartite partnership between the Pre-K-12 sector, arts and sciences content faculty and those faculty housed in colleges of education (Goodlad, 1994). It is critical that an understanding of content faculty perspectives on the existing training milieu be elicited to strengthen and expand qualitative efforts. Understanding of content faculty perspectives will provide education faculty and administrative leadership the opportunity to judge and approve the process by which teacher education is delivered in colleges or schools of education.

Previous analysis of teacher education’s purpose has recommended increased central administration support for program review and enhancement. As critics are perplexed as to whether teacher education efforts succeed (Clark, et al., 2005). Professional educators must continue to plan, design and implement strategies that effectively and efficiently impact teacher education programs and the students enrolled in content fields (M. Bamhart, et al., 1995).

The present study was designed to secure information via a focus group procedure involving content area faculty in mathematics and science education. The goal was to secure opinions of selected mathematics and science professors on eight specific questions related to their engagement in teacher education.
education. Specifically, answers to the following eight questions were sought from each focus group member:

Question 1: What procedures were used to secure your involvement in teacher preparation?

Question 2: What processes have you used to understand educational policy in a broad sense?

Question 3: What direct involvement in teacher preparation have you had?

Question 4: What advice would you provide educational policy makers on the state of American Education and changes needed in teacher preparatory programs?

Question 5: What ideas do you have that would strengthen teacher education on the national scene or in the College of Education and Human Services (CEHS) at Wright State University (WSU)?

Question 6: What new external alliances should school partnerships foster to improve teacher candidate’s community involvement?

Question 7: What process do you use to integrate technology in the College of Science and Mathematics (COSM) teacher preparation program for student learning accountability?

Question 8: What is your opinion on how effective we have been in developing a joint appointment educator (This item was scored on a 10 point scale)?

Providing answers to the above questions and offering a process for seeking content faculty input are critical for teacher education faculty who prepare entry level teachers.

The application of qualitative social science research procedures for securing faculty input provides direction for modification and change in curriculum as well as improving the skills needed for graduates assuming new professional positions (Thomas, 2003). This study’s process centered on perceptual evaluation of content faculty involvement and contributions to teacher preparation. As professional practitioners, program deficiencies must be remedied and alternative methods for securing content faculty input employed.

### Method

The qualitative research procedure selected for this study used a focus group process to secure information from participants who have knowledge of the NNER agenda (Rea and Parker, 1992). The intact group of eleven (11) COSM content faculty were invited to participate, but schedule conflicts left us with a total of nine participants. There were 9 focus group participants, 5 females and 4 males. The age range of the group was from thirty-five to sixty-five years. All but one participant held tenure track positions in science or mathematics. One science educator’s tenure line resided on CEHS Teacher Education Department (TED). In Chart 1, the focus group demographics are presented:

<table>
<thead>
<tr>
<th>Group Member</th>
<th>Title</th>
<th>Highest Degree</th>
<th>Years at WSU</th>
<th>Home Academic Department</th>
<th>% in Science &amp; Mathematics Department</th>
<th>% in CEHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Curriculum Specialist</td>
<td>Ph.D.</td>
<td>27</td>
<td>Mathematics</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>10</td>
<td>Physics</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>10</td>
<td>Education</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>16</td>
<td>Mathematics</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>5</td>
<td>Associate Professor</td>
<td>Ed.D</td>
<td>11</td>
<td>Education</td>
<td>33%</td>
<td>66%</td>
</tr>
<tr>
<td>6</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>12</td>
<td>Mathematics</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>7</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>3</td>
<td>Mathematics</td>
<td>33%</td>
<td>66%</td>
</tr>
<tr>
<td>8</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>8</td>
<td>Geology</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>9</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>10</td>
<td>Chemistry</td>
<td>80%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Prior to the two-hour focus group session, the content faculty received the eight questions and were encouraged to reflect on them prior to the focus group. This process provided thoughtful responses to the questions with enhanced reliability and by using this procedure the top two or three recommendations were identified and later used for programmatic changes. As part of the qualitative analysis, items that received "frequency of mention" were identified and cross checked for accuracy (Wiseman, 1999).

Results

The focus group questions clarified the extent of Science and Mathematics faculty engagement in teacher preparation. Analysis of science and mathematics content faculty perceptions to the eight focus group questions are summarized below.

Question 1: What procedures were used to secure your involvement in teacher preparation? The following are summary points:

- The joint appointment positions resulted in a supportive cohort of professionals.
- Administrative support was strong: inclusive of Deans from the College of Education and Human Services (CEHS) and the College of Science and Mathematics (COSM) and the various department chairs.
- Due to the number of remedial courses, a need was identified to strengthen public education, specifically in mathematics and science.
- The University and College Strategic Plans included joint appointments thus infusing joint appointments into the college mission.
- Mathematical and Science departments' goals incorporated teacher preparation.
- There was University support for new joint faculty appointments.
  - The CEHS fostered the transfer of content positions to the COSM.
  - The CEHS' new programs needed content strengthening to meet Specialized Professional Associations (SPA) Guidelines.
- There was University support to impact the training and quality of new teachers.
  - The new joint appointment position descriptions were spelled out carefully and systematically.

Question 2: What processes have you used to understand educational policy in a broad sense? The following ideas were gleaned:

- New joint appointment faculty had direct interaction with other hybrid colleagues.
- New hybrid educators attempted to understand the teacher preparation vocabulary.
  - The Chair of the Math Department needed to understand Teacher Education, so he read materials given to him by the CEHS Dean and COSM Dean.
  - The Chairs and Dean of COSM went to state and national meetings on Teacher Education.
  - Nation at Risk clarified the national crisis.
- COSM was asked to assist with the new licensure programs.
- COSM and the new hybrid educators followed the standards developed in the early 1990's.
- Projects such as: Project Globe and Project Discovery became pivotal to science/mathematics reform.
- COSM and hybrid educators became more active with state projects.
  - Many of the hybrid educators actually taught educational methods courses.
  - Teacher preparation was discussed at science and mathematics department meetings.
  - The new pedagogy processes were highlighted at learned societies meetings.
  - The many communication channels developed enhanced the right faculty.

Question 3: What direct involvement in teacher education have you had? The following information was obtained:
- The new hybrid professors supervised Student Teachers.
- Teaching Education classes as well as content classes for Education majors.
- Administrative support was evident and supported change in my teaching role.
- The new licensure programs required stronger content courses.
- Many workshops and professional development opportunities were offered.

Question 4: What advice would you provide educational policy makers on the state of American Education and changes needed in teacher preparation programs? The hybrid educators offered the following:
- There is a national need to address urban education.
- There is an overall positive opinion that WSU teacher preparation is being done well in Partnership Schools.
  - Students should not be permitted to slide through the cracks.
  - There should be NO SHORT CUTS or back door routes to State Licensure! Teacher Preparation Programs should be strong.
  - There is a bureaucratic problem with both national and state control over Education. There should be one system.
  - Standards should lead the way. University courses and TED programs should be based on standards.
  - There should be seamless education between and among TED, COSM and public school systems.
  - Partisan politics should be kept to a minimum. Educators need to be allowed to do what is best for children.
  - If the public is serious, then resources should be available.
  - The Educational culture should hold individuals responsible.

The focus group questions clarified the extent of Science and Mathematics faculty engagement in teacher preparation. Analysis of science and mathematics content faculty perceptions to the eight focus group questions are summarized below.
• Second career individuals should be handled differently, with rigor, but more flexibility.
• Education should develop a stronger research base.
• Politicians and educators should stop using clichés without the knowledge base to actualize the verbiage.

**Question 5:** What ideas do you have that would strengthen teacher education on the national scene or in CEHS at WSU? The following ideas were voiced:
• The three way cultural environment must break down barriers.
• Scholarship must be defined in CEHS and COSM.
• Clarity for promotion and tenure processes for joint appointment educators must be identified.
• The University mission must identify teacher preparation.
• Content courses must add field components to them in order to tie subject matter to the real world of learning.
• There must be enrollment control over classes.
• Action must go further than lip service.
• There must be appropriate mentoring for 1st, 2nd and 3rd year educators in the public schools and at the university.
• An idea about boundary spanners was shared: University faculty swapping with the public school educator.

**Question 6:** What new external alliances should school partnerships foster to improve teacher candidates' community stewardship? These ideas were shared:
• There are not enough resources and we must look to other partners for resource sharing.
• There is a need to continually strengthen content pedagogy. Do not get hung-up with "WHO" should teach it.
• It was questioned if new partners are needed to strengthen those existing.
• There should be a revenue stream, and an attempt for revenue sharing.
• Partnering with corporations is still an unresolved issue.
• SPA’s and other societies should unite not pull apart.

**Question 7:** What process do you use to integrate technology in COSM teacher preparation program for student learning accountability? The following technological ideas were shared:
• Joint appointment faculty are incorporating Task Stream into instruction.
• Wireless Internet is being incorporated.
• Technology is in more methods classes than in Content classes.
• There are electronic artifacts of student learning being collected for incorporation into portfolios.
• Ohio Graduation Test data is being analyzed.
• Standards Integration with technology is occurring.
• Unpacking standards via technology is being done.

**Question 8:** What is your opinion on how effective Wright State University (WSU) has been in developing a joint appointment educator? (The item was scored as follows on a 10-point scale). The analysis results are found in Chart 2 below:

**Chart 2: Effectiveness in developing a joint appointment educator . . .**

<table>
<thead>
<tr>
<th>Focus Group Member</th>
<th>Value</th>
<th>Successes</th>
<th>Growth Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Quality of Pre-service courses have increased</td>
<td>-Joint appointments must become an important part of Dept. Mission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Math/Science Dept's connection with schools is constantly growing</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>Number of WSU students with MC/AYA</td>
<td>-Barriers in the disciplines must be broken down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Math/Science degrees have increased</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Fifth Year field experiences are very impressive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-TED contacts with Math/Science Professors have increased</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>Center of Excellence has been established</td>
<td>-Articulating careful ideas about what is to be done with undergrads must be accomplished</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-State Dept. contacts-connections have been secured with joint appointments</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>Funds brought in by Math/Science joint appointments</td>
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<td></td>
<td></td>
<td>joint appointments have grown</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>-Pre CEHS model compared to now illustrated growth in content substance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Course Improvements</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>Students have an undergraduate degree prior to entering preparation programs</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>Course Improvements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Barriers in discipline not identified</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>Math and Science visibility increase</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Research and development on securing grants</td>
<td></td>
</tr>
</tbody>
</table>

*Focus Group (N=9) average score 6.71. Not all focus group members responded to this item.
Discussion

In sum, qualitative studies of faculty opinions, like empirical research involving indicators of program effectiveness, need to demonstrate that the information actually leads to programmatic changes. Implications for teacher educators include the following:

- Teacher Educators must establish plans to routinely collect content faculty opinions about program quality.
- Teacher Educators must establish data sets that lead to informed decisions about program modifications and personnel needs.
- Teacher Educators must make decisions based on reflection, expertise and careful analysis of evaluation data.

This study clarifies that the data collected through a focus group process is useful in making program changes rather than traditional course evaluation methods. This qualitative inquiry via a semi-structured focus group process follows a grounded theory tradition (Strauss & Corbin 1990), focusing on a particular topic, i.e., evaluation of content faculty involvement in the teacher education program and analysis of issues, themes, and recommendations that emerge through systematic data collection. All of the focus group protocol questions were phrased objectively and the original data were collected through recording content faculty opinions by a systematic note taking process. The original transcripts were then coded for emerging themes and compared with the notes taken by the observers for triangulation. These focus group transcripts were categorized in summer 2005 using the coding analysis system suggested by Strauss and Corbin (1990). In the final coding process, original information was grouped into broader themes for analysis and program improvement. In 2006, as Taylor and Bogdan (1984) suggested, recording data is one element of the process, but reliability is enhanced when the researchers relate the data to the program under study.

This procedure clarifies that data collected through a focus group process is useful in understanding content faculty perceptions of teacher education policy and efforts to promote education in a democracy. Have we accomplished the above through engaging Mathematics and Science faculty and PK-12 educators in the process remains open to speculation? The discussion with content faculty in science and mathematics indicates a number of concerns that continue to call for attention by professional educators. What the data suggest is a critical urgency for teacher educators to address the following concerns:

- Infusing mathematics and science content into the preparation program is recommended by the science and mathematics faculty.
- Alternative licensure programs lack a strong content pedagogy focus and have limited respect of science and mathematics faculty.
- National efforts to address the problems of urban education have not succeeded, particularly in the sciences.
- Providing "short cuts" to licensure in teacher education programs does not solve the problem of quality education for all children and the science and mathematics faculty view this as a non-quality effort.
- Fiscal resources to support public education continue to be inadequate and impact instructional efforts in the schools, particularly in the science/mathematics fields.
- Lack of a strong research base on effective schools, teachers and administrators continues to impede progress in training teachers for learning success.
- Lack of a centralized system to plan, evaluate and fund PK-12 systems undermines efforts for quality control and school improvement.

The above comments suggest content faculty concerns for teacher educator consideration and they recommend suggestions for strengthening teacher education at the national and local level surfaced. From a content faculty perspective the following need our attention.

- Content courses must have a field component that aligns the subject matter with the learners’ environment.
- Cultural barriers between content faculty, teacher educators and PK-12 faculty have witnessed some erosion, but further work is needed.
- Continual searching for financial resources, government and corporate is necessary. Corporations must become part of the university and PK-12 partnerships.
- Continue to strengthen existing partnerships and expand membership with caution as some faculty in the sciences and mathematics continue to be skeptical, i.e., lack of quality. Revenue sharing, corporate involvement, and realignment of local, state and federal funds will be a good start.
- Seamless education between and among Teacher Education and Colleges of Science and Mathematics and public school systems must continue to be nurtured.

In conclusion, focus group studies of content faculty perceptions need to demonstrate that the information leads to changes in teacher preparation. The changes in place are 1) science and math coursework is being taught in constructivist methodology, 2) specialty standards are infused in content coursework and 3) content professors are active in field practica. It is recommended that teacher education programs examine the status of joint or collaborative appointments with science and mathematics faculty. Nurturing these joint appointments calls for regular interactive dialogue on issues cited in this study, plus others that may develop. It is a complex undertaking that requires tolerance for differing views on the education of teachers.
Science and Mathematics colleagues must continue to participate in the discussion of teacher preparation, but educators must be creative on how we partner. Continually asking ourselves, “What can we do together, that we can’t do a part?” will help focus partnership work. School/University partnerships are key to teacher preparation; one must remember that science and mathematics faculty play a significant role in constructing substantive teacher preparation programs. Due to the significant role these professionals play, we can deduce that content faculty are essential in educating American teachers.

Partnerships with external agencies, and the corporate world are also important to teacher preparation. Our colleagues in the Sciences and Mathematics can bridge the gap between Colleges of Education and non-profit and for-profit organizations. The faculty focus group participants shared their perceptions on professional development, consultation, and serving on boards of these organizations. Using this information is imperative to teacher educators.

With any partnership, one side of the relationship must not depend too heavily on the other. Teacher educators must offer their expertise to science and mathematics faculty, and expand their research base to include mathematics and science educators in this endeavor. Also, teacher educators need to communicate with administrators in science colleges to explain how teaching, field supervision, service on partnership and advisory boards, and research activities of joint appointment educators are of professional value. As this relationship continues to grow, hopefully high quality preparation of future educators, leaders, and citizens will be the outcome.

References


Abstract

This article examines and analyzes the quantitative and qualitative results of the Student Member Survey of Illinois Reading Council (IRC) student members conducted at a recent IRC Annual Conference. The intent of this study is to identify the needs of pre-service teachers with an analysis of qualitative results regarding literacy methods preparation. By identifying the needs of future teachers, state professional organizations can provide the mentoring necessary to develop strong, effective reading teachers.

Teacher education programs offer extensive preparation to preservice teachers during the quest to become certified classroom teachers. In most elementary education programs, this preparation includes a rigorous methods class preparation, e.g., courses in Methods of Teaching Reading, Social Studies, Science, Language Arts, and Mathematics. Foundations courses and a choice of electives in classroom management, inner-city studies, middle school and meeting the needs of diverse learners are integral parts of these programs. Also, preservice teachers must pass state teacher certification tests at key points in the program, and their dispositions are evaluated at numerous points by program faculty.

Many universities offer an early clinical experience to determine candidates' predispositions to teaching. After several semesters, this is followed by an extensive 100-hour clinical experience which involves actual teaching time in the elementary classroom, along with observing, tutoring and monitoring small groups. Finally, candidates proceed to the capstone event of the program, the student teaching semester.

In addition to coursework and field experiences, some university teacher education programs require candidates to participate in some type of professional development. Professional development includes joining professional education organizations, and attending conferences. Most professional education organizations encourage and promote student membership with reduced membership fees.

In an effort to provide the mentoring necessary to develop strong, capable reading teachers, The Illinois Reading Council (IRC), a state affiliate of the International Reading Association, encourages student membership. At each annual state conference, a specific event, a pizza party, is planned for these student members and prospective members.

Pre-service candidates' exuberant and excited voices filled the meeting room during the Student Member Pizza Party at a recent Illinois Reading Council (IRC) Annual State Conference in Springfield, Illinois. The Student Membership Committee of the Illinois Reading Council hosted this event solely for the student membership of this professional organization.

The purposes of the Student Membership Committee are to mentor these pre-service teachers in the initial stages of their careers; and encourage the membership of pre-service teachers, specifically teacher education candidates.

This article examines and analyzes the quantitative and qualitative results of the Student Member Survey. The intent is to identify the needs of pre-service teachers with a specific analysis of qualitative results regarding literacy methods preparation. By identifying the needs of future teachers, state professional organizations can provide the mentoring necessary to develop strong, capable reading teachers.

Purpose of the Study

In an effort to identify and meet the needs of pre-service teachers in the teaching of reading, this study, i.e., a survey and interview, was conducted at the Illinois Reading Council (IRC) State Conference. Members of the IRC Student Membership Committee expressed interest in examining the level of preparation, specific interests in membership, and general information and professional background of pre-service teachers. Analysis of the written survey and interview results provided the opportunity to examine opportunities for a possible mentoring process to exist between IRC and its student members. The survey and interview responses also gave student members a voice to share their interests and concerns with the organization regarding reading instruction.
METHOD

Forty student members of the Illinois Reading Council (IRC) participated in this research study. These participants represented nine Illinois colleges and universities. Nearly all participants were undergraduate elementary education majors.

To analyze the pre-service teachers' experiences and preparation, two instruments were administered to measure and examine literacy methods preparation and general interest of student members regarding their expectations of the organization. The Student Member Survey (SMS) consisted of eight questions regarding the aforementioned areas of interest. The Student Member Interview (SMI) consisted of interview questions which elicited more detailed information to assist the IRC in providing the most valuable and useful experiences and information to student members.

RESEARCH PERSPECTIVE

Over the past thirty years, university mentoring programs have received an increased focus within teacher education programs (Williams, J. A., & Williamson, K. A., 1996; Meister, D. G., & Jenks, C., 2000). Surveys and research studies have delved into the preparation levels of new teachers and teacher candidates. A common concern among pre-service and beginning teachers was meeting the needs of diverse students (Meister, D. G., & Jenks, C., 2000). Furthermore, many first-year teachers felt unprepared for the realities of being a teacher (Lovette, O. A., 1996). In another study, student teachers requested instruction in classroom management, classroom organization, and parent-teacher conference tips. In addition, subjects expressed an overall need for a kind and supportive role model (Looper, S., 1999).

Memphis State University, University of Southern Florida, San Jose State University, and Augusta State University have mentoring programs in place for their pre-service teachers (Etheridge, C. P., 1987; Brandley, R., Fleege, P., & Graves, S., 2000; Chartrand, G., Moore, C., & Lourie-Markowitz, N., 2000; Eisenman, G., & Thornton, H. J., 1999).

In a qualitative study, interview results examine the link between the problems a beginning teacher encounters and leaving the profession early (Blair-Larsen, S. M., 1998). Another study also examines the problems of beginning teachers with a survey of graduates of bachelor’s and master’s level teacher preparation programs. These participants experienced problems in classroom management, instruction, and student learning (Kent, S. I., 1997).

THE STUDY: QUANTITATIVE RESULTS

Characteristics of Participants

The forty student members attending this event represented nine different colleges and universities (See Figure 1). Many of these universities are well-known for their teacher education programs.

Approximately half of the participating pre-service teachers were from Chicago-area universities. The vast majority of them (38) were undergraduate students with the remaining two students enrolled in graduate school.

Figure 1

Universities/Colleges Represented by Pre Service Teachers

<table>
<thead>
<tr>
<th>University/College</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concordia University</td>
<td>1</td>
</tr>
<tr>
<td>Dominican University</td>
<td>5</td>
</tr>
<tr>
<td>Judson College</td>
<td>5</td>
</tr>
<tr>
<td>Illinois State University</td>
<td>1</td>
</tr>
<tr>
<td>Millikin University</td>
<td>1</td>
</tr>
<tr>
<td>Northeastern Illinois University</td>
<td>4</td>
</tr>
<tr>
<td>Northern Illinois University</td>
<td>1</td>
</tr>
<tr>
<td>Southern Illinois University-Carbondale</td>
<td>10</td>
</tr>
<tr>
<td>University of Illinois at Chicago</td>
<td>12</td>
</tr>
</tbody>
</table>

N=40

Forty student members represented three areas of certification with thirty-four student members listing Elementary Education as their area of certification, four student members listing Early Childhood Education and two listing Special Education as areas of certification.

Student members learned of the conference and the Student Member Pizza Party through various methods of communication. The vast majority of student members (thirty-four) learned of this conference from their Education professor at their college or university. Six participants learned of the conference through mailings from the IRC. Three participants learned of the conference from postings on their university’s college of Education bulletin board.

Only seventeen student members listed membership in local councils. Twenty-three student members listed no local council affiliation. The majority of those student members identifying a local council were affiliated with those councils in the Chicago metropolitan area, i.e., seven student members in West Suburban Reading Council, four members in Northern Illinois Reading Council, and two members in Chicago Area Reading Council.

Regarding time of local council meetings, participants were overwhelmingly in favor of Saturday afternoon meetings. No participants expressed interest in weeknight or Friday evening meetings. Approximately one-third of the forty student members desired Saturday morning local council meetings.

THE INTERVIEW: QUALITATIVE RESULTS

Interviews were conducted with twenty percent of the pre-service teachers. These interviews were
brief, informal, and semi-structured. All participants were asked to elaborate on their survey answers. The author, a teacher education professor and qualitative researcher, acted as interviewer and based the format upon past research studies focusing on several hundred participants in qualitative research studies. The interviews uncovered some common misconceptions held by student members regarding the Illinois Reading Council.

**Misconception #1**

Student members thought that the organization was intended for elementary teacher membership only. Many pre-service teachers said that they encouraged their peers in secondary education and special education programs to attend the conference with them. But, those peers believed that the conference and the organization were intended only for elementary education pre-service teachers.

The Student Membership Committee members were effective in clarifying this misconception. It was made very clear that all preservice teachers are welcome in the organization. Furthermore, all educators, along with preservice teachers, are welcome to submit a proposal for conference presentation.

**Misconception #2**

Student members were very surprised that so many presenters were classroom teachers. Since many of their university professors were presenters, the student members thought that all presenters were professors.

Members of the Student Membership Committee were able to dispel this misconception. The vast majority of presenters are classroom teachers. Furthermore, several pre-service teachers have also given presentations with their university supervisors/cooperating teachers. Student members were encouraged to submit presentations which would benefit other future teachers.

**Misconception #3**

Student members thought that local council membership was for certified teachers only. At a local council meeting, council members were pleasantly surprised to welcome student members. Consequently, student members thought that their local council meeting attendance may have been premature.

Members of the Student Membership Committee were able to dispel this misconception, too. Student members are certainly encouraged to attend any local council meeting. All local council members would enjoy the opportunity to meet pre-service teachers and welcome them to a local council meeting.

**Misconception #4**

Illinois Reading Council members were most concerned about the intensity and rigor of literacy methods courses in teacher education programs across the state of Illinois.

- Are preservice teachers well-prepared in planning and teaching thematic units?
- Are preservice teachers able to choose appropriately from the plethora of graphic/visual organizers available for instruction?

The interviews were key in clarifying a misconception based on the survey question, "What is Your #1 Topic of Interest?". Half of the participants listed their main topic of interest as "Meeting the Needs of All Learners". "Assessment of Literacy Skills" and "Student Use of Technology" were the second and third choices, respectively, of student members.

Illinois Reading Council members, specifically, Student Membership Committee members, were somewhat surprised that very few student members seemed interested in learning more about graphic organizers, thematic units, and literature circles. There was only moderate interest in technology and assessment of literacy skills.

Through the interview process, Student Membership Committee members discovered that these topics have been taught quite extensively in Illinois teacher education programs. This fact would account for the low-moderate interest level of the aforementioned topics at this point in the pre-service teachers' course of study. Pre-service teachers believed that they were well-prepared in those areas, because these topics are some of the mainstays of their programs.

Pre-service teachers in the state of Illinois face a very rigorous course of study with periodic assessments and evaluations throughout their teacher education programs. As a result of these programs, pre-service teachers should be well-prepared to pass the Illinois Elementary Content Area Certification Examination, one of three standardized tests taken by pre-service teachers.

Use of graphic organizers, general teaching methods, and literacy teaching methods are included on the Illinois Elementary Content Area Certification Examination.

**DISCUSSION**

Student members did express a solid knowledge of graphic organizers, literature circles, and literacy methods strategies. In addition, nearly all literacy methods courses include diagnostic case studies, projects on meeting the needs of diverse learners, and an interdisciplinary thematic unit as the culminating assignment for the course. All interviewees have created and implemented several interdisciplinary thematic units during their methods coursework.

Pre-service teachers have been well-trained in the use of technology as related to literacy skills. Also, they have administered many Informal Reading Inventories during clinical placements. Consequently, they are skilled in assessment of literacy skills through the use of an Informal Reading Inventory (IRI) or a Running Record.
Illinois Reading Council members expressed concern that the pre-service teachers were not interested in thematic units, graphic organizers, literacy methods strategies, etc. Actually, the pre-service teachers were so well-versed in these topics that they did not express any interest in additional information on the survey. Their responses were a direct result of their intensive preparation and experiences with these topics and strategies after their rigorous course of study in teacher education programs. Fortunately, preservice teachers were well-trained in these literacy teaching methods. They had been taught the appropriate pedagogy and had ample experiences in their clinical and student teaching classrooms to apply their skills and knowledge.

Pre-service teachers expressed the greatest interest in receiving 1) general teaching tips, 2) student teaching advice from master teachers, and 3) teaching strategies to meet the needs of all learners. Many preservice teachers voiced their interests in pursuing graduate degrees in Special Education and Reading to gain additional skills in meeting the needs of diverse learners. Overall, comments from preservice teachers were overwhelmingly positive:

"Until this year, I never knew that pre-service teachers could attend a professional association conference. So many teachers were friendly and helpful. I feel as though I walked into an entire room of mentors!"

"My own Education professor from Northeastern Illinois University gave a presentation on Literature Circles, too."

"Many presentations were designed to help new teachers. I’ve met classroom teachers who gave me so many helpful tips for my student teaching."

CONCLUSIONS

Overall, this study provides valuable information for all state professional teaching organizations, in addition to Illinois professional organizations, interested in recruiting student members. It is evident that:

• Only nine of the more than thirty colleges and universities in Illinois were represented by student members at this state conference. Possibly the encouragement/support of pre-service candidates’ attendance at professional meetings should be a higher priority among teacher education institutions.

• The majority of student members are receiving their professional organization information from their teacher education professors. Consequently, professors play a major role for pre-service teachers in establishing the value of joining a professional organization.

• The vast majority of student members are interested in local council meetings on Saturday afternoons. This information may be useful to local council meeting planners.

• Student members express interest in teaching tips and student teaching advice from master teachers. It may be useful to provide opportunities for pre-service candidates to connect with practicing classroom teachers at professional conferences, local council meetings, and beyond.

• The majority of student members at this conference are elementary education majors.

• In an effort to support the assertion, "Every teacher is a reading teacher", education professors may encourage all preservice teachers, not just those in elementary education, to consider membership opportunities in state reading council affiliates of the International Reading Association.

• The highest interest among student members is in teaching strategies to meet the needs of all learners. Consequently, this topic of interest should be considered as a conference program offering with the greatest appeal for recruiting pre-service teachers as student members.

References


A Blended Model: A Strategy to Integrate Deming PDCA Cycle Language with Missouri School Improvement Terminology

Phillip E. Messner and Michael W. Graham

ABSTRACT

This article reports teaching methods employed by the authors to facilitate student implementation of quality movement based change process language. The Deming Wheel, Missouri School Improvement Model and four other educational change models were reviewed for language and commonalities were found. The review leads to the development of a "Blended Model" which is described within the article. Curriculum suggestions are offered for the inclusion of the model into educational management and leadership coursework.

ABSTRACT

This article reports teaching methods employed by the authors to facilitate student implementation of quality movement based change process language. The Deming Wheel, Missouri School Improvement Model and four other educational change models were reviewed for language and commonalities were found. The review leads to the development of a "Blended Model" which is described within the article. Curriculum suggestions are offered for the inclusion of the model into educational management and leadership coursework.

The Deming Wheel

Introduced by Deming in 1950, the Deming Wheel was first known as the "Shewhart Cycle," later it became more commonly known as the "PDCA Cycle" (Brassard, 1996). Use of this cycle has ushered in an era of quality throughout the industrialized world during the past 50 years (Mizuno, 1988). The PDCA Cycle is a cyclical strategy constructed in four stages by which the user follows to plan, develop and implement desired changes in systemic processes. The four stages are Plan-Do-Check-Act as illustrated below.

Figure 1. The Deming Wheel or PDCA Cycle.

Many educational leaders strongly desire to improve teaching and learning processes within their educational system but lack a simple strategy by which to initiate the change process. Quality management proponents have suggested the adoption of the "Deming Wheel" strategy (Deming, 1986). Also known as the PDCA (Plan, Do, Check and Act) Cycle, the Deming Wheel has been used to improve industrial processes for more than 50 years, however it has been only the last few years that PDCA been introduced into the educational training realm.

University departments of educational administration have also struggled as to how to introduce the PDCA strategy into the curriculum. A major stumbling block has been how to incorporate an industrial model into educational settings. The authors have field-tested a teaching strategy that blends PDCA language with a commonly used education terminology.

The purpose of this paper is to report teaching methods employed by the authors to facilitate student implementation of quality movement based change process language. The following discussion has been organized into five sections: (1) A description of the Deming Wheel; (2) a description of the Missouri School Improvement Program (MSIP) change model; (3) an analysis of educator change/program planning terminology to determine commonalities; (4) a presentation of the blended teaching model developed by the authors; and (5) suggestions as how the blended method may be utilized within educator administrator training curriculum.
alities to better understand language differences between business and educational communities. Before our analysis results are discussed, a brief review of the MSIP model is presented.

**Missouri School Improvement Model**

Cook has suggested that strategic planning should lead to organizational renewal and transformation (1990). With this thought in mind the state of Missouri developed the Missouri School Improvement Program (MSIP). MSIP is a process that state officials use for accrediting and monitoring progress in more than 500 Missouri school districts. The MSIP process of accrediting school districts was mandated by the passage of Missouri Senate Bill 380 in 1993 (DESE, no date a). School district reviews are conducted each year for approximately twenty percent (20%) of the districts. Reports covering the areas of resource management, learning processes and student performance are developed and posted on the DESE website for public view. Each district then submits a School Improvement Plan on a five year cycle which addresses the concerns identified in the review report and may request a re-review in order to improve its accreditation rating (DESE). MSIP processes parallel many Deming principles for continuous improvement. However for MSIP to be successful, continuous follow-up and support activities need to be conducted. These include professional development; allowing changes to be adopted and assimilated by those who must implement them; and in order to increase ownership in this process, input from as many people as possible (DESE, no date b).

However MSIP planning and follow-up terminology is different from Deming terminology being utilized within traditional educational leadership courses. Differences between Missouri terminology and course terminology led the authors to develop a blended teaching model after a review of educational planning terminology.

**Educational Planning Terminology**

Terminology used in educational practices has a common language core that all educators can easily identify with and readily understand. A review was undertaken to identify language commonalities between these practices. Three commonly accepted educational practices plus MSIP were reviewed for terminology overlap. There were change/reform language (Senge, 1990), grant writing strategies (Messer, 1994), and lesson plan development (Oliva, 1997). There was a great deal of overlap in language and terminology among and between these practices. Six common overlap areas were identified, as: (1) provision of context or background, (2) description of the desired outcome, (3) description of a strategic approach, (4) development of a plan of action, (5) progress reporting strategy and (6) preparation and (7) dissemination of a final report. These findings are reported in Table 1.

<table>
<thead>
<tr>
<th>Overlap Terms</th>
<th>Change/Reform</th>
<th>Grant Writing</th>
<th>Lesson Plan</th>
<th>MSIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>Environmental Scan</td>
<td>Needs Assessment</td>
<td>Anticipatory Set</td>
<td>Environmental Scan</td>
</tr>
<tr>
<td>Outcome</td>
<td>Vision &amp; Mission</td>
<td>Goal &amp; Objectives</td>
<td>Goal &amp; Objectives</td>
<td>Establish Goals and Objectives</td>
</tr>
<tr>
<td>Approach</td>
<td>Systemic Changes</td>
<td>Activities</td>
<td>Procedures</td>
<td>Prepare a Research Method</td>
</tr>
<tr>
<td>Action</td>
<td>Implement</td>
<td>Field Test</td>
<td>Teach</td>
<td>Observe School Program</td>
</tr>
<tr>
<td>Progress</td>
<td>Model</td>
<td>Formative Observation</td>
<td>Evaluation</td>
<td>Compare to Goal</td>
</tr>
<tr>
<td>Dissemination</td>
<td>Feasibility</td>
<td>Summative</td>
<td>Write a Report</td>
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</tbody>
</table>

The results of these analyses prepared the authors to better understand and apply language commonalities through the development of a "Blended Model." The blended model is currently used in our training program to better enable learners to acquire and apply Deming Wheel language to educational settings. A discussion of the blended model is presented within the following narrative.

**The Blended Teaching Model**

The development of the blended method was undertaken to facilitate the re-acculturation of educators into language commonly found in business training models such as the Deming Wheel. It was determined that a critical factor in the re-acculturation process would be the use of commonly understood language (i.e., planning and follow-up terminology). The MSIP Model was selected as a viable strategy by which the PDCA terminology could be translated into educational language and at the same time introduces quality change processes into the educational setting.

As shown in Table 2, the blended process translates PDCA terminology into actionable language for the educator. The blending of commonly used language by educators with PDCA terminology has enabled the authors to more successfully direct students in the development, conduct and evaluation of projects, resulting in improved learner engagement and success.
of a school improvement project as part of their training program. Students are challenged to identify a process that is currently not working in their classroom or school and then conduct action research to identify possible solutions to improve the process. Note the emphasis on planning, as suggested by Nayatani, Eiga, Fatami, and Miyagawa the more time invested in planning the less time required for plan implementation (1994). As Deming has suggested, the PDCA Cycle can best be used as a data collection tool. It is through this application that the manager obtains information necessary for quality decision-making (Alexander & Serfass, 1999).

Suggestions for Utilization within Educational Administration Training Programs

The application of the blended model directly meets two ISLLIC standards for superintendency licensure (Missouri Professors of Education Administration, no date). Specifically, the standards of...

STANDARD 1: A school administrator is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.

- the principles of developing and implementing strategic plans
- systems theory
- information sources, data collection, and data analysis strategies
- continuous school improvement
- the vision and mission are communicated through the use of symbols,
- ceremonies, stories, and similar activities
- an implementation plan is developed in which objectives and strategies to achieve the vision and goals are clearly articulated
- barriers to achieving the vision are identified, clarified, and addressed
- the vision, mission, and implementation plans are regularly, monitored, evaluated, and revised

and STANDARD 3: A school administrator is an educational leader who promotes the success of all students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.

- theories and models for organizations and the principles of organizational development
- making management decisions to enhance learning and teaching

<table>
<thead>
<tr>
<th>Plan</th>
<th>Needs Assessment</th>
<th>Process/Policy Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Problem Identification</td>
<td>1. Environmental Scan</td>
<td>1. Identify Processes not Working</td>
</tr>
<tr>
<td>2. Identify Possible Solutions</td>
<td>2. Establish Goals and Objectives</td>
<td>2. Identify Policies that Apply</td>
</tr>
<tr>
<td></td>
<td>3. Prepare a Research Method</td>
<td>3. Establish Goal</td>
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<tr>
<td></td>
<td></td>
<td>i.e., The desired outcome</td>
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<td></td>
<td></td>
<td>4. Write Objective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i.e., The desired change in the process or processes</td>
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<tr>
<td></td>
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<td>5. Prepare Activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i.e., The strategies by which the process will be changed</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Do</th>
<th>Inspection of Project</th>
<th>Implement Plan</th>
</tr>
</thead>
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<tr>
<td>Conduct a small experimental project to determine if the plan will work.</td>
<td>Observe the school program in action.</td>
<td>Field test the plan to determine if the plan will work.</td>
</tr>
</tbody>
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<tr>
<th>Check</th>
<th>Conduct Research Plan</th>
<th>Check on Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare an analysis of collected data and compare with previous results.</td>
<td>Conduct an analysis of research results and compare to established goals and objectives.</td>
<td>Determine the success of the plan through analysis of data collected during the implementation of the activities.</td>
</tr>
</tbody>
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<tr>
<th>Act</th>
<th>Conclusions and Recommendations</th>
<th>Act on Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>If successful, implement plan on a larger scale.</td>
<td>Prepare a report to be acted on by others.</td>
<td>Prepare recommendations for changes in school policy and expansion into other areas of the school if successful.</td>
</tr>
</tbody>
</table>
high-quality standards, expectations, and performances
operational procedures are designed and managed to maximize opportunities for successful learning

The authors suggest that the described blended teaching model may also be applied in several different competency or curriculum areas within appropriate educational leadership training courses. Suggested curriculum placements are listed below:

- Management Training
- Program Planning
- Decision-Making Strategies
- Grant Writing
- School Improvement
- Leadership Training

Summary

The authors have successfully applied the blended PDCA/School Improvement Model to enable aspiring school superintendents to translate industrial terminology to educational terminology. The model has been very helpful in communicating and directing students in the development and production of desired work products. It is recommended that others may also be able to utilize the model where appropriate.

References


Nature has given men one tongue, but two ears, that we may hear from others twice as much as we speak.

—Epictetus
The great poet and educator of India, Rabindranath Tagore, once said about education: "The highest education is that which does not merely give us information but make our life in harmony with all existence" (Bhatia & Narang, 1980, p. 169). Tagore's statement, in a sense, points to the very heart of Indian educational vision. This educational vision is rooted in the ancient Indian spiritual writings and writings of Tagore, Gandhi, and other educators of India.

In order to understand what has happened in Kerala, one has to look at the larger picture of Indian educational thoughts. One has to examine India's educational vision and evolution and address questions such as: Where did this vision originate? How has it evolved through the centuries? To answer these questions we need to survey briefly the historical developments that gave rise to modern Indian education.

Ancient Indian Education. The Vedas and the Upanishads are the ancient Indian spiritual writings. The Vedic and the Upanishadic concept of education was enlightenment (Nehru, 1982; Sen, 1981). The purpose of education was ultimately for liberation and self-realization. Dr. Radhakrishnan, former President of India, elucidated this Indian tradition: "Education according to the Indian tradition, is not merely a means to earning of living, nor is it only a nursery of thought or a school for human citizenship. It is initiation into the life of spirit, a training of human soul in the pursuit of truth and the practice of virtue" (Bhatia & Narang, 1980, p. 130).

The traditional Indian education is a source of illumination and power that transforms and ennobles our human nature by the progressive and harmonious development of our physical, mental, intellectual, and spiritual powers and faculties (Bhatia &
Towards the end of Gandhi, the father of minority. Therefore, the educated in India were a class and other professionals for their sources of knowledge. Thus, the access to education was limited to the wealthy and the high class. The education required one to realize her or his fullness (Sen, 1981). This required liberation from the illusion and ignorance of this world; every one has to realize one's potential and realize her or his fullness (Sen, 1981). Unfortunately, the access to education was limited to the wealthy and the high class. The poor and the low class had to depend on the priestly class and other professionals for their sources of knowledge. Therefore, the educated in India were a minority.

British India and Education. Towards the end of eighteenth century, the British had established themselves as a dominant power in India and slowly introduced British system of education. By the middle of nineteenth century, the British promulgated an educational policy which aimed at introducing Western modes into Indian life (Bhatia & Narang, 1980). They educated a cadre of middle managers, clerks, workers, and civic leaders who would help them in their political and commercial enterprise. Those who could afford an education in England were encouraged. Many who wanted to pursue professional careers went to England to further their education.

The British interest in Indian education was motivated by their own colonial, political, and commercial interests. It was not driven by the Indian ideals of education; the majority of Indians remained illiterate and oppressed. The British education, however, had some positive impact on Indian education. They introduced a more organized and modern system of education. Some Indians learned English and the language opened many windows of opportunity for India. Many bright and promising young men and women were exposed to new ideas and opportunities. Gandhi and Tagore, for example, were two beneficiaries of British education (Samuel, 2001).

Free India and Education. Gandhi, the father of Indian nation, led a struggle against the colonizers for liberty and democracy. He believed, as Paulo Freire (1992) would articulate later, that it was the ontological vocation of the people to say the word, name the world, and transform it according to their vocation. Gandhi, however, did not degenerate into the deplorable predicament of the oppressor. Instead of an armed bloody revolution to encounter the colonizer, Gandhi opted to confront the oppressor with "soul force," people power, and passive resistance. Finally, on August 15, 1947, the dream of Indian people was realized (Manorama, 2004).

After the independence, democratic India needed a new vision of education that was contemporary and future oriented. She needed an educational vision that would integrate the individual and social, material and spiritual needs of her people. Bhatia and Narang (1980) observed: "In democracy a balance is sought between individual and social development, between material prosperity and spiritual upliftment" (p. 131). According to the Indian Education Commission (1966), education is a powerful instrument for social, economic, cultural, and national transformation. It also observed that education should strengthen national unity, promote social integration, accelerate economic growth and generate moral, social and spiritual values.

In the new environment of independence, educational philosophies of Tagore, Gandhi, Vivekanand, Dayanad, and Aurobindo influenced Indian education. Among these educators, Gandhi and Tagore were most influential. They wanted to reconstruct an India where the old and new could be integrated.

Gandhi (as cited by Bhatia & Narang, 1980) explained his concept of education as total drawing out of the best in people: "By education, I mean an all-round drawing out of the best in child and man--body, mind and spirit" (p. 154). His concept was based on the traditional Indian educational vision with a more democratic and practical perspective, which he called Basic Education (Bhatia & Narang).

Tagore was another important educator who influenced modern Indian education. The key concepts of his philosophy of education were harmony and fullness. He described education as a means to develop the individual to her or his fullest potential that would enable her or him to live in harmony with all existence (Salkar, 1990). Tagore's educational vision was in tandem with the Vedic tradition. His vision of education was more comprehensive and universal in its content and scope than that of Gandhi. He was an ardent advocate of freedom, democracy, humanism, and internationalism. His educational vision found its best expression in Visva-Bharati University "where the world makes its home in a single nest" (Samuel, 2001, p. 32).

Emerging India: Kerala as a Template for Total Literacy

India is emerging as a major democratic power in Asia. Her educational institutions are producing world-class scientists and professionals. According to Manorama Year Book (2004), it is fascinating to look at some of the statistical facts in educational realm accomplished by India. To cite just one example, it reports the percentage of Indian doctors, engineers, and scientists in the United States: "38 percent of doctors are Indians and 12 percent of scientists and 36 percent of scientists in NASA are Indians. 34 percent of Microsoft employees and 28 percent IBM employees are Indians. 17 percent of Intel Scientists and 13 percent of XEROX employees are Indians" (p. 560). Yet, India's literacy is lackadaisical. Almost 35% of the population remains illiterate.

The first Minister of Law and one of the architects of the constitution of India, Dr. Bhim Rao Ambedkar, declared: "Education is everybody's birthright and should be available to the poorest of the poor"
Half a century has passed since he made that remark; still Indian literacy is only 65.38%. It is quite an accomplishment in itself when one considers the population of 1.027 billion people and the scarcity of resources (Manorama, 2004, p. 591). Kerala’s literacy percentage is just over 65%; there are many reasons for Kerala’s achievement. Some scholars cite the Christians and their schools and other educational institutions in Kerala as a reason. Others consider women’s education as a catalyst for higher educational percentage in Kerala. An educated woman has a profound and long lasting impact on the education of her family, the community, and the nation at large. UNESCO has cited Kerala’s achievement and also accentuated Kerala women’s role in achieving total literacy. Above all, it was the people’s movement, people power, and volunteerism that made Kerala’s achievement a great success (Franke, 1999).

According Dr. Franke, Kerala’s story became a reality on account of the democratic movement and people’s aspiration for literacy. KSSP (Kerala Shastra Sahitya Parishad), a volunteer group of science and literary, spearheaded the Total Literacy Campaign (TLC) in Ernakulam District, at first. As they conducted a survey of the district, it was clear that only a few thousand people were illiterate in that district. Therefore, they conducted a radical campaign to eradicate illiteracy from the district within a year. It was an epoch-making and exemplary experiment (Chandran, 1994; Joseph, 1991).

The motto of the literacy campaign was: "Lead Kindly Light" (Sivadas, 1991, p. 1). People wanted to be enlightened and empowered. They got support from different quarters. The project was supported by National Literacy Mission (NLM). It had three facets: a government network headed by the NLM district collector; a project office network consisting of officers and other full-time personnel; and people’s network with KSSP as its backbone (p. 1).

Kerala’s literacy project started with a most effective communication campaign. It used a variety of creative methods to raise the consciousness of the people and make them understand the importance of literacy. It used strategies such as very colorful and dynamic processions called jathas, street plays, science-art exhibitions, slide shows, posters, badges, stickers, news paper notices, radio announcements, and television shows. Above all, it used public meetings to communicate and motivate people to move towards literacy (Chandran, 1994; Sivadas, 1991).

During a massive public meeting a ceremonial literacy torch was lit and people took the following pledge: "I do hereby solemnly pledge that I will do everything within my capacity to liberate my mother-land India from illiteracy and to arm the toiling and suffering million with the weapon of the letter" (Franke, 2004, p. 1).

Twenty-two thousand volunteer teachers composed of professional educators, writers, artists, and college students made a commitment to eradicate illiteracy. Their objective was to teach the illiterate how to read, write, compute, and also provide some basic knowledge about the world in which they live. Dr. Franke (2004) observed: The campaign drew great inspiration from the ideas of the celebrated Brazilian educator Paulo Freire, who recommended that education should start with the immediate problems in people's lives as material for literacy training.

The curriculum centered on people’s immediate experience and needs, such as hunger, safe food, drinking water, housing, unemployment, and poverty. Many lessons in literacy included culture, health, and immunization. The immunization campaign eventually led to near 100% levels of protection against different diseases such as polio, measles, diphtheria, and tuberculosis (Franke, 2004).

The organizers hoped to teach the people to read in their native language. They adopted the following goals: to read "at the rate 30 words per minute, to copy a text at 7 words per minute, to count and write from and 100, to add and subtract 3-digit numbers, and multiply and divide 2-digit numbers" (pp. 1-2). They also provided some basic knowledge about Kerala and India, such as information about the public institutions the learners had to encounter, the dignity of work, equality of the sexes, India’s freedom struggle, the function of the local government, how to use the post office and fair price shops, and introduced ideas about their rights and duties. All together 37 lessons were given and tested. The cost of this effort was low: "Voluntarism kept down the cost; students became literate for less than US$26 each. The main organization running the campaign, KSSP, was awarded the UNESCO’s literacy prize for 1990" (p. 2). By February 4, 1990, Ernakulam District was declared totally literate (Chandran, 1994).

The achievement in Ernakulam was so successful and inspirational that it was applied to all other districts in Kerala State. The state government, professionals, artists, and the whole population were committed to the literacy drive. From March 1990 to April 1991, people’s campaign focused on Kerala’s 13 other districts. They mobilized 350,000 volunteers to teach. They conducted more jathas (processions), street theater, songs, contests, and public meetings (Franke, 2004, p. 2). The effort raised the literacy consciousness of the people and it motivated them to attain literacy.

The Kerala model of literacy was successful because of the democratic approach of the campaign. The citizens understood its transformative effect. According to Dr. Franke (2004): "Kerala people have learned through experience that participation, activism, sacrifice, volunteering, commitment, study, standing up to parasitic landlords, abusive
Educational Implications for Other Countries

Kerala State realized that if a small district like Emakulam was able to make its people totally literate, the state could also achieve the same. If Kerala State could reach it, the other states in India too could attain it. If India could achieve total literacy in the near future, other developing countries, as well as some of the developed countries that have pockets of illiteracy, could achieve it as well. In this context, it is relevant to look at some of the important principles that made the literacy campaign in Kerala a success. The following points are important to keep in mind as communities and nations aspire to achieve total literacy.

1. Raise the critical consciousness of the people. In his book, Pedagogy of the Oppressed, Paulo Freire (1992) stressed the importance of raising the critical consciousness of the people who he called "conscientization" (p. 19). This is what Emakulam district and Kerala State as a whole did at the initial level of their campaign.

2. Empower the people. As people's consciousness is raised and they realize the importance of literacy, they will be motivated and they will work towards that goal. Once they are empowered, they can "say the word and name the world" without fear (Freire, 1992, p. 12). They can transform their world according to their own vision.

3. Involve people and give them ownership. Once they are motivated, they get involved. They take more ownership and become more responsible for their destiny.

4. Start from the grassroots. The bottom-up approach is more effective and enduring than top-down approach. Instead of the government or bureaucrats imposing their will, let people invest themselves in the project that will fashion their future.

5. Form a curriculum based on the concrete experience and needs of the people. An education based on books only, rather than life itself, is useless and irrelevant for them. Life-centered education motivates people better and they can experience the results immediately. They need no further incentive or rewards.

6. Nurture more democracy. More literacy means more power to the people. It brings about a more democratic and just society. It means better opportunities and a brighter future for the people.

7. Involve the state and the nation at large. They can provide support and incentive for the people. They can provide the legal and organizational context and support. It is very likely many neoliterates will fall back on their old habits. Therefore, it is imperative that there is a system in place to support the people who may fall through the cracks.

8. Revisit the program to improve it. Any organization or its program should be revisited to assess its accomplishment. It has to take stock of what has gone right and what needs to be improved. Thus, an action-reflection-renewal cycle should be built into the system. Covey (1989) calls it upward spiral of growth (p. 306). It is an ongoing process.

Conclusion

In short, literacy is the birthright of all human beings. It enlightens them and helps them to realize their full potential. It empowers them to say the word, name the world, and transform it for better. But illiteracy and oppression deny people their basic rights. In order to exercise their fundamental right effectively people need, at least, free and universal basic education.

People of Emakulam District realized the importance of literacy and they did the best to eradicate illiteracy from their midst, fulfilling the vision of historic India. Kerala State followed the same path, thus becoming a template for total literacy for the rest of India and other countries. If every community decided to erase the terrible curse of illiteracy and worked towards total literacy, there would be more enlightened and self-realizing people who could usher in a better world for themselves, their children, and generations to come.

References


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